BILL C. PEACOCK
Director - Purchasing

DOUGLAS COUNTY BOARD OF COMMISSIONERS

PURCHASING DEPARTMENT
8700 Hospital Drive • Douglasville, GA 30134
Telephone (770) 920-7247 • Fax (770) 920-7219

February 5, 2019

Subject: Douglas County, Georgia, Board of Commissioners
Invitation to Bid – Storage Building Construction – DCFD Training Complex
Solicitation 19-006

Dear Ladies/Gentlemen:

Enclosed please find the Douglas County Board of Commissioners, Invitation to Bid, covering Storage Building Construction – Douglas County Fire Department Training Complex for Douglas County Georgia.

The Bid due date is March 1, 2019 no later than 2:30 pm ET. The Bid Opening will be held on March 1, 2019 at 2:30 p.m., ET, at the Douglas County Courthouse, Third Floor, Purchasing Bid Opening Room, 8700 Hospital Drive, Douglasville, Georgia. You are invited to attend, or submit your Bid prior to the deadline as stated in the attachments. Each Bid should be marked on the outside of the envelope with: **"Solicitation 19-006 Storage Building Construction – DCFD Training Complex".**

Thank you in advance for your interest and we look forward to your participation.

Sincerely,

Bill C. Peacock
Purchasing Director

Attachments

DOUGLAS COUNTY BOARD OF COMMISSIONERS
INVITATION TO BID

STORAGE BUILDING CONSTRUCTION
DOUGLAS COUNTY FIRE DEPARTMENT

SOLICITATION 19-006

Introduction:

Douglas County ("County" or "Owner") is soliciting bids from qualified vendors ("Contractor", "Proposer" or "Vendor") to perform work, as specified herein, for the:

Storage Building Construction
Douglas County Fire Department Training Complex
7165 Worthan Road
Douglasville, GA 30134

General Description of Project:

Douglas County is seeking Bids for the construction of a Storage Building for equipment and vehicle storage. The building will be 15,000 square feet in size. The project plans can be found on the County's website, www.celebratedouglascounty.com, under the Purchasing Department.

General Instructions:

Please submit an original, three (3) copies and an electronic copy on flash drive or disc.

Bids will be received until Friday, March 1, 2019 at 2:30pm at the Douglas County Purchasing Department, 8700 Hospital Drive - Third Floor, Douglas County Courthouse Douglasville, Georgia 30134. Late Bids will not be accepted. Bids shall be submitted in a sealed envelope, so marked as "Solicitation 19-006 Storage Building Construction – DCFD Training Complex", as well as the Bidder's name, addressed to the Douglas County Board of Commissioners, ATTENTION: Purchasing Director's Office, 8700 Hospital Drive, Douglasville, Georgia, 30134.

Any questions regarding this Bid must be directed in writing to:

Douglas County Purchasing Department
8700 Hospital Drive, Third Floor
Douglas County Courthouse
Douglasville, Georgia 30134
Email: bpeacock@co.douglas.ga.us

All questions must be received by 5:00pm Tuesday, February 19, 2019 either by e-mail, mail or fax. No questions by telephone will be accepted. All responses will be provided by or no later than 5:00pm Friday, February 22, 2019. No other County staff or officials associated with this Project should be contacted regarding this bid. DOING SO, MAY RESULT IN BIDDER'S DISQUALIFICATION.

The Bid documents supersede any verbal or written communication between parties. Addenda are posted on the Purchasing web site (ww.celebratedouglascounty.com). Any information concerning the Bid will be furnished to all prospective proposers as an addendum to the invitation if such information is necessary or if the lack of such information would be prejudicial to uninformed proposers. Receipt of addenda must be acknowledged in the submitted proposal. It is the proposer's ultimate responsibility to ensure that they have all applicable addenda prior to Bid submittal.

All documentation submitted as part of or with the bid becomes the property of Douglas County and will not be returned.

The vendor shall be required to comply with all applicable statutes regarding employment discrimination and will be required, as a part of the response, to clarify as follows:

The vendor will not discriminate against any employee or applicant for employment because of race, sex, age, color, religion, national origin, or handicap, except where it is a bonafide occupational qualification reasonably necessary to the normal operation of the vendor.

If any part of the work is or will be subcontracted, the Vendor shall provide as part of the Bid a complete description of all subcontractor(s), the experience level of each of such subcontractor(s), and the subcontracting arrangement(s) between Vendor and subcontractor. All subcontract workers and their work will be bound by the same terms and conditions as contained in the Bid. The Vendor will be responsible for all work performed by sub-contractors in the same manner as work performed by the Vendor. Subcontracting of any of the work or services described herein or assigned of Vendor's Agreement will only be permitted upon written request of the Vendor and written approval by the County. Vendor must provide a complete list of all subcontractors including Subcontractor's name, service to be performed, years of experience providing service, and contact information.

Price of Work:

Contractor shall base their Bid on the drawings included with this BID and any issued addenda.

Douglas County reserves the right to waive any informality, to reject any and all Bids, to evaluate Bids, to accept portions or any Bids and to accept any Bid, which in its opinion may be in the best interest of the County but may not be the lowest Bid. The County reserves the right to add or to delete from the contract after the contract has been awarded.

PRELIMINARY BID DOCUMENT - NOT ISSUED FOR CONSTRUCTION

GENERAL REQUIREMENTS & OUTLINE SPECIFICATIONS

Unless shown or called for otherwise in the construction documents the following represents the minimum acceptable conditions for this project. If the general contractor wishes to propose alternate conditions, equipment, systems or materials of "equal" or higher quality levels to what is called for in the construction documents he should do so in writing. It will be the general contractor's burden to furnish all information, documentation and effort needed to convince the designer and the owner that any change would prove beneficial to the owner and the project. A thorough outline of relative costs, quality and benefits will be required in writing from the general contractor. The designer and engineering design team, along with the owner, will decide whether or not to accept the alternate. Time spent by the design team evaluating and / or revising drawings and documents necessary to implement contractor generated changes will become part of the owner's cost of the change. For bid purposes the general contractor is to include what is now shown or called for and not assume that any changes will be approved.

Any requirements and specifications located in sections of other disciplines which conflict with any found here will supersede those found here. For example, if the electrical drawings show different requirements than show here (in the architectural section) the electrical section shall take precedent. Bring any discovered discrepancies to the architect's attention for coordination and correction.

GENERAL REQUIREMENTS:

1. CODES - All work shall conform to requirements of the Standard / International Building Code (or the building code(s) locally adopted), the NFPA 101 Life Safety Code, the Standard Fire Prevention Code, the state handicap law, the Americans with Disabilities Act, all codes pertaining to electrical, plumbing, mechanical (HVAC), fire protection and all other codes, local regulations or ordinances in force at the time the work is permitted. Request clarification from local building authorities if conflicts are discovered which result from recent modifications or additional requirements of codes, ordinances or regulations, and notify Architect immediately. Editions of codes in force at the time of permitting shall govern. Verify zoning, building setbacks, and building separation requirements prior to beginning construction.

2. OSHA - General and subcontractors shall insure that all work activities comply fully with applicable OSHA requirements at all times. Strictly follow all instructions, recommendations and requirements published or provided by manufacturers of products and materials to be incorporated into the work.

3. SKILL, EXPERIENCE & INSTALLATION - All work shall be performed only by persons properly trained, experienced and skilled in the specific work. Provide safety barricades, warning signs, protective and dust proof enclosures, ventilation and other safety related equipment, measures necessary to protect persons and property from damage or injury. Insure that easily identifiable and accessible fire extinguishers and first aid kits, in adequate supply, are located throughout the job site at all times. Provide easy and identifiable access to a working telephone or other means of communications device for purpose of contacting emergency medical assistance. All materials, manufactured items and equipment shall be installed in strict accordance with manufacturer's published instructions and only in conditions meeting manufacturer's published requirements or suggestions.

4. INSURANCE - General and subcontractors shall maintain and keep in force workman's comp insurance, liability and other insurance coverage as may be required in the construction contract or by state law for the duration of the project.

5. COORDINATION - General contractor shall supervise and coordinate the work of all trades so as not to prolong the work or create hazardous conditions.

6. CONTRACT ADMINISTRATION - If Owner Options to NOT have Design Administration Services based on the Clients decision the Consultant's services shall not include Construction Phase services, the Client shall be solely responsible for interpreting the Contract Documents and observing the work of the Contractor to discover, correct or mitigate errors, inconsistencies or omissions. If the Client authorizes deviations, recorded or unrecorded, from the documents prepared by the Consultant, the Client shall not bring any claim against the Consultant and shall indemnify and hold the Consultant harmless from and against all claims, losses, damages and expenses, including but not limited to defense costs and the time of the Consultant to the extent of such claim, loss, damage, or expense arises out of or results in whole, or in part from such deviations, regardless of whether or not such claim, loss, damage or expense is caused in part by a party indemnified under this provision.

7. ASSIGNMENT OF WORK - It is totally the responsibility of the general contractor to assign and distribute all phases of the work among his subcontractor and labor pool. He and he alone shall be responsible that all aspects of the work are included in his bid and that it is properly and professionally executed. He shall have a pre-bid meeting with all major subcontractors to coordinate the distribution of work to insure that all aspects of the work is properly distributed. This is especially important with items which could fall into more than one category of work. The general contractor shall provide all major subcontractors with full sets of drawings and documents - not solely that apply to his specific trade. This list would include at minimum the following: The grading and site work contractor, foundation contractor, masonry contractor, steel contractor, electrical contractor, HVAC contractor and the plumbing contractor. Unless specified or agreed to elsewhere, the contract for this construction project is solely between the owner and the general contractor. The owner has no agreement with subcontractors. It is therefore the general contractor's sole responsibility for everything contained in the construction documents. These construction documents include the drawings, any self-contained or separate specifications, any written instructions to the bidders, the construction contract, any later addenda or written instructions from the architect or engineering team, and any other pertinent and related documents having to do with this project.

8. UTILITY DISCONNECTIONS & CONNECTIONS - General and subcontractors shall coordinate permanent and temporary disconnections and connections of utilities so as not to create potentially harmful or hazardous conditions which could cause harm to persons or property. Notify utility companies (or UPC) prior to excavation or demolition or doing anything which could interrupt or damage utility services above or below ground. Such notification shall be in the manner prescribed by the utility company and in compliance with state law.

9. EXISTING CONDITIONS - Existing conditions shown are given as best present knowledge. General and subcontractors shall visit the site and examine all existing conditions. They shall field verify and field measure all existing conditions effecting or effected by the new work. They shall carefully examine condition of all utility services and lines and propose corrective measures where needed. They shall inquire as to the existence of any available drawings or other documents which may show existing conditions above or below ground. General contractor shall contact local utility companies such as electric, gas and water to ascertain location of underground utilities. Notify appropriate persons if discrepancies are discovered before performing further work.

10. PERMITS - No work shall be performed without appropriate permit(s). The general contractor is required to apply for, procure, and pay for all costs related to all permits.

11. ENVIRONMENTAL ISSUES - All environmental issues are sole responsibility of owner. Neither architect, engineer(s), general contractor or subcontractors are responsible for discovery, testing or removal of any hazardous material as part of their scope of work unless specifically stipulated by written agreement. If, during the course of work, the general contractor or subcontractors discover hazardous materials or conditions they shall notify the owner's representative by phone and in writing immediately, before proceeding with the work, so that a safe and appropriate course of action can be decided upon.

12. AMERICANS WITH DISABILITIES ACT & STATE HANDICAP LAWS - Owner has ultimate responsibility to comply with the Americans with Disabilities Act and state handicap laws. Published documentation describing these requirements shall be provided upon request. The ADA is a civil rights law - not a building code. Oversight of a non-complying item by a local building official will not relieve the owner his responsibility under Federal Law. The architect bears no responsibility for owner's decision to not fully comply.

13. TEMPORARY BRACING - All new walls or other structures shall be adequately braced while they are being constructed. Install any required permanent bracing as soon as possible. Do not remove temporary bracing until permanent bracing or other forms of securement are in place. At any demolition areas brace and support all wall, floor and roof structures securely for safety of persons and property.

14. WORK SCHEDULE - General contractor shall verify proposed work schedule with owner's representative prior to bidding the work. After work commences he shall continue to verify schedule with owner's representative if changes are needed.

15. WARRANTIES & GUARANTEES - General contractor shall provide written warranties and guarantees to owner, along with operation manuals on all equipment as part of project close-out. These documents shall be as required by the contract.

16. DELIVERY & STORAGE OF MATERIAL- General contractor shall discuss and obtain approval from owner's representative on proposed locations for receiving and storing deliveries of construction materials and supplies and for location of temporary toilet and dumpster if applicable. All materials will be stored in a safe, secure and weather protected manner.

17. FIRE RATED ASSEMBLIES - Where fire rated assemblies are required, use only those assemblies which have been tested by a recognized testing agency such as the Underwriter's Laboratories. Fire rated doors and frames shall have label applied in factory or shop - not in field.

18. RATED WALL PENETRATIONS - When penetrating a fire rated wall or partition, use an approved fire caulking material to seal all cracks and openings. This could be for such things as structural beams, air ducts, columns, bar joists, piping, conduit, etc. Air ducts penetrating fire rated walls shall be equipped with automatic fire dampers.

19. MODIFICATION OF STRUCTURAL CONDITIONS - Do not modify existing or new structural conditions without consulting designer or structural engineer and obtaining written authorization to do so.

20. SHOP DRAWINGS & SUBMITTAL DATA - Shop drawings and submittal data shall be reviewed for general conformance with architectural or engineering design concepts and compliance with contract documents. Do not submit a change request by way of shop drawing or submittal data without first bringing the matter to the designer's or engineer's attention. If an item is submitted to the architect or engineer and it is reviewed and if it is different that what is called for in the construction documents, the review does not constitute an approval of the change, nor does a review of shop drawings and submittal data relieve the general contractor of his responsibility to comply with contract construction documents. For items where proper fit and function depend on the work of others or existing conditions, field verify all conditions and dimensions before installation. General contractor shall review shop drawings and signify that he has done so before submitting them to the designer or engineer(s). Shop drawings and submittal data not done thusly will be returned to the general contractor un-reviewed. The designer and engineer(s) are not responsible for checking dimensions or verifying that proper structural member selections have been made. Fabrication processes, construction techniques, dimensioning and coordination of work by all trades is the sole responsibility of the general contractor. At a minimum, and when applicable, provide complete descriptive shop drawings on structural steel and reinforcing steel, miscellaneous steel, stairs, steps, ramps, handrails and guardrails, cabinetwork, casework and millwork, trim, doors, frames and hardware, glass, glass framing systems and windows, roof and all flashing, toilet partitions, mechanical equipment, plumbing fixtures and trim, electrical equipment, lighting, panels, etc. When design load requirements are to be met for code compliance, such as for impact load on guardrails or wind load on glass, and the design of an item is provided by an outside fabricator or vendor, the fabricator or vendor shall provide the engineering calculations needed to show that the required load capacity has been met and the design is in full compliance with applicable codes. Any additional cost for insuring such compliance shall be born by the general contractor. Further, the general contractor shall furnish an engineer's certificate document on a certified drawing if requested by architect, engineer(s) or building officials. This certification shall be provided at no additional cost to the owner, project architect or project engineer(s). Provide architect with two copies of submitted material which he can keep in his possession along with the copies to be returned to the submitter.

21. CHANGES IN THE WORK - General contractor and subcontractors shall make no changes in the work without approval from appropriate owner's representative. Perform no change order work without having a clear written agreement describing the change with the owner's approval, or the approval of the owner's representative. This agreement shall stipulate what cost or time difference - if any - will be made in the contract. Often times changes are needed "immediately" and there doesn't appear to be adequate time to go through proper channels. In such instances a hand written field document, consisting of a simple note, is acceptable provided it provides the needed information. It should contain, at minimum, the names of the agreeing parties, the date, a general description of the change and a proposed cost change - either up or down. Do not undertake any change without some form of written agreement regarding the related time and money aspect of the change. General contractor shall maintain at least one complete set of construction documents at the project site at all time for the purpose of recording conditions needed for production of as-built drawings upon completion of the project. If any items are installed differently or at different locations than as shown on the construction documents this condition shall be recorded accurately and in a legible, easy-to-read manner.

22. ADDITIONAL LOADS - Do not attach or support additional loads to or from building support structure (existing or new) without certification as to the structure's adequacy. This is particularly with regards to roof structure loads.

23. ACCESS TO CONSTRUCTION DOCUMENTS - General contractor shall provide all subcontractors with easy access to all construction documents - not merely the documents pertaining to the work under their specific sub contract. The general contractor shall review the entire project with all subcontractors prior to bidding and beginning the work. If applicable, general contractor will make available drawings on existing conditions to all subcontractors. Such existing conditions must be verified where possible, however, before being relied upon.

24. PROJECT KEYING & DOOR HARDWARE - General contractor shall coordinate project keying, locking requirements and overall door hardware with the owner's representative. Provide temporary locks and keying if needed for security. All dead bolt locks to have lever action twist from inside and shall not require a key. General contractor shall prepare a hardware schedule and review same with owner's representative. When deemed applicable by architect use the services of a certified hardware consultant.

25. REPAIR OF DAMAGED WORK - It shall be the general contractor's responsibility to repair all damaged work, complete all incomplete work and modify any work not done according to the contract documents as a condition of final payment.

26. CLEANING OF PROJECT - The project shall be kept reasonably clean and picked up all during construction. General contractor shall acquire his own dumpster for the site and locate the dumpster at a location agreeable to the owner. At completion of the work the general contractor shall thoroughly clean the entire project and surrounding work area and remove from the site all rubbish, trash, scrap material and debris produced as a result of the work, either by his employees or by his subcontractors. All such material shall be safely and properly handled and disposed of at an approved location under approved permitted conditions. All surfaces of the building involved in the work shall receive a final cleaning. It is incumbent on the general contractor to request a review and approval by owner's representative

27. FIELD OFFICE - General contractor is responsible for providing an enclosed job-site field office with phone and fax for the duration of the project. He shall also provide for his own water and electric power, in addition to portable toilet facilities. If the general contractor is able to negotiate use of any of owner's facility during the construction process for any of the above, so be it. However, general contractor shall include costs for such items in his base bid. If an agreement on use of owner's facilities is made an appropriate credit shall be given to the owner.

28. DAILY LOG - General contractor's superintendent shall keep a daily written log of the project for its duration. In this log he shall denote any and all significant events. He shall also make note of weather conditions - especially in the event where weather or other conditions prevent work progress.

29. APPLICATION - Both the General Requirements and the Outline Specifications shall apply to all applicable portions of the work except where they appear to conflict with other requirements indicated elsewhere within the documents. Bring these conflicts to the attention of the architect.

30. METHODS & MEANS - General contractor is solely responsible for all methods and means of construction, including techniques, sequences and procedures. This includes bracing and shoring. If not detailed elsewhere on drawings, where a particular construction detail is not provided, request instructions from the architect. In some situations, if no minor detail is provided, the general contractor and subcontractors will be expected to produce construction results based on normally accepted and common methods in today's construction industry. Only complete, neat, clean and professional quality work will be acceptable.

31. WATERPROOFING - All waterproofing shall be done by a waterproofing contractor. Use only materials and systems designed for "waterproofing". Do not use "damp proofing" materials for waterproofing. Prepare all surfaces and install waterproofing per written instructions and recommendations of manufacturer.

32. FLASHING, SEALANTS & CAULKING - Flash all roof edges, roof penetrations and all junctions such as roof-to-wall or wall-to-wall (where applicable) and make watertight. Use materials as described in drawings. If no specific material is referenced in the documents use materials designated for use on the various applications by their manufacturer and which are considered standard and normal for such use throughout the industry. Flash and slope so as to have no ponding water. Install "crickets" where needed for this purpose. Seal all exterior joints of dissimilar materials with elastomeric sealant material designed for use at such locations. Where possible use colored sealant to match color of adjacent material unless noted otherwise. In interior use elastomeric caulking compound at all joints of dissimilar materials. Use colored material where applicable; paint grade otherwise. Caulk all exposed cracks and gaps where not covered with trim, etc.

33. COLORS - Unless provided otherwise general contractor shall verify color selections for paint, stain, tile, carpet, plastic laminate and other such items with owner's representative. Where applicable provide owner with samples of manufacturer's standard selections from which to choose. Obtain approvals on selections in writing.

34. CUTTING & PATCHING - Perform cutting and patching as needed to carry out the work. Cutting and patching to be done neatly and completely. Match adjacent materials and finishes where possible. Clean all area effected by cutting and patching. Provide sample of cutting and patching if requested by architect.

35. STOOPS & CONCRETE WALKS - Where stoops and /or concrete walks are located at doorways set tops a maximum of 1/4" below finished floor elevation. A saddle type handicap accessible threshold must be used. Stoops and walks to slope down and away from doorways. Concrete stoops and walks to have medium broom finish unless noted otherwise on drawings.

36. DRIP STRIPS - Install pre-formed aluminum drip strip such as the 16 series by National Guard Products above all exterior doors not having a canopy of some type above. Consult with Architect.

A NEW COMMERCIAL CONSTRUCTION PROJECT
for

DOUGLAS COUNTY FIRE DEPT.

TRAINING FACILITY & EQUIPMENT STORAGE
WORTHAM ROAD, DOUGLAS COUNTY, GEORGIA 30134

BUILDING CODE SUMMARY

TYPE OF CONSTRUCTION: TYPE II B - FULLY SPRINKLED

OCCUPANCY CLASSIFICATION: STORAGE (GROUP S-1)

INTENDED USE: VEHICLE & EQUIPMENT STORAGE FACILITY

NO. OF STORIES: ONE BUILDING HEIGHT: APPROX 32'-6"

TOTAL AREA: 15,000 S.F. ALLOWABLE AREA: 19,000 S.F.

OCCUPANT LOAD: "GROUP S-1 STORAGE" TOTAL OCCUPANCY - 300 GROSS

EXIT WIDTH CALCULATIONS
300 PERSONS X .2" / PERSON = 60"
(4) 3'-0" (34" CLEAR) DOOR = 136" PROVIDED

NUMBER & ARRANGEMENT
3 EXITS REQUIRED, 4 EXITS PROVIDED
250'-0" MAXIMUM TRAVEL DISTANCE
172'-0" ACTUAL DISTANCE FROM FURTHEST REAR CORNER TO FRONT ENTRANCE

EFFECTIVE CODES FOR CONSTRUCTION

INTERNATIONAL BUILDING CODE (IBC): 2012 EDITION W/ 2015, 2017, 2018 GEORGIA AMENDMENTS
NATIONAL ELECTRICAL CODE (NEC): 2017 EDITION W/ NO GEORGIA AMENDMENTS
INTERNATIONAL FUEL GAS CODE (ICC): 2012 EDITION W/ 2015 GA AMENDMENTS
INTERNATIONAL MECHANICAL CODE (ICC): 2012 EDITION W/ 2015 GA AMENDMENTS
INTERNATIONAL PLUMBING CODE (ICC): 2012 EDITION W/ 2015 GA AMENDMENTS
INTERNATIONAL ENERGY CONSERVATION CODE (ICC): 2009 EDITION W/ 2011 & 2012 GA STATE AMENDMENTS
INTERNATIONAL FIRE CODE (ICC): 2012 ED. W/CURRENT GEORGIA AMENDMENTS REFERENCING CHAPT. 120-3-3
NFPA LIFE SAFETY CODE 101: 2012 ED. W/CURRENT AMENDMENTS AS ADOPTED BY THE STATE FIRE MARSHAL
NATIONAL FIRE ALARM CODE (NFPA 72): 2013 EDITION W/CURRENT AMENDMENTS AS ADOPTED BY THE STATE FIRE MARSHAL
ACCESSIBILITY - GEORGIA ACCESSIBILITY CODE: GSFC RULES AND REGULATIONS, 120-3-20
WITH ALL CURRENT AMENDMENTS TITLE III & 2010 STANDARDS FOR ACCESSIBLE DESIGN

AUTOMATIC SPRINKLER SYSTEM SPECIFICATIONS

- The building shall be installed with a Dry Pipe Sprinkler System installed in accordance with NFPA-13 and the Douglas County Fire Marshals Office.
- The Dry Pipe Sprinkler System shall be designed in accordance with NFPA-13, for a Ordinary Hazard, Group II Classification. (0.20 gpm/sqft over the most remote 1,950 sqft area, with 250 hose stream demand.)
- The Dry Sprinkler System is to start 1'-0" above finished floor and protect the entire facility.
- All materials and hangers shall be installed in accordance with NFPA-13.
- All new system piping shall be hydrostatically pressure tested @ 200psi for 2 hours upon completion.
- The Dry System air compressor is to be listed and approved for fire protection use and be sized accordingly to fill the system to capacity within 30 minutes.

STEEL FRAME, BUILDING STRUCTURE & COMPONENTS, TO BE DESIGNED AND ENGINEERED BY QUALIFIED MANAFACTURER. DRAWINGS THAT ARE IN REFERENCE TO THE MAIN BUILDING STRUCTURE ARE FOR DIAGRAMATIC PURPOSES ONLY. FOR DRAWINGS, LOADS, CALCULATIONS, AND DETAILS PERTAINING TO THE MAIN BUILDING STRUCTURE, REFER TO THE ATTACHED COMPONENT DRAWINGS.

CONSULTANT

ARTIFEX, LLC
VILLA RICA, GEORGIA 30180
PH: (404) 680-4704
EMAIL: chrisredmon@artifexga.com
CONTACT: CHRIS REDMON

CLIENT/ OWNER

DOUGLAS COUNTY FIRE DEPARTMENT
6856 WEST BROAD STREET
BLAKE GAMMILL MEMORIAL BUILDING
DOUGLASVILLE, GEORGIA 30134
PH: (678) 596-6026
EMAIL: szachmeyer@co.douglas.ga.us
CONTACT: SCOTT ZACHMEYER

DRAWING INDEX

T1.1 COVER SHEET
A1.1 EXTERIOR ELEVATIONS
A2.1 PROPOSED FLOOR PLAN
A2.2 FOUNDATION PLAN & DETAILS
A3.1 ROOF PLAN
A3.2 BUILDING SECTION

CURRENT ISSUE/ REVISION
DATE: 9.07.2018

ARTIFEX LLC
2525 Richardson Road
Villa Rica, Ga 30180
PH: (404) 680.4704
chrisredmon@artifexga.com

ARTIFEX LLC
RESIDENTIAL / COMMERCIAL DESIGN & CONSULTING

A NEW COMMERCIAL CONSTRUCTION PROJECT for
DOUGLAS COUNTY FIRE DEPT.
TRAINING FACILITY & EQUIPMENT STORAGE
WORTHAM ROAD, DOUGLAS COUNTY, GEORGIA 30134

EXTERIOR ELEVATIONS

REVISIONS:	
DATE:	9.07.2018

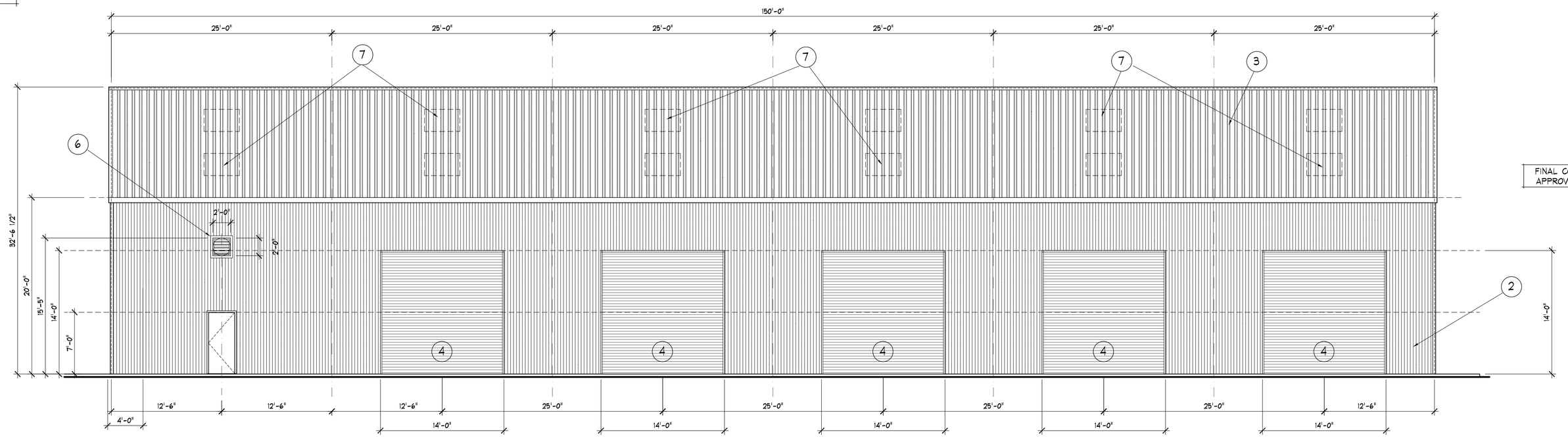
DATE:	2.05.2018
DRAWN BY:	CSR
CHECKED BY:	MC
TITLE:	DCFD

DRAWING SHEET:
T1.1

PRELIMINARY BID DOCUMENT - NOT ISSUED FOR CONSTRUCTION

STEEL FRAME, BUILDING STRUCTURE & COMPONENTS, TO BE DESIGNED AND ENGINEERED BY QUALIFIED MANAFACTURER. DRAWINGS THAT ARE IN REFERENCE TO THE MAIN BUILDING STRUCTURE ARE FOR DIAGRAMATIC PURPOSES ONLY. FOR DRAWINGS, LOADS, CALCULATIONS, AND DETAILS PERTAINING TO THE MAIN BUILDING STRUCTURE, REFER TO THE ATTACHED COMPONENT DRAWINGS.

CONTRACTOR SHALL INSURE COMPATIBILITY OF THE BUILDING WITH ALL SITE REQUIREMENTS.

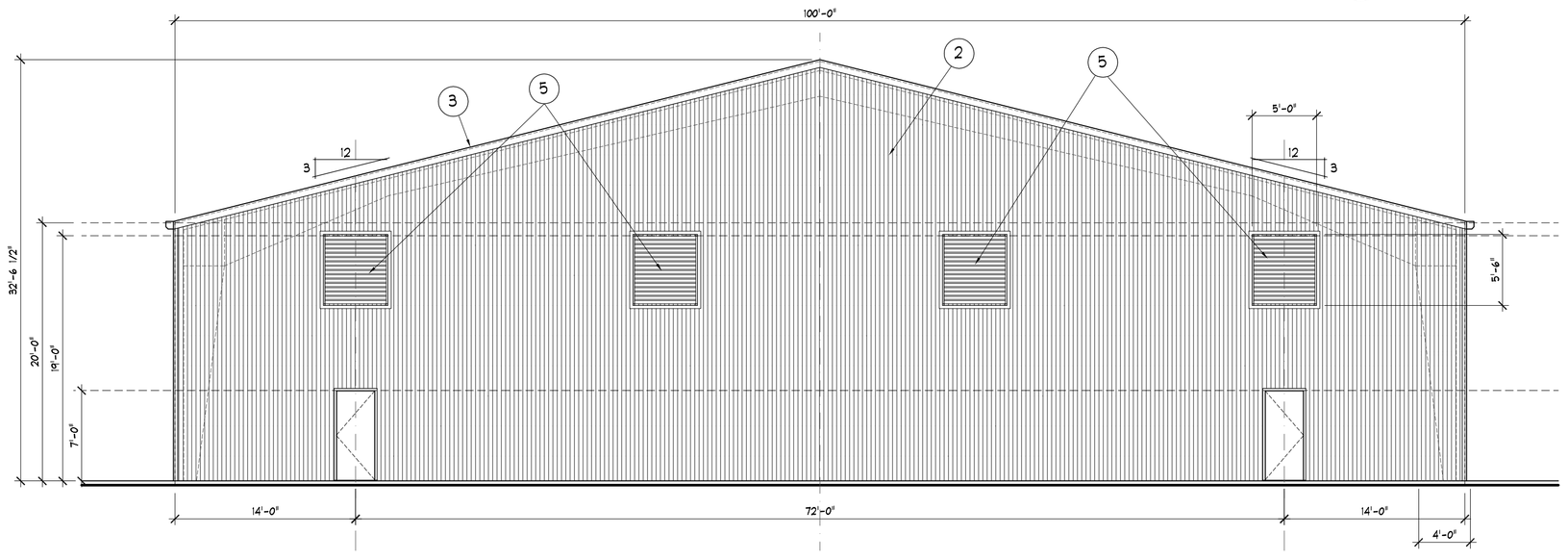


FINAL COLORS SHALL BE DETERMINED AT THE TIME OF SHOP DRAWING APPROVAL WHEN COLOR CHART SELECTIONS ARE SUBMITTED.

4 A1.1 PROPOSED NORTH ELEVATION

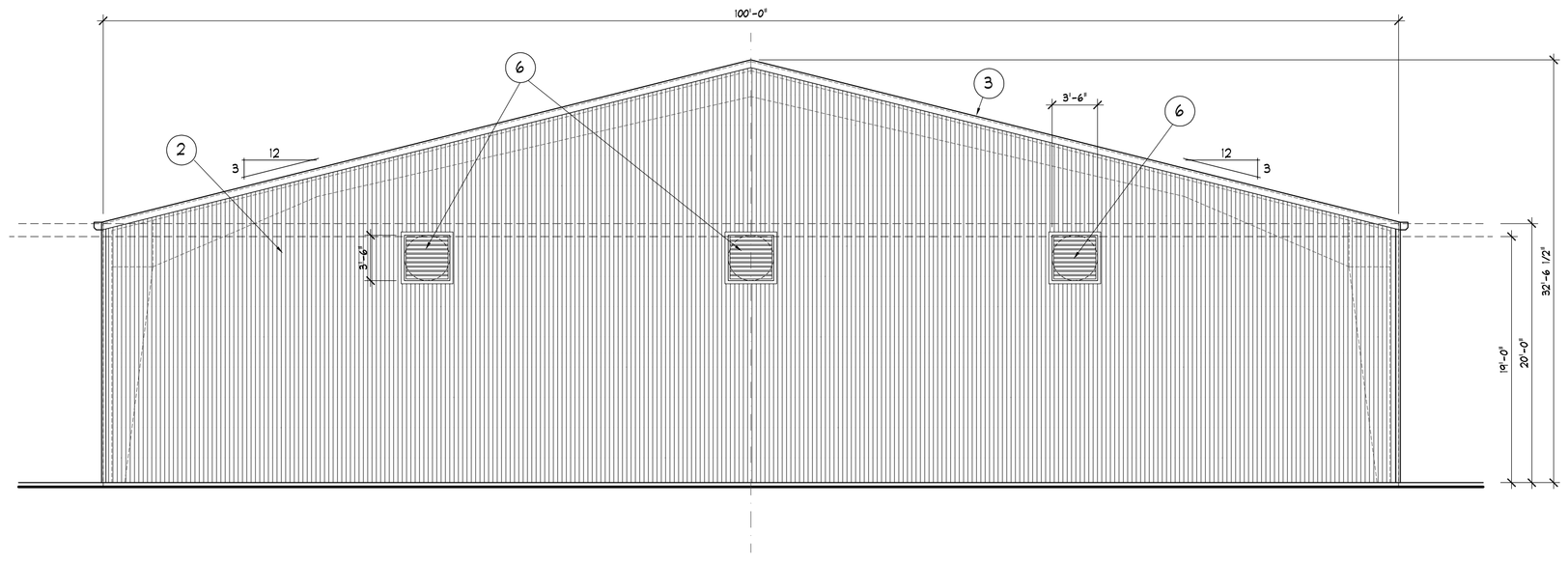
SCALE: 1/8"= 1'-0"

FINAL COLORS SHALL BE DETERMINED AT THE TIME OF SHOP DRAWING APPROVAL WHEN COLOR CHART SELECTIONS ARE SUBMITTED.



2 A1.1 PROPOSED WEST ELEVATION

SCALE: 1/8"= 1'-0"

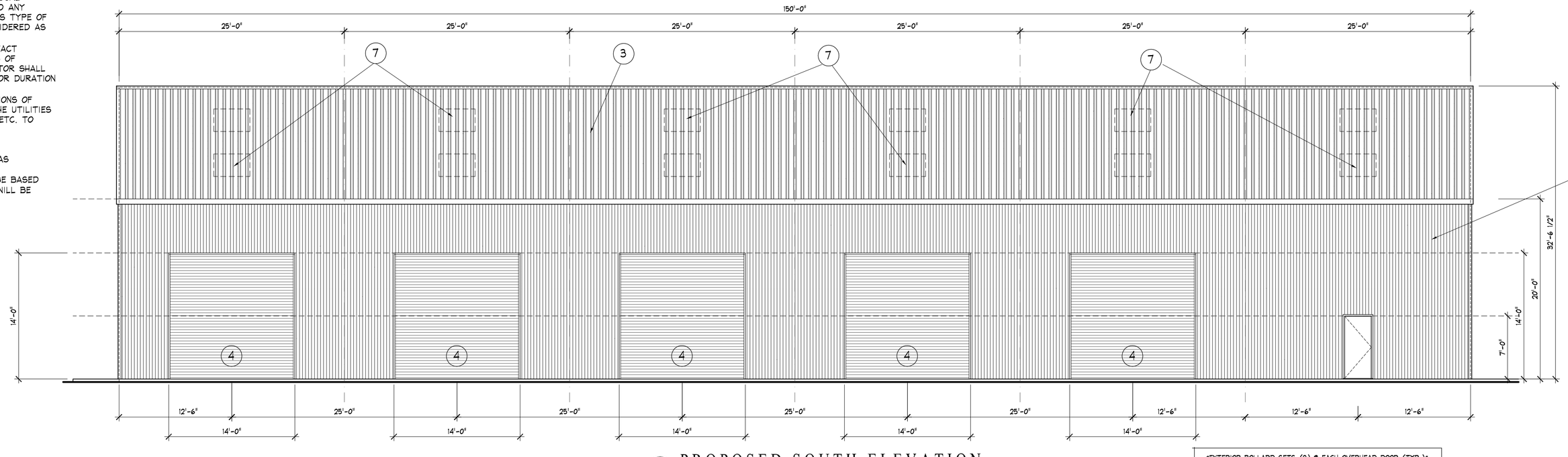


3 A1.1 PROPOSED EAST ELEVATION

SCALE: 1/8"= 1'-0"

GENERAL NOTES

1. BUILDING CONSTRUCTION WORK, MECHANICAL, ELECTRICAL, AND PLUMBING INSTALLATIONS, AND EQUIPMENT CONNECTIONS REQUIRED AS PART OF THIS PROJECT SHALL COMPLY WITH STATE AND LOCAL BUILDING RULES AND REGULATIONS, LOCAL ORDINANCES AND ANY OTHER STATUATORY PROVISIONS PERTAINING TO THIS CLASS TYPE OF WORK. ANY SUCH RULES AND REGULATIONS SHALL BE CONSIDERED AS PART OF THE SPECIFICATIONS AND DRAWINGS.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT PERTINENT UYILITY COMPANIES AND OBTAIN THE LOCATIONS OF UTILITUY LINES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROTECTING ALL UTILITIES FOR DURATION OF THE PROJECT.
3. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATIONS OF UTILITIES AND COORDINATE REQUIREMENTS REQUIRED BY THE UTILITIES CONCERNING LOCATIONS OF METERS, UNDERGROUND LINES, ETC. TO ASSURE UTILITIES ARE AVAILABLE FOR THIS PROJECT.
4. ALL DIMENSIONS MUST BE VERIFIED IN THE FIELD.
5. PERMITS MUST BE OBTAINED FROM LOCAL AUTHORITIES AS REQUIRED.
6. CONTRACTOR(S) FINAL AGREEMENT WITH OWNER SHALL BE BASED ON SEALED DRAWINGS ONLY. OTHERWISE, CONTRACTOR(S) WILL BE RESPONSIBLE FOR ANY DEVIATIONS.



1 A1.1 PROPOSED SOUTH ELEVATION

SCALE: 1/8"= 1'-0"

1. NOT USED.
2. 26 GA "PBR" SIG. 200 FINISHED WALL PANELS (PANEL & TRIM COLORS T.B.D.)
3. 26 GA "PBR" SIG. 200 FINISHED ROOF PANELS (PANEL & TRIM COLORS T.B.D.)
4. COMERCIAL METAL ROLL UP OVERHEAD DOOR (COLORS T.B.D.)
5. WALL LOUVER 60X66 = 10,000 CFM W/ GRAVITY DAMPERS (ALUMINUM)
6. EXHAUST FAN 42" FANS 20,000 CFM, 3HP, 510RPM, BELT DRIVE, 480/3 24" FAN 3,000 CFM, 1/4HP, 600RPM, BELT DRIVE, 120/1
7. SKYLIGHT ROOF PANEL

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EXTERIOR BOLLARD SETS (2) @ EACH OVERHEAD DOOR (TYP.)
48" X F.F. 6" DIA. SCH-40 STEEL BOLLARD
SOLID FILL W/ 3000 PSI CONCRETE
INSET MOUNT W/ MIN. 24" EMBED.
DRILL & INSTALL #5 REBAR KEY
IN FOOTER BLOCK (18" X18" X 36" DP.)

ARTIFEX LLC
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Villa Rica, Ga 30180
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chrisredmon@artifexga.com

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RESIDENTIAL / COMMERCIAL DESIGN & CONSULTING

A NEW COMMERCIAL CONSTRUCTION PROJECT
for
DOUGLAS COUNTY FIRE DEPT.
TRAINING FACILITY & EQUIPMENT STORAGE
WORTHAM ROAD, DOUGLAS COUNTY, GEORGIA 30134

EXTERIOR ELEVATIONS

REVISIONS:
DATE: 9.07.2018

DATE: 2.05.2018
DRAWN BY: CSR
CHECKED BY: MC
TITLE: DCFD

DRAWING SHEET:
A1.1

PRELIMINARY BID DOCUMENT - NOT ISSUED FOR CONSTRUCTION

STRUCTURAL GENERAL NOTES

1.01 ALL CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE, 2012 EDITION, WITH GEORGIA STATE AMENDMENTS TO THE STANDARD BUILDING CODE (2012 EDITION) REVISED JANUARY 1, 2018. OTHER STANDARD SPECIFICATIONS OR CODES SHALL MEAN THE LATEST REFERENCE TO STANDARD OR CODE ADOPTED.

1.02 DRAWINGS SHOW TYPICAL AND CERTAIN SPECIFIC CONDITIONS ONLY. FOR DETAILS NOT SPECIFICALLY SHOWN, PROVIDE DETAILS SIMILAR TO THOSE SHOWN.

1.03 VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE STARTING WORK. NOTIFY STRUCTURAL ENGINEER OF ANY DISCREPANCY.

1.04 NOTIFY THE STRUCTURAL ENGINEER IN WRITING OF CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS.

1.05 THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC.

1.06 COORDINATE STRUCTURAL CONTRACT DOCUMENTS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL. NOTIFY STRUCTURAL ENGINEER OF ANY CONFLICT AND/OR OMISSION.

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1.08 ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR IS ALSO RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.

1.09 WIND LOAD IS BASED ON A BASIC WIND SPEED OF 90 MILES PER HOUR.

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STEEL FRAME, BUILDING STRUCTURE & COMPONENTS, TO BE DESIGNED AND ENGINEERED BY QUALIFIED MANAFACTURER. DRAWINGS THAT ARE IN REFERENCE TO THE MAIN BUILDING STRUCTURE ARE FOR DIAGRAMATIC PURPOSES ONLY. FOR DRAWINGS, LOADS, CALCULATIONS, AND DETAILS PERTAINING TO THE MAIN BUILDING STRUCTURE, REFER TO THE ATTACHED COMPONENT DRAWINGS.

Circuits for exit and/or emergency lighting shall be connected to the lighting circuit for the area they serve. Dedicated circuits are not permitted. They shall comply with the requirements of NFPA 101 LSC; Chap 7; Sect 7.9.2.2and Sect. 7.10.4; 2000 Ed. and NFPA 70 NEC; Chap. 700; Sect. 700.17; 2008 Ed.

Emergency lighting shall comply with the requirements of. NFPA 101 LSC; Chap. 7; Sect. 7.9 & 7.10; 2000 Edition.

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GENERAL NOTES

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2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT PERTINENT UYILITY COMPANIES AND OBTAIN THE LOCATIONS OF UTILITUY LINES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROTECTING ALL UTILITIES FOR DURATION OF THE PROJECT.
3. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATIONS OF UTILITIES AND COORDINATE REQUIREMENTS REQUIRED BY THE UTILITIES CONCERNING LOCATIONS OF METERS, UNDERGROUND LINES, ETC. TO ASSURE UTILITIES ARE AVAILABLE FOR THIS PROJECT.
4. ALL DIMENSIONS MUST BE VERIFIED IN THE FIELD.
5. PERMITS MUST BE OBTAINED FROM LOCAL AUTHORITIES AS REQUIRED.
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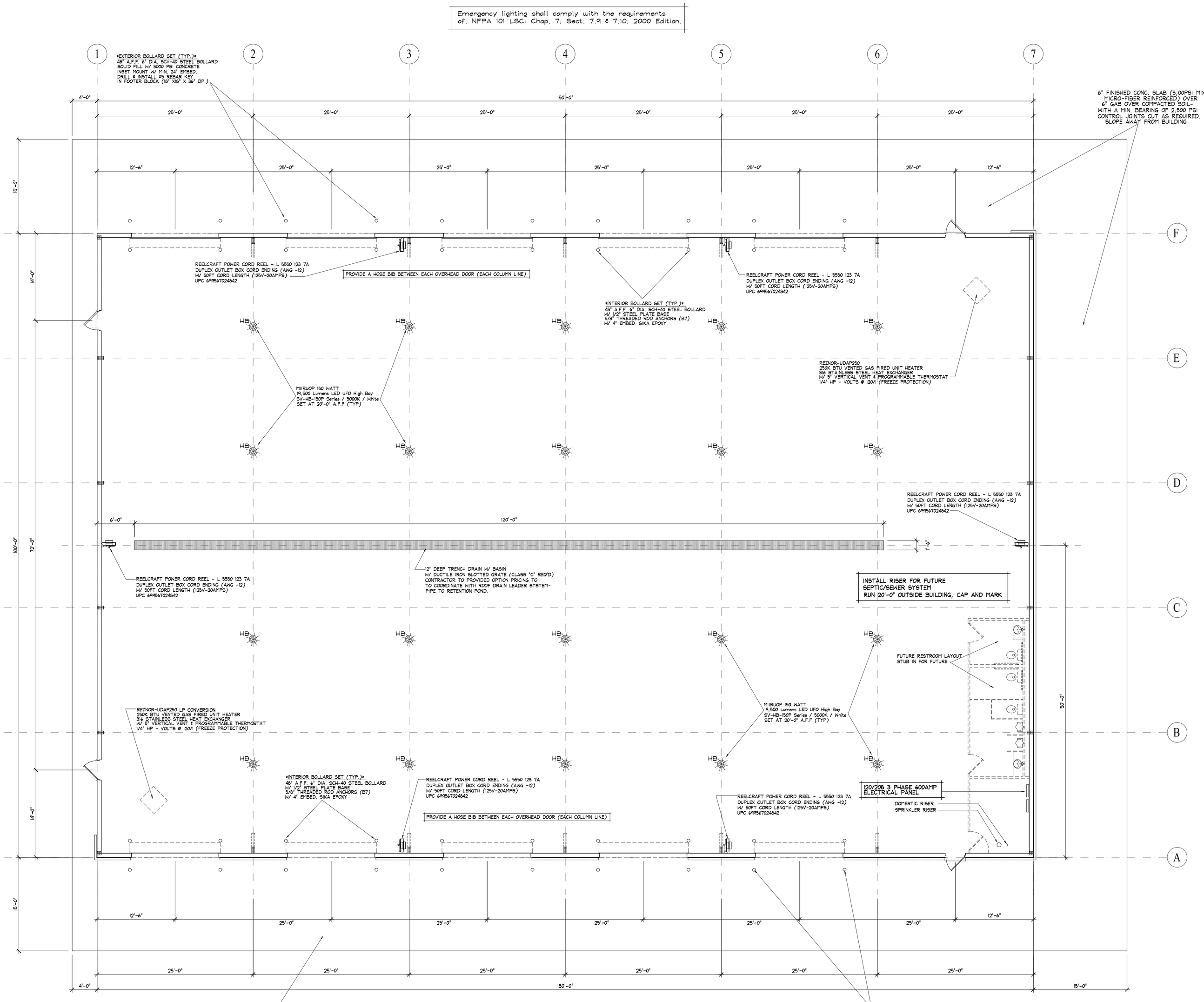
AUTOMATIC SPRINKLER SYSTEM SPECIFICATIONS

- The building shall be installed with a Dry Pipe Sprinkler System installed in accordance with NFPA-13 and the Douglas County Fire Marshals Office.
- The Dry Pipe Sprinkler System shall be designed in accordance with NFPA-13, for a Ordinary Hazard, Group II Classification. (0.20 gpm/sqft over the most remote 1,950 sqft area, with 250 hose stream demand.)
- The Dry Sprinkler System is to start 1'-0" above finished floor and protect the entire facility.
- All materials and hangers shall be installed in accordance with NFPA-13.
- All new system piping shall be hydrostatically pressure tested @ 200psi for 2 hours upon completion.
- The Dry System air compressor is to be listed and approved for fire protection use and be sized accordingly to fill the system to capacity within 30 minutes.



1 A2.1 PROPOSED FLOOR PLAN

SCALE: 1/8"= 1'-0"

CONTRACTOR SHALL INSURE COMPATIBILITY OF THE STRUCTURE WITH ALL SITE REQUIREMENTS & VERIFY ALL DIMENSIONS AND CONDITIONS.

Circuits for exit and/or emergency lighting shall be connected to the lighting circuit for the area they serve. Dedicated circuits are not permitted. They shall comply with the requirements of NFPA 101 LSC; Chap 7; Sect 7.9.2.2and Sect. 7.10.4; 2000 Ed. and NFPA 70 NEC; Chap. 700; Sect. 700.17; 2008 Ed.

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DOUGLAS COUNTY FIRE DEPT.
TRAINING FACILITY & EQUIPMENT STORAGE
WORTHAM ROAD, DOUGLAS COUNTY, GEORGIA 30134

PROPOSED FLOOR PLAN

REVISIONS:	
DATE:	9.07.2018

DATE:	2.05.2018
DRAWN BY:	CSR
CHECKED BY:	MC
TITLE:	DCFD

DRAWING SHEET:
A2.1

PRELIMINARY BID DOCUMENT - NOT ISSUED FOR CONSTRUCTION

GENERAL NOTES

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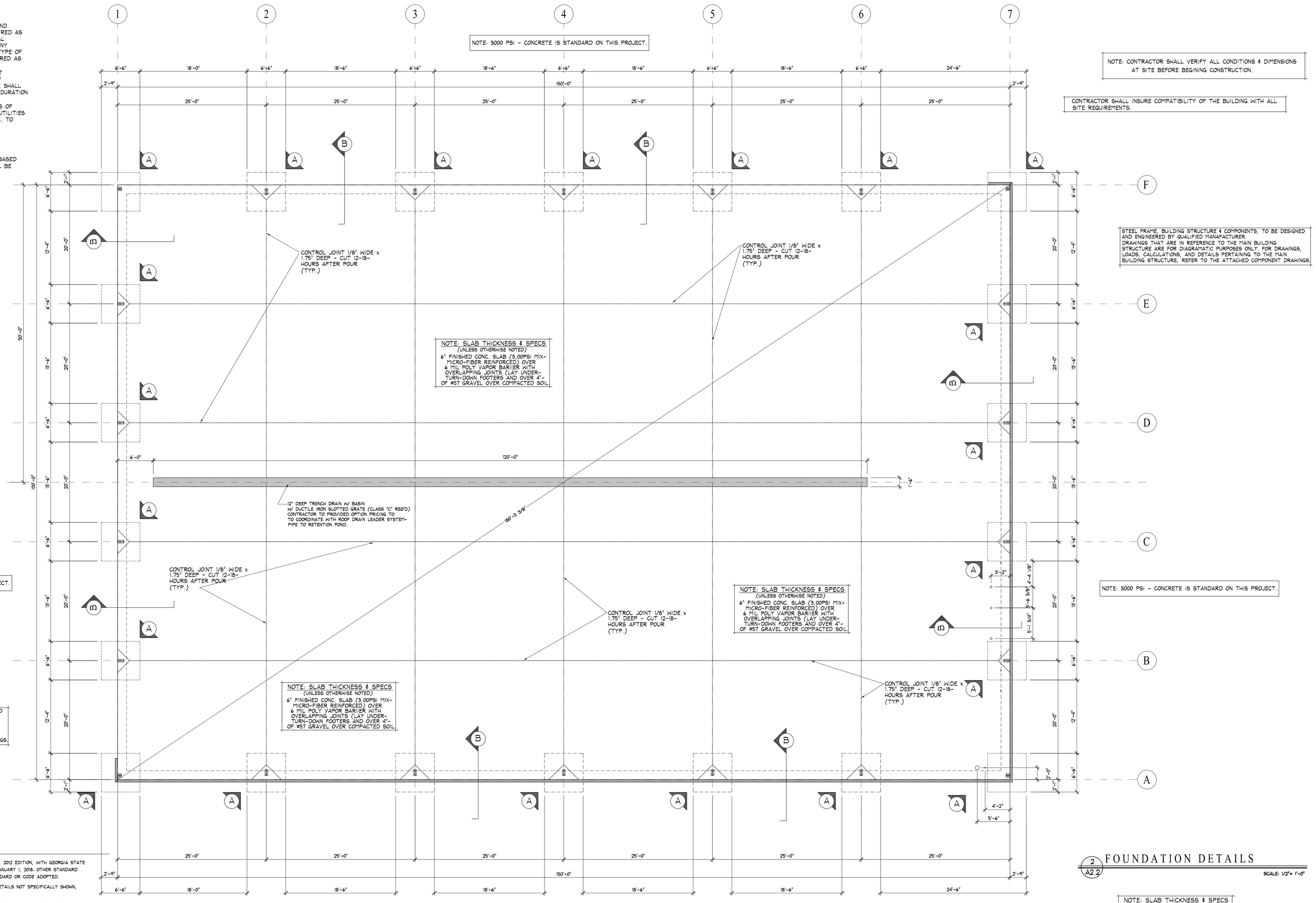

STRUCTURAL GENERAL NOTES

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NOTE: 3000 PSI - CONCRETE IS STANDARD ON THIS PROJECT.

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CONTRACTOR SHALL INSURE COMPATIBILITY OF THE BUILDING WITH ALL SITE REQUIREMENTS.

NOTE: CONTRACTOR SHALL VERIFY ALL CONDITIONS & DIMENSIONS AT SITE BEFORE BEGINING CONSTRUCTION.

1 A2.2 PROPOSED FOUNDATION PLAN

SCALE: 1/8"= 1'-0"

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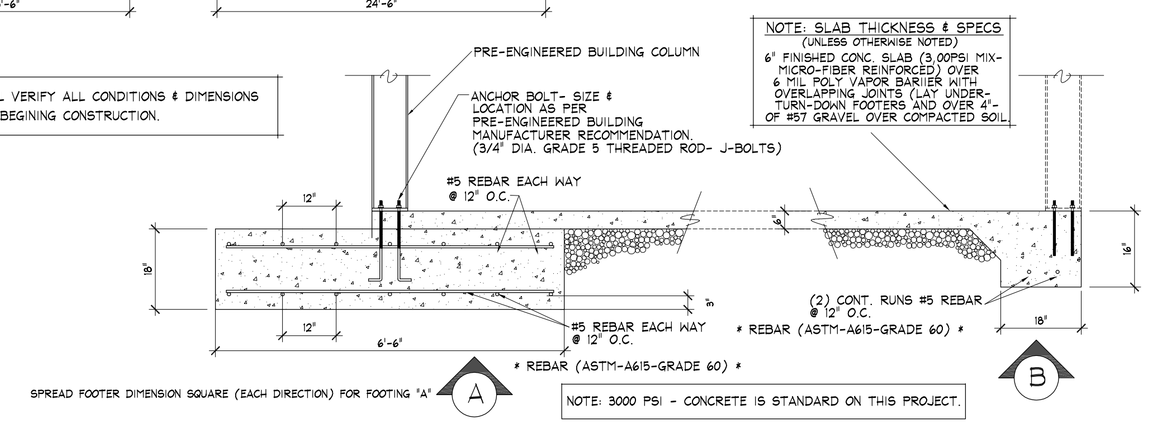
GENERAL NOTES:
1. STAGE ONE WILL BE A POUR OF SPREAD FOOTINGS.
2. STAGE TWO WILL BE A MONOLITHIC POUR OF THE REMAINDER OF MAIN-BODY FOUNDATION (TURN DOWN FOOTINGS & SLAB)

NOTE: CONTRACTOR SHALL VERIFY ALL CONDITIONS & DIMENSIONS AT SITE BEFORE BEGINING CONSTRUCTION.

2 A2.2 FOUNDATION DETAILS

SCALE: 1/2"= 1'-0"



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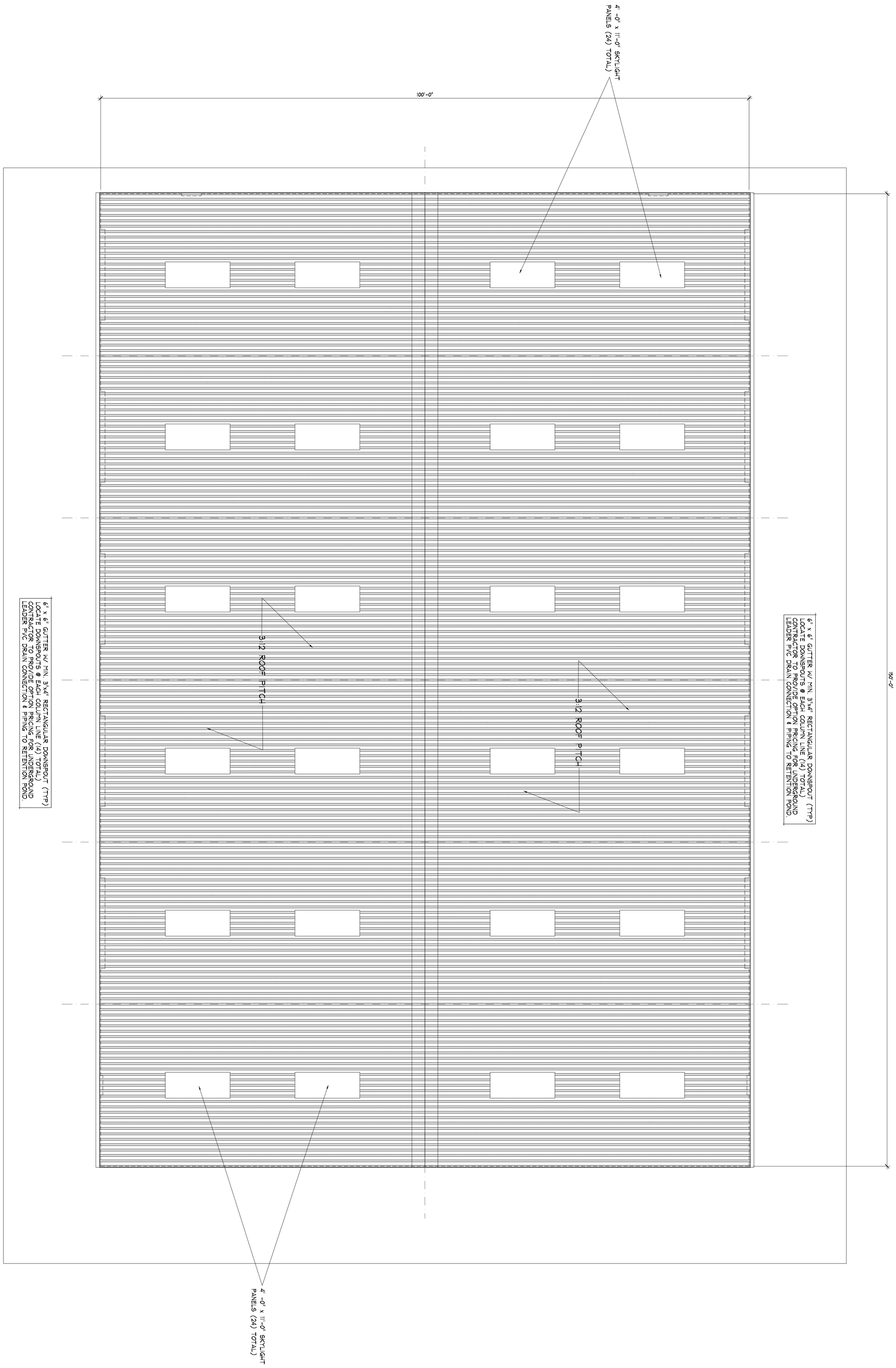
WORTHAM ROAD, DOUGLAS COUNTY, GEORGIA 30134

FOUNDATION PLAN & DETAILS

REVISIONS:
DATE: 9.07.2018

DATE: 2.05.2018
DRAWN BY: CSR
CHECKED BY: MC
TITLE: DCFD

DRAWING SHEET:
A2.2



1 A3.1 PROPOSED ROOF PLAN

SCALE: 1/8" = 1'-0"

DRAWING SHEET: A3.1

DATE:	2.05.2018
DRAWN BY:	CSR
CHECKED BY:	MC
TITLE:	DCFD

REVISIONS:	
DATE:	9.07.2018

PROPOSED ROOF PLAN

A NEW COMMERCIAL CONSTRUCTION PROJECT
for
DOUGLAS COUNTY FIRE DEPT.
TRAINING FACILITY & EQUIPMENT STORAGE
WORTHAM ROAD, DOUGLAS COUNTY, GEORGIA 30134

ARTIFEX LLC
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PRELIMINARY BID DOCUMENT - NOT ISSUED FOR CONSTRUCTION

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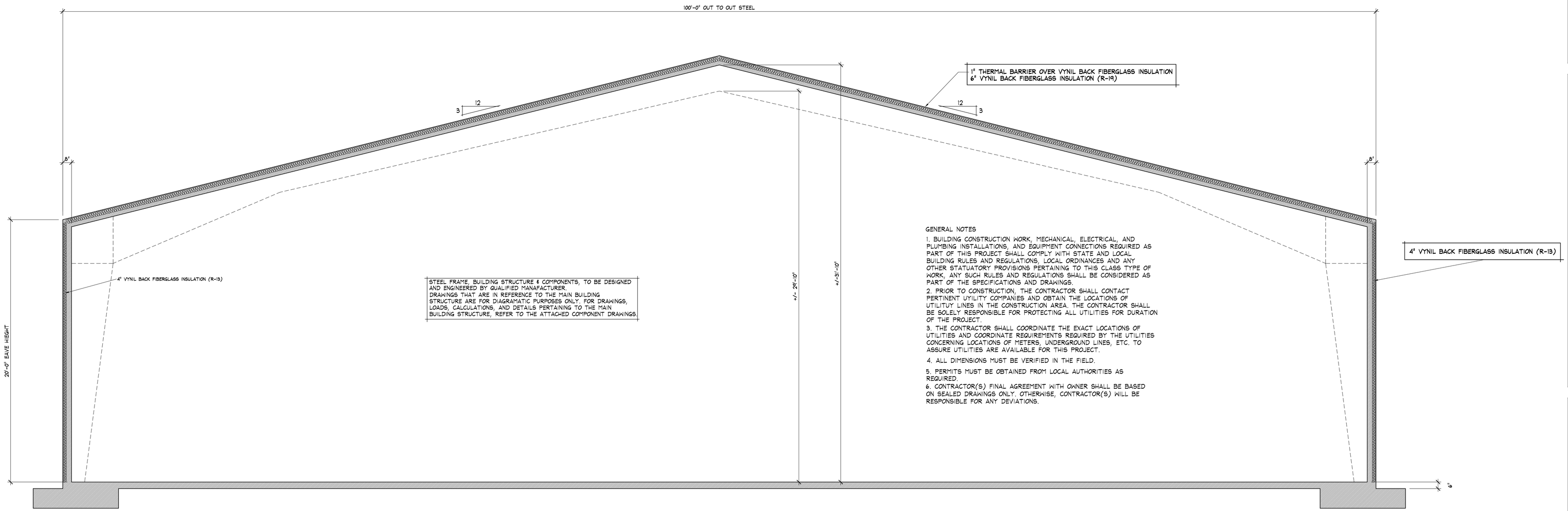

1 / A3.2 TRANSEVERSE BUILDING SECTION

SCALE: 1/4" = 1'-0"

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WORTHAM ROAD, DOUGLAS COUNTY, GEORGIA 30134

BUILDING SECTION

REVISIONS:
DATE: 9.07.2018

DATE: 2.05.2018
DRAWN BY: CSR
CHECKED BY: MC
TITLE: DCFD

DRAWING SHEET:
A3.2

CONSTRUCTION DRAWINGS

OF

DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION

GEORGIA811 Utilities Protection Center, Inc

Know what's below.
Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL UNDERGROUND UTILITIES BEFORE BEGINNING CONSTRUCTION AND ADVISE ENGINEERING OF ANY CONFLICTS. ALL LOCATION OF UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND MAY NOT BE A COMPLETE LOCATION OF ALL UTILITIES. CERTIFICATION TO THE LOCATION OF ALL UTILITIES IS WITHHELD.

BEFORE ANY EXCAVATION WORK BEGINS OR ANY WORK BEGINS WITHIN TEN(10') FT. OF OVERHEAD POWER LINES OF 750 VOLTS OR MORE, NOTIFICATION MUST BE MADE TO THE UTILITIES PROTECTION CENTER (UPC) AT 1-800-282-7411 (770-623-4344 IN METRO ATLANTA).

LOCATION

L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

Primary Permittee:

1. *"I certify that the receiving water(s) or outfall(s) or a combination of receiving water(s) and outfall(s) will be monitored in accordance with the Erosion, Sedimentation and Pollution Control Plan."*
2. *"I certify that the Erosion, Sedimentation and Pollution Control Plan (Plan) has been prepared in accordance with Part IV of the General NPDES Permit No. GAR 100001, No. GAR 100002 or No. GAR 100003, the Plan will be implemented, and that such Plan will provide for compliance with this permit."*
3. *"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."*

5 _____
Primary Permittee Signature

22 The Primary Permittee shall provide the applicable portion of the ES&PC Plan to each Secondary Permittee prior to the Secondary conducting any construction activity and have each Secondary Permittee sign the Plan or portion of the Plan applicable to their site.

SECONDARY PERMITTEE

A written acknowledgement of receipt of the Plan or amendments to the Plan must be made by the secondary permittee and a copy of such be retained in the new primary permittee's records in accordance with Part IV.E.3. of this permit

SECONDARY PERMITTEE	COMPANY NAME	CONTACT #
SECONDARY PERMITTEE	COMPANY NAME	CONTACT #
SECONDARY PERMITTEE	COMPANY NAME	CONTACT #
SECONDARY PERMITTEE	COMPANY NAME	CONTACT #
SECONDARY PERMITTEE	COMPANY NAME	CONTACT #
SECONDARY PERMITTEE	COMPANY NAME	CONTACT #

5 OWNER/DEVELOPER

DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
4 DOUGLASVILLE, GEORGIA 30134
24 hr. CONTACT: JAMES WORTHINGTON
PH: (770) 920-7243

ELEVATION DATUM IS MEAN SEA LEVEL
DATUM SOURCE = NAVD88
DATE OF SURVEY: 05/25/17
6 TOTAL ACREAGE: 10.0 ac.
TOTAL DISTURBED AREA: 2.31 ac.
IMPERVIOUS AREA: 2.16 ac.

7 GPS LOCATION OF CONSTRUCTION EXIT
LATITUDE: 33.759442°
LONGITUDE: -84.815510°

WSA NOTES

1. *STORMWATER MANAGEMENT STRUCTURES ON PRIVATE PROPERTY MUST BE MAINTAINED BY THE PROPERTY OWNER. ALL SUBSEQUENT OWNERS MUST BE INFORMED OF OPERATIONS AND MAINTENANCE REQUIREMENTS. FAILURE TO MAINTAIN STORMWATER INFRASTRUCTURE MAY RESULT IN ENFORCEMENT ACTION. CHANGES AND MODIFICATIONS TO STORMWATER INFRASTRUCTURE (PUBLIC AND PRIVATE) MUST BE APPROVED BY THE DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY.*
2. *DOWNSTREAM IMPACTS OF DEVELOPMENT ARE THE RESPONSIBILITY OF THE OWNER. DEVELOPMENT MAY NOT CAUSE DOWNSTREAM IMPACTS SUCH AS INCREASED FLOOD HAZARD, EROSION OF OFF-SITE SOILS AND STREAM CHANNELS, OR IMPAIRMENT OF WATER QUALITY OF RECEIVING WATERS.*
3. *APPROVAL IS BASED ON INFORMATION SUPPLIED ON THESE DRAWINGS. IF UNKNOWN CONDITIONS ARE ENCOUNTERED, OR SITE CONDITIONS CHANGE OR THESE PLANS ARE OTHERWISE FOUND TO BE NOT REPRESENTATIVE OF SITE CONDITIONS, CONTACT THE DOUGLASVILLE - DOUGLAS COUNTY WATER AND SEWER AUTHORITY ENGINEERING DEPARTMENT. DESIGN REVISION AND RE-SUBMITTAL MAY BE REQUIRED.*
4. *CONSTRUCTION, WHICH IMPACTS STREAMS, WETLANDS, OR OTHER ENVIRONMENTALLY SENSITIVE AREAS, SHALL COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL LAWS. PLAN APPROVAL BY WSA DOES NOT RELIEVE THE OWNER, DEVELOPER, AND CONTRACTOR OF THE OBLIGATION TO APPLY FOR AND OBTAIN REQUIRED PERMITS AND COMPLY WITH CURRENT REGULATIONS.*
5. *DEVELOPMENT MAY NOT OCCUR IN FLOOD PRONE AREAS AS DEFINED BY THE DOUGLASVILLE - DOUGLAS COUNTY WATER AND SEWER AUTHORITY. UNAUTHORIZED DEVELOPMENT WILL BE ORDERED REMOVED AND RESTORATION OF THE SITE REQUIRED, BOTH AT THE EXPENSE OF THE DEVELOPER.*
6. *APPROVAL BY THE DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY SIGNIFIES THAT THE AUTHORITY HAS DEEMED THESE PLANS TO BE IN ACCORDANCE WITH CURRENT DESIGN STANDARDS AND DOES NOT CONSTITUTE PLAN APPROVAL AS REQUIRED BY THE EROSION AND SEDIMENTATION CONTROL ACT. THE EROSION AND SEDIMENTATION CONTROL PLANS WERE REVIEWED AND APPROVED BY THE NATURAL RESOURCES CONSERVATION SERVICE.*
7. *APPROVAL OF THESE PLANS IS BASED ON SUBMITTED INFORMATION REGARDING EXTENTS OF SOIL DISTURBANCE, SCHEDULE OF ACTIVITIES, AND PROPOSED MEASURES TO CONTROL EROSION AND SEDIMENT CONTROL. SIGNIFICANT CHANGES TO PROJECT DESIGN OR SCHEDULE ELEMENTS MUST BE APPROVED BY THE AUTHORITY.*
8. *PLAN APPROVAL DOES NOT RELEASE ANY PARTY FROM DUTY TO COMPLY WITH LOCAL, STATE, AND FEDERAL LAW. IT IS UNLAWFUL TO INCREASE TURBIDITY IN RECEIVING WATERS MORE THAN 25 NTU.*
9. *THE DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY REQUIRES THAT EVERY SERVICE CONNECTION BE EQUIPPED WITH A BACKFLOW PREVENTION DEVICE. FACILITIES THAT, IN THE OPINION OF THE AUTHORITY, MAY POTENTIALLY INTRODUCE HAZARDOUS OR TOXIC SUBSTANCES INTO THE WATER SUPPLY WILL BE REQUIRED TO INSTALL A REDUCED PRESSURE ASSEMBLY THAT VENTS TO THE ATMOSPHERE.*
10. *DOUGLASVILLE-DOUGLAS COUNTY WSA APPROVAL OF THESE PLANS DOES NOT CONSTITUTE A GUARANTEE OF WATER OR SEWERAGE CAPACITY. CAPACITY IS NOT ALLOCATED UNTIL IT IS PURCHASED THROUGH THE SALE OF A WATER METER.*
11. *ANY MODIFICATIONS/CHANGES TO AN EXISTING OR ADDITIONS TO A PORTION OF THE WATER, SEWER, OR STORMWATER SYSTEMS IS REQUIRED TO BE INSPECTED AND OR REVIEWED BY WSA (WSA ENG. DEPT. Phill 770-949-7617).*
12. *PLAN APPROVAL DOES NOT RELEASE THE OWNER, DEVELOPER, OR CONTRACTOR FROM RESPONSIBILITY FOR ENVIRONMENTAL DAMAGE, PROPERTY DAMAGE, OR ENDANGERMENT OF PUBLIC HEALTH. RESPONSIBLE PARTIES SHALL MITIGATE IMPACTS, REPAIR DAMAGE, AND COMPENSATE AFFECTED PARTIES AS REQUIRED BY LOCAL AND STATE LAW.*
13. *ALL CONSTRUCTION AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH CURRENT RULES AND REGULATIONS AND DESIGN STANDARDS AND SPECIFICATIONS PUBLISHED BY THE DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY. IT IS THE RESPONSIBILITY OF EACH DEVELOPER AND CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL CURRENT WSA RULES AND STANDARDS.*
14. *THE DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY WILL OBTAIN ROAD BORE PERMITS AND ROAD CUT PERMITS AT THE COUNTY AND STATE LEVELS FOR ALL APPROVED PROJECTS. ROAD BORE/CUT WORK SHALL NOT BEGIN UNTIL PERMITS ARE OBTAINED.*
15. *PLEASE NOTIFY WSA ENGINEERING DEPT. 72 HOURS BEFORE CONSTRUCTION AT 770-949-7617.*

DESIGNER'S CERTIFICATION

IT IS HEREBY CERTIFIED THAT THIS SITE PLAN WAS PREPARED USING A SURVEY OF THE PROPERTY PREPARED

BY AARON M. McCULLOUGH, RLS,

AND DATED JUNE 2, 2017;

AND FURTHER THAT THE PROPOSED DEVELOPMENT MEETS ALL REQUIREMENTS OF THE DOUGLAS COUNTY UNIFIED DEVELOPMENT CODE, AS APPLICABLE TO THE PROPERTY.

BY (NAME): HOWARD B. RAY, PE

SIGNED: _____

REGISTRATION NO. #24019
ADDRESS: 6554 EAST CHURCH STREET, DOUGLASVILLE, GA 30134

TELEPHONE NUMBER: 770-942-0196

DATE: JULY 25, 2017

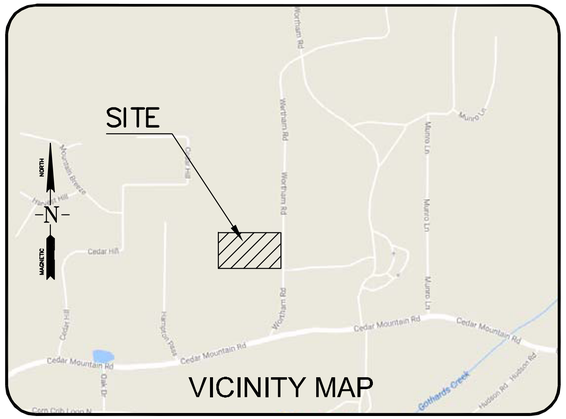
OWNER'S CERTIFICATION

AS THE OWNER OF THIS LAND, AS SHOWN ON THIS SITE PLAN, OR HIS AGENT, I CERTIFY THAT THIS DRAWING WAS MADE FROM AN ACTUAL SURVEY, AND ACCURATELY PORTRAYS THE EXISTING LAND AND ITS FEATURES AND THE PROPOSED DEVELOPMENT AND IMPROVEMENTS THERETO.

DATE: JULY 25, 2017

~~[OWNER]~~[AGENT'S NAME]: HOWARD B. RAY, P.E.

SIGNED: _____



VICINITY MAP

INDEX OF DRAWINGS

SHEET	DESCRIPTION
GN1	GENERAL NOTES
EC1	NPDES NOTES
EC2	NPDES NOTES
EC3	INITIAL PHASE EROSION CONTROL PLAN
EC4	INTERMEDIATE PHASE EROSION CONTROL PLAN
EC5	FINAL PHASE EROSION CONTROL PLAN
EC6	EROSION CONTROL PLAN DETAILS
EC7	EROSION CONTROL CHECKLIST
EC8	ES & PC CHECKLIST
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GP1	GRADING & DRAINAGE PLAN
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UT1	UTILITY PLAN
CD1	STANDARD CONSTRUCTION DETAILS
CD2	STANDARD CONSTRUCTION DETAILS

JOB#: H17179

DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION

No.	DATE:	REVISION
	DATE:	JULY 25, 2017

8

HRC
HUGHES-RAY COMPANY, INC.
ENGINEERS | SURVEYORS | LANDSCAPE ARCHITECTS

6554 EAST CHURCH STREET
DOUGLASVILLE, GEORGIA 30134
p 770.942.0196
f 770.942.0152
www.HughesRay.com

ES&PC NOTES

EROSION & SEDIMENT CONTROL NOTES

1. **THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.**
2. **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.**
3. **ALL DISTURBED AREAS MUST BE STABILIZED WITH MULCH OR TEMPORARY SEEDING AS SOON AS POSSIBLE BUT NOT LONGER THAN 14 DAYS AFTER DISTURBANCE.**
4. **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.**
5. ALL CONTRACTORS FOR EROSION SEDIMENTATION AND POLLUTION CONTROL SHALL BE APPROVED BY THE AUTHORITY.
6. THE CONTRACTOR MUST NOTIFY THE UTILITIES PROTECTION CENTER AT 1-800-282-7411 AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF LAND-DISTURBING ACTIVITIES.
7. STRIPPING OF VEGETATION, REGRADING, AND OTHER DEVELOPMENT ACTIVITIES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO MINIMIZE EROSION.
8. CUT AND FILL OPERATIONS SHALL BE KEPT TO A MINIMUM.
9. DEVELOPMENT PLANS MUST CONFORM TO TOPOGRAPHY AND SOIL TYPE, SO AS TO CREATE THE LOWEST PRACTICABLE EROSION POTENTIAL.
10. WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED, AND SUPPLEMENTED.
11. DISTURBED AREAS AND THEIR DURATION OF EXPOSURE TO EROSIVE ELEMENTS SHALL BE KEPT TO A PRACTICABLE MINIMUM.
12. DISTURBED SOIL SHALL BE STABILIZED AS QUICKLY AS PRACTICABLE.
13. TEMPORARY VEGETATION OR MULCHING SHALL BE EMPLOYED TO PROTECT EXPOSED CRITICAL AREAS DURING DEVELOPMENT.
14. PERMANENT VEGETATION AND STRUCTURAL EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS PRACTICABLE.
15. TO THE EXTENT NECESSARY, SEDIMENT IN RUN-OFF WATER SHALL BE TRAPPED BY THE USE OF DEBRIS BASINS, SEDIMENT BASINS, SILT TRAPS, OR SIMILAR MEASURES UNTIL THE DISTURBED AREA IS STABILIZED.
16. ADEQUATE PROVISIONS SHALL BE PROVIDED TO MINIMIZE DAMAGE FROM SURFACE WATER TO THE CUT FACE OF EXCAVATIONS OR THE SLOPING SURFACES OF FILLS.
17. CUTS AND FILLS SHALL NOT ENDANGER ADJOINING PROPERTY.
18. FILLS SHALL NOT ENCROACH UPON NATURAL WATERCOURSES OR CONSTRUCTED CHANNELS IN A MANNER THAT WOULD ADVERSELY AFFECT OTHER PROPERTY OWNERS.
19. GRADING EQUIPMENT MUST CROSS FLOWING STREAMS BY THE MEANS OF BRIDGES OR CULVERTS, EXCEPT WHEN SUCH METHODS ARE NOT FEASIBLE, PROVIDED IN ANY CASE THAT SUCH CROSSINGS SHALL BE KEPT TO A MINIMUM AND THAT A PROPERLY TEMPORARY STREAM CROSSING IS CONSTRUCTED IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
20. PROVISIONS SHALL BE PROVIDED FOR TREATMENT OR CONTROL OF ANY SOURCE OF SEDIMENTS AND ADEQUATE SEDIMENTATION CONTROL FACILITIES TO RETAIN SEDIMENTS ON SITE OR PRECLUDE SEDIMENTATION OF ADJACENT WATERS BEYOND THE LEVELS SPECIFIED IN THIS PERMIT.
21. NO CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED WITHIN A 50-FOOT BUFFER ALONG THE BANKS OF ALL STATE WATERS (AS MEASURED HORIZONTALLY FROM THE POINT WHERE VEGETATION HAS BEEN WRESTED BY NORMAL STREAM FLOW OR WAVE ACTION) UNLESS A FORMAL WAIVER HAS BEEN GRANTED BY THE AUTHORITY.
22. WHERE THE AUTHORITY GRANTS A WAIVER, NO CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED WITHIN A 50-FOOT BUFFER STATE BUFFER WITHOUT FULL COMPLIANCE OF STATE REGULATIONS AND OBTAINING A VARIANCE IF APPLICABLE.
23. EXCEPT AS PROVIDED ABOVE, FOR REQUIRED BUFFERS NO CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED WITHIN A BUFFER AND A BUFFER SHALL REMAIN IN ITS NATURAL, UNDISTURBED, STATE OF VEGETATION.
24. NO LAND DISTURBING ACTIVITIES SHALL BE CONDUCTED IN A BUFFER. ONCE THE FINAL STABILIZATION OF THE SITE IS ACHIEVED AND A VALID NOTICE OF TERMINATION IS SUBMITTED, A BUFFER MAY BE THINNED OR TRIMMED OF VEGETATION AS LONG AS A PROTECTIVE VEGETATIVE COVER REMAINS TO PROTECT WATER QUALITY AND AQUATIC HABITAT AND A NATURAL CANOPY IS LEFT IN SUFFICIENT QUANTITY TO KEEP SHADE ON THE STREAMBED.

Ss	EROSION CONTROL BLANKET IS REQUIRED ON ALL SLOPES 2.5:1 OR STEEPER & GREATER THAN 10 FEET.

- **PERSON RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL DEVICES AND MEASURES IS;**

DOUGLAS COUNTY BOARD OF
COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GEORGIA 30134
24 hr. CONTACT: JAMES WORTHINGTON
PH: (770) 920-7243

- ALL DRAINAGE EASEMENTS MUST BE GRASSED AND RIP-RAPPED AS REQUIRED TO CONTROL EROSION.
- ALL CONSTRUCTION MUST CONFORM TO LOCAL DOUGLAS COUNTY GA. CONSTRUCTION STANDARDS.
- ALL BUILDING SITES SHALL BE A MINIMUM OF 4' ABOVE HIGH WATER ELEVATION AND/OR THE 100-YEAR FLOOD ELEVATION.
- ALL BUILDINGS SHOULD BE A MINIMUM OF 40' FROM AN OPEN DRAINAGE EASEMENT
- CLEARING AND GRADING SHALL BE LIMITED TO AREAS DESIGNATED AS RIGHT-OF-WAY AND THOSE AREAS REQUIRED FOR STORM DRAINAGE, DETENTION FACILITIES, AND UTILITIES.
- ALL SIDEWALKS ARE REQUIRED TO BE INSTALLED PRIOR TO EXPIRATION OF BONDS.

- CONSTRUCTION SCHEDULE:
 1. NOTIFICATION OF LOCAL GOVERNING AUTHORITY: JULY 2017
 2. CONSTRUCTION OF SEDIMENT CONTROL DEVICES: AUGUST 2017
 3. BUILDING AND UTILITY CONSTRUCTION: AUGUST 2017-AUGUST 2018
 4. LAND STABILIZATION: WITHIN 14 DAYS OF ACHIEVING FINAL GRADE.

- THE DEVELOPER IS RESPONSIBLE FOR OBTAINING ANY PERMITS THAT MAY BE REQUIRED FOR LAND DISTURBANCES AND/OR BUFFER REQUIREMENTS.
- THERE IS ESTABLISHED A 50 FOOT BUFFER ALONG THE BANKS OF ALL STATE WATERS, AS MEASURED HORIZONTALLY FROM THE POINT WHERE VEGETATION HAS BEEN WRESTED BY NORMAL STREAM FLOW OR WAVE ACTION.
- ALL STATE WATERS HAVE BEEN DELINEATED ON THIS SITE AND ARE SHOWN WITHIN A 50 FT. UNDISTURBED CREEK/D.E. BUFFER.
- 100% OF THE MINIMUM LOT SQUARE FOOTAGE SHALL BE ABOVE ANY 100-YEAR FLOOD PLAIN.

EROSION AND SEDIMENT CONTROL SCHEDULE

1. PLACE CONSTRUCTION EXIT.
2. PLACE EROSION AND SEDIMENT CONTROL DEVICES AND "SILT FENCE".
3. PLACE TREE PROTECTION FENCE IN CRITICAL ROOT ZONE & CALL FOR INSPECTION.
4. TEMPORARY SEDIMENT POND FEATURES AND SILT CONTROL FENCE ARE TO BE CONSTRUCTED AND FULLY FUNCTIONAL PRIOR TO ANY GRADING.
5. GRADE TEMPORARY CONSTRUCTION SWALES TO ON-SITE SEDIMENT CONTROL PONDS, DETENTION PONDS, AND DR2 INLETS.
6. CLEAR, STRIP & PROVIDE TEMPORARY SWALES TO SILT COLLECTION POINTS.
7. GRADE ROADS AND BUILDINGS-- SLOPE ROADS TO SD2 INLETS.
8. CONSTRUCT UNDERGROUND UTILITIES-- CONSTRUCT SD2 INLETS AS SOON AS POSSIBLE.
9. ROADWAY CURBING AND BASE PAVING WILL BE INSTALLED AFTER UTILITY INSTALLATION HAS BEEN COMPLETED.
10. RETAIN ALL NATURAL VEGETATION, SAVE AREAS NOTED ON STAKING PLANS.
11. LANDSCAPING WILL BE PERFORMED AS SOON AS PRACTICAL AFTER BUILDING CONSTRUCTION IS COMPLETE. APPROPRIATE PLANT MATERIAL SHALL BE INSTALLED AREA BY AREA AS SITE WORK PERMITS.
12. SEDIMENT BASINS AND CONTROL DEVICES WILL REMAIN IN PLACE AND IN WORKING ORDER UNTIL CONSTRUCTION IS COMPLETE AND THEY BECOME UNNECESSARY.
13. CLEAN PONDS AS REQUIRED TO MAINTAIN DESIGN VOLUME OR BEFORE ONE-HALF FULL.

AS PER OFFICIAL F.I.A, MAP 130306 FOR COMMUNITY-PANEL NUMBER 0039D DATED MARCH 4, 2013. THIS PROPERTY IS NOT LOCATED IN A DESIGNATED FLOOD HAZARD AREA.

WETLANDS CERTIFICATION :

THE DESIGN PROFESSIONAL WHOSE SEAL APPEARS HEREIN CERTIFIES THE FOLLOWING:

- THE NATIONAL WETLANDS INVENTORY MAP HAS BEEN CONSULTED;
- THE APPROPRIATE PLAN SHEET DOES NOT INDICATE WETLANDS AS SHOWN ON THE MAP; AND
- IF WETLANDS ARE INDICATED THE LANDOWNER OR DEVELOPER HAS BEEN ADVISED THAT LAND DISTURBANCE OF PROTECTED WETLANDS SHALL NOT OCCUR UNLESS THE APPROPRIATE SECTION 404 PERMIT OR LETTER OF PERMISSION HAS BEEN OBTAINED.

- NO STATE WATERS OR WETLANDS ARE LOCATED ON OR WITHIN 200 FEET OF THIS PROJECT.

DOUGLASVILE-DOUGLAS COUNTY WATER SEWER AUTHORITY

WATER & SEWER NOTES

A. ALL WATER MAINS AND SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY'S DESIGN AND CONSTRUCTION STANDARDS, LATEST EDITION.

B. NOTIFY THE WSA ENGINEERING DEPARTMENT AT LEAST 72 HOURS PRIOR TO BEGINNING OF CONSTRUCTION ON WATER AND SEWER. AN INSPECTOR WILL BE ASSIGNED AND A PRE-CONSTRUCTION MEETING SCHEDULED AT THIS TIME.

C. "AS-BUILT" DRAWINGS SHALL BE FIELD VERIFIED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER OR LAND SURVEYOR, LICENSED IN THE STATE OF GEORGIA.

D. ALL CONTRACTORS FOR WATER AND SEWER CONSTRUCTION SHALL BE ON THE WSA APPROVED CONTRACTORS LIST. CONTACT THE WSA ENGINEERING DEPARTMENT FOR A COPY OF THE LIST AND/OR APPLICATIONS.

E. CONTRACTORS HAVE THE RESPONSIBILITY TO ASSURE EROSION CONTROL OF ALL AUTHORITY EASEMENTS, PARTICULARLY WHEN THESE EASEMENTS ARE IN CLOSE PROXIMITY OF DRAINAGE EASEMENTS. SEE THE ASSIGNED DOUGLASVILLE-DOUGLAS COUNTY WSA INSPECTOR FOR DETAILS.

F. THE CONTRACTOR SHALL COMPLY WITH ALL UTILITIES PROTECTION CENTER REQUIREMENTS.

GRADING PLAN

1. HAULING TO AND FROM SITE IS/IS NOT REQUIRED.(IF HAULING TO AND FROM SITE IS REQUIRED, SUBMIT A PROPOSED HAUL ROUTE TO BE REVIEWED AND APPROVED BY DC DOT.)
2. ALL BUILDINGS SHALL BE A MIN. OF 40' FROM AN OPEN DRAINAGE EASEMENT.
3. ALL BUILDING SITES SHALL BE A MIN. OF 4' ABOVE HIGH WATER ELEV. AND OR THE 100 YR. FLOOD ELEVATION.
4. PROJECTS REQUIRING MASS GRADING WILL REQUIRE REPORTS FROM AN INDEPENDENT GEOTECHNICAL ENGINEER TO BE SUBMITTED TO THE DEVELOPMENT CONTROL DIVISION VERIFYING MATERIAL TYPE AND THAT PROPER COMPACTION WAS ACHIEVED.

WATER NOTES

- PIPE MATERIAL (WATER MAINS) 4" OR GREATER MAIN WILL BE: D.I.P. CLASS 50.
- GATE VALVES (4" & GREATER) SHALL BE MUELLER, U.S., OR M & H.
- FIRE HYDRANTS SHALL BE MANUFACTURED BY: MUELLER, M.& H., OR AMERICAN.
- WATER MAIN TO HAVE 48" COVER.
- PLACE METER BOXES AT PROPERTY LINE APPROXIMATELY 11 FEET BEHIND CURBING. METER BOXES MUST BE ON ROAD RIGHT-OF-WAY.
- ALL METER BOXES MUST BE ON LOT BEING SERVED.
- MARK CURB AT METER SERVICE LINES- "W".
- MARK CURB AT VALVE LOCATIONS- "V".
- ALL SERVICES WILL BE RUN BY THE CONTRACTOR, LONG AND SHORT SIDE. (COPPER TUBING TYPE 'K').
- THRUST BLOCKS AT ALL BENDS, TEES, AND HYDRANTS.
- LINE SIZING IS PER DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY REQUIREMENTS.
- CONTRACTOR TO CONTACT OWNER(S) OF ALL UTILITIES AND HAVE UTILITIES MARKED PRIOR TO ANY CONSTRUCTION.
- LOCATION AND SIZE OF EXISTING WATER LINES AND APPURTENANCES WAS OBTAINED FROM DOUGLASVILLE- DOUGLAS COUNTY WATER AND SEWER AUTHORITY FROM BEST INFORMATION AVAILABLE.
- METER BOXES AND CURB STOPS ARE TO BE THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR. BOXES ARE TO BE INSTALLED WITH PROPER LIDS AND ADJUSTED TO COINCIDE WITH SURROUNDING TOPO AS PER DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY RULES AND REGULATIONS.
- ALL VALVE BOXES, FIRE HYDRANTS AND MAIN LINES MUST BE ADJUSTED SO AS TO COINCIDE WITH SURROUNDING TOPO. ALL VALVE BOXES WILL BE ENCASED WITH 2'x 2'x 4" CONCRETE PAD.
- WATER SERVICE PLACED UNDER PAVEMENT SHALL BE ENCASED IN 4" P.V.C. PIPE.

STORM WATER NOTES:

1. ALL STORM WATER CONSTRUCTION SHALL CONFORM TO DOUGLASVILLE- DOUGLAS COUNTY WATER & SEWER AUTHORITY DESIGN & CONSTRUCTION STANDARDS. & SPECIFICATIONS, LATEST EDITION.
2. NOTIFY THE DOUGLASVILLE-DOUGLAS COUNTY WATER & SEWER AUTHORITY ENGINEERING DEPARTMENT AT LEAST 72 HOURS PRIOR TO BEGINNING OF LAND DISTURBANCE. AN INSPECTOR WILL BE ASSIGNED & A PRE-CONSTRUCTION MEETING SCHEDULED AT THIS TIME.
3. "AS-BUILT" DRAWINGS SHALL BE FIELD VERIFIED & STAMPED BY A STATE OF GEORGIA LICENSED P.E. OR L.S.
4. ALL CONTRACTORS FOR GRADING, EROSION CONTROL, & STORM WATER SYSTEM CONSTRUCTION SHALL BE APPROVED BY THE AUTHORITY.
5. CONTRACTORS HAVE THE RESPONSIBILITY TO COMPLY WITH EROSION CONTROL REQUIREMENTS OF THE LOCAL LAND DISTURBANCE PERMIT & NPDES GENERAL PERMIT IF APPLICABLE.
6. THE CONTRACTOR SHALL COMPLY WITH ALL UTILITIES PROTECTION CENTER REQUIREMENTS.
7. RIP RAP WILL BE REQ'D WHEN CREEK OR DRAINAGE SWALES CROSS SAN. SEWER SYSTEM. DURING CONSTRUCTION OF SAN. SEWER SYSTEM ADDITIONAL EROSION CONTROL MEASURES WILL BE REQ'D WHERE/IF EROSION BEGINS TO OCCUR.
8. RCP TO BE DELIVERED IN SECTIONS NOT TO EXCEED 8 FT. IN
9. CMP TO MEET MIN. GAUGE OF GA.DOT 1030D, EXCEPT THAT CMP 42" OR GREATER SHALL BE AT LEAST 14 GAUGE.

- ALL BUILDINGS SHOULD BE A MINIMUM OF 40' FROM AN OPEN DRAINAGE EASEMENT.
- ALL DRAINAGE EASEMENTS MUST BE GRASSED AND RIP RAPPED AS REQUIRED TO CONTROL EROSION
- ALL BUILDINGS SITES SHALL BE A MINIMUM OF 4' ABOVE HIGH WATER ELEVATION AND/OR THE 100-YEAR FLOOD ELEVATION.

DOUGLAS COUNTY DOT NOTES

1. APPROVAL COVERS WORK ON DOUGLAS COUNTY RIGHT-OF-WAY ONLY. ANY REQUIRED APPROVALS FROM OTHER GOVERNING AUTHORITIES ARE THE APPLICANT'S RESPONSIBILITY.
2. DOUGLAS COUNTY DEPARTMENT OF TRANSPORTATION (DCDOT) ASSUMES NO RESPONSIBILITY OR HERE BY APPROVES ANY WORK TO BE PERFORMED ON ANY ADJACENT PRIVATE PROPERTY. IT IS THE APPLICANT'S RESPONSIBILITY TO VERIFY THE EXISTING RIGHT-OF-WAY, PRIOR TO THE COMMENCEMENT OF WORK.
3. DCDOT SHALL BE HELD HARMLESS FROM AND AGAINST ALL LIABILITIES, DAMAGES, COSTS, CLAIMS, DEMANDS, EXPENSES OR LOSSES WHICH MAY BE SUFFERED OR INCURRED AS A RESULT OF INACCURATE INFORMATION CONTAINED WITHIN THE SUBMITTED PLAN DRAWINGS, OR UNDUE DILIGENCE BY APPLICANT OR ITS CONTRACTORS.
4. APPLICANT OR APPLICANT'S CONTRACTOR MUST CONTACT THE DOUGLAS COUNTY DOT INSPECTOR, PRIOR TO BEGINNING ANY WORK AUTHORIZED UNDER THIS PLAN, FOR THE PURPOSE OF SCHEDULING A PRECONSTRUCTION CONFERENCE TO REVIEW THE APPROVED PLANS AND DISCUSS MATTERS PERTAINING TO THE ORDER OF WORK, TRAFFIC CONTROL, UTILITY ADJUSTMENTS OR OTHER ITEMS THAT MAY AFFECT THE COMPLETION OF THE PROJECT.
5. NOTIFY DCDOT AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF PROPOSED WORK. INSPECTOR MR. TODD PERKINS - PHONE 678-626-5643.
6. NO INDIVIDUAL, PARTNERSHIP, CORPORATION OR OTHER ENTITY OF ANY KIND WHATSOEVER SHALL ENGAGE IN ANY EXCAVATION OR TRENCHING EXCEPT IN COMPLIANCE WITH THE PROVISIONS OF SECTION 1021 OF THE DOUGLAS COUNTY UNIFIED DEVELOPMENT CODE AND IN COMPLIANCE WITH ANY APPLICABLE LAWS OF THE STATE OF GEORGIA OR OF THE UNITED STATES OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), OR ANY OTHER STATE OR FEDERAL GOVERNMENTAL ENTITY OR DEPARTMENT RULES AND REGULATIONS APPLICABLE TO EXCAVATING AND TRENCHING.
7. NO EXCAVATING OR TRENCHING SHALL BE PERFORMED UNTIL A PERMIT FOR THE SAME HAS BEEN OBTAINED FROM THE DEVELOPMENT SERVICES DEPARTMENT.
8. ALL UTILITY WORK COORDINATION REQUIRED AS PART OF THIS PERMIT REQUIRES THE CONTRACTOR TO USE 811 FOR THE PURPOSE OF LOCATING, MARKING, AND IDENTIFYING UNDERGROUND UTILITIES. IT IS THE RESPONSIBILITY OF THE APPLICANT TO NOTIFY AND COORDINATE ALL UTILITY CONFLICTS AND RELOCATIONS WITH THE APPROPRIATE UTILITY.
9. IT IS THE APPLICANTS RESPONSIBILITY TO ACQUIRE ALL OTHER REQUIRED PERMITS AND TO ASSURE A SAFE AND ADEQUATE PLACEMENT DEPTH/HEIGHT OF ALL UTILITIES THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT, IN ACCORDANCE WITH THE DCDOT DETAILS, UNLESS OTHERWISE APPROVED.
10. ALL UTILITY CONNECTIONS OR INSTALLATIONS WITHIN THE PUBLIC RIGHT OF WAY REQUIRE A SEPARATE UTILITY PERMIT ISSUED BY DCDOT.
11. ALL CUT AND FILL AREAS SHALL NOT EXCEED A 2:1 HORIZONTAL: VERTICAL SLOPE. ALL FILL SHALL BE COMPACTED TO DCDOT STANDARDS AND SPECIFICATIONS AND SHALL NOT CONTAIN ORGANIC DEBRIS, INCLUDING TREES, STUMPS, BRUSH, CONSTRUCTION WASTE OR SIMILAR MATERIAL.
12. IT SHALL BE THE CONTRACTOR'S OBLIGATION TO FURNISH SUITABLE BORROW MATERIAL AND DISPOSE OF ANY UNSUITABLE OR WASTE MATERIAL, FOR ANY FILL MATERIAL PLACED IN THE DOUGLAS COUNTY RIGHT OF WAY.
13. ALL ROADWAY TRENCHES THAT ARE OPEN OVER NIGHT MUST BE PLATED. NO TRENCH OR PIT MAY BE LEFT OPEN/EXPOSED OVER NIGHT.
14. THE CONTRACTOR SHALL ENSURE THAT POSITIVE AND ADEQUATE DRAINAGE IS MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS AND PUBLIC ROADWAYS. THIS INCLUDES REMOVAL OF DEPOSITED SILT, EXCESSIVE MUD, AND OTHER DEBRIS INCLUDING ROCK, GRAVEL, ETC. POSITIVE AND ADEQUATE DRAINAGE MAY INCLUDE, BUT NOT BE LIMITED TO REPLACEMENT OR RECONSTRUCTION OF EXISTING DRAINAGE STRUCTURES THAT HAVE BEEN DAMAGED OR REMOVED.
15. ALL TRAFFIC CONTROL DESIGN, DEVICES, SIGNS AND MARKINGS, AND PROCEDURES MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND ANY APPLICABLE DCDOT STANDARDS.
16. HARD SURFACE DRIVEWAYS ON ADJACENT PROPERTIES SHALL BE BORED, IN OPPOSE TO TRENCHING FOR ALL UTILITY EXTENSIONS OR ANY OTHER WORK ACTIVITY, UNLESS OTHERWISE NOTED ON PLANS.
17. INGRESS AND EGRESS TO ADJACENT OR AFFECTED PROPERTY OWNERS SHALL BE MAINTAINED AT ALL TIMES.
18. EXISTING DRIVEWAYS APPROVED TO BE DISTURBED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED IN EXISTING LIKE KIND MATERIALS.
19. ADJACENT PROPERTY YARDS AND OTHER MAINTAINED AREAS WILL BE CLEARED OF CONSTRUCTION MATERIALS AND OTHER DEBRIS AND RETURNED TO ORIGINAL OR BETTER CONDITION USING LIKE KIND MATERIALS.
20. ALL ROADWAY WORK ZONE ACTIVITIES SHALL BE PERFORMED FOLLOWING SAFETY RULES, REGULATIONS, GUIDELINES, TECHNIQUES, PROCEDURES, SO AS REQUIRED BY CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WORK ZONE LIMITS.
21. ALL DISTURBED SHOULDERS AND DITCHES SHALL BE RE-ESTABLISHED AND PERMANENTLY STABILIZED PRIOR TO ACCEPTANCE AND APPROVAL FOR THE CERTIFICATE OF OCCUPANCY. ALL DITCH CHECK DAMS, SILT FENCE, AND HAY BALES SHALL BE REMOVED UPON STABILIZATION.
22. SHOULDERS, DITCHES, AND SLOPES SHALL BE MAINTAINED IN A SAFE MANNER DURING APPLICANT'S CONSTRUCTION ACTIVITIES. NO VERTICAL ROADWAY DROP-OFFS, NO EQUIPMENT PARKED IN ROADWAY CLEAR ZONE, OR OTHER HAZARDOUS CONDITIONS SHALL BE LEFT OVERNIGHT.
23. DISTURBED AREAS SHALL BE RESTORED IMMEDIATELY AS WORK IS COMPLETED. ALL DISTURBED SOIL AREAS IN THE PUBLIC RIGHT OF WAY SHALL BE SODDED, IF REQUIRED BY DCDOT.
24. TRAFFIC ALONG PUBLIC ROADWAYS SHALL BE MAINTAINED AT ALL TIMES.
25. NO LANE CLOSURES UNLESS OTHERWISE APPROVED BY DCDOT. APPROVED LANE CLOSURES MAY BE IMPLEMENTED DURING NON-PEAK HOUR PERIODS ONLY. PEAK PERIODS ARE NORMALLY CONSIDERED TO BE 7:00 AM - 9:00 AM AND 3:00 PM TO 6:00 PM MONDAY THROUGH FRIDAY. NO SATURDAY WORK IN THE PUBLIC ROAD RIGHT OF WAY UNLESS APPROVED BY DCDOT. NO LANE CLOSURES ON SUNDAY.
26. APPLICANT OR APPLICANT'S CONTRACTOR SHALL, AT THE DIRECTION OF THE DCDOT, IMMEDIATELY REMOVE ANY EXISTING LANE CLOSURE AND REOPEN ALL TRAFFIC LANES, IF A DOT REPRESENTATIVE DETERMINES EXISTING TRAFFIC CONDITIONS OR SAFETY ISSUES WARRANT SUCH ACTION.
27. PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES, UNLESS OTHERWISE NOTED ON PLANS. PEDESTRIAN DETOURS MAY BE REQUIRED.
28. ALL REQUIRED ROADWAY IMPROVEMENTS MUST BE COMPLETE AND APPROVED BY DCDOT PRIOR TO ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY AND RELEASE OF BONDS.
29. ALL ROADWAY IMPROVEMENTS ALONG A STATE ROUTE MUST BE APPROVED AND PERMITTED THROUGH THE GEORGIA DEPARTMENT OF TRANSPORTATION (GDOT) DISTRICT 7. THE APPROVED ROADWAY IMPROVEMENTS MUST BE COMPLETED PRIOR TO ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY.
30. APPLICANT SHALL REMOVE, PROTECT, AND RESET ANY EXISTING ROADSIDE SIGNS AS REQUIRED TO PERFORM ALL APPROVED ROAD WIDENING AND CONSTRUCTION. ALL REGULATORY SIGNS SUCH AS SPEED LIMITS, STOP SIGNS, YIELD SIGNS, ETC MUST BE REINSTALLED IMMEDIATELY. TEMPORARY SIGNAGE DURING CONSTRUCTION MUST BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD, AND ANY APPLICABLE DCDOT STANDARDS.
31. ALL PAVEMENT MARKINGS WITHIN THE RIGHT OF WAY SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
32. RAISED PAVEMENT MARKERS (RPM'S) SHALL BE PROVIDED ON ALL COLLECTOR AND ARTERIAL STREETS PER GDOT STANDARD DETAILS.
33. ALL SIGNS SHALL HAVE HIGH INTENSITY GRADE SHEETING. ALL SIGNS SHALL BE ON 5052-H38 FLAT ALUMINUM ALLOY (0.080 GAUGE THICKNESS) MEETING FHWA SPECIFICATIONS FOR CORNER RADII. ALL SIGNS SHALL MEET OR EXCEED GDOT SPECIFICATIONS FOR RETRO-REFLECTIVITY AND COLOR.
34. ALL SIGNS, UNLESS OTHERWISE NOTED, SHALL BE INSTALLED ON 12' - 3#/FT "U" - CHANNEL POSTS. THESE POSTS SHALL BE DARK GREEN (WEATHER RESISTANT, RUST INHIBITIVE, HIGH QUALITY ENAMEL). STANDARD INSTALLATION DEPTH IS 2 FT WITH A 30 IN BREAKAWAY ASSEMBLY.
35. MEDIAN OPENINGS LOCATED ON ANY COUNTY ROADWAY ARE FEATURES OF THE ROADWAY SYSTEM AND THE UNCONDITIONAL PROPERTY OF THE DOUGLAS COUNTY DEPARTMENT OF TRANSPORTATION. PERMIT APPLICANTS, PROPERTY OWNER(S), AND/OR LESSEES ADJACENT TO THE R/W AT AN EXISTING MEDIAN OPENING RETAIN NO OWNERSHIP OR LEGAL INTEREST THEREIN. THE DCDOT RESERVES THE RIGHT AND ALL AUTHORITY TO CLOSE, RELOCATE OR REMOVE A MEDIAN OPENING WHEN SUCH ACTION IS DEEMED NECESSARY IN THE INTEREST OF PUBLIC SAFETY OR EFFICIENCY OF THE ROADWAY.

STREET PLAN &PROFILE NOTES:

- ALL CONSTRUCTION MUST CONFORM TO DOUGLAS COUNTY, GEORGIA STANDARDS
- ALL DRAINAGE EASEMENTS MUST BE GRASSED AND RIP RAPPED AS REQUIRED TO CONTROL EROSION.
- ALL BUILDING SITES SHALL BE A MINIMUM OF 4' ABOVE HIGH WATER ELEVATION AND/OR THE 100-YEAR FLOOD ELEVATION.
- ALL BUILDINGS SHOULD BE A MINIMUM OF 40' FROM AN OPEN DRAINAGE EASEMENT.
- CLEARING AND GRADING SHALL BE LIMITED TO AREAS DESIGNATED AS RIGHT-OF-WAY AND THOSE AREAS REQUIRED FOR STORM DRAINAGE, DETENTION FACILITIES, AND ULILITIES.
- ALL SIDEWALKS ARE REQUIRED TO BE INSTALLED PRIOR TO EXPIRATION OF BONDS.
- PROJECTS REQUIRING MASS GRADING WILL REQUIRE REPORTS FROM AN INDEPENDENT GEOTECHNICAL ENGINEER TO BE SUBMITTED TO THE DEVELOPMENT CONTROL DIVISION VERIFYING MATERIAL TYPE AND THAT PROPER COMPACTION WAS ACHIEVED.
- IT IS THE DEVELOPERS RESPONSIBILITY TO COORDINATE WORK WITH ADJACENT PROPERTY OWNERS IMPACTED BY WORK APPROVED UNDER THIS PLAN.
- HAULING TO AND FROM SITE IS NOT REQUIRED.(IF HAULING TO AND FROM SITE IS REQUIRED, SUBMIT A PROPOSED HAUL ROUTE TO BE REVIEWED AND APPROVED BY DC DOT.)
- UTILITIES AND DRAIN PIPES SHALL BE RELOCATED OUTSIDE THE DECELERATION LANE.
- ALL UTILITY CONNECTIONS OR INSTALLATIONS WITHIN THE PUBLIC RIGHTS-OF-WAY REQUIRE A SEPARATE UTILITY PERMIT.
- ALL ROADWAY DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH GA. DOT STANDARDS
- THE TOPPING SHALL NOT BE INSTALLED UNTIL ONE (1) YEAR AFTER FINAL PLAT APPROVAL OR BUILDING CONSTRUCTION ON 75% OF ALL LOTS HAS BEEN COMPLETED, WHICHEVER COMES FIRST.
- ALL EXTERIOR MAINLINE ROADWAY IMPROVEMENTS SHALL BE COMPLETED PRIOR TO FINAL PLAT APPROVAL.
- SIDEWALKS REQIURED ON BOTH SIDES OF ALL STREETS PER UDC

overhead UTILITIES PROTECTION CENTER OF GEORGIA underground

BEFORE ANY EXCAVATION WORK BEGINS OR ANY WORK BEGINS WITHIN TEN(10') FT. OF OVERHEAD POWER LINES OF 750 VOLTS OR MORE, NOTIFICATION MUST BE MADE TO THE UTILITIES PROTECTION CENTER (UPC) AT 1-800-282-7411 (770-623-4344 IN METRO ATLANTA).

IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL UNDERGROUND UTILITIES BEFORE BEGINNING CONSTRUCTION AND ADVISE ENGINEERING OF ANY CONFLICTS. ALL LOCATION OF UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND MAY NOT BE A COMPLETE LOCATION OF ALL UTILITIES. CERTIFICATION TO THE LOCATION OF ALL UTILITIES IS WITHHELD.

DOUGLAS COUNTY PLANNING AND ZONING NOTES:

- THIS PROJECT IS SERVED BY A PERMANENT SEPTIC TANK.
- OUTDOOR STORAGE IS NOT ALLOWED ON SITE.
- ALL SIGNS PERMITTED SEPARATELY.

PER UNIFIED DEVELOPMENT CODE ARTICLE 8, LANDSCAPING, BUFFERS AND TREE CONSERVATION

"ATTENTION SUBCONTRACTORS"

TREE PROTECTION AREA

YOU MUST OBSERVE TREE PROTECTION AREA.

NO CONSTRUCTION OR EQUIPMENT
ENCROACHMENT - ALL TREE PROTECTION AREAS MUST BE PROTECTED FROM SOIL EROSION AND SEDIMENTATION

YOU ARE RESPONSIBLE FOR DAMAGES AND REPLACEMENT

PER UNIFIED DEVELOPMENT CODE ARTICLE 8 BY ORDER OF THE DOUGLAS COUNTY BOARD OF COMMISSIONERS

THE TEXT ABOVE IS REQUIRED ON THE SIGN POSTED AT THE SITE ENTRANCE.

"ATENCION: AREA DE PROTECCION DE ARBOL"

NO SE PERMITE CONSTRUCCION NI EQUIPO CERCA DE LOS ARBOLES

TODAS LAS AREAS DE ARBOLES TIENEN QUE ESTAR
PROTEGIDAS DE LA EROSION DE TIERRA Y SEDIMENTACION

USTEDES SON RESPONSIBLE POR DANOS Y REEMPLAZO

POR CODO UNIFICADO DE DESARROLLO ARTICULO 8 DE
LOS MIEMBROS DE LA TABLA DE LA COMISION DE EL
CONDADO DE DOUGLAS

NOTES:

- ALL SIGNAGE TO COVER A MINIMUM OF 16 SQUARE FEET, LETTERING TO BE NO SMALLER THAN 3 INCHES, REQUIRING SUBCONTRACTOR COMPLIANCE AND COOPERATION TO BE POSTED AT SITE ENTRANCE.
- ONE LARGE SIGN REQUIRED IN ENGLISH AND ONE SIGN REQUIRED IN SPANISH.
- A SMALLER SIGN ROUGHLY 12" X 18" MUST BE PLACED ON TREE PROTECTION FENCE EVERY 100 FEET STATING, "TREE PROTECTION AREA" OR "TREE SAVE AREA".
- EVERY OTHER SIGN LOCATED ALONG THE TREE PROTECTION FENCE IS REQUIRED TO BE IN SPANISH.
- YARDS- ALL YARD AREAS ON A SINGLE-FAMILY RESIDENTIAL LOT NOT OTHERWISE COVERED BY IMPERVIOUS SURFACE SHALL BE PLANTED IN GROUND COVER, TREES, SHRUBS, GRASS OR SODDED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY
- PLANTINGS-EVERY SINGLE-FAMILY RESIDENTIAL LOT SHALL BE PROVIDED WITH LANDSCAPING AROUND THE HOUSE CONSISTING OF SHRUBS AND TREES.
- SHRUBS ARE TO BE PROVIDED AT THE RATE OF 1 SHRUB FOR EVERY 6 FEET OF LENGTH OF HOUSE PERIMETER, OR PORTION THEREOF. SHRUBS MUST BE AT LEAST 12 INCHES TALL (1 GALLON) AT TIME OF PLANTING, AND BE OF A SPECIES THAT WILL NORMALLY EXCEED 2 FEET IN HEIGHT AT MATURITY.
- TREES PLANTED OR RETAINED ON THE LOT SHALL ACHIEVE NO LESS THAN 1.8 TREE UNITS PER LOT.
- TREE PROTECTION MAINTENANCE BOND REQUIRED.
- REQUIRED CREEK AND ZONING BUFFERS DO NOT COUNT TOWARDS TREE SAVE (MAX 30% PINES)

NOTE:
A FENCE, MINIMUM HEIGHT FOUR FEET, SHALL BE INSTALLED AROUND ALL STORMWATER DETENTION PONDS WITH SLOPES OF 3:1 OR STEEPER. A GATE CAPABLE OF BEING LOCKED SHALL BE INSTALLED IN THE FENCE. GATE TO BE A MINIMUM OF 16' WIDE OPENING.

TREE PROTECTION FENCING NOTE:

THE SECOND ROW OF Sd1 CAN BE ORANGE FABRIC TYPE-C WITH REQUIRED TREE PROTECTION SIGNAGE PER CODE, IF ACCEPTED BY THE COUNTY ARBORIST, THEREBY ALLOWING THE ELIMINATION OF STANDARD TREE PROTECTION FENCING.

NOTE:
IT SHALL BE UNLAWFUL FOR ANY PERSON TO ENGAGE IN OR CONDUCT ANY ACTIVITY IN THE CONSTRUCTION OF ANY BUILDING OR STRUCTURE, THE MOVING OF EARTH, OR THE LAYING OF ANY PAVEMENT, INCLUDING, BUT NOT LIMITED TO, THE MAKING OF ANY EXCAVATION, CLEARING OR GRADING OF SURFACE LAND, AND LOADING OR UNLOADING MATERIAL, EQUIPMENT, OR SUPPLIES, EXCEPT BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM, MONDAY THROUGH SATURDAY.

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
ENGINEERS | SURVEYORS | LANDSCAPE ARCHITECTS
6554 EAST CHURCH STREET
DOUGLASVILLE, GEORGIA 30134
p 770.942.0196
f 770.942.0152
www.HughesRay.com

No.	DATE:	REVISION

8

GENERAL NOTES
OF
DOUGLAS COUNTY FIRE TRAINING
COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD
OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243

4

GEORGIA REGISTERED No. 24019 PROFESSIONAL ENGINEER HOWARD B. RAY
7-25-17

2

DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR

JOB#: H17179

GN1

EROSION & SEDIMENT CONTROL NOTES

19 1. **THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.**

20 2. **EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.**

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

15 4. **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.**

9 DESCRIPTION OF CONSTRUCTION ACTIVITY

THE PROPOSED DEVELOPMENT OF **DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION** WILL INCLUDE CONSTRUCTION OF A BUILDING, UTILITIES, STORM DRAINAGE, STORM WATER MANAGEMENT FEATURES. THE EXISTING SITE IS PARTIALLY DEVELOPED AND IS SURROUNDED BY RESIDENTIAL AND UNDEVELOPED PROPERTY.

11 **THE SITE DRAINS TO AN UNNAMED TRIBUTARY TO GOTHARD'S CREEK.**
THIS SITE IS NOT WITHIN 1 MILE UPSTREAM OF A 305(b) OR 303(d) IMPAIRED STREAM.

THE PROPOSED CONSTRUCTION IS ACCOMPANIED BY A VERY RIGOROUS EROSION CONTROL PROGRAM TO ENSURE THAT STORMWATER ASSOCIATED WITH THE CONSTRUCTION DOES NOT CAUSE EROSION, SEDIMENTATION AND POLLUTION WITHIN THE RECEIVING WATERS OF THIS DRAINAGE AREAS.

26 27 A WET EXTENDED DETENTION POND WILL BE INSTALLED DURING CONSTRUCTION TO CONTROL POLLUTANTS AFTER CONSTRUCTION IS COMPLETE. THE PERMANENT POOL SERVES TO PROTECT DEPOSITED SEDIMENTS FROM RE-SUSPENSION. ACCORDING TO THE NATIONAL STORM WATER BEST MANAGEMENT PRACTICES DATABASE THE POLLUTANT CAPABILITIES OF A STORM WATER POND ARE AS FOLLOWS:
TOTAL SUSPENDED SOLIDS-80%
TOTAL PHOSPHORUS-50%
TOTAL NITROGEN-30%
FECAL COLIFORM-70%
HEAVY METALS-50%

THE TOTAL AREA FOR THIS PROJECT IS 10.00 ACRES AND WILL HAVE APPROXIMATELY 2.31 ACRES DISTURBED.
THE DISTURBED ACREAGE IS FOR PRIMARY & SECONDARY PERMITTEE'S.

48 SEDIMENT STORAGE CALCULATIONS

TOTAL ACREAGE = 10.00 ACRES
TOTAL DISTURBED AREA = 2.31 ACRES
TOTAL DRAINED AREA = 7.51 ACRES
TOTAL SEDIMENT STORAGE REQUIRED = 7.51 AC x 67 CY = 503.17 CY

SEDIMENT STORAGE PROVIDED BY
SD1-NS: (SILT FENCE)
REQUIRED SEDIMENT STORAGE: 0.71 AC DRAINED X 67 = 47.57 CY
PROVIDED SEDIMENT STORAGE: 429 LF X 0.138 = 59.20 CY
59.20 CY PROVIDED > 47.57 CY REQUIRED
Sd-3: (TEMPORARY SEDIMENT BASIN)
REQUIRED SEDIMENT STORAGE: 6.8 AC DRAINED X 67 CY = 455.6 CY
PROVIDED SEDIMENT STORAGE: 43,552 CF / 27 = 1,613.04 CY
1,163.04 CY PROVIDED > 455.6 CY REQUIRED

TOTAL SEDIMENT STORAGE PROVIDED = 1,672.24 CY > 503.17 CY REQUIRED

44 RUNOFF COEFFICIENT STATEMENT:

THE EXISTING LAND IS PARTIALLY DEVELOPED WITH RELATIVELY FLAT TERRAIN (C=0.32) FOR THE PROPOSED DEVELOPMENT.
FINAL RUNOFF COEFFICIENT WILL BE APPROXIMATELY C=0.43.

CRITICAL AREAS

1. EXISTING PARKING
2. EXISTING BUILDINGS
3. EXISTING SEPTIC FIELD

33 SAMPLING POINT SELECTION RATIONALE

For this project a representative outfall sampling has been chosen where storm water discharges to a separate offsite basin.

APPENDIX B RATIONALE

Through utilizing Warm Water Chart, the drainage basin is 10 Acres (site size) with a total surface drainage area of 0-4.99 square miles which yields a value of 75.

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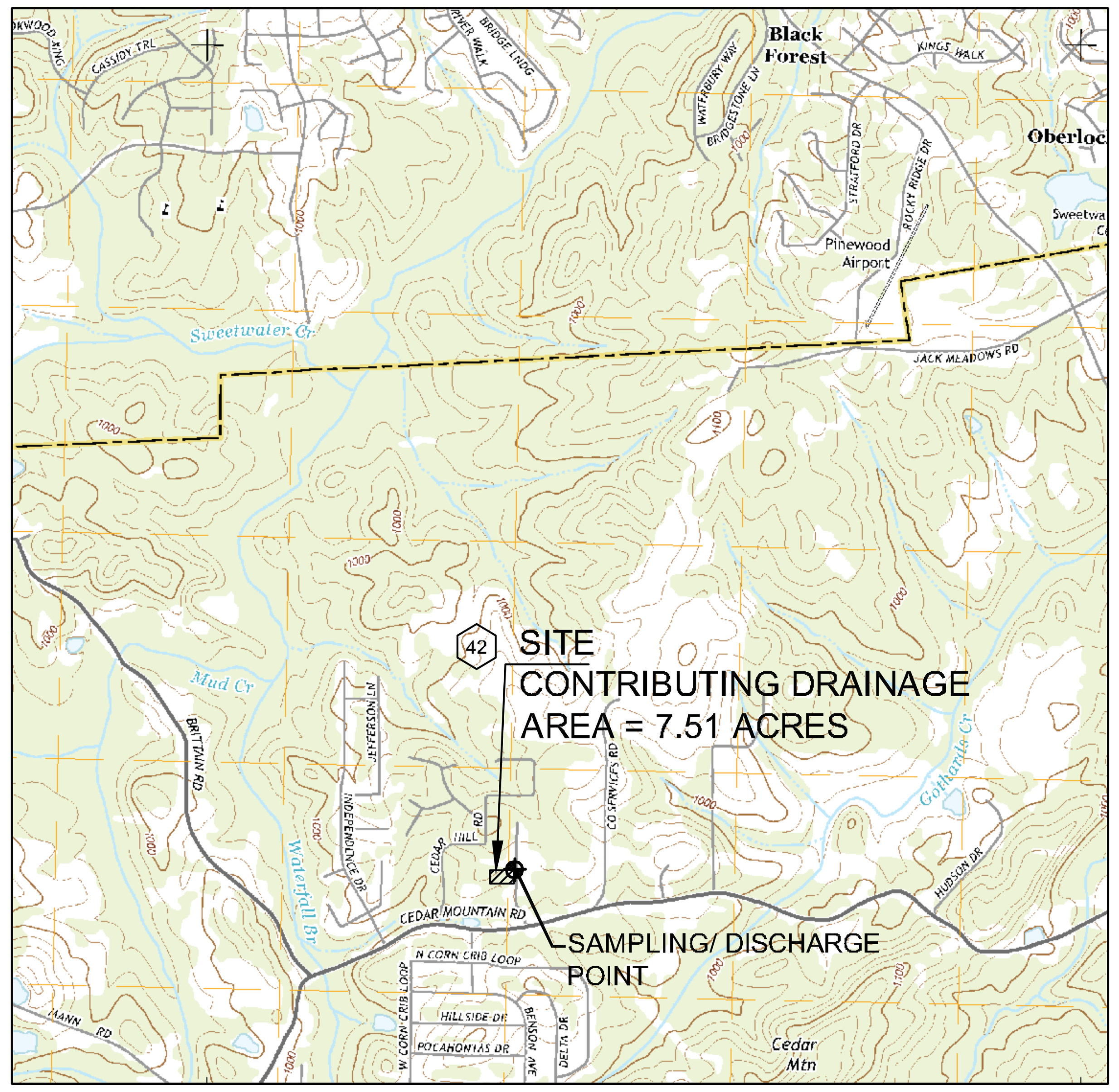
ANTICIPATED CONSTRUCTION SCHEDULE					
DESCRIPTION					
INSTALLATION OF SEDIMENT CONTROL MEASURES	▬				
INSTALL TREE PROTECTION DEVICES & SIGNAGE / CLEARING & GRUBBING	▬				
BUILDING & UTILITY CONSTRUCTION	▬	▬	▬	▬	
GRADING OPERATIONS	▬	▬	▬	▬	
PAVING OPERATION			▬	▬	
GRASSING INCLUDE TEMPORARY & PERMANENT VEGETATION	▬	▬	▬	▬	
MAINTENANCE OF EROSION & SEDIMENT CONTROL MEASURES	▬	▬	▬	▬	
FINAL LANDSCAPING			▬	▬	
REMOVAL OF EROSION CONTROL				▬	
SCHEDULED WEEKS	AUG 17	OCT 17	FEB 18	JUNE 18	AUG 18



10

USGS MAP

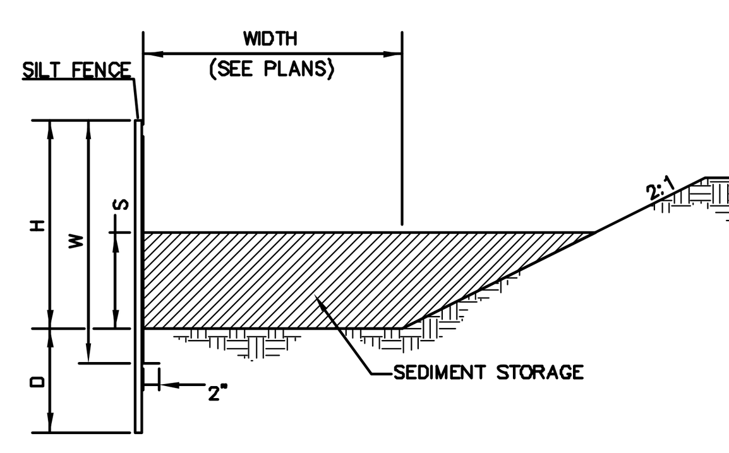
41 WETLANDS CERTIFICATION :

THE DESIGN PROFESSIONAL WHOSE SEAL APPEARS HEREIN CERTIFIES THE FOLLOWING:

- THE NATIONAL WETLANDS INVENTORY MAP HAS BEEN CONSULTED;
- THE APPROPRIATE PLAN SHEET DOES NOT INDICATE WETLANDS AS SHOWN ON THE MAP; AND
- IF WETLANDS ARE INDICATED THE LANDOWNER OR DEVELOPER HAS BEEN ADVISED THAT LAND DISTURBANCE OF PROTECTED WETLANDS SHALL NOT OCCUR UNLESS THE APPROPRIATE SECTION 404 PERMIT OR LETTER OF PERMISSION HAS BEEN OBTAINED.

- NO STATE WATERS OR WETLANDS ARE LOCATED ON OR WITHIN 200 FEET OF THIS PROJECT.

AS PER OFFICIAL F.I.A, MAP 130306 FOR COMMUNITY-PANEL NUMBER 0039D DATED MARCH 4, 2013. THIS PROPERTY IS NOT LOCATED IN A DESIGNATED FLOOD HAZARD AREA.



ELEVATION
N.T.S.

FENCE TYPE	POST LENGTH	H	D	W	S	WIDTH (FT)	STORAGE (CY/LF)
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	0	0.051
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	1	0.094
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	2	0.138
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	3	0.181
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	4	0.224
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	5	0.267
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	6	0.331
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	7	0.354
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	8	0.392
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	9	0.441
TYPE "NS"	4 FT	2'–4"	1'–6"	2'–10"	1'–2"	10	0.483

SINGLE ROW TEMPORARY SILT FENCE
STORAGE DETAIL
N.T.S.
E-DTL-52

35 Clearing Phase - Erosion Control Notes:

- Prior to the Land Disturbing Construction, the Contractor shall schedule a pre-construction meeting with the area site development inspector.
- The contractor shall observe the project sequence shown on the plans. The contractor shall maintain careful scheduling and performance to insure that land stripped of it's natural cover is exposed only in small quantities.
- The owner agrees to provide and maintain off-street parking on the subject property during the entire construction period.
- No staging areas, material storage, concrete wash out areas, or debris burn and burial holes shall be located within 500 feet of designated tree protection areas.
- A copy of the approved land disturbance plan and permit shall be present on the site at all times.
- The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, or concurrent with, land disturbing activities.
- Prior to commencing land disturbance activity, the limits of land disturbance shall be clearly and accurately demarcated with stakes, ribbons, or other appropriate means. The location and extent of all authorized land disturbance activity shall be demarcated for the duration of the construction activity. No land disturbance shall occur outside the approved limits indicated on the approved plans.

The following initial erosion control measures shall be implemented prior to any other construction activity.

1. The construction exit, consisting of a minimum pad size of 20 feet by 50 feet with a minimum of 6" thick stone, shall be placed as shown on the plan. The stone size should consist of course aggregate between 1-1/2" & 3-1/2" in diameter and overlie on a geotextile underliner. The geotextile underliner shall meet the requirements of AASHTO M288-96, Section 7.3 separation requirements.
2. Immediately after the establishment of construction entrance/exits, all perimeter erosion control and storm water management devices shall be installed as shown on the clearing phase erosion control plan.
3. Type "C" silt fence should be installed at the perimeter of the disturbed area as shown on the plan. The silt fence should be placed in accordance with the manual for erosion control in Georgia, Table 6-20.2. The silt fence should be kept erect at all times and repaired when requested by the site inspector or the project design professional of record. Silt should be removed when accumulation reaches ½ height of the barrier. The perimeter silt fence should be inspected daily for any failures. any failures of said fencing should be repaired immediately.
4. Inlet sediment protection measures shall be installed on all existing storm structures as shown on the plan. See separate details for specifics on type of inlet protection specified.
5. Stone check dams shall be installed in areas of concentrated flows as shown on the plan.
6. Tree protection fencing should be installed prior to the start of any land disturbance activity and maintained until final landscape is installed. The tree protection fencing should be inspected daily. Any failures of said fencing should be repaired immediately.

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- **The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMPs within 7 days after installation.**
- **After installation of initial erosion control measures the site contractor shall schedule an inspection by the project design professional. The design professional shall inspect the installation of initial sediment storage requirements and perimeter control BMP's within seven (7) days after installation. No other construction activities shall occur until the project design professional approves the installation of said erosion control measures. If unforeseen conditions exist in the field that warrant additional erosion control measures, the contractor must construct any additional erosion control devices deemed necessary by the site inspection within two (2) buisness days after receiving the report (unless additional time is needed due to adverse weather).**
- After approval of the initial erosion control installation, the contractor may proceed with clearing and grubbing activities. As clearing permits, the contractor shall construct temporary sediment ponds and diversion dikes as shown on the clearing phase plan to control erosion and storm water runoff.
- The contractor can utilize cleared trees as barrier brush sediment control in areas shown on plan where initial grading activities will not occur.
- No burn or bury pits shall be permitted on the construction site without written permission by the owner and/or the engineer of record.
- Additional silt barriers must be placed as shown on the plan as access is obtained during clearing. No grading shall take place until silt barrier installation and sediment ponds are constructed as shown on the clearing phase erosion control plan.
- All silt fence must meet the requirements of section 171-temporary silt fence for the Department of Transportation, State of Georgia, Standard Specifications, 1983 Edition.
- All items in this section of the specifications shall meet the requirements as set forth in Section 161, 162, 163, and 164, of the Georgia D.O.T. Standard Specifications, for roads and bridges.
- Mulch or temporary grassing shall be applied to all exposed areas within 7 days of land disturbance.
- All disturbed areas left mulched after 14 days shall be stabilized with temporary vegetation.
- Sediment and erosion control measures should be checked after each rain event. Each device is to be maintained or replaced if sediment accumulation has reached one half the capacity of the device. Additional devices must be installed if new channels have developed.
- The construction exist shall be maintained in a condition which will prevent track or flow of mud onto public right-of-way. This may require periodic top dressing with 1-3" of stone, as conditions demand. All materials spilled, dropped, washed, or tracked from vehicle onto public roadway or into storm drain must be removed immediately.
- Contractor shall inspect control measures at the end of each working day to ensure measures are functioning properly.
- Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source as directed by the on site inspector or the civil engineer.
- Failure to install, operate, or maintain all erosion control measures will result in all construction being stopped on the job until such measures are corrected back to the approved erosion control plans.

35 Grading Phase - Erosion Control Notes:

- During construction, the contractor shall maintain careful scheduling and performance to ensure that land stripped of it's natural ground cover is exposed only in small quantities and therefore limited durations, before permanent erosion protection is established. Note sub phases shown on plans.
- Earthwork operations in the vicinity of stream buffers shall be carefully controlled to avoid dumping or sloughing into the buffer areas.
- The following erosion control measures shall be implemented during the preliminary grading phase of construction.
- Sediment shall not be washed into inlets. It shall be removed from the sediment traps and disposed of and stabilized so that it will not enter the inlets again.
- Erosion control devices shall be installed immediately after ground disturbance occurs. The location of some of the erosion control devices may have to be altered from that shown on the approved plans if drainage patterns during construction are different from the proposed drainage patterns. It is the contractor's responsibility to accomplish erosion control for all drainage patterns created at various stages during construction. Any difficulty in controlling erosion during any phase of construction shall be reported to the design professional immediately.
- The contractor shall furnish and maintain all necessary barricades while roadway frontage improvements are being made.
- Type "A" silt fence should be installed at the toe of all fill slopes 10 feet or greater in height. The silt fence should be placed in accordance with the manual for erosion control in Georgia, Table 6-20.2. The silt fence shall be maintained until permanent ground cover is established on the slope. Silt shall be removed when accumulation reaches ½ height of the barrier. Additionally, diversion dikes shall be constructed along the top of all said fill slopes with the use of temporary down drains to control storm water run off as shown on the plans. See separate details for additional information.
- The contractor shall be responsible for establishing barriers at the toe of slopes under construction. These barriers shall be as shown in the plans. These barriers may be relocated and reused after permanent slope stabilization becomes fully established. As they are relocated, any defective materials in the barrier shall be replaced. In addition, all debris and silt at the previous location shall be removed.
- Cut and fill slopes are not to exceed "2H:1V"
- All slopes steeper than 2.5:1 and with a height of ten feet or greater, and cuts and fills within stream buffers, shall be stabilized with appropriate erosion control matting or blankets. See separate details for additional information.
- Type "A" silt fence shall be placed at the toe of all dirt stock pile areas. See separate details for additional information.
- Inlet sediment protection measures shall be installed on all storm structures as they are constructed. See plan view for specific type and separate details for additional information on type of inlet protection specified.
- Storm drain outlet protection shall be placed at all outlet headwalls as soon as the headwall is constructed. See separate details for additional information.
- Stone check dams shall be installed in areas of concentrated flows as shown on the plan. See separate detail for additional information.
- All drainage swales shall be applied with vegetative cover as soon as final grade is achieved.
- All graded areas shall be applied with vegetative cover as soon as final grade is achieved.
- Mulch or temporary grassing shall be applied to all exposed areas within 7 days of land disturbance.
- All disturbed areas left mulched after 30 days shall be stabilized with temporary grassing.
- After preliminary grading activities, the contractor shall construct temporary sediment basins and diversion dikes as shown on the plan. The contractor shall maintain the sediment pond until permanent ground cover is established. Sediment shall be cleaned out of the ponds when it reaches the 1/3 depth of basin. See separate details for additional information.
- Sediment and erosion control measures should be checked after each rain event. Each device is to be maintained or replaced if sediment accumulation has reached one half the capacity of the device. Additional devices must be installed if new channels have developed.
- The construction exit shall be maintained in a condition which will prevent track or flow of mud onto public right-of-way. This may require periodic top dressing with 1-3" of stone, as conditions demand. All materials spilled, dropped, washed, or tracked from vehicle onto public roadway or into storm drain must be removed immediately.
- Contractor shall inspect control measures at the end of each working day to ensure measures are functioning properly.
- Erosion control measures will be maintained at all times. if full implementation of the approved plan does not provide for effective erosion control. Additional erosion and sediment control measures shall be implemented to control or treat the sediment source as directed by the on site inspector or the civil engineer.
- Failure to install, operate, or maintain all erosion control measures will result in all construction being stopped on the job until such measures are corrected back to the approved erosion control plans.

35 Final Phase - Erosion Control Notes:

- The following erosion control measures shall be implemented during the final erosion control phase of construction.
- Sediment shall not be washed into inlets. It shall be removed from the sediment traps and disposed of and stabilized so that it will not enter the inlets again.
- mulch or temporary grassing shall be applied to all exposed areas within 7 days of land disturbance.
- all disturbed areas left mulched after 30 days shall be stabilized with temporary grassing.
- The contractor shall maintain all sediment ponds and erosion control measures until permanent ground cover is established. Sediment shall be cleaned out of the ponds when it reaches the half way point on the riser.
- After curbing, graded aggregate base, and pavement has been installed, all inlet sediment traps on single and double wing catch basins along with any curb inlets shall be removed and replaced with curb filter inlet protection. See separate detail for additional information.
- All roadway and parking shoulders should be applied with vegetative cover as soon as final grade is achieved behind curbs.
- Sediment and erosion control measures should be checked after each rain event. Each device is to be maintained of replaced if sediment accumulation has reached one half the capacity of the device. Additional devices must be installed if new channels have developed.
- The construction exit shall be maintained in a condition which will prevent track or flow of mud onto public right-of-way. This may require periodic top dressing with 1 - 3" of stone, as conditions demand. All materials spilled, dropped, washed, or tracked from vehicle onto public roadway or into storm drain must be removed immediately.
- Contractor shall inspect control measures at the end of each working day to ensure measures are functioning properly.
- Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source as directed by the on site inspector or the Civil Engineer.
- Failure to install, operate, or maintain all erosion control measures will result in all construction being stopped on the job until such measures are corrected back to the approved erosion control plans.
- Upon final stabilization, the contractor shall remove all temporary erosion control measures and dispose of them unless noted on plans.

Permit Coverage:

This plan has been prepared to meet the requirements under the State of Georgia, Department of Natural Resources, Environmental Protection Division (EPD), General Permit No. GAR 100001 for Authorization To Discharge Under The National Pollution Discharge Elimination System (NPDES), Storm Water Discharges Associated With Construction Activity For Stand Alone Construction Projects

PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area.
This permit regulates point source discharges of storm water to the waters of the State of Georgia from construction activities, as defined in this permit.

PART I.C. ELIGIBILITY.

1. Construction Activities. This permit authorizes, subject to the conditions of this permit:

A. All discharges of storm water associated with stand alone construction projects that will result in land disturbance equal to or greater than one (1) acre occurring on or before, and continuing after, the effective date of this permit, (henceforth referred to as existing storm water discharges from construction activities) except for discharges identified under Part I.C.3.;

B. all discharges of storm water associated with stand alone construction projects that will result in land disturbance equal to or greater than one (1) acre occurring after the effective date of this permit, (henceforth referred to as storm water discharges from construction activities); and

C. coverage under this permit is not required for discharges of storm water associated with minor land disturbing activities (such as home gardens and individual home landscaping, repairs, maintenance work, fences and other related activities which result in minor soil erosion) conducted outside of the 25 foot buffer along the banks of all State waters requiring a buffer and outside of the 50 foot buffer along the banks of all State waters classified as 'trout streams' requiring a buffer on individual residential lots sold to homeowners where all planned construction activities on that lot have been completed and have undergone final stabilization.

2. Mixed Storm Water Discharges. This permit may only authorize a storm water discharge from a construction site or construction activities that is mixed with a storm water discharge from an industrial source or activity other than construction where:

A. The industrial source or activity other than construction is located on the same site as the construction activity and is an integral part of the construction activity;

B. The storm water discharges associated with industrial activity from the areas of the site where construction activities are occurring are in compliance with the terms of this permit; and

C. Storm water discharges associated with industrial activity from the areas of the site where industrial activity other than construction are occurring are covered by a different NPDES general permit or individual permit authorizing such discharges and the discharges are in compliance with a different NPDES permit.

3. Limitations on Coverage. The following storm water discharges from construction sites are not authorized by this permit:

A. storm water discharges associated with an industrial activity that originate from the site after construction activities have been completed and the site has undergone final stabilization;

B. discharges that are mixed with sources of non-storm water other than discharges which are identified in Part III.A.2. of this permit and which are in compliance with Part IV.D.7. (non-storm water discharges) of this permit;

C. storm water discharges associated with industrial activity that are subject to an existing NPDES individual or general permit. Such discharges may be authorized under this permit after an existing permit expires provided the existing permit did not establish numeric limitations for such discharges; and

D. storm water discharges from construction sites that the Director (EPD) has determined to be or may reasonably be expected to be contributing to a violation of a water quality standard.

4. Compliance with Water Quality Standards. No discharges authorized by this permit shall cause violations of Georgia's in-stream water quality standards as provided by the Rules and Regulations for Water Quality Control, Chapter 391-3-6-.03.

PART III. SPECIAL CONDITIONS, MANAGEMENT PRACTICES, PERMIT VIOLATIONS AND OTHER LIMITATIONS

A. Prohibition on Non-Storm Water Discharges.

1. Except as provided in Part I.C.2. and III.A.2., all discharges covered by this permit shall be composed entirely of storm water.
2. The following non-storm water discharges may be authorized by this permit provided the non-storm water component of the discharge is explicitly listed in the Erosion, Sedimentation and Pollution Control Plan and is in compliance with Part IV.D.7.: discharges from fire fighting activities; fire hydrant flushing; potable water sources including water line flushing; irrigation drainage; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials or pollutants.

This permit does not authorize the discharge of soaps or solvents used in vehicle and equipment washing.

This permit does not authorize the discharge of wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials.

B. Releases in Excess of Reportable Quantities.

1. The discharge of hazardous substances or oil in the storm water discharge(s) from a site shall be prevented. This permit does not relieve the permittee of the reporting requirements of Georgia's Oil or Hazardous Material Spills or Releases Act (O.C.G.A. §§12-14-2, et seq.), 40 CFR Part 117 and 40 CFR Part 302. Where a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either Georgia's Oil or Hazardous Material Spills or Releases Act (O.C.G.A. §§12-14-2, et seq.), 40 CFR 117 or 40 CFR 302 occurs during a 24 hour period, the permittee is required to notify EPD at (404) 656-4863 or (800) 241-4113 and the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of Georgia's Oil or Hazardous Material Spills or Releases Act (O.C.G.A. §§12-14-2, et seq.), 40 CFR 117 and 40 CFR 302 as soon as he/she has knowledge of the discharge.

This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill.

C. Discharges into, or within One Mile Upstream of and within the Same Watershed as, Any Portion of a Biota Impaired Stream Segment.

Any permittee who intends to obtain coverage under this permit for storm water discharges associated with construction activity into an Impaired Stream Segment, or within one (1) linear mile upstream of and within the same watershed as, any portion of an Impaired Stream Segment identified as "not supporting" its designated use(s), as shown on Georgia's most current "305(b)/303(d) List Documents (Final)" at the time of NOI submittal, must satisfy the requirements of Part III.C. of this permit if the Impaired Stream Segment has been listed for criteria violated, "Bio F" (Impaired Fish Community) and/or "Bio M" (Impaired Macroinvertebrate Community), within Category 4a, 4b or 5, and the potential cause is either "NP" (nonpoint source) or "UR" (urban runoff). Those discharges that are located within one (1) linear mile of an Impaired Stream Segment, but are not located within the watershed of any portion of that stream segment, are excluded from this requirement. Georgia's 305(b)/303(d) List Documents (Final)" can be viewed on the EPD website, www.gaepd.org/Documents/305b.html.

1. If a Total Maximum Daily Load (TMDL) Implementation Plan for sediment has been finalized at least six (6) months prior to the permittee's submittal of the NOI, the Erosion, Sedimentation and Pollution Control Plan (Plan) must address any site-specific conditions or requirements included in the TMDL Implementation Plan that are applicable to the permittee's discharge(s) to the Impaired Stream Segment within the timeframe specified in the TMDL Implementation Plan. If the TMDL Implementation Plan establishes a specific numeric wasteload allocation that applies to a permittee's discharge(s) to the Impaired Stream Segment, then the permittee must incorporate that allocation into the Erosion, Sedimentation and Pollution Control Plan and implement all necessary measures to meet that allocation. A list of TMDL Implementation Plans can be viewed on the EPD website, www.gaepd.org.
2. In order to ensure that the permittee's discharge(s) do not cause or contribute to a violation of State water quality standards, the Plan must include at least four (4) of the following best management practices (BMPs) for those areas of the site which discharge to the Impaired Stream Segment:

During all construction activities as defined in this permit, double the width of the 25 foot undisturbed vegetated buffer along all State waters requiring a buffer and the 50 foot undisturbed vegetated buffer along all State waters classified as "trout streams" requiring a buffer. During construction activities, EPD will not grant variances to any such buffers that are increased in width pursuant to this section.

Increase all temporary sediment basins and retrofitted storm water management basins to provide sediment storage of at least 3600 cubic feet (134 cubic yards) per acre drained.

Use baffles in all temporary sediment basins and retrofitted storm water management basins to at least double the conventional flow path length to the outlet structure.

A large sign (minimum 4 feet x 8 feet) must be on the site on the actual start date of construction visible from a public roadway identifying the construction site, the permittee(s), and the contact person(s) and telephone number(s) until a NOT has been submitted.

Use anionic polyacrylamide (PAM) and/or mulch to stabilize all areas left disturbed for more than seven (7) calendar days in accordance with Part 111.0.1 . of this permit.

Conduct turbidity sampling after every rain event of 0.5 inch or greater within any 24 hour period, recognizing the exceptions specified in Part IV.D.6.d. of this permit.

Comply with the applicable end-of-pipe turbidity effluent limit, without the "BMP defense" as provided for in O.C.GA 12-7-6(a)(1).

Reduce the total planned site disturbance to less than 50% impervious surfaces (excluding any State-mandated buffer areas from such calculations). All calculations must be included on the Plan.

Limit the amount of disturbed area at anyone time to no greater than 25 acres or 50% of the total planned site, whichever is less. All calculations must be included on the Plan.

Use "Dirt II" techniques available on the EPD website, www.gaepd.org (e.g. , seep berms, sand filters, anionic PAM) to model and manage construction storm water runoff (including sheet flow). All calculations must be included on the Plan.

Add appropriate organic soil amendments (e.g., compost) and conduct pre- and post-construction soil sampling to a depth of 6 (six) inches to document improved levels of soil carbon after final stabilization of the construction site.

Use mulch filter berms, in addition to a silt fence, on the site perimeter wherever construction storm water (including sheet flow) may be discharged. Mulch filter berms cannot be placed in waterways or areas of concentrated flow.

Apply the appropriate Georgia Department of Transportation approved erosion control matting or blankets or bonded fiber matrix to all slopes steeper than 3:1. All graphical illustrations must be included on the Plan.

Use appropriate erosion control matting or blankets instead of concrete in all construction storm water ditches and storm drainages designed for a 25 year, 24 hour rainfall event.

Use anionic PAM under a passive dosing method (e.g., flocculant blocks) within all construction storm water ditches and storm drainages that feed into temporary sediment basins and retrofitted management basins.

Install sod for a minimum 20 foot width (in lieu of seeding) after final grade has been achieved, along the site perimeter wherever construction storm water (including sheet flow) may be discharged.

Conduct soil tests to identify and to implement site-specific fertilizer needs.

Certified personnel shall conduct inspections at least twice every seven (7) calendar days and within 24 hours of the end of the storm that is 0.5 inches rainfall or greater in accordance with Part IV.D.4.a.(3).(a) - (c), Part IV.D.4.b.(3). (a) - (c) or Part IV.D.4.c.(3).(a) - (c) of this permit, as applicable.

Apply the appropriate compost blankets (minimum depth 1.5 inches) to protect soil surfaces until vegetation is established during the final stabilization phase of the construction activity.

Use alternative BMPs whose performance has been documented to be superior to conventional BMPs as certified by a Design Professional (unless disapproved by EPD or the State Soil and Water Conservation Commission).

Limit the total planned site disturbance to less than 15% impervious surfaces (excluding any State mandated buffer areas from such calculations). All calculations must be included in the Plan.

(NOTES CONTINUED ON SHEET EC2)

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
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No.	DATE:	REVISION

8

NPDES NOTES
OF
DOUGLAS COUNTY FIRE TRAINING
COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243
4

[illegible]
GEORGIA REGISTERED No. 24019 PROFESSIONAL ENGINEER HOWARD B. RAY
7-25-17
2

Certification # 0000004500

DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR

JOB#: H17179

EC1

(NOTES CONTINUED FROM SHEET EC1)

D. Management Practices and permit Violations.

1. Best management practices, as set forth in this permit, are required for all construction activities, and must be implemented in accordance with the design specifications contained in the "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted to prevent or reduce the pollution of waters of Georgia. Proper design, installation, and maintenance of best management practices shall constitute a complete defense to any action by the Director or to any other allegation of noncompliance with Part III.D.3. and Part III.D.4.
2. Except as required to install the initial sediment storage requirements and perimeter control BMPs as described in Part IV.D.3., the initial sediment storage requirements and perimeter control BMPs must be installed and implemented prior to conducting any other construction activities (e.g., clearing, grubbing and grading) with in the construction site or when applicable, within phased sub-parts or segments of the construction site. Failure to comply shall constitute a violation of this permit for each day on which construction activities occur. The design professional who prepared the Plan must inspect the initial sediment storage requirements and perimeter control BMPs in accordance with Part IV.A.5. within seven (7) days after installation.
3. Failure to properly design, install, or maintain best management practices shall constitute a violation of this permit for each day on which such failure occurs. BMP maintenance as a result of the permittee's routine inspections shall not be considered a violation for the purposes of this paragraph. If during the course of the permittee's routine inspection BMP failures are observed which have resulted in sediment deposition into Waters of the State, the permittee shall correct the BMP failures and shall submit a summary of the violations to EPD in accordance with Part V.A.2. of this permit.
4. A discharge of storm water runoff from disturbed areas where best management practices have not been properly designed, installed, and maintained shall constitute a separate violation for each day on which such discharge results in the turbidity of receiving water(s) being increased by more than ten (10) nephelometric turbidity units for waters classified as trout streams or more than twenty-five (25) nephelometric turbidity units for waters supporting warm water fisheries, regardless of a permittee's compliance with Part III.B.1.), and Part III.B.3).
5. When the permittee has elected to sample outfall(s), the discharge of storm water runoff from disturbed areas where best management practices have not been properly designed, installed, and maintained shall constitute a separate violation for each day on which such condition results in the turbidity of the discharge exceeding the value selected from Appendix B applicable to the construction site. As set forth therein, the nephelometric turbidity unit (NTU) value shall be selected from Appendix B based upon the size of the construction site, the surface water drainage area and whether the receiving water(s) supports warm water fisheries or is a trout stream as indicated in the Rules and Regulations for Water Quality Control, Chapter 391-3-6 at www.gaepd.org.

PART IV. EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN

A site-specific Erosion, Sedimentation and Pollution Control Plan (Plan) shall be designed, installed and maintained for the phase or phases of the common development covered by this permit. The Erosion, Sedimentation and Pollution Control Plan must be prepared by a design professional as defined by this permit. All persons involved in Plan preparation shall have completed the appropriate certification course, pursuant to O.C.G.A. 12-7-19 (b), approved by the State Soil and Water Conservation Commission.

The Plan shall include, as a minimum, best management practices, including sound conservation and engineering practices to prevent and minimize erosion and resultant sedimentation, which are consistent with, and no less stringent than, those practices contained in the "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted and O.C.G.A. 12-7-6, as well as the following:

(i). Except as provided in Part IV. (iii). below, no construction activities shall be conducted within a 25 foot buffer along the banks of all State waters, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, except where the Director has determined to allow a variance that is at least as protective of natural resources and the environment in accordance with the provisions of O.C.G.A. 12-7-6, or where a drainage structure or a roadway drainage structure must be constructed, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented, or along any ephemeral stream, or where bulkheads and seawalls must be constructed to prevent the erosion of the shoreline on Lake Oconee and Lake Sinclair. The buffer shall not apply to the following activities provided that adequate erosion control measures are incorporated into the project plans and specifications are implemented:

(1) public drinking water system reservoirs.

(2) stream crossings for water and sewer lines, provided that the stream crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, and native riparian vegetation is re-established in any bare or disturbed areas within the buffer.

(3) stream crossings for any utility lines of any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission or distribution of power, provided that: (a) the stream crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, (b) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (c) the entity is not a secondary permittee, for a project located within a common development or sale under this permit;

(4) buffer crossing for fences, provided that the crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, and native riparian vegetation is re-established in any bare or disturbed areas within the buffer, and

(5) stream crossings for aerial utility lines, provided that: (a) the new utility line right-of-way width does not exceed 100 linear feet, (b) utility lines are routed and constructed so as to minimize the number of stream crossings and disturbances to the buffer, (c) only trees and tree debris are removed from within the buffer resulting in only minor soil erosion (i.e., disturbance to underlying vegetation is minimized), and (d) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (d) the entity is not a secondary permittee for a project located within a common development or sale under this permit;

(6) right-of-way posts, guy-wires, anchors, survey markers and the replacement and maintenance of existing utility structures within the current right-of-way undertaken or financed in whole or in part by the Department of Transportation, the Georgia Highway Authority or the State Road and Tollway Authority or undertaken by any county or municipality, provided that: (a) the area of land disturbance does not exceed 100 square feet per structure, (b) the area of buffer vegetation to be cut (not grubbed) does not exceed 1,000 square feet per structure, (c) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (d) the entity is not a secondary permittee for a project located within a common development or sale under this permit;

(7) right-of-way posts, guy-wires, anchors, survey markers and the replacement and maintenance of existing utility structures within the current right-of-way by any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission or distribution of power, provided that: (a) the area of land disturbance does not exceed 100 square feet per structure, (b) the area of buffer vegetation to be cut (not grubbed) does not exceed 1,000 square feet per structure, (c) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (d) the entity is not a secondary permittee for a project located within a common development or sale under this permit; and

(8) Maintenance (excluding dredging), repair and/or upgrade of Soil and Water Conservation District watershed dams when under the technical supervision of the USDA Natural Resources Conservation Service.

(ii). No construction activities shall be conducted within a 50 foot buffer, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, along the banks of any State waters classified as "trout streams" except when approval is granted by the Director for alternate buffer requirements in accordance with the provisions of O.C.G.A. 12-7-6, or where a roadway drainage structure must be constructed; provided, however, that small springs and streams classified as "trout streams" which discharge an average annual flow of 25 gallons per minute or less shall have a 25 foot buffer or they may be piped, at the discretion of the permittee, pursuant to the terms of a rule providing for a general variance promulgated by the Board of Natural Resources, including notification of such to EPD and the Local Issuing Authority of the location and extent of the piping and prescribed methodology for minimizing the impact of such piping and for measuring the volume of water discharged by the stream. Any such pipe must stop short of the downstream permittee's property, and the permittee must comply with the buffer requirement for any adjacent trout streams. The buffer shall not apply to the following activities provided that adequate erosion control measures are incorporated into the project plans and specifications are implemented:

1) public drinking water system reservoirs.

(2) stream crossings for water and sewer lines, provided that the stream crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, and native riparian vegetation is re-established in any bare or disturbed areas within the buffer.

(3) stream crossings for any utility lines of any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission or distribution of power, provided that: (a) the stream crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, (b) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (c) the entity is not a secondary permittee, for a project located within a common development or sale under this permit.

(4) buffer crossing for fences, provided that the crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, and native riparian vegetation is re-established in any bare or disturbed areas within the buffer, and

(5) stream crossings for aerial utility lines, provided that: (a) the new utility line right-of-way width does not exceed 100 linear feet, (b) utility lines are routed and constructed so as to minimize the number of stream crossings and disturbances to the buffer, (c) only trees and tree debris are removed from within the buffer resulting in only minor soil erosion (i.e., disturbance to underlying vegetation is minimized), and (d) native riparian vegetation is re-established in any bare or disturbed areas within the buffer. The Plan shall include a description of the stream crossings with details of the buffer disturbance including area and length of buffer disturbance, estimated length of time of buffer disturbance, and justification.

(6) right-of-way posts, guy-wires, anchors, survey markers and the replacement and maintenance of existing utility structures within the current right-of-way undertaken or financed in whole or in part by the Department of Transportation, the Georgia Highway Authority or the State Road and Tollway Authority or undertaken by any county or municipality, provided that: (a) the area of land disturbance does not exceed 100 square feet per structure, (b) the area of buffer vegetation to be cut (not grubbed) does not exceed 1,000 square feet per structure, (c) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (d) the entity is not a secondary permittee for a project located within a common development or sale under this permit;

(7) right-of-way posts, guy-wires, anchors, survey markers and the replacement and maintenance of existing utility structures within the current right-of-way by any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission or distribution of power, provided that: (a) the area of land disturbance does not exceed 100 square feet per structure, (b) the area of buffer vegetation to be cut (not grubbed) does not exceed 1,000 square feet per structure, (c) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (d) the entity is not a secondary permittee for a project located within a common development or sale under this permit; and

(8) Maintenance (excluding dredging), repair and/or upgrade of Soil and Water Conservation District watershed dams when under the technical supervision of the USDA Natural Resources Conservation Service.

(iii). Except as provided above, for buffers required pursuant to Part IV..(i), and (ii)., no construction activities shall be conducted within a buffer and a buffer shall remain in its natural, undisturbed, state of vegetation until all land-disturbing activities on the construction site are completed. During coverage under this permit, a buffer cannot be thinned or trimmed of vegetation and a protective vegetative cover must remain to protect water quality and aquatic habitat and a natural canopy must be left in sufficient quantity to keep shade on the stream bed.

The Erosion, Sedimentation and Pollution Control Plan shall identify all potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from the construction site. In addition, the Plan shall describe and the applicable permittee shall ensure the implementation of practices which will be used to reduce the pollutants in storm water discharges associated with construction activity at the site and to assure compliance with the terms and conditions of this permit. The applicable permittee must implement and maintain the provisions of the Plan required under this part as a condition of this permit.

Except as provided in Part IV.A.2., a single Erosion, Sedimentation and Pollution Control Plan must be prepared by the primary permittee for the stand alone construction project.

NOTE:
IT IS THE RESPONSIBILITY OF THE OWNER AND OPERATOR TO READ THE ENTIRE NPDES PERMIT WHICH MAY BE FOUND AT: WWW.GAEPD.ORG/NPDES

29 **4. INSPECTIONS.**

A. 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. These inspections must be conducted until a Notice of Termination is submitted.

(2). Measure rainfall once every 24 hours except any non-working Saturday, non-working Sunday and non-working Federal holiday until a Notice of Termination is submitted. Measurement of rainfall may be suspended if all areas of the site have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region.

(3). Certified personnel (provided by the primary permittee) shall inspect the following at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any Friday or on any non-working Saturday, non-working Sunday or any non-working Federal holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs first): (a) disturbed areas of the primary permittee's construction site ; (b) areas used by the primary permittee for storage of materials that are exposed to precipitation; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the primary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, the permittee must comply with Part IV.D.4.a.(4) .. These inspections must be conducted until a Notice of Termination is submitted.

(4). Certified personnel (provided by the primary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination is submitted to EPD) the areas of the site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region. These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving water(s). Erosion and sediment control measures identified in the Plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s).

(5). Based on the results of each inspection, the site description and the pollution prevention and control measures identified in the Erosion, Sedimentation and Pollution Control Plan, the Plan shall be revised as appropriate not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection.

(6). A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial, intermediate or final), major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance with Part IV.D.4.a.(5).., of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction project that has been phased has undergone final stabilization and a notice of Termination is submitted to EPD. Such reports shall be readily available by end of the second business day and/or working day and shall identify all incidents of best management practices that have not been properly installed and/or maintained as described in the Plan. Where the report does not identify an incident, the inspection report shall contain a statement that the best management practices are in compliance with the Erosion, Sedimentation and Pollution Control Plan. The report shall be signed in accordance with Part V.G.2. of this permit.

5. Maintenance. The Plan shall include a description of procedures to ensure the timely maintenance of vegetation, erosion and sediment control measures and other protective measures identified in the site plan.

6. Sampling Requirements. This permit requires the monitoring of nephelometric turbidity in receiving water(s) or outfalls in accordance with this permit. This paragraph shall not apply to any land disturbance associated with the construction of single-family homes which are not part of a subdivision or planned common development unless five (5) acres or more will be disturbed. The following procedures constitute EPD's guidelines for sampling turbidity.

a. Sampling Requirements shall include the following:

(1). A USGS topographic map, a topographic map or a drawing (referred to as a topographic map) that is a scale equal to or more detailed than a 1 :24000 map showing the location of the site or the common development; (a) the location of all perennial and intermittent streams and other water bodies as shown on a USGS topographic map, and all other perennial and intermittent streams and other water bodies located during mandatory field verification, into which the stormwater is discharged and (b) the receiving water and/or outfall sampling locations. When the permittee has chosen to use a USGS topographic map and the receiving water(s) is not shown on the USGS topographic map, the location of the receiving water(s) must be hand-drawn on the USGS topographic map from where the storm water(s) enters the receiving water(s) to the point where the receiving water(s) combines with the first blue line stream shown on the USGS topographic map;

(2). A written narrative of site specific analytical methods used to collect, handle and analyze the samples including quality control/quality assurance procedures. This narrative must include precise sampling methodology for each sampling location;

(3). When the permittee has determined that some or all outfalls will be sampled, a rationale must be included on the Plan for the NTU limit(s) selected from Appendix B. This rationale must include the size of the construction site, the calculation of the size of the surface water drainage area, and the type of receiving water(s) (i.e., trout stream or supporting warm water fisheries); and

(4). Any additional information EPD determines necessary to be part of the Plan. EPD will provide written notice to the permittee of the information necessary and the time line for submittal.

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

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

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

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

(4). Manual, automatic or rising stage sampling may be utilized. Samples required by this permit should be analyzed immediately, but in no case later than 48 hours after collection. However, samples from automatic samplers must be collected no later than the next business day after their accumulation, unless flow through automated analysis is utilized. If automatic sampling is utilized and the automatic sampler is not activated during the qualifying event, the permittee must utilize manual sampling or rising stage sampling during the next qualifying event. Dilution of samples is not required. Samples may be analyzed using a direct reading, 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.

32 **C. SAMPLING POINTS.**

(1). For construction activities the primary permittee must sample all receiving water(s), or all outfall(s), or a combination of receiving water(s) and outfall(s). Samples taken for the purpose of compliance with this permit shall be representative of the monitored activity and representative of the water quality of the receiving water(s) and/or the 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 sheet flow that flows onto undisturbed natural areas or areas stabilized by the project. For purposes of this section, stabilized shall mean, for unpaved areas and areas not covered by permanent structures and areas located outside the waste disposal limits of a landfill cell that has been certified by EPD for waste disposal, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and seeding of target crop perennials appropriate for the region).

(H). All sampling pursuant to this permit must be done in such a way (including generally accepted sampling methods, locations, timing, and frequency) as to accurately reflect whether storm water runoff from the construction site is in compliance with the standard set forth in Parts 111.0.3. or 111.0.4., whichever is applicable.

30 **D. SAMPLING FREQUENCY.**

1. The primary permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the permittee shall sample at the beginning of any storm water discharge to a monitored receiving water and/or from a monitored outfall location within in forty-five (45) minutes or as soon as possible.
2. However, where manual and automatic sampling are impossible (as defined in this permit), or are beyond the permittee's control, the permittee shall take samples as soon as possible, but in no case more than twelve (12) hours after the beginning of the 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 water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a storm water discharge that allows for sampling during normal business hours as defined in this permit after all clearing and grubbing operations have been completed, but prior to completion of mass grading operations, in the drainage area of the location selected as the sampling location;

(b). In addition to (a) above, for each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a storm water discharge that occurs during normal business hours as defined in this permit after 90 days after the first sampling event or after all mass grading operations have been completed, but prior to submittal of a NOT, in the drainage area of the location selected as the sampling location, whichever comes first;

(c). At the time of sampling performed pursuant to (a) and (b) above, if BMPs in any area of the site that discharges to a receiving water or from an outfall are not properly designed, installed and maintained, corrective action shall be defined and implemented within two (2) business days, and turbidity samples shall be taken from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours* until the selected turbidity standard is attained, or until post-storm event inspections determine that BMPs are properly designed, installed and maintained;

(d). Where sampling pursuant to (a), (b) or (c) above is required but not possible (or not required because there was no discharge), the permittee, in accordance with Part IV.D.4.a.(6), must include a written justification in the inspection report of why sampling was not performed. Providing this justification does not relieve the permittee of any subsequent sampling obligations under (a), (b) or (c) above; and

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

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

7. Non-storm water discharges. Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2. of this permit that are combined with storm water discharges associated with construction activity must be identified in the Plan. The Plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

E. REPORTING.

1. The applicable permittees are required to submit the sampling results to the EPD at the address shown in Part III.C. by the fifteenth day of the month following the reporting period. Reporting periods are months during which samples are taken in accordance with this permit. Sampling results shall be in a clearly legible format. Upon written notification, EPD may require the applicable permittee to submit the sampling results on a more frequent basis. Sampling and analysis of any storm water discharge(s) or the receiving water(s) beyond the minimum frequency stated in this permit must be reported in a similar manner to the EPD. The sampling reports must be signed in accordance with Part V.G.2. Sampling reports must be submitted to EPD until such time as a NOT is submitted in accordance with Part VI.
2. All sampling reports shall include the following information:
   a. The rainfall amount, date, exact place and time of sampling or measurements;
   b. The name(s) of the certified personnel who performed the sampling and measurements;
   c. The date(s) analyses were performed;
   d. The time(s) analyses were initiated;
   e. The name(s) of the certified personnel who performed the analyses;
   f. References and written procedures, when available, for the analytical techniques or methods used;
   g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results;
   h. Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU;" and
   i. Certification statement that sampling was conducted as per the Plan.
3. All written correspondence required by this permit shall be submitted by return receipt certified mail (or similar service) to the appropriate District Office of the EPD according to the schedule in Appendix A of this permit. The applicable permittees shall retain a copy of the proof of submittal at the construction site or the proof of submittal shall be readily available at a designated location from commencement of construction until such time as a NOT is submitted in accordance with Part VI. If an electronic submittal is provided by EPD then the written correspondence may be submitted electronically; if required, a paper copy must also be submitted by return receipt certified mail or similar service.

31 **F. RETENTION OF RECORDS.**

1. The primary permittee shall retain the following records at the construction site or the records shall be readily available at a designated alternate location from commencement of construction until such time as a 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 sampling 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.(2) of this permit.
2. Copies of all Notices of Intent, Notices of Termination, inspection reports, sampling reports (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) or other reports requested by the EPD, Erosion, Sedimentation and Pollution Control Plans, records of all data used to complete the Notice of Intent to be covered by this permit and all other records required by this permit shall be retained by the permittee who either produced or used it for a period of at least three years from the date that the NOT is submitted in accordance with Part VI of this permit. These records must be maintained at the permittee's primary place of business once the construction activity has ceased at the permitted site. This period may be extended by request of the EPD at any time upon written notification to the permittee.

INVENTORY FOR POLLUTION PREVENTION PLAN

The materials or substances listed below are expected to be present onsite during construction :

* Concrete
* Paints (enamel)
* Wood and wood products
* PVC pipe
* Petroleum based products
* Asphalt
* Detergents
* Metal Columns and roofs
* Fertilizers
* Cleaning solvents
* Sand and limestone rock

25 **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 the construction project.

* An effort will be made to store only enough product required to do the job.
* 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.
* Products will be kept in their original containers with the original manufacture label.
* Substances will not be mixed with one another unless recommended by the manufacturer.
* Manufacturers recommendations for proper use and disposal will be followed.
* The site superintendent will inspect daily to ensure proper use and disposal of materials onsite.

Hazardous Products:

These practices are used to reduce the risks associated with hazardous materials.

* Products will be kept in original containers unless they are not re-sealable.
* Original labels and material safety data will be retained; they contain important product information.
* If surplus product must be disposed of, manufacturers or local and state recommended methods for proper disposal will be followed.

Spill Prevention:

The following product specific practices will be followed onsite:

Petroleum Products:

All onsite vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers, which are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacture recommendations.

Fertilizers:

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.

Paints:

All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system but will be properly disposed of according to manufacturers instructions of state and local regulations.

24 **Concrete Trucks:**

The contractor will establish a single wash-out basin for concrete trucks. Concrete trucks will only be allowed to wash out or discharge surplus concrete from the chute, on the site at this location. Wash-out of the concrete trucks drum at the construction site is prohibited. When the project is completed, and as a part of the final clean-up, the contractor will be responsible for removing all concrete spoils and waste in the basin to an off-site location. The basin area will be filled with dirt, compacted, graded, grassed and restored to original condition or better.

25 **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 clean-up.

* Manufacturer 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.
* Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and material will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand sawdust, and plastic and metal trash containers specifically for this purpose.
* All spills will be cleaned up immediately after discovery.
* The spill area will be kept well ventilated and personnel will appropriate protective clothing to prevent injury from contact with a hazardous substance.
* Spills of toxic or hazardous material will be reported to the appropriate state or local government agency regardless of the size.
* 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.
* The contractors site superintendent responsible for the day-to-day site operations, will be the spill prevention and cleanup coordinator, he will designate at least one other site person who will receive spill prevention and cleanup training. This individual will be become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the office trailer onsite (or designated onsite job location).

OTHER CONTROLS THE CONTRACTOR IS RESPONSIBLE FOR:

18 **Waste Materials:**

All waste materials will be collected and stored in a secured, lieded, metal Dumpster, rented from a licensed solid waste disposal company. **no waste materials shall be discharged to water of the State, except as authorized by section 404 Permit**. The materials shall be placed in dumpsite which meets all State and local regulations. All trash and construction debris from the site will be placed in the dumpster or transported to the authorized disposal area. All construction waste shall be hauled off-site a minimum of once a week or as needed to keep site safe during and after working hours. No large piles of debris shall be left that would allow children or adults to climb to a height over five feet about the existing grade on site. No construction waste materials will be buried on-site. All personnel will be instructed regarding the correct procedure(s) for waste disposal. Notices and information regarding these procedures will be posted and/or provided to appropriate personnel by the contractor or the person responsible for the day-to-day construction activities and operations at this site. The contractor is responsible for the implementation of these procedures throughout his contract for construction.

Hazardous Waste:

All hazardous waste material will be disposed of in a manner specified by state or local regulation or by the manufacturer. Site personnel will be instructed in any special procedures and/or practices by the contractors day-to-day manager of site operations.

Sanitary Waste:

All sanitary waste will be collected from the portable restroom units a minimum of once per week by a sanitary waste contractor and hauled to a location approved for disposal by state and local regulations.

Offsite Vehicle Tracking:

A stabilized construction exit is required (more than one if needed) to reduce vehicle tracking of sediments. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

Timing of Controls/Measures

The sequence of major activities gives the general timing for the completion of construction activities. Sediment and erosion controls identified in the plan will be installed immediately upon commencement of land disturbance activities being initiated. Grading and stabilization of the site shall commence as soon as other improvements have been completed. Permanent grassing of the areas indicated will take place as soon as finish grading has been completed. Temporary controls and measures will be removed when project has been final inspected and approved by the building department.

Maintenance / Inspection Procedures

Erosion and Sediment control Inspection and Maintenance practices

These are the inspection and maintenance practices contractor will use to maintain erosion and sediment controls.

* All control measures will be inspected at least once each week and following any storm event of 0.5 inches or greater.
* All measures will maintained in good working order, if a repair is necessary, it will be initiated within 24 hours of report.
* Built up sediment will be removed from silt fence when it has reached one-third the height of the fence.
* Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
* Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
* A maintenance inspection report will be made after each inspection. A copy of the report-form to be completed by the inspector shall be in accordance with guidelines of EPD.
* Contractors site superintendent will be responsible for filling out inspection and maintenance reports. Another individual will be selected as an alternate to be responsible for inspections, maintenance and repair activities, and filling out the inspection and maintenance report should the superintendent be unavailable.
* Personnel selected for inspection and maintenance responsibilities will receive training from contractor. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

Non-Storm Water Discharges:

It is expected that the following non-storm water discharges will occur from site during the construction period:

* Pavement wash waters (where no spills or leaks of toxic of hazardous materials have occurred).

Erosion, Sedimentation and Pollution Control Certification In Accordance with Section V.G.d of this permit:

13 *1. I certify that the Permittees 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 disturbing activity was permitted, provides for the sampling of the receiving water(s) or the sampling of the storm water outfalls and that the designed system of best management practices and sampling methods is expected to meet the requirements contained in the General NPDES Permit No. GAR 100001.*

12 *2. "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."*

3. The primary, secondary or tertiary permittees, as applicable, who began construction on or before the effective date of this permit shall amend their Plan or TEC plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on BMP's with a hydraulic component. These revisions must be certified by the design professional. By signature of this section, the design professional certifies all such revisions. 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.

17

4. I certify that Georgia's 2008 or subsequent 305(b)/303(D) List Documents (Final) have been consulted to determine if the project site is or is not applicable to the requirements for discharge of an Impaired Stream Segment.

Design Professional
Certification # 0000004500

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
CONSULTING ENGINEERS AND SURVEYORS
6354 EAST CHURCH STREET
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www.HughesRay.com

No.	DATE:	REVISION
8		

NPDES NOTES OF
DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
4 770-920-7243

2 No. 24019 PROFESSIONAL ENGINEER HOWARD B. RAY 7-25-17

Certification #	0000004500
DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR
JOB#:	H17179

EC2

EROSION CONTROL LEGEND

Co	CRUSHED STONE CONSTRUCTION EXIT
Sd1-S	SILT FENCE TYPE-SENSITIVE
Sd1-NS	SILT FENCE TYPE NON-SENSITIVE
Cd-Hb	CHECK DAM HAYBALE
Sd2-E	EXCAVATED INLET SEDIMENT TRAP
Sd2-F	SILT FENCE FOR INLET PROTECTION
Sd2-P	CURB INLET FILTER
Sd3	TEMPORARY SEDIMENT BASIN
Ch-2	CHANNEL STABILIZATION ROCK RIPRAP LINING
Fr	FILTER RING
Rd	ROCK FILTER DAM
Cd-S	STONE CHECK DAM
St	OUTLET PROTECTION
Di	DIVERSION DITCH
Dn1	TEMPORARY DOWNDRAIN STRUCTURE
Sk	FLOATING SURFACE SKIMMER
Bf	BUFFER ZONE
Ss	SLOPE STABILIZATION
	SAMPLING POINT
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)
Ds4	DISTURBED AREA STABILIZATION (WITH SODDING)
Du	DUST CONTROL ON DISTURBED AREAS

LEGEND

- CALCULATED POINT
- IRON PIN FOUND
- IRON PIN SET (1/2" REBAR)
- R/W MONUMENT
- P/L — PROPERTY LINE
- R/W — RIGHT OF WAY
- N/F — NOW OR FORMERLY
- B/L — BUILDING LINE
- OTP — OPEN TOP PIPE
- DOUBLE WING CATCH BASIN
- HEADWALL
- JUNCTION BOX
- DROP INLET
- CMP — CORRUGATED METAL PIPE
- RCP — REINFORCED CONCRETE PIPE
- BOUNDARY LINE
- FENCE
- GAS LINE
- UNDERGROUND POWER LINE
- OVERHEAD POWER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- WATER LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- SANITARY SEWER MANHOLE
- CLEANOUT
- LIGHT POLE
- GAS VALVE
- POWER POLE
- GUY ANCHOR
- BOLLARD
- I.C.V. — IRRIGATION CONTROL VALVE
- FIBER OPTIC MARKER
- FDC — FIRE DEPT. CONNECTION
- CONCRETE

SOILS LEGEND

DhB3: DAVIDSON CLAY LOAM, 2-6% SLOPES SEVERELY ERODED

DhC3: DAVIDSON CLAY LOAM, 6-10% SLOPES, SEVERELY ERODED

LeC3: LLOYD CLAY LOAM, 6-10% SLOPES, SEVERELY ERODED

GEORGIA811 Utilities Protection Center, Inc
Know what's below.
Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL UNDERGROUND UTILITIES BEFORE BEGINNING CONSTRUCTION AND ADVISE ENGINEERING OF ANY CONFLICTS. ALL LOCATION OF UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND MAY NOT BE A COMPLETE LOCATION OF ALL UTILITIES. CERTIFICATION TO THE LOCATION OF ALL UTILITIES IS WITHHELD.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

NORTH
MAGNETIC

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
CONSULTING ENGINEERS | LAND DEVELOPMENT CONSULTANTS
6554 EAST CHURCH STREET
DOUGLASVILLE, GEORGIA 30134
p 770.942.0198
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www.HughesRay.com

No.	DATE:	REVISION
8		

INITIAL PHASE
EROSION CONTROL PLAN
OF
DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243
4

GEORGIA REGISTERED No. 24019 PROFESSIONAL ENGINEER HOWARD B. RAY
2
1-25-17

Certification # 000000450	
DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR
JOB#: H17179	

EC3

EROSION CONTROL LEGEND

- Co — CRUSHED STONE CONSTRUCTION EXIT
- Sd1-S — SILT FENCE TYPE-SENSITIVE
- Sd1-NS — SILT FENCE TYPE NON-SENSITIVE
- Cd-Hb — CHECK DAM HAYBALE
- Sd2-E — EXCAVATED INLET SEDIMENT TRAP
- Sd2-F — SILT FENCE FOR INLET PROTECTION
- Sd2-P — CURB INLET FILTER
- Sd3 — TEMPORARY SEDIMENT BASIN
- Ch-2 — CHANNEL STABILIZATION ROCK RIPRAP LINING
- Fr — FILTER RING
- Rd — ROCK FILTER DAM
- Cd-S — STONE CHECK DAM
- St — OUTLET PROTECTION
- Di — DIVERSION DITCH
- Dn1 — TEMPORARY DOWNDRAIN STRUCTURE
- Sk — FLOATING SURFACE SKIMMER
- Bf — BUFFER ZONE
- Ss — SLOPE STABILIZATION
- SAMPLING POINT
- Ds1 — DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)
- Ds2 — DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)
- Ds3 — DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)
- Ds4 — DISTURBED AREA STABILIZATION (WITH SODDING)
- Du — DUST CONTROL ON DISTURBED AREAS

LEGEND

- CALCULATED POINT
- IRON PIN FOUND
- IRON PIN SET (1/2" REBAR)
- R/W MONUMENT
- P/L — PROPERTY LINE
- R/W — RIGHT OF WAY
- N/F — NOW OR FORMERLY
- B/L — BUILDING LINE
- OTP — OPEN TOP PIPE
- DOUBLE WING CATCH BASIN
- HEADWALL
- JUNCTION BOX
- DROP INLET
- CMP — CORRUGATED METAL PIPE
- RCP — REINFORCED CONCRETE PIPE
- BOUNDARY LINE
- FENCE
- GAS — GAS LINE
- UNDERGROUND POWER LINE
- OVERHEAD POWER LINE
- SS — SANITARY SEWER LINE
- ST — STORM DRAIN LINE
- WATER LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- SANITARY SEWER MANHOLE
- CLEANOUT
- LIGHT POLE
- GAS VALVE
- POWER POLE
- GUY ANCHOR
- BOLLARD
- IRRIGATION CONTROL VALVE
- FIBER OPTIC MARKER
- FIRE DEPT. CONNECTION
- CONCRETE

(45) STORM DRAIN OUTLET PROTECTION HYDRAULIC DESIGN DATA

PIPE SYSTEM	$Q_{2\ yr}$	$V_{2\ yr}$	$Q_{25\ yr}$	$V_{25\ yr}$	$Q_{100\ yr}$	$V_{100\ yr}$	OUTLET PROTECTION						
							La	W_1	W_2	d_{50}	TAILWATER	PIPE DIAMETER	DEPTH
STRM-A	4.17	8.23	6.76	9.39	8.39	9.93	10'	4.5'	11.5'	0.50'	MIN	18"	1.20'

GEORGIA811 Utilities Protection Center, Inc
Know what's below. Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL UNDERGROUND UTILITIES BEFORE BEGINNING CONSTRUCTION AND ADVISE ENGINEERING OF ANY CONFLICTS. ALL LOCATION OF UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND MAY NOT BE A COMPLETE LOCATION OF ALL UTILITIES. CERTIFICATION TO THE LOCATION OF ALL UTILITIES IS WITHHELD.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

NORTH — MAGNETIC

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
CIVIL ENGINEERS | LAND SURVEYORS
6554 EAST CHURCH STREET
DOUGLASVILLE, GEORGIA 30134
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www.HughesRay.com

No.	DATE:	REVISION

DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION

INTERMEDIATE PHASE
EROSION CONTROL PLAN
OF
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

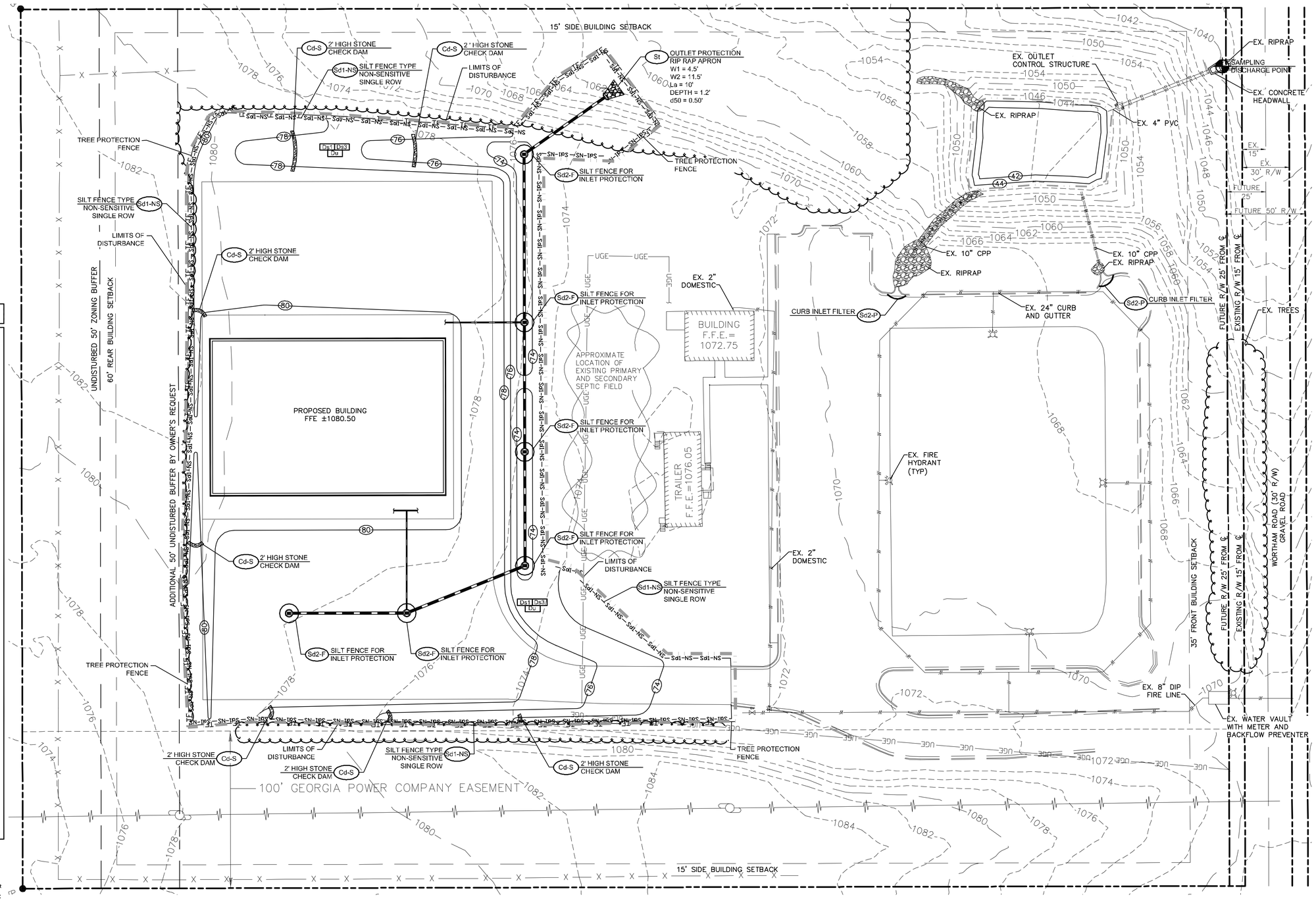
DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243

REGISTERED — No. 24019 — PROFESSIONAL ENGINEER — HOWARD B. RAY — 7-25-17

Certification # 0000004500
DATE: 7/25/17
DRAWN BY: PSS
CHECKED BY: HBR
JOB#: H17179

EC4



EROSION CONTROL LEGEND

Co	CRUSHED STONE CONSTRUCTION EXIT
Sd1-S	SILT FENCE TYPE-SENSITIVE
Sd1-NS	SILT FENCE TYPE NON-SENSITIVE
Cd-Hb	CHECK DAM HAYBALE
Sd2-E	EXCAVATED INLET SEDIMENT TRAP
Sd2-F	SILT FENCE FOR INLET PROTECTION
Sd2-P	CURB INLET FILTER
Sd3	TEMPORARY SEDIMENT BASIN
Ch-2	CHANNEL STABILIZATION ROCK RIPRAP LINING
Fr	FILTER RING
Rd	ROCK FILTER DAM
Cd-S	STONE CHECK DAM
St	OUTLET PROTECTION
Di	DIVERSION DITCH
Dn1	TEMPORARY DOWNDRAIN STRUCTURE
Sk	FLOATING SURFACE SKIMMER
Bf	BUFFER ZONE
Ss	SLOPE STABILIZATION
	SAMPLING POINT
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)
Ds4	DISTURBED AREA STABILIZATION (WITH SODDING)
Du	DUST CONTROL ON DISTURBED AREAS

LEGEND

- CALCULATED POINT
- IRON PIN FOUND
- IRON PIN SET (1/2" REBAR)
- R/W MONUMENT
- P/L — PROPERTY LINE
- R/W — RIGHT OF WAY
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- WATER LINE
- WATER METER
- WATER VALVE
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- CLEANOUT
- LIGHT POLE
- GAS VALVE
- POWER POLE
- GUY ANCHOR
- BOLLARD
- I.R.C.V. — IRRIGATION CONTROL VALVE
- FIBER OPTIC MARKER
- FDC — FIRE DEPT. CONNECTION
- CONCRETE

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(IN FEET)
1 inch = 30 ft.

NORTH
MAGNETIC

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FINAL PHASE
EROSION CONTROL PLAN
OF
DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
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DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243
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GEORGIA REGISTERED No. 24019 PROFESSIONAL ENGINEER HOWARD B. RAY
2
1-25-17

Certification #	0000004500
DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR
JOB#:	H17179

EC5

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

STRUCTURAL PRACTICES

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

STRUCTURAL PRACTICES

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

VEGETATIVE PRACTICES

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

GaSWCC (Amended – 2013)

ANTICIPATED SEEDING SCHEDULE
PIEDMONT REGION

TEMPORARY SEEDING Ds2	J	F	M	A	M	J	J	A	S	O	N	D
WINTER RYE (Secale cereale)	■	■								■	■	■
WINTER RYE mixed w/ UNHULLED COMMON BERMUDA (Cynodon dactylon)	■	■								■	■	■
ANNUAL LESEDEZA (Lesedeza striata)	■	■								■	■	■
ANNUAL LESEDZA mixed w/ HULLED COMMON BERMUDA (Cynodon dactylon)			■	■	■	■	■	■				
PERMANENT SEEDING Ds3	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
UNHULLED COMMON BERMUDA (Cynodon dactylon) mixed w/ WINTER RYE (Secale cereale)	■	■								■	■	■
HULLED COMMON BERMUDA (Cynodon dactylon)			■	■	■	■	■	■				
COMMON BERMUDA mixed w/ ANNUAL LESEDEZA (Lesedeza striata)	■	■								■	■	■

51 VEGETATIVE PLAN

SEEDING RATES FOR TEMPORARY SEEDINGS **Ds2** **Du**

Species	Rate Per 1,000 sq. ft.	Rate Per Acre	Planting Dates Mts–L'stone	Piedmont	Coastal
Winter Rye (Secale cereale)	0.6 lbs.	28 lbs.	9/15–4/15	10/1–3/15	10/15–2/15
Mix when appropriate with: Unhulled Common Bermudagrass (Cynodon dactylon)	0.2 lbs.	6–8 lbs.	10/1–4/15	9/15–3/15	10/15–2/15
Lespedeza (Lespedeza striata)	0.2 lbs.	8–10 lbs.	9/15–4/15	10/1–3/15	10/15–2/15
Mix when appropriate with: Common Bermudagrass (Cynodon dactylon)	0.2 lbs.	8–10 lbs.	4/15–10/1	3/15–9/15	2/15–10/15

Unusual site conditions may require heavier seeding rates.
Seeding dates may need to be altered to fit temperature variations and local conditions.
The above application rates are for erosion control purposes only.
See Landscape Plan for FINAL vegetation.
ADD 1 TON OF LIME PER DISTURBED ACRE unless soil test indicate otherwise.
ADD 1000 lbs. OF 6–12–12 FERTILIZER PER GRASSED ACRE unless soil test indicate otherwise.

SEEDING RATES FOR PERMANENT SEEDINGS **Ds3** **Du**

Species	Rate Per 1,000 sq. ft.	Rate Per Acre	Planting Dates Mts–L'stone	Piedmont	Coastal
Unhulled Common Bermudagrass (Cynodon dactylon) Mixed with: Winter Rye (Secale cereale)	0.2 lbs. 0.6 lbs.	6–8 lbs. 28 lbs.	9/15–4/15	9/15–3/15	10/15–2/15
Common Bermudagrass (Cynodon dactylon)	0.23 lbs.	8–10 lbs.	4/15–10/1	3/15–9/15	2/15–10/15
Mix when appropriate with: Lespedeza (Lespedeza striata)	0.2 lbs.	8–10 lbs.	9/15–4/15	10/1–3/15	10/15–2/15

Unusual site conditions may require heavier seeding rates.
Seeding dates may need to be altered to fit temperature variations and local conditions.
The above application rates are for erosion control purposes only.
See Landscape Plan for FINAL vegetation.
ADD 2 TON OF LIME PER DISTURBED ACRE unless soil test indicate otherwise.
ADD 1500 lbs. OF 6–12–12 FERTILIZER PER GRASSED ACRE unless soil test indicate otherwise.

MULCHING RATES: **Ds1** **Du** ALTERNATIVE = **Tb**

Mulching with permanent vegetation:
Mulch is required for all permanent vegetation applications.
Mulch applied to seeded areas shall achieve 75% soil cover.
Dry straw mulch shall be applied at a rate of 2 tons per acre.
Dry hay mulch shall be applied at a rate of 2.5 tons per acre.

Mulching Only:
Straw/Hay Shall be applied at 2–4 inches depth providing complete soil coverage.

ALTERNATIVE **Tb**

IF ABOVE TREATMENT IS INEFFECTIVE USE APPROVED TACKIFIERS AND BINDERS

Product or Trade Name	Recommended Application Rate
A500 HYDRO–STIK	40 lb./ac.
Agro Tack MP	PMR
CONWED CON–TAC	40 lb./ac.
EcoTak–OP/EcoTAk–SATII	PMR
Emulsified Asphalt	100 gal. of SS–1h or CSS–1h and 100 gal. of water per ton of mulch
Hercules Soilloc–E	PMR
HYDRO–BOND	35 lb./ac.
RMB–plus	80–120 lb./ac.
TACPAC GT	PMR
TERRA–MULCH TACKING AGENT III	PMR

NOTE:
DISPOSAL AREA DESIGNATED FOR FUEL STORAGE AND CONCRETE TRUCKS TO DUMP EXCESS CONCRETE.

25 26 FUEL STORAGE AND WASTE DISPOSAL AREA
NTS E–DTL–34B

Sd2-P CURB INLET FILTER "PIGS IN BLANKET"

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.

CURB INLET FILTER MAINTENANCE
THE TRAP SHALL BE INSPECTED DAILY AND AFTER EACH RAIN, AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE–HALF THE HEIGHT OF THE TRAP. SEDIMENT SHALL BE REMOVED FROM CURB INLET PROTECTION IMMEDIATELY.

Cd-S STONE CHECK DAM

CROSS SECTION

PROFILE VIEW

NOTES:
1. CHECK DAMS ARE TO BE USED ONLY IN SMALL OPEN CHANNELS (THEY ARE NOT TO BE USED IN LIVE STREAMS).
2. THE DRAINAGE AREA FOR STONE CHECK DAMS SHALL NOT EXCEED TWO ACRES.
3. THE CENTER OF THE CHECK DAM MUST BE AT LEAST 9 INCHES LOWER THAN THE OUTER EDGES.
4. THE DAM HEIGHT SHOULD BE A MAXIMUM OF 2 FEET FROM CENTER TO RIM EDGE.
5. THE SIDE SLOPES OF THE CHECK DAM SHALL NOT EXCEED A 2:1 SLOPE.
6. GEOTEXTILE SHALL BE USED TO PREVENT THE MITIGATION OF SUBGRADE SOIL PARTICLES INTO THE STONES (REFER TO AASHTO M288–96, SECTION 7.3, TABLE 3).

Cd-S STONE CHECK DAM

SPACING BETWEEN CHECK DAMS

A = THE TOE OF THE UPSTREAM CHECK DAM.
B = TOP OF THE DOWNSTREAM CHECK DAM.
L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION.

Sd2-F FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION

STEEL FRAME AND SILT FENCE INSTALLATION

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

CRUSHED STONE CONSTRUCTION EXIT

Co

EXIT DIAGRAM

ENTRANCE ELEVATION

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

Sd1-NS SILT FENCE - TYPE NON-SENSITIVE

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.

St RIPRAP OUTLET PROTECTION

PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL

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

PIPE OUTLET TO WELL DEFINED CHANNEL

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

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EROSION CONTROL STANDARD DETAILS
OF
52
DOUGLAS COUNTY FIRE TRAINING
COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
4
770-920-7243

No. 24019
PROFESSIONAL
ENGINEER
HOWARD B. RAY
2
7-25-17

Certification # 0000004500

DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR

JOB#: H17179

EC6

Temporary Sediment Basin Design Sheet

Project Name: DC Fire Computed By: PSS Date: 07/14/2017
Project Number: H17179 Checked By: HBR Date: 07/14/2017
Basin No.: Sd3-1

Total Area Draining To Basin = 6.80 acres
Disturbed Area Draining To Basin 2.30 acres

Volume:

1. Compute minimum required storage volume (Vs).
   Vs = 67 cy/acre * 6.80 acres = 455.60 cy 12301 cf
2. Compute volume of basin at clean-out (Vc).
   Vc = 22 cy/acre * 6.80 acres = 149.60 cy 4039 cf
3. Determine elevation corresponding to minimum required storage volume. Vs.
   Minimum riser crest elevation 1045.10 *feet (determined by stage/storage relationship)
4. Determine elevation corresponding to clean-out volume. Vc
   Clean-out elevation = 1043.10 feet (determined by stage/storage relationship)
   Note: *Clean-out elevation shall be clearly marked on the riser or marked by a post near the riser*
5. Compute length of riser.
   Riser length = Minimum elevation of riser crest - Lowest elevation of pipe at riser
   Riser length 1045.10 feet - 1041.50 feet
   Riser length = 3.60 feet

Stormwater Runoff:

6. Compute peak discharge from a 2-yr, 24-hr storm event.
   Q2 = 17.91 cfs
7. Compute peak discharge from a 25-yr, 24-hr storm event.
   Q25 = 38.36 cfs

Surface Area/Configuration Design:

8. Compute minimum basin surface area (Sa,min)
   Sa,min = 0.01 ac/cfs * Q2 cfs
   Sa,min = 0.01 ac/cfs * 17.91 cfs
   Sa,min = 0.1791 ac * 43560 sf/ac 7801.60 sf
9. Check available area at elevation of riser crest.
   Available Area = 4770.25 sf (determined by stage/storage relationship)
   Available Area ≥ Sa,min? Yes/No: **No** Use Riser Crest Elevation = 1050.1
10. Compute required length at elevation of riser crest.
   Average Width = 90.00 ft
   Required length = 2 * average width
   Required length = 2 * 90.00 ft = 180.00 ft
   Required length = 180.00
   Available Length = 125.00 ft
   2:1 L:W ratio satisfied? **No**
   If "no," refer to Figure 6-29.2 for baffle designs.
   Note any required baffles on E&SC plan and include calculations and details for baffle(s).

Principal Spillway (ps)

11. Determine maximum principal spillway capacity.
   Qmax = **Q2** = 17.91 cfs
12. Compute the vertical distance between the centerline of the outlet pipe and the emergency spillway crest (H).
   H = 14.12 ft
13. Compute the total pipe length of the principal spillway, L, using Figure 6-29.3.
   L = [A-(B+C)/2]*[Zu+Zd]+T+E
   A = 1066.00 ft Top Of Dam Elevation
   B = 1041.50 ft Lowest Elevation of Pipe At Riser
   C = 1039.88 ft Lowest Elevation of Pipe At Outlet
   E = 0.00 ft Extended length of pipe beyond toe of dam
   T = 17.00 ft Top Width of Dam
   Zu = 2.00 :1 Upstream Side Slope
   Zd = 2.00 :1 Downstream Side Slope
   L = 74.24 ft
14. **Determine diameter of principal spillway (Dps) and flow through the principle spillway (Q) from Table 6-29.1 using H and Q max.**
   Dps = 24.00 in **Q** = 41.30 cfs **(value directly from table)**
15. Compute actual flow through the principal spillway, using Table 6-22.1 to determine the correction factor for pipe length, L.
   Qps = Q * correction factor
   Factor = 0.96
   Qps = 39.65
16. Compute riser diameter (Dr).
   Dr = 1.5 * Dps
   Dr > 1.50 * 24.00 in 36.00
   Dr = 36.00 in
17. **Compute trash rack diameter (Dt).**
   Dt = 1.4 * Dr
   Dt = 1.40 * 36.00 in = 50.40
   Dt = 54.00 in
18. **Determine the minimum distance between the riser crest and the emergency spillway crest. h, using Table 6-29.2, Dr, and Qps.**
   h 1.20 feet

Concrete Riser Base Design

19. Determine the volume of concrete per vertical foot of riser height needed, from Table 6-29.3 to prevent flotation.
   Required volume of concrete per vertical foot: = 6.18 cf/v.f.
20. Compute total volume of concrete required.
   Total volume of concrete required = Required volume per vertical foot * Riser length
   Total volume of concrete required = 6.18 cf/v.f. * 8.60 ft
   Total volume of concrete required 53.15 cf
21. Assume base thickness, B (usually 18")
   B = 18.00 in = 1.50 ft
22. Compute required surface area.
   Required surface area = Total volume required/B
   Required surface area = 53.15 cf / 1.50 ft
   Required surface area = 35.43 sf
23. Compute riser base length (l) and width (w) (assume square base).
   l = w = (required surface area)^1/2
   l = w = 5.95 ft = 71.43 in
   l = w = 72.00 in

Anti-Seep Collar Design

24. Determine if anti-seep collar is required. If yes to any of the following conditions, a collar is required:
   N The settled height of the dam is greater than 15 feet.
   Y **The principal spillway diameter (Dps) is** smooth pipe larger than 8".
   N **The principal spillway diameter (Dps)** is corrugated metal pipe larger than 12".
25. Determine size of anti-seep collar required.
   N **18-inch projection** (for heads (H) less than or equal to 10 feet).
   Y **24-inch projection** (for heads (H) greater than 10 feet).

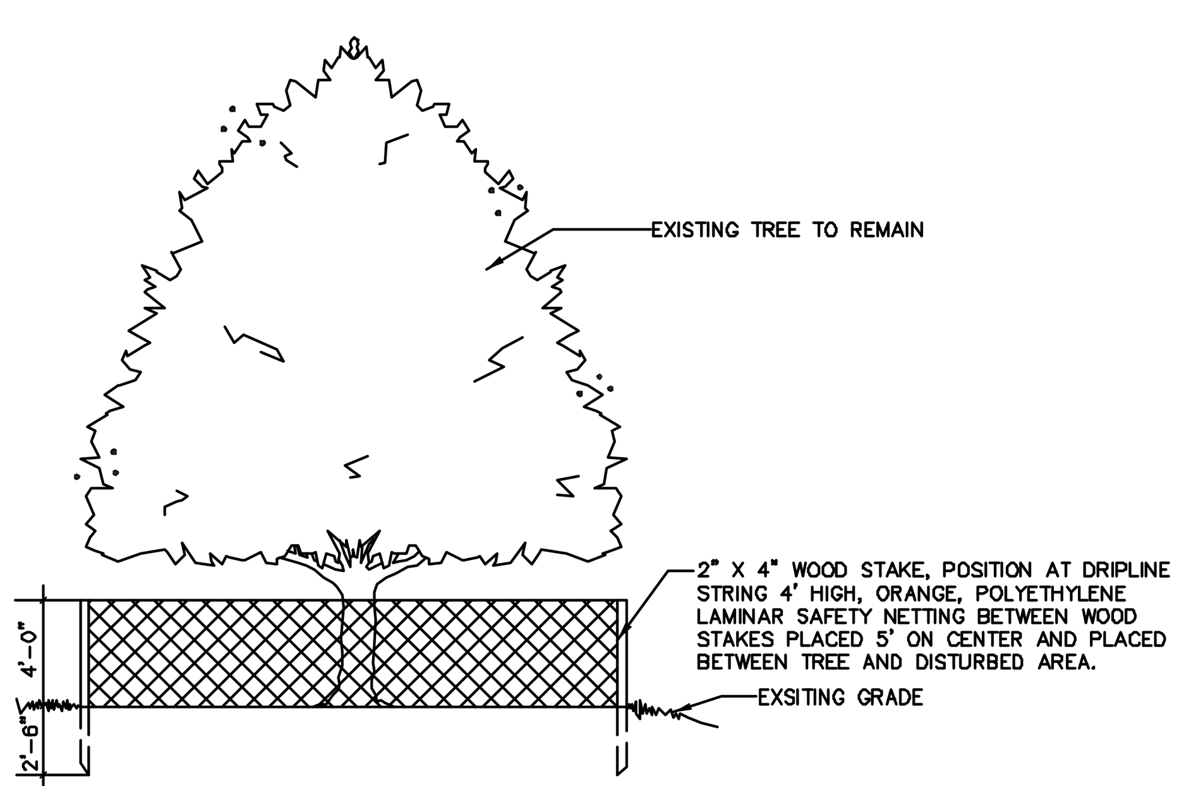
Emergency Spillway (es)

26. **Compute minimum capacity of emergency spillway (Qes).**
   Qes = Q25 - Qps
   Qes 0.00 cfs
27. **Determine stage (Hp),** bottom width (b), velocity (V), and minimum exit slope (S) using Table 6-29.4 and Q es.
   Hp = 0.50 ft
   b = 8.00 ft
   V = 2.70 fps
   S = 3.90 %
28. Actual entrance channel slope,
   Se = 4.00 %
29. Actual exit channel slope,
   So = 50.00 %
   Is So Steeper than S (from Table 6-22.4)? Yes
   If Yes, calculate new exit velocity (Vo)
   Vo = V * (So/S)^0.3 fps
   V_o = 2.70 fps * (50.00 % / 3.90 %) ^0.3
   V_o 5.80 fps
   Note: Refer to Channel Stabilization (Ch) to determine the proper lining for the emergency spillway.
   N **Grass** (<5 fps) Y **Rip-Rap** (5-10 fps) N **Concrete** (>10 fps)

Design Elevations

30. **Riser Crest Elevation =** 1050.10 ft
31. Compute minimum emergency spillway crest elevation.
   Minimum emergency spillway crest elevation = Riser crest elevation + h
   Minimum emergency spillway crest elevation = 1050.10 ft + 1.20 ft
   Minimum emergency spillway crest elevation = 1051.30 ft
32. Determine design high water elevation.
   Design high water elevation = Minimum emergency spillway crest elevation + Stage elevation (Hp)
   Design high water elevation = 1051.30 ft
33. Determine elevation of top of dam
   Elevation of top of dam = Design high water elevation + 1 ft (at least) freeboard
   Elevation of top of dam = 1051.30 ft + 1.00 ft
   Elevation of top of dam = 1052.30

*****PLEASE NOTE THAT DESIGN VALUES DETERMINED BY THIS SHEET REPRESENT THE MINIMUM REQUIREMENTS FOR A TEMPORARY SEDIMENT BASIN.**

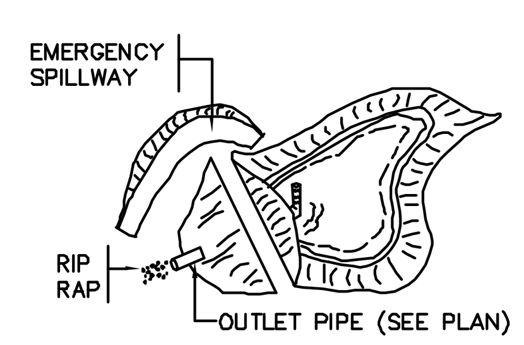


NOTE:
ALL TREE PROTECTION DEVICES ARE TO BE INSTALLED PRIOR TO START OF LAND DISTURBANCE AND MAINTAINED UNTIL FINAL LANDSCAPE IS INSTALLED. NO PARKING, STORAGE OR OTHER CONSTRUCTION SITE ACTIVITIES ARE TO OCCUR WITHIN THE TREE PROTECTION AREA.
ALL TREE PROTECTION FENCING TO BE INSPECTED DAILY AND REPLACED OR REPAIRED AS NEEDED.

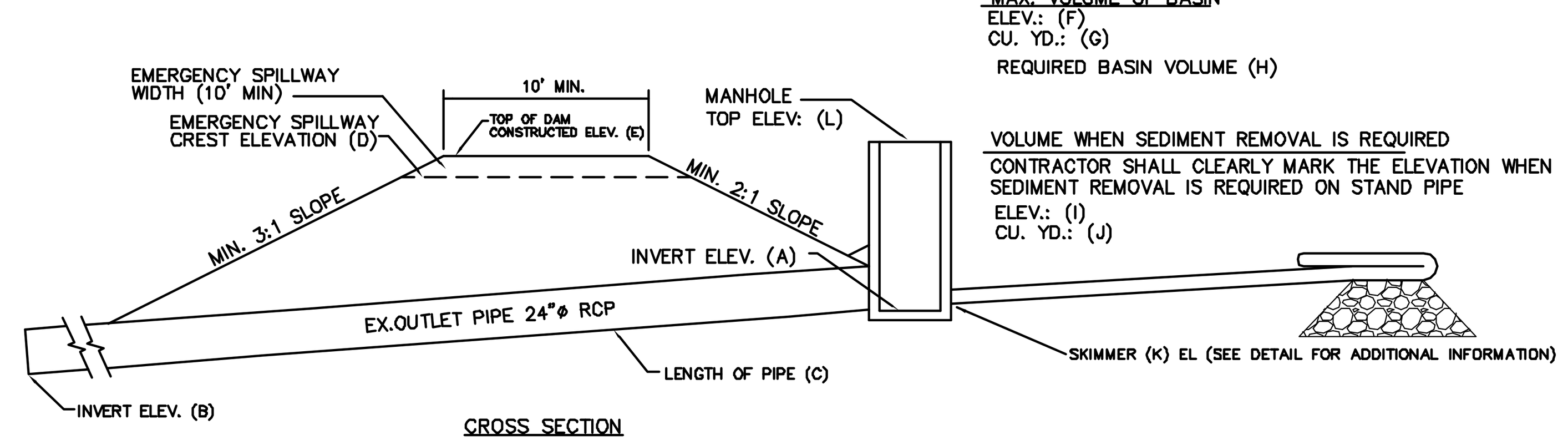
TREE PROTECTION FENCE DETAIL
N.T.S. LA-DTL-01A

BASIN DATA

Sd3	
(A)	1040.81
(B)	1039.14
(C)	62'
(D)	1054
(E)	1054.75
(F)	1054
(G)	2,474 CY
(H)	456 CY
(I)	1043.10
(J)	150 CY
(K)	1054.61



PLAN VIEW



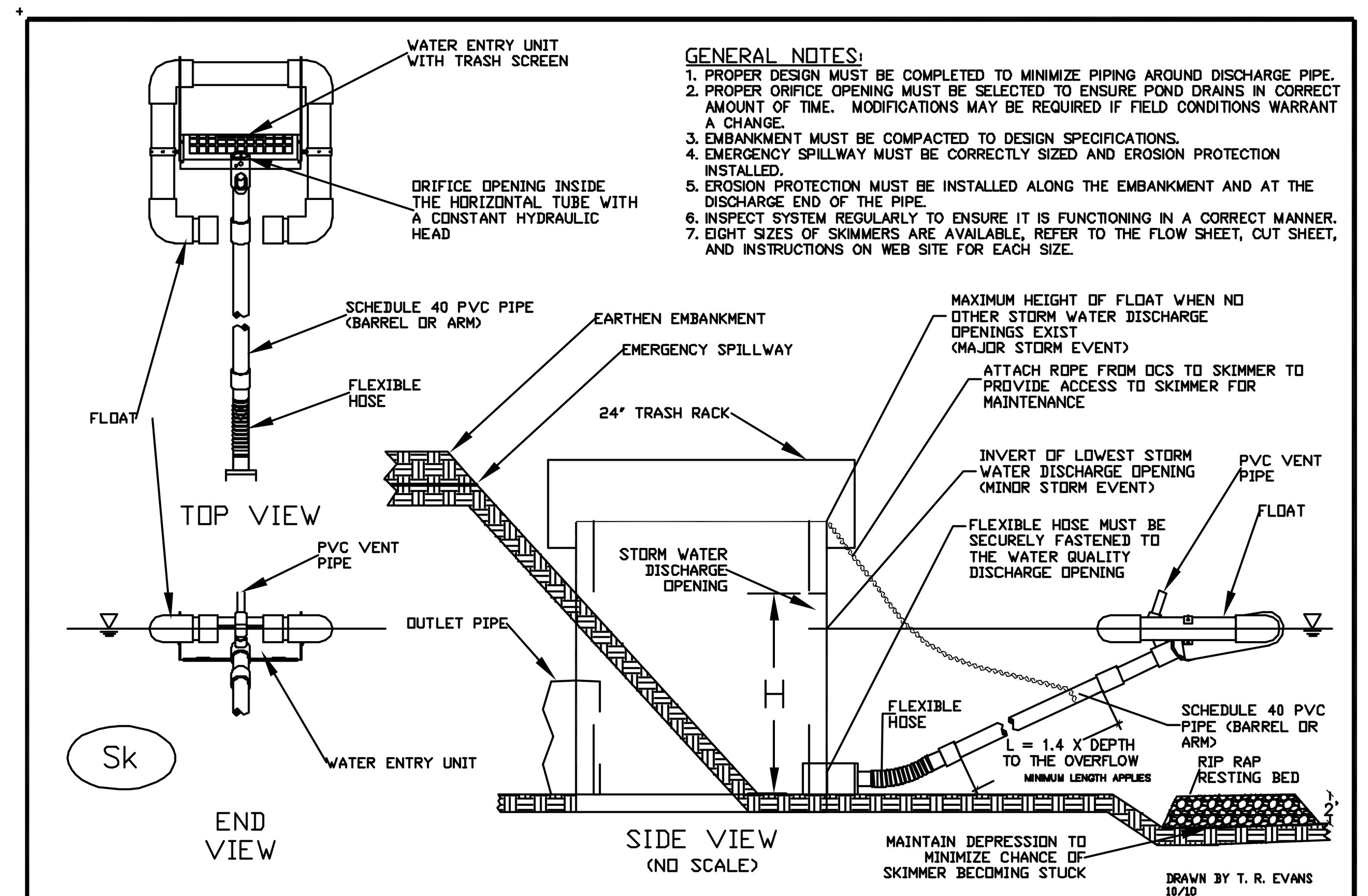
CROSS SECTION

NOTES:
- STORAGE = 67 YD³/AC DRAINAGE AREA
- MAX. DAM HT. IS 10 FEET; MIN 6 FEET
- SIDE SLOPE 2.5:1 OR FLATTER
- CLEAN OUT REQUIRED WHEN STORAGE CAPACITY REDUCED TO 45 YD³/ACRE OR SEDIMENT LEVEL IS WITHIN 1 FOOT OF PRINCIPAL SPILLWAY
- FREEBOARD = 1 FOOT MIN.
- THE EMERGENCY SPILLWAY SHALL BE INSTALLED IN UNDISTURBED GROUND
- THE EMERGENCY SPILLWAY MUST BE CONSTRUCTED WITHIN A TOLERANCE OF 0.2 FEET

MAX. VOLUME OF BASIN
ELEV.: (F)
CU. YD.: (G)
REQUIRED BASIN VOLUME (H)

VOLUME WHEN SEDIMENT REMOVAL IS REQUIRED
CONTRACTOR SHALL CLEARLY MARK THE ELEVATION WHEN SEDIMENT REMOVAL IS REQUIRED ON STAND PIPE
ELEV.: (I)
CU. YD.: (J)

Sd3 TEMPORARY SEDIMENT BASIN DETAIL
N.T.S. E-DTL-16D



FAIRCLOTH SKIMMER® DISCHARGE SYSTEM WITH OUTLET STRUCTURE
J. W. FAIRCLOTH & SON INC.
WWW.FAIRCLOTHSKIMMER.COM
TELEPHONE: (919) 732-1244
FAX: (919) 732-1266
EMAIL: WARREN@FAIRCLOTHSKIMMER.COM
EC-DTL-52

FLOATING SURFACE SKIMMER:
1. POND SIZE:
   TOP= 125' X 90'
   BOTTOM= 74' X 42'
   DEPTH= 8.10'
   VOLUME: 66,787 CF (2,474 CY)
2. TIME TO DRAIN (HRS): 48 HRS
3. SKIMMER DIMENSIONS:
   ORIFICE ϕ= 4.8"
   HEAD SIZE= 6"
4. MANUFACTURER'S NAME:
   J.W. FAIRCLOTH & SON INC.

PREPARED BY:
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ENGINEERS | SURVEYORS | LANDSCAPE ARCHITECTS
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No.	DATE:	REVISION

EROSION CONTROL STANDARD DETAILS
OF
DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
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8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243

GEORGIA REGISTERED No. 24019 PROFESSIONAL ENGINEER HOWARD B. RAY
[illegible] 7-25-17

Certification # 0000004500

DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR

JOB#: H17179

EC7

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

SWCD:_____

Project Name: DOUGLAS COUNTY FIRE **Address:** 1765 WORTHAM ROAD

City/County: Douglas County **Date on Plans:** JULY 26, 2017

TO BE SHOWN ON ES&PC PLAN

Plan Page #	Included Y/N		
EC8	Y	1	The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. (The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed)
EC1-8	Y	2	Level II certification number issued by the Commission, signature and seal of the certified design professional. (Signature, seal and Level II number must be on each sheet pertaining to ES&PC plan or the Plan will not be reviewed)
	N/A	3	Limits of disturbance shall be no greater than 50 acres at any one time without prior written authorization from the EPD District Office. If EPD approves the request to disturb 50 acres or more at any one time, the plan must include at least 4 of the BMPs listed in Appendix 1 of this checklist.* (A copy of the written approval by EPD must be attached to the plan for the plan to be reviewed.)
EC1-8	Y	4	The name and phone number of the 24-hour local contact responsible for erosion, sedimentation and pollution controls.
CVR	Y	5	Provide the name, address and phone number of primary permittee.
CVR	Y	6	Note total and disturbed acreage of the project or phase under construction.
CVR	Y	7	Provide the GPS location of the construction exit for the site. Give the Latitude and Longitude in decimal degrees.
EC1-8	Y	8	Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.
EC1	Y	9	Description of the nature of construction activity.
EC1	Y	10	Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
EC1	Y	11	Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.
EC2	Y	12	Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on page 15 of the permit.
EC2	Y	13	Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on page 15 of the permit.*
EC1	Y	14	Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMPs within 7 days after installation."*
EC1	Y	15	Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrested vegetation or within 25-feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits."
	N/A	16	Provide a description of any buffer encroachments and indicate whether a buffer variance is required.
EC2	Y	17	Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional."*
EC2	Y	18	Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a section 404 permit."*
EC1	Y	19	Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."*
EC1	Y	20	Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."*
EC1	Y	21	Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."*
	N/A	22	Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of an Biota Impaired Stream Segment must comply with Part III. C. of the Permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment.*
	N/A	23	If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan.*
EC2	Y	24	BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited.*
EC2-5	Y	25	Provide BMPs for the remediation of all petroleum spills and leaks.
EC1	Y	26	Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed.*
EC1	Y	27	Description of the practices that will be used to reduce the pollutants in storm water discharges.*
EC1	Y	28	Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).
EC2	Y	29	Provide complete requirements of inspections and record keeping by the primary permittee.*
EC2	Y	30	Provide complete requirements of sampling frequency and reporting of sampling results.*
EC2	Y	31	Provide complete details for retention of records as per Part IV.F. of the permit.*
EC2	Y	32	Description of analytical methods to be used to collect and analyze the samples from each location.*
EC1	Y	33	Appendix B rationale for NTU values at all outfall sampling points where applicable.*
EC3-5	Y	34	Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged.*
EC3-5	Y	35	A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the plan may combine all of the BMPs into a single phase.*
EC3-5	Y	36	Graphic scale and North arrow.
EC3-5	Y	37	Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:

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

	N/A	38	Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by EPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswcc.org.
	N/A	39	Use of alternative BMP for application to the Equivalent BMP List. Please refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition.*
	N/A	40	Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to state waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.
EC1	N/A	41	Delineation of on-site wetlands and all state waters located on and within 200 feet of the project site.
EC1	Y	42	Delineation and acreage of contributing drainage basins on the project site.
	N/A	43	Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions.*
EC1	Y	44	An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.
EC4	Y	45	Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.
EC3	Y	46	Soil series for the project site and their delineation.
EC3-5	Y	47	The limits of disturbance for each phase of construction.
EC1	Y	48	Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual included for structural BMPs and all calculations used by the storage design professional to obtain the required sediment when using equivalent controls. When discharging from sediment basins and impoundments, permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the plan.
EC3-5	Y	49	Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.
EC6-7	Y	50	Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.
EC6	Y	51	Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of the year that seeding will take place and for the appropriate geographic region of Georgia.

*If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a perennial stream the * checklist items would be N/A.* **Effective January 1, 2017**

PREPARED BY:
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No.	DATE:	REVISION

ES&PC CHECKLIST
OF
DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
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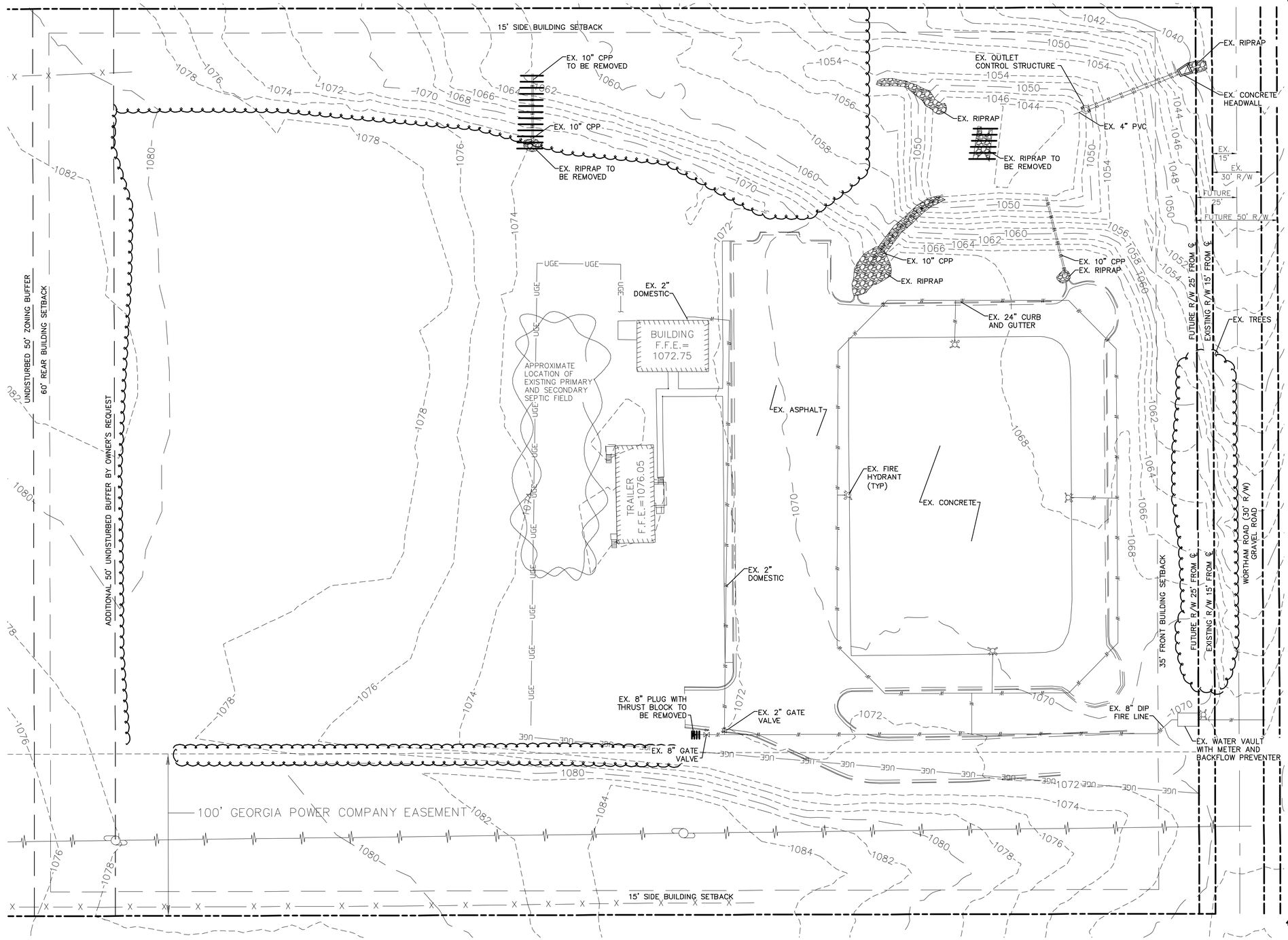
EC8



DEMOLITION NOTES:

1. ALL NECESSARY PERMITS FOR DEMOLITION SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO BEGINNING WORK.
2. CONTRACTOR SHALL PROTECT ALL ADJACENT LANDS FROM DAMAGE DURING DEMOLITION WORK. ANY OFF-SITE AREAS DISTURBED SHALL BE RETURNED TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.
3. NO DEMOLITION MATERIALS SHALL BE DISPOSED OF ON-SITE. ALL DEBRIS SHALL BE HAULED OFF-SITE TO A DISPOSAL AREA APPROVED BY THE STATE OF GEORGIA FOR THE HANDLING OF DEMOLITION DEBRIS.
4. ALL STRUCTURES NOT LABELED FOR DEMOLITION SHALL BE PROTECTED FROM DAMAGE DURING ALL PHASES OF CONSTRUCTION. ANY STRUCTURES THAT ARE TO REMAIN THAT ARE DAMAGED SHALL BE REPAIRED BY THE CONTRACTOR TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION AT NO ADDITIONAL COST.
5. CONSTRUCTION ENTRANCE AND SILT FENCE SHALL BE IN PLACE PRIOR TO DEMOLITION OPERATIONS.
6. NECESSARY BARRICADES, SUFFICIENT LIGHTS, SIGNS AND OTHER TRAFFIC CONTROL METHODS AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.
7. UTILITIES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. OWNER & ENGINEER ARE NOT RESPONSIBLE FOR UTILITY LOCATIONS. CONTRACTOR SHALL CONTACT UTILITIES PROTECTION CENTER @ 1-800-282-7411 OR 770-623-4344 72 HOURS PRIOR TO CONSTRUCTION TO HAVE UTILITIES LOCATED.
8. CONTRACTOR SHALL NOTIFY ENGINEER OF DISCREPANCIES BETWEEN THESE PLANS AND FIELD CONDITIONS.

GEORGIA811 Utilities Protection Center, Inc.
Know what's below.
Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL UNDERGROUND UTILITIES BEFORE BEGINNING CONSTRUCTION AND ADVISE ENGINEERING OF ANY CONFLICTS. ALL LOCATION OF UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND MAY NOT BE A COMPLETE LOCATION OF ALL UTILITIES. CERTIFICATION TO THE LOCATION OF ALL UTILITIES IS WITHHELD.

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No.	DATE:	REVISION

DEMOLITION PLAN OF DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION

L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
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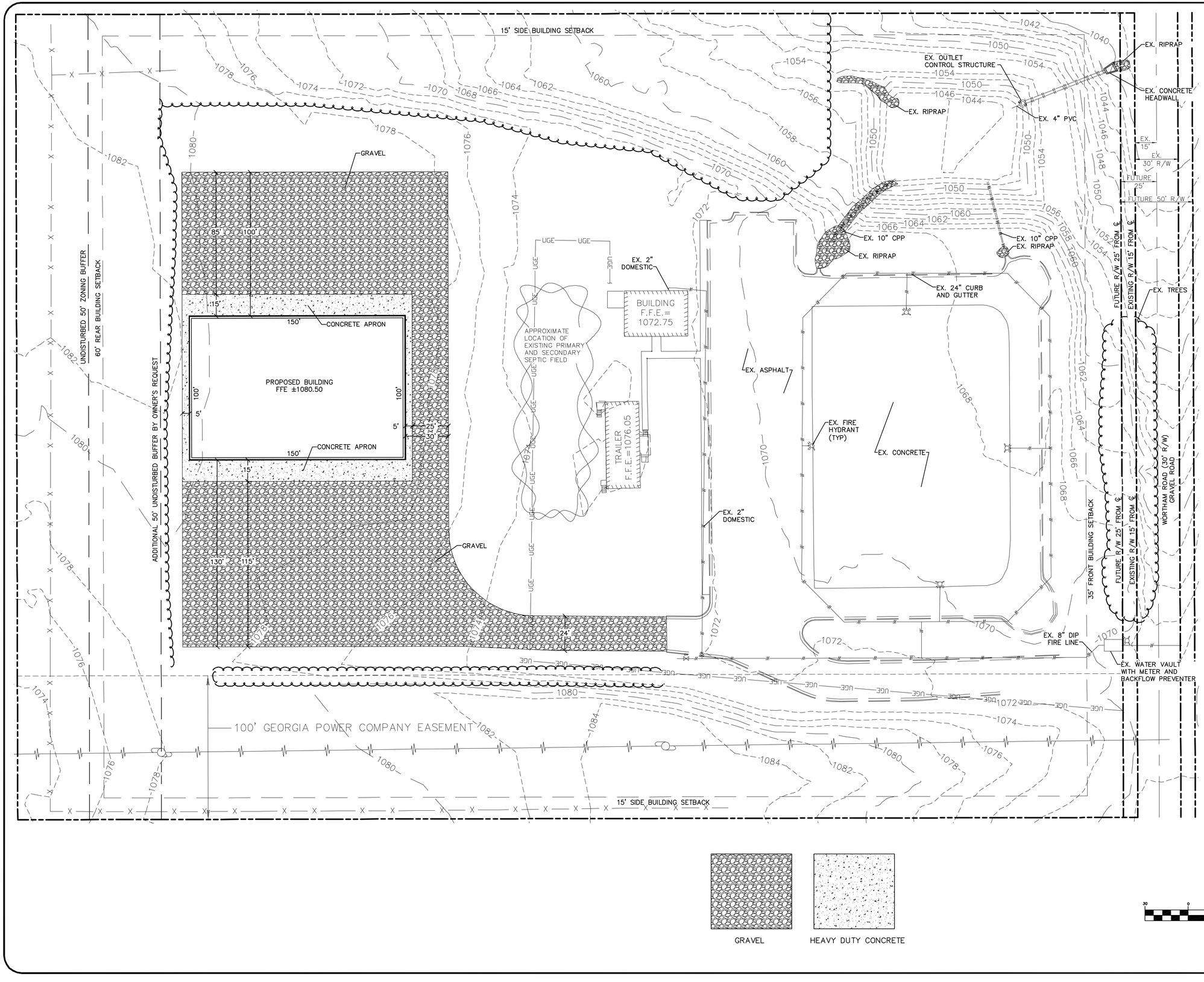
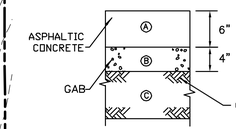
DEM



Ⓐ 6" CONCRETE–4000 PSI @ 28 DAYS
Ⓑ 4" GAB
Ⓒ COMPACTED SUBGRADE– 98% STD PROCTOR



HEAVY DUTY

GEOTECHNICAL ENGINEER SHALL CONFIRM PAVEMENT SECTION BASED ON SITE CONDITIONS

CONCRETE PAVING DETAIL
SCALE: NONE S-DTL-05C

NORTH
MAGNETIC

GRAVEL
HEAVY DUTY CONCRETE

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
ENGINEERS | SURVEYORS | LANDSCAPE ARCHITECTS
6554 EAST CHURCH STREET
DOUGLASVILLE, GEORGIA 30134
p 770.942.0196
f 770.942.0152
www.HughesRay.com

No.	DATE:	REVISION

SITE PLAN
OF
DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

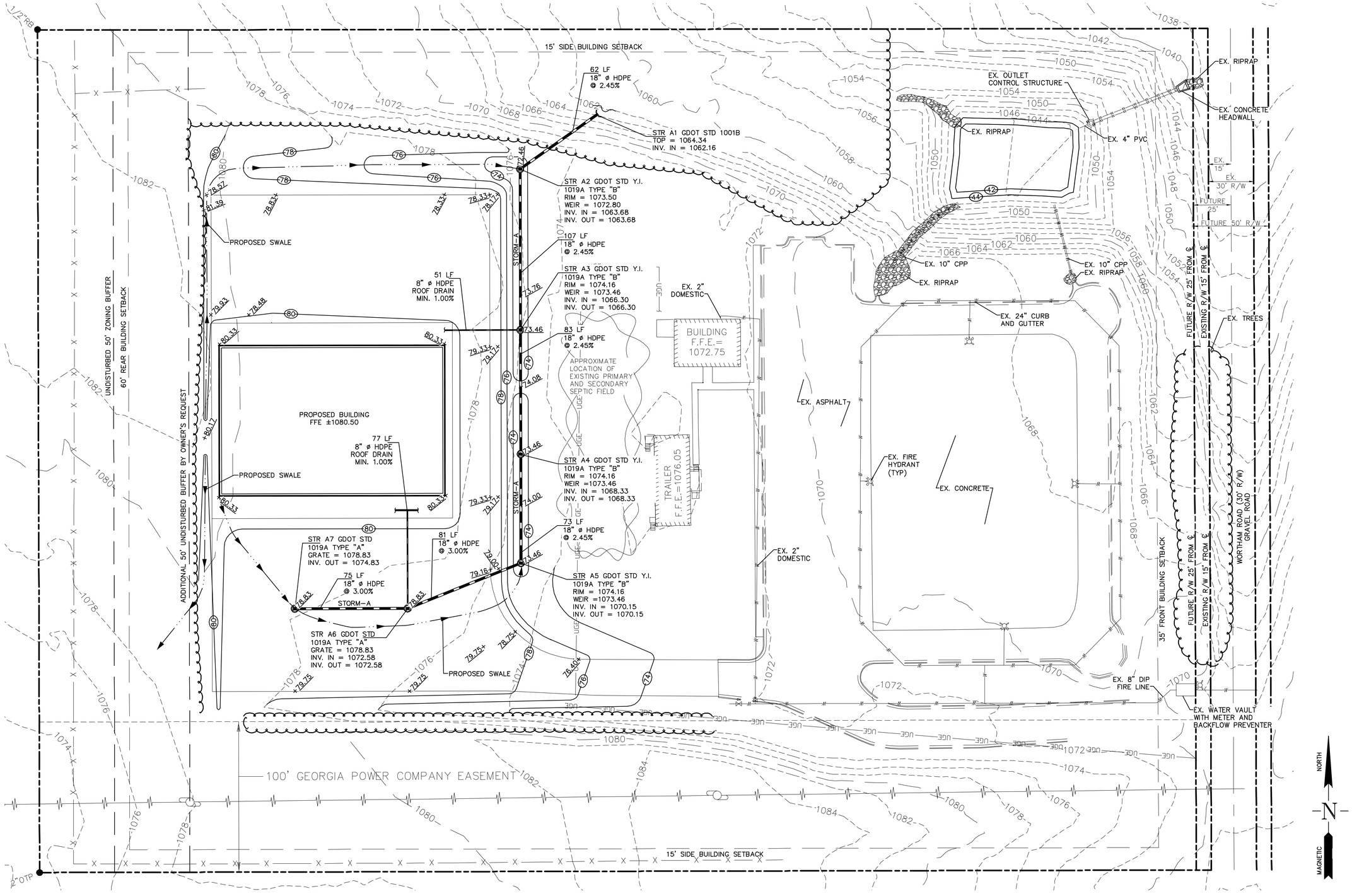
DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243

REGISTERED
No. 24015
PROFESSIONAL
ENGINEER
HOWARD B. RAY
7-25-17

DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR
JOB#: H17179	

SP1



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
CIVIL ENGINEERS | SURVEYORS | LANDSCAPE ARCHITECTS
6554 EAST CHURCH STREET
DOUGLASVILLE, GEORGIA 30134
p 770.942.0196
f 770.942.0152
www.HughesRay.com

No.	DATE:	REVISION

GRADING & DRAINAGE PLAN OF DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION

L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD
OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

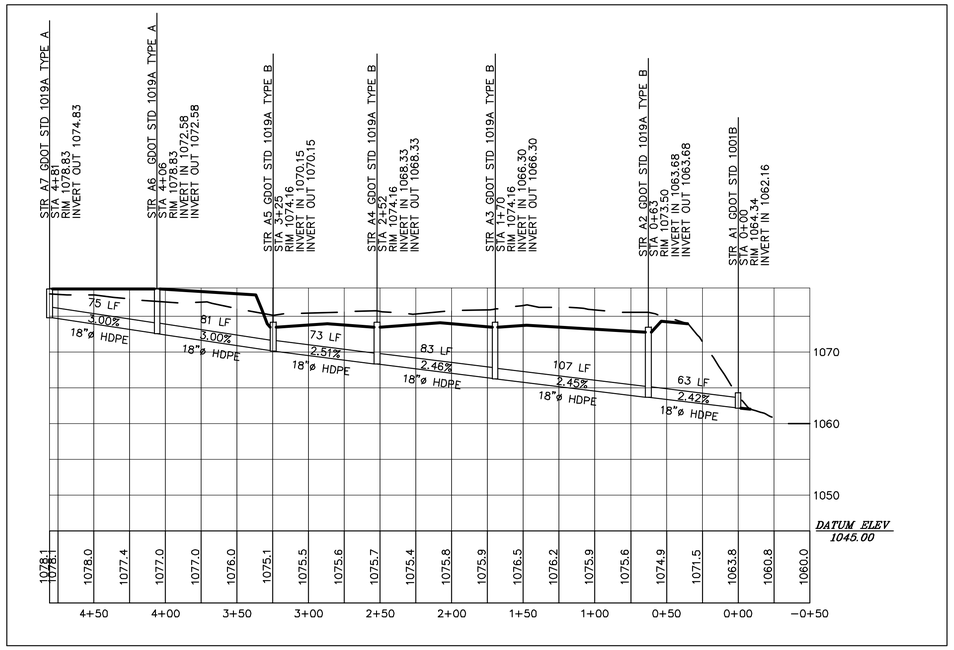
24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243

HOWARD B. RAY
No. 24019
PROFESSIONAL
ENGINEER
7-25-17

DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR

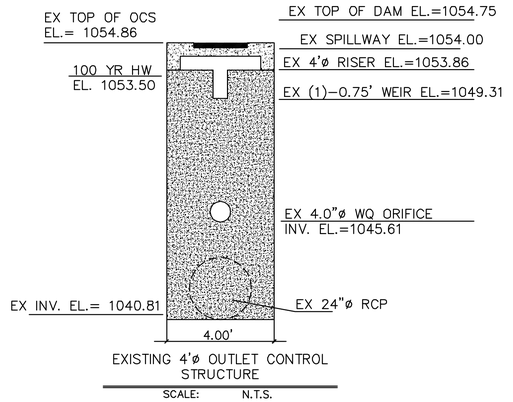
JOB#: H17179

GP1



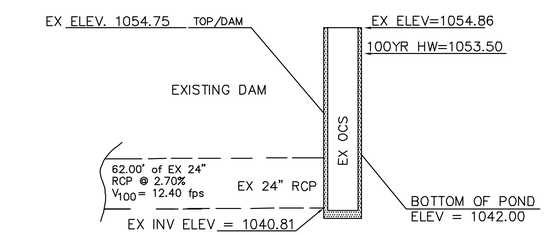
STORM-A

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



EXISTING 4'ø OUTLET CONTROL STRUCTURE

SCALE: N.T.S.



SECTION THROUGH EX DAM

SCALE: N.T.S.

STORMWATER MANAGEMENT DETAILS EX POND

SCALE: N.T.S. SD–DTL–30

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
CIVIL ENGINEERS | SURVEYORS | LANDSCAPE ARCHITECTS
6554 EAST CHURCH STREET
DOUGLASVILLE, GEORGIA 30134
p 770.942.0106
f 770.942.0152
www.HughesRay.com

No.	DATE:	REVISION

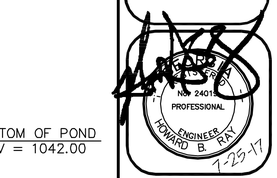
PIPE PROFILE
OF
DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION

L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD
OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243

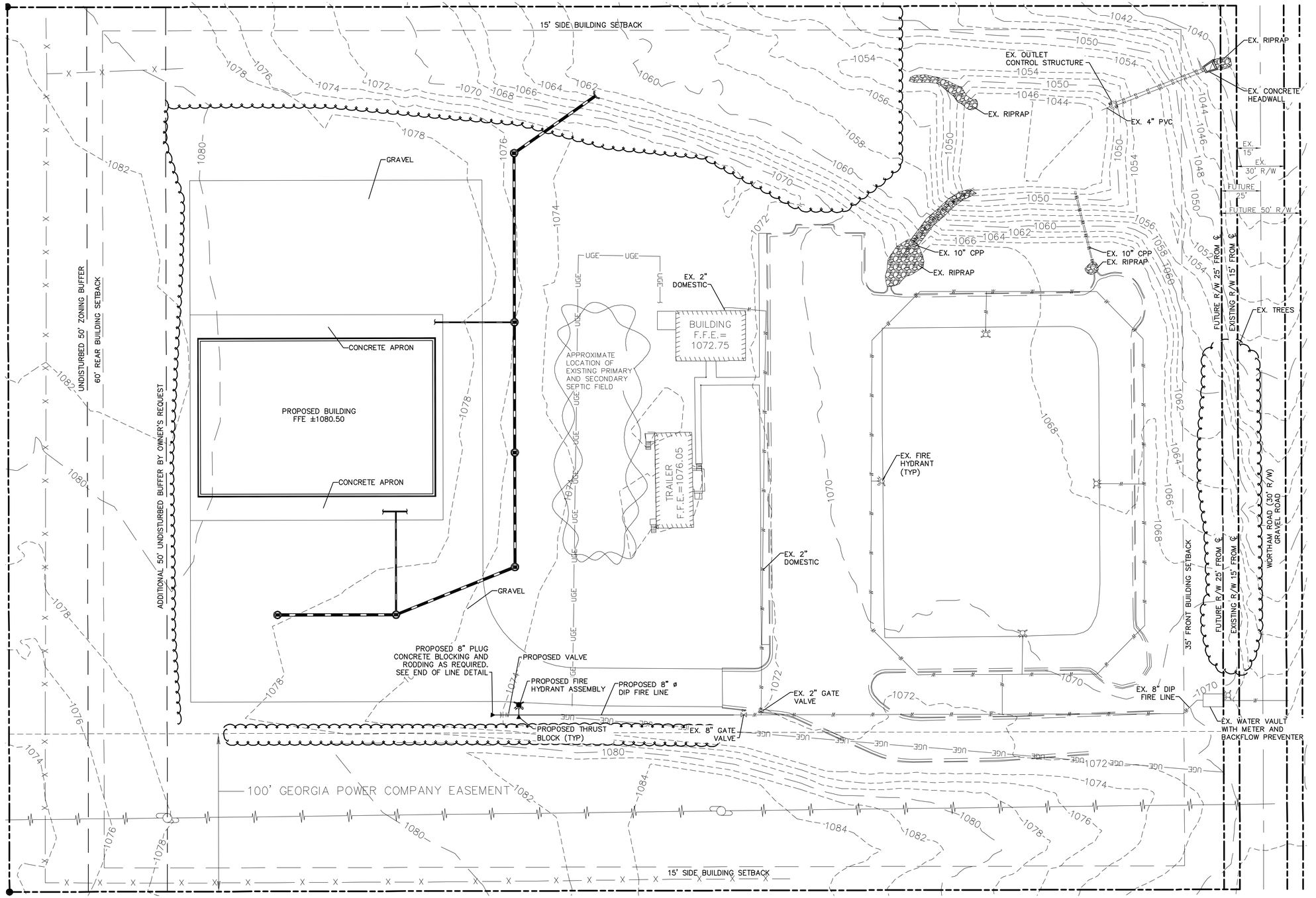


DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR

JOB#: H17179

GP2

SEE SHEET GN1 FOR NOTES



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
ENGINEERS | SURVEYORS | LANDSCAPE ARCHITECTS
6554 EAST CHURCH STREET
DOUGLASVILLE, GEORGIA 30134
p 770.942.0199
f 770.942.0152
www.HughesRay.com

No.	DATE:	REVISION

UTILITY PLAN
OF
DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION

L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

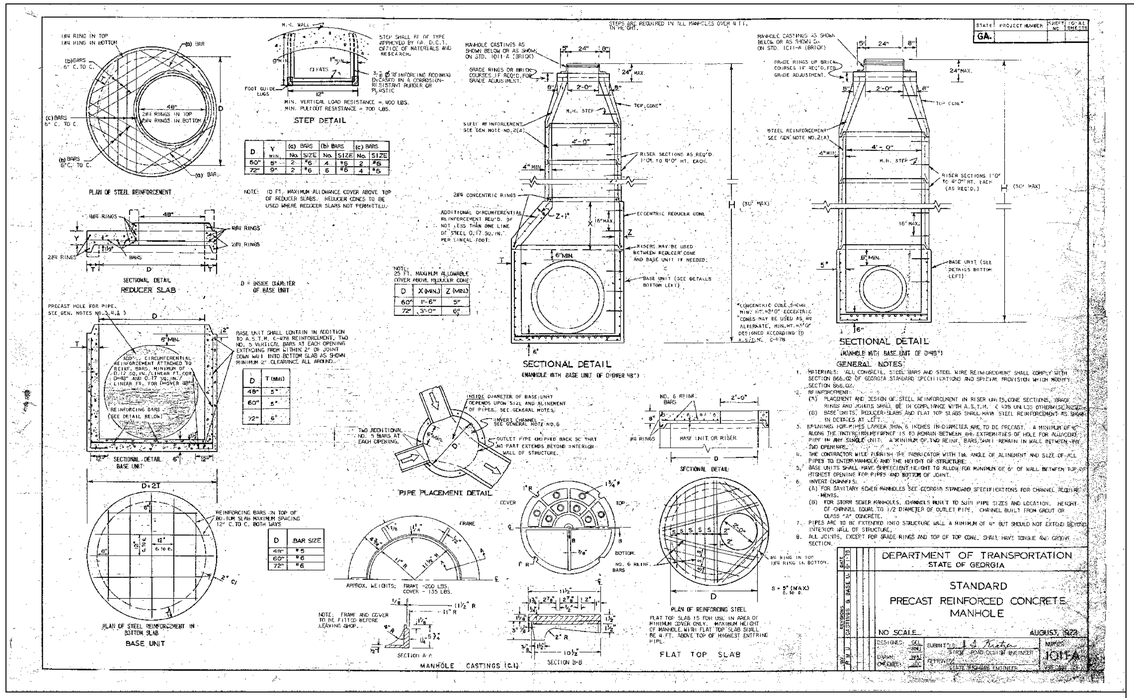
DEVELOPER:
SAME AS ABOVE

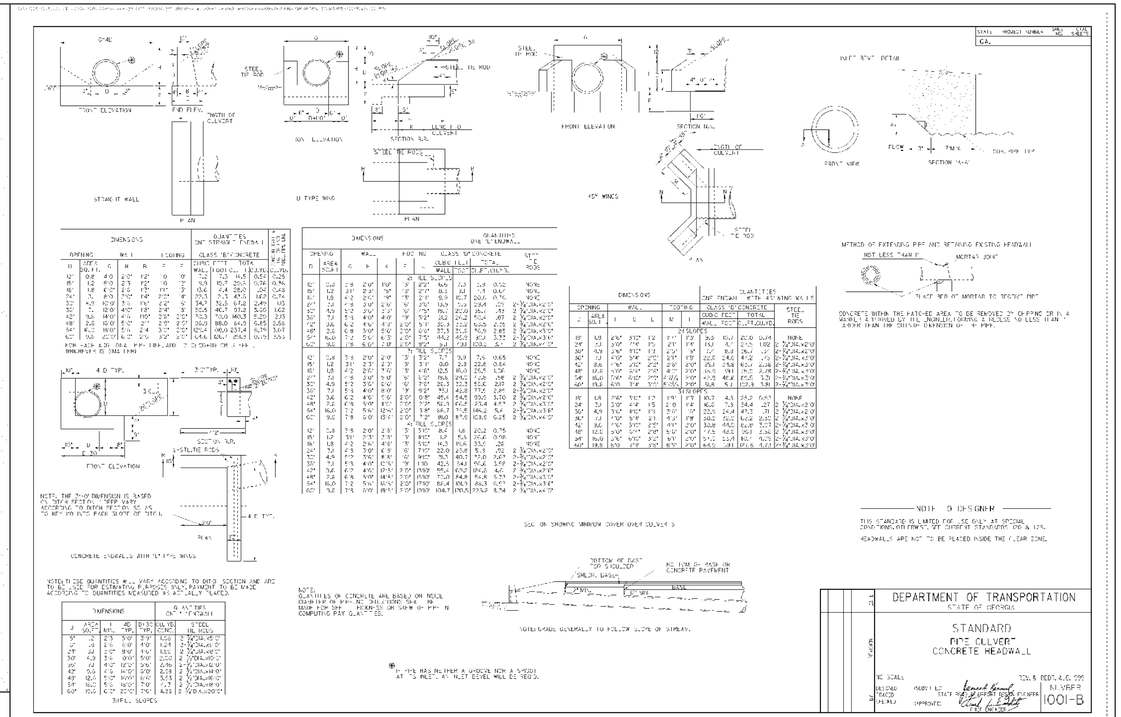
24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243

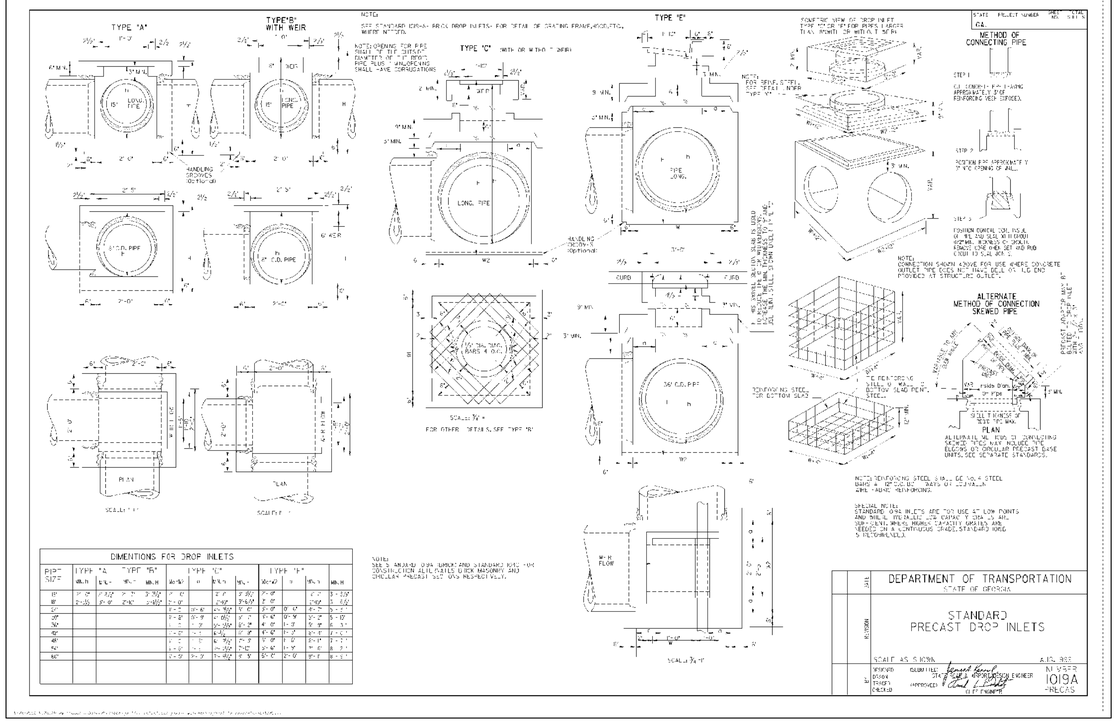
GEORGIA REGISTERED No. 24012 PROFESSIONAL ENGINEER HOWARD B. RAY
7-25-17

DATE:	7/25/17
DRAWN BY:	PSS
CHECKED BY:	HBR
JOB#: H17179	

UT1







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REVISION

No. DATE:

STANDARD CONSTRUCTION DETAILS OF
DOUGLAS COUNTY FIRE TRAINING COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243

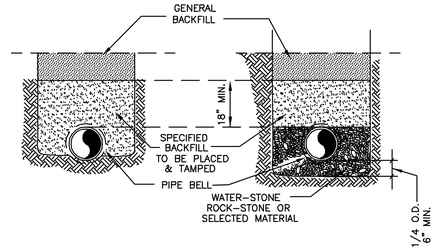
DATE: 7/25/17
DRAWN BY: PSS
CHECKED BY: HBR

JOB#: H17179

CD1

DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY

WATER - FIG.3
Dec. 2016



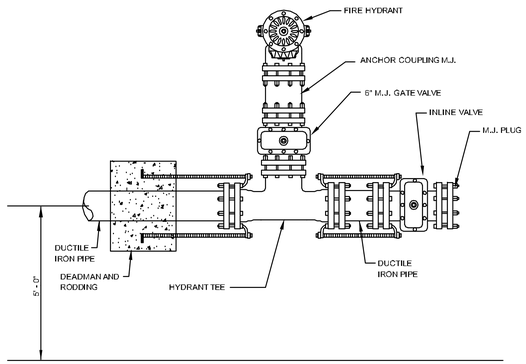
STANDARD EARTH
C–1

WET TRENCH OR ROCK
C–2

BEDDING DETAILS

DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY

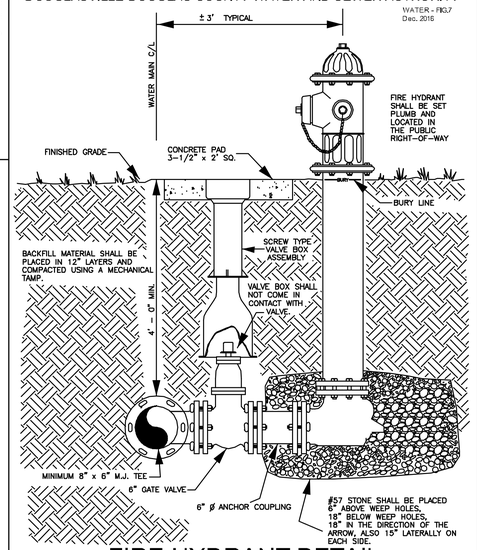
WATER - FIG.19
Dec. 2016



END OF LINE DETAIL

DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY

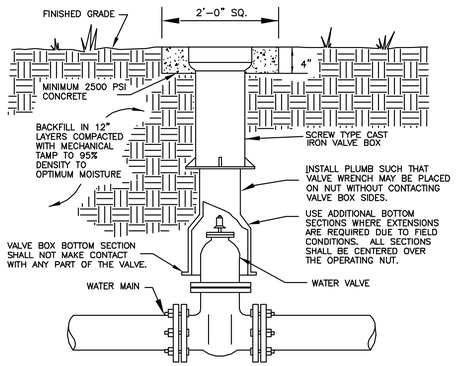
WATER - FIG.7
Dec. 2016



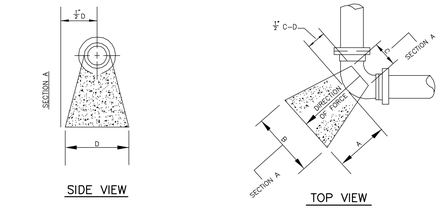
FIRE HYDRANT DETAIL UTILIZING HYDRANT TEE AND ANCHOR COUPLING

DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY

WATER - FIG.8
Dec. 2016



TYPICAL VALVE BOX INSTALLATION



SIDE VIEW

TOP VIEW

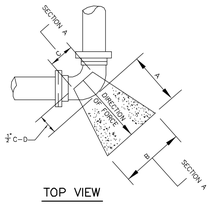
MINIMUM
DIMENSIONS IN FEET FOR CONCRETE BLOCKING

BEND	SIZE	A	B	C	D	VOLUME CUBIC YARD
11 1/4°	6"	1.0'	1.0'	7"	1.0'	0.03'
	8"	1.0'	1.25'	7"	1.0'	0.04'
	12"	1.0'	2.0'	11"	2.0'	0.01'
	16"	2.0'	3.0'	15"	2.0'	0.3'
	20"	2.0'	3.0'	19"	3.0'	0.5'
	24"	3.0'	4.0'	22"	3.0'	0.8'
22 1/2°	6"	1.0'	1.5'	7"	1.0'	0.04'
	8"	1.0'	2.0'	7"	2.0'	0.1'
	12"	2.0'	3.0'	11"	2.0'	0.3'
	16"	2.0'	4.0'	15"	3.0'	0.6'
	20"	3.0'	5.0'	19"	3.0'	1.0'
	24"	4.0'	6.0'	22"	4.0'	2.3'
45	6"	1.5'	2.0'	7"	1.5'	0.11'
	8"	2.0'	3.0'	7"	2.0'	0.3'
	12"	2.0'	4.0'	11"	3.0'	0.7'
	16"	3.0'	5.0'	15"	4.0'	1.4'
	20"	4.0'	6.0'	19"	5.0'	2.8'
	24"	5.0'	8.0'	22"	6.0'	5.0'
90	6"	1.5'	2.5'	7"	2.0'	0.2'
	8"	2.0'	3.0'	7"	3.0'	0.4'
	12"	4.0'	6.0'	11"	4.0'	2.1'
	16"	4.0'	7.0'	15"	5.0'	3.1'
	20"	8.0'	8.0'	19"	7.0'	5.3'
	24"	6.0'	10.0'	22"	8.0'	10.5'
TEES AND PLUGS	6"	1.5'	2.0'	7"	1.75'	0.13'
	8"	2.0'	3.0'	7"	2.0'	0.3'
	12"	2.0'	4.0'	11"	4.0'	0.8'
	16"	3.0'	5.0'	15"	5.0'	1.8'
	20"	4.0'	7.0'	19"	6.0'	3.9'
	24"	5.0'	8.0'	22"	7.0'	5.5'

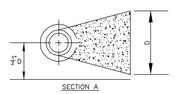
DESIGN DATA
DIMENSION OF THRUST BLOCK IN FEET BASED ON 2000 POUNDS PER SQUARE FOOT SOIL BEARING PRESSURE AND 250 PER SQUARE INCH TEST PRESSURE. ACTUAL INSIDE DIAMETER OF DUCTILE IRON PIPE, CLASS 2 USED AS STANDARD. CONCRETE SHALL BE CLASS A, 3000 PSI HIGH EARLY.

NOTE
SOIL CONDITIONS SHALL BE VERIFIED BEFORE THRUST BLOCK DESIGN IS IMPLEMENTED. CONCRETE FORMED SO THAT DOES NOT INTERFERE WITH BOLT/NUTS OR HOLES.

DOWNWARD THRUST BLOCK



TOP VIEW



SIDE VIEW

MINIMUM
DIMENSIONS IN FEET FOR CONCRETE BLOCKING

BEND	SIZE	A	B	C	D	VOLUME CUBIC YARD
11 1/4°	6"	1.0'	1.0'	7"	1.0'	0.03'
	8"	1.0'	1.25'	7"	1.0'	0.04'
	12"	1.0'	2.0'	11"	2.0'	0.01'
	16"	2.0'	3.0'	15"	2.0'	0.3'
	20"	2.0'	3.0'	19"	3.0'	0.5'
	24"	3.0'	4.0'	22"	3.0'	0.8'
22 1/2°	6"	1.0'	1.5'	7"	1.0'	0.04'
	8"	1.0'	2.0'	7"	2.0'	0.1'
	12"	2.0'	3.0'	11"	2.0'	0.3'
	16"	2.0'	4.0'	15"	3.0'	0.6'
	20"	3.0'	5.0'	19"	3.0'	1.0'
	24"	4.0'	6.0'	22"	4.0'	2.3'
45	6"	1.5'	2.0'	7"	1.5'	0.11'
	8"	2.0'	3.0'	7"	2.0'	0.3'
	12"	2.0'	4.0'	11"	3.0'	0.7'
	16"	3.0'	5.0'	15"	4.0'	1.4'
	20"	4.0'	6.0'	19"	5.0'	2.8'
	24"	5.0'	8.0'	22"	6.0'	5.0'
90	6"	1.5'	2.5'	7"	2.0'	0.2'
	8"	2.0'	3.0'	7"	3.0'	0.4'
	12"	4.0'	6.0'	11"	4.0'	2.1'
	16"	4.0'	7.0'	15"	5.0'	3.1'
	20"	8.0'	8.0'	19"	7.0'	5.3'
	24"	6.0'	10.0'	22"	8.0'	10.5'
TEES AND PLUGS	6"	1.5'	2.0'	7"	1.75'	0.13'
	8"	2.0'	3.0'	7"	2.0'	0.3'
	12"	2.0'	4.0'	11"	4.0'	0.8'
	16"	3.0'	5.0'	15"	5.0'	1.8'
	20"	4.0'	7.0'	19"	6.0'	3.9'
	24"	5.0'	8.0'	22"	7.0'	5.5'

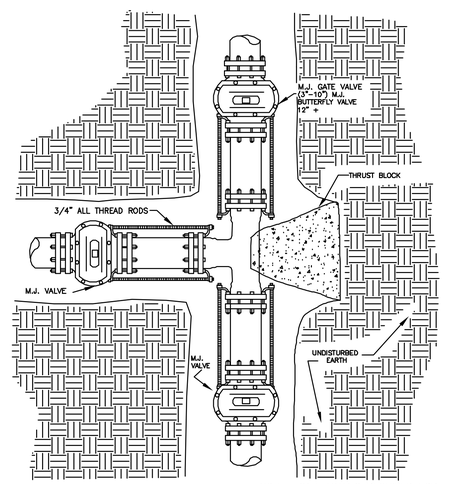
DESIGN DATA
DIMENSION OF THRUST BLOCK IN FEET BASED ON 2000 POUNDS PER SQUARE FOOT SOIL BEARING PRESSURE AND 250 PER SQUARE INCH TEST PRESSURE. ACTUAL INSIDE DIAMETER OF DUCTILE IRON PIPE, CLASS 2 USED AS STANDARD. CONCRETE SHALL BE CLASS A, 3000 PSI HIGH EARLY.

NOTE
SOIL CONDITIONS SHALL BE VERIFIED BEFORE THRUST BLOCK DESIGN IS IMPLEMENTED. CONCRETE FORMED SO THAT DOES NOT INTERFERE WITH BOLT/NUTS OR HOLES.

HORIZONTAL THRUST BLOCK

DOUGLASVILLE-DOUGLAS COUNTY WATER AND SEWER AUTHORITY

WATER - FIG.20
Dec. 2016



NOTE: GATE VALVES REQUIRED FOR 10" AND SMALLER APPLICATIONS. BUTTERFLY VALVES REQUIRED FOR 12" AND LARGER APPLICATIONS.

3-WAY VALVE AND TEE INSTALLATION DETAIL

PREPARED BY:
HRC
HUGHES-RAY COMPANY, INC.
CIVIL ENGINEERS | SURVEYORS | LANDSCAPE ARCHITECTS
6554 EAST CHURCH STREET
DOUGLASVILLE, GEORGIA 30134
p 770.942.0106
f 770.942.0152
www.HughesRay.com

No.	DATE:	REVISION

STANDARD CONSTRUCTION DETAILS
OF
DOUGLAS COUNTY FIRE TRAINING
COMPLEX BUILDING ADDITION
L.L. 218 & 219, 2nd DISTRICT, 5th SECTION
DOUGLAS COUNTY, GEORGIA

OWNER:
DOUGLAS COUNTY BOARD OF COMMISSIONERS
8700 HOSPITAL DRIVE
DOUGLASVILLE, GA. 30134

DEVELOPER:
SAME AS ABOVE

24 HR. CONTACT:
JAMES WORTHINGTON
770-920-7243

DATE: 7/25/17
DRAWN BY: PSS
CHECKED BY: HBR

JOB#: H17179

CD2

GENERAL CONDITIONS

PURPOSE

1. The purpose and intention of this invitation to bid issued by the Douglas County Purchasing Department is to afford all suppliers an equal opportunity to bid on all operating supplies, services, equipment, maintenance and repairs that are listed in the accompanying documents.

SPECIFICATIONS

2. Whenever standard Douglas County specifications are specified in any invitation to bid, or request for proposal, all bidders must comply with these specifications. Specifications other than standard specifications are to be considered as setting a standard of quality suitable to permit competition and at the same time protect the integrity of the purchasing process. It is the overall intent of the specifications to insure that the minimum needs of the County are met.

   Brand or trade names used herein are intended to establish quality standards, and are not intended to limit or eliminate competition.

   The County does reserve the right to specify that particular specifications be strictly adhered to, and brand or trade names not be substituted.

PURCHASING POLICY

3. All bidders are hereby put on notice that, in all purchasing and related activities, the Douglas County Purchasing Department shall pursue a policy of securing the greatest possible economy consistent with grades of quality of supplies and services that are adapted to the purpose for which they are required.

AWARD OF CONTRACT

4. The award of all contracts will be made in conformity with the above purchasing policy. Douglas County reserves the right to award items separately, grouped or on an "all or none" basis and to reject any or all bids and waive all informalities.

PRICING

5. All prices should be quoted in the unit of measure as required and shall be firm until bid is awarded unless otherwise specified.

CANCELLATION OF CONTRACT

6. In any of the following cases the Purchasing Department has the right to cancel any contract entered into under these Purchasing Rules and Regulations;

a. Breach of Contract;
b. In the event the contractor fails to furnish a satisfactory performance bond within the time specified, when such bond is required;
c. Failure of the contractor to make delivery within the time specified in the contract;
d. In the event any commodity of equipment is rejected for failure to meet specifications, non-conformity with sample or the items are not in good condition when delivered;
e Wherever the contractor is guilty of misrepresentation; i.e., misbranding of food or drugs;
f. Wherever the contract was obtained by fraud, collusion, conspiracy or other unlawful means, or the contract conflicts with any statutory and constitutional provision of the State of Georgia or the United States; or
g. Wherever Douglas County deems that a cancellation is in the best interest of the County provided that the Vendor be notified of such cancellation prior to production and/or shipment.

PERFORMANCE BONDS

7. Douglas County reserves the right to require a performance bond on all awards over $1,000.00.

NON PERFORMANCE

8. In the event contractor fails to perform in accordance with the specifications, the contractor will be deemed to be in default. The Purchasing authority shall notify the contractor verbally and in writing of incidence of nonperformance. If the contractor fails to perform in accordance with the contract specifications, within five (5) days after notice, as provided herein, the Purchasing Manager shall take appropriate action including but not limited to contract cancellation, collection proceedings, suspension or disbarment.

SUBSTITUTIONS

9. If bidding other than specified in the bid proposal, state brand, model number and submit illustrations and descriptive literature with bid in order that quality, suitability, and compliance with the specifications may be determined. Failure to do so may cause your bid to be disqualified.

DISCOUNTS

10. Discounts will be considered when making an award.

QUANTITIES

11. Douglas County reserves the right to increase or decrease the quantity as necessary at the same prices and terms stated in sellers bid proposal.

DELIVERY

12. All deliveries shall be F.O.B. Douglas County, Georgia. If the vendor fails to make delivery within a satisfactory time, Douglas County reserves the right to cancel the item and to purchase elsewhere charging the re-procurement costs, i.e., increase in price, cost of handling (if any), to the original vendor making the unsatisfactory, late or non-delivery cause for cancellation.

PAYMENT

13. Payments will not be made in advance. Payments will be made after satisfactory delivery and acceptance by Douglas County for goods and/or services based on the actual quantities installed and unit prices submitted on the Bid Form. This supersedes any Payment/Unit Price included in the bid documents and specifications.

BID RESPONSE

14. Bids should be submitted on the forms provided for this purpose and should be filled out with ink or typewritten and signed in ink. Do not erase, correct or white over any prices or figures necessary for the completion of this bid proposal. If any corrections are necessary, each one should be initialed. Failure to comply with these requirements may cause your bid to be disqualified.

CONTRACTUAL SERVICES

15. At the option of Douglas County and acceptance by the contractor this contract may be extended for two (2) additional twelve (12) month periods not to exceed 36 months at the same terms and prices.

INSURANCE

16. For general contracting exposure.

A) INSURANCE REQUIREMENTS

Contractor shall procure and maintain for the duration of the contract, insurance against claims for injuries to persons or damages to property that may arise from or in connection with performance of the Work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.

MINIMUM LIMITS OF INSURANCE

Contractor shall maintain limits no less than:

1. The Contractor and Subcontractors shall secure and maintain during the life of this contract Worker's Compensation Insurance for all of their employees employed at the site of any Douglas County project, at statutory limits. The Employer's Liability shall have limits not less than $500,000.
2. Comprehensive General Liability Insurance – shall be in limits no less than $1,000,000 combined single limit per occurrence for aggregate or property damage. Property damage insurance shall be in broad form including complete operations.
3. Automobile liability coverage for owned, non-owned and hired. Such insurance shall be in limits no less than $1,000,000 combined single limit per occurrence.
4. Professional liability shall be in limits no less than $2,000,000 each claim made, and annual aggregate of $3,000,000

B) OTHER INSURANCE PROVISIONS

1. General Liability, and Automobile Liability insurance

A. The Owner and its officers, officials, employees and volunteers are to be covered as additional insured's with regards to any liability arising out of activities performed by or on behalf of the Contractor.
B. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Owner and its officers, officials employees or volunteers.
C. The Contractor is responsible for insuring its own property and equipment.

2. Workers' Compensation and Employers Liability Coverage. The insurer shall agree to waive all rights of subrogation against Douglas County and its officers, officials, employees and volunteers for losses arising from the work performed by the Contractor for the Owner.

3. All Coverages: Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after ninety (90) days' prior written notice by certified mail, return receipt requested, has been given to the Owner, Douglas County, Georgia, in care of the Douglas County Purchasing Department.

C) ACCEPTABILITY.

Insurance is to be placed with insurers with a Best's rating of no less than A:VIII, or otherwise acceptable to the Owner.

D) VERIFICATION OF COVERAGE.

Contractor shall furnish Douglas County with certificates of insurance and with original endorsements effecting coverage required by this clause. These certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be received and approved by the Owner before any work commences. Douglas County further reserves the right to require complete, certified copies of all required insurance policies at any time.

E) SUBCONTRACTORS

Contractor shall include all subcontractors as insured under its insurance or shall ensure that subcontractors have met the insurance requirements of this agreement. Douglas County may request evidence of subcontractor's insurance at any time.

LOCAL PREFERENCE

17. Douglas County Board of Commissioners has approved the utilization of a local county preference to the Douglas County Code of Ordinance. The local preference may be used and allows for a local firm to be awarded the bid when not the lowest bidder, if the lowest bid is within 3% of the local company's bid amount, except for construction services, and road project expected to exceed $20,000, which will be subject to Georgia State law. If all bidders are local firms, this section does not apply.

INDEMNIFICATION AND GENERAL CONSTRUCTION TERMS

18. The contractor hereby agrees to protect, defend, indemnify and hold the county and its merit and contract employees, agents and officers free and harmless from any and all loses, claims, liens, demands and causes of action of every kind and character including, but not limited to, the amounts of judgments, penalties, interests, court costs, legal fees and all other expenses incurred by the county arising in favor of any party.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand or suit at the sole expense of the contractor. Contractor also agrees to bear all other costs and expenses related, thereto, even if the claim or claims alleged are groundless, false or fraudulent. This provision is not intended to create any cause of action in favor of any third party against contractor or the county or to enlarge in any way the contractor's liability but is intended solely to provide indemnification of the county from liability for property damage, property loss, personal injury, bodily injury or death to the contractors, the contractor's employees or any third persons or property arising from the contactor's performance hereunder.

The contractor agrees to keep informed and comply with all Federal, State, and local laws, policies, regulations, ordinances and codes, but not limited to, the contractors duty to provide a safe work environment and road conditions for the contractor's employees, subcontractors, county employees and third parties. This provision confers all safety responsibility, to include but not limited to, knowledge of the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD), Standard Highway Signs (SHS), Utility Accommodation Policy and Standards Manual, safety management, human resource management, and traffic management as it relates to all methods and forms of employee hiring and retention, safety signage, fall prevention, warning devices, safety barricades, safety fencing, work zone flaggers, scaffolding, motorist and pedestrian road and sidewalk detour direction and all other regulated safety requirements for the duration of The Work as is necessary to provide for the health and safety of the Contractor's employees, subcontractors, county employees, pedestrians, motorists and all third parties. Where and when applicable, warning devices shall be placed prior to the commencement of any road improvement work on any roads and shall remain in place until the conclusion of all Work.

GEORGIA SECURITY AND IMMIGRATION ACT OF 2006

19. As of July 1, 2007, all contracts with Douglas County must have a certification from the Contractor that they comply with the Georgia Security and Immigration Act of 2006. This requires all those individuals, firms, contractors, consultants, etc., contracting with the County to execute the Contractor Affidavit and Agreement. If subcontractors are engaged, they are required to execute the Subcontractor Affidavit. These affidavits are available to download from the Douglas County Purchasing Department website, located at www.celebratedouglascounty.com, or may be attached for your convenience in compliance with this requirement.

DISPUTE RESOLUTION

20. The jurisdiction and venue of any dispute arising out of this agreement shall lie with in the Superior Court of Douglas County, Georgia, and the governing law shall be the law of the state of Georgia.