

SITE CONSTRUCTION DRAWINGS FOR HD TRUCK REPAIR AND SERVICES PARKING AND STORAGE AREA

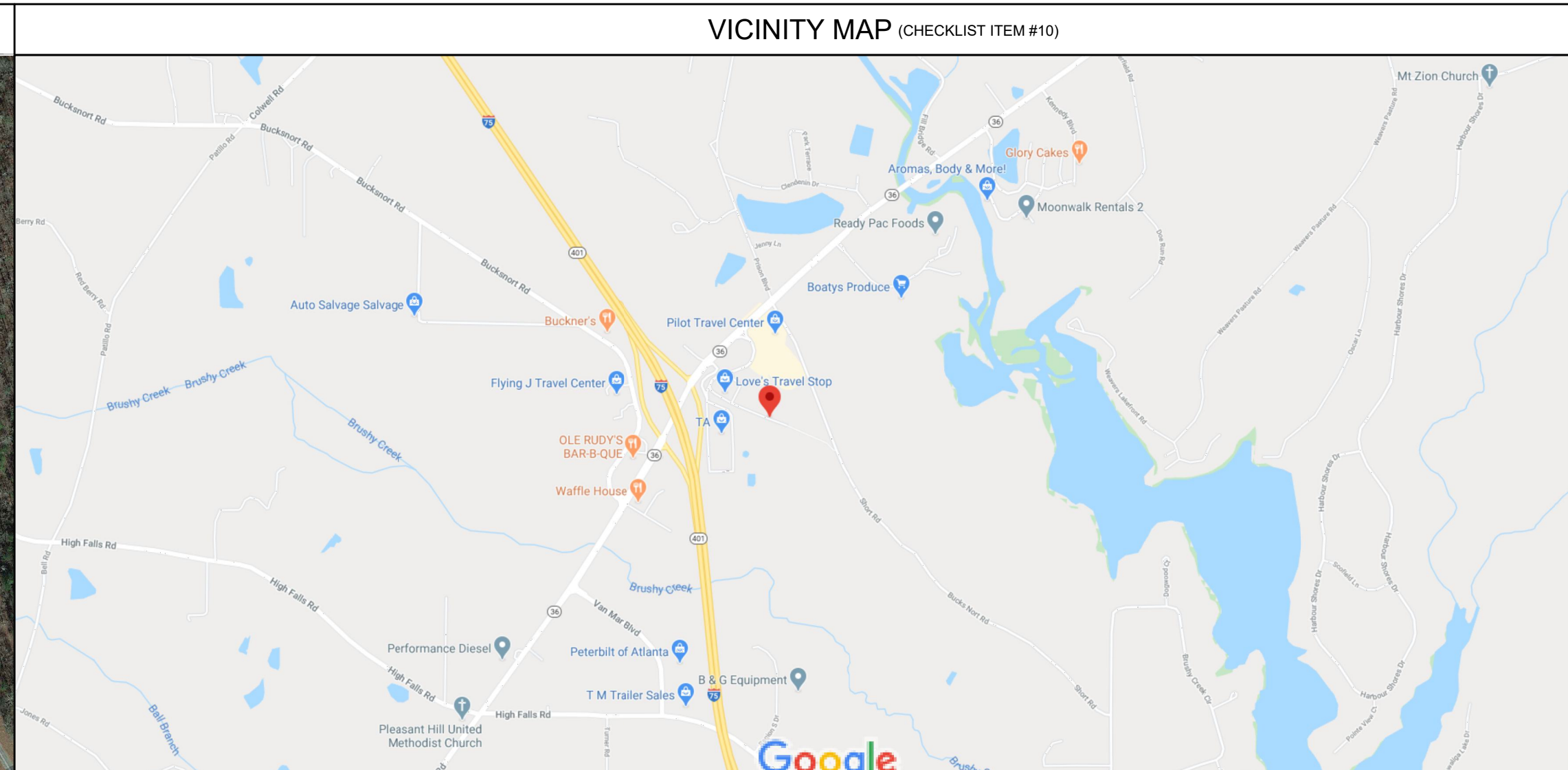
136 TRUCK STOP WAY, JACKSON, GA 30233
TAX PARCELS 00140-012-G00, 00140-012-H00, 00140-012-000
BUTTS COUNTY, GEORGIA
LAND LOT 235, DISTRICT 3



PARKING AND STORAGE AREA
136 TRUCK STOP WAY, JACKSON, GA 30233
LANDLOT 235, DISTRICT 3, BUTTS COUNTY
FOR
HD TRUCK REPAIR AND SERVICES, LLC

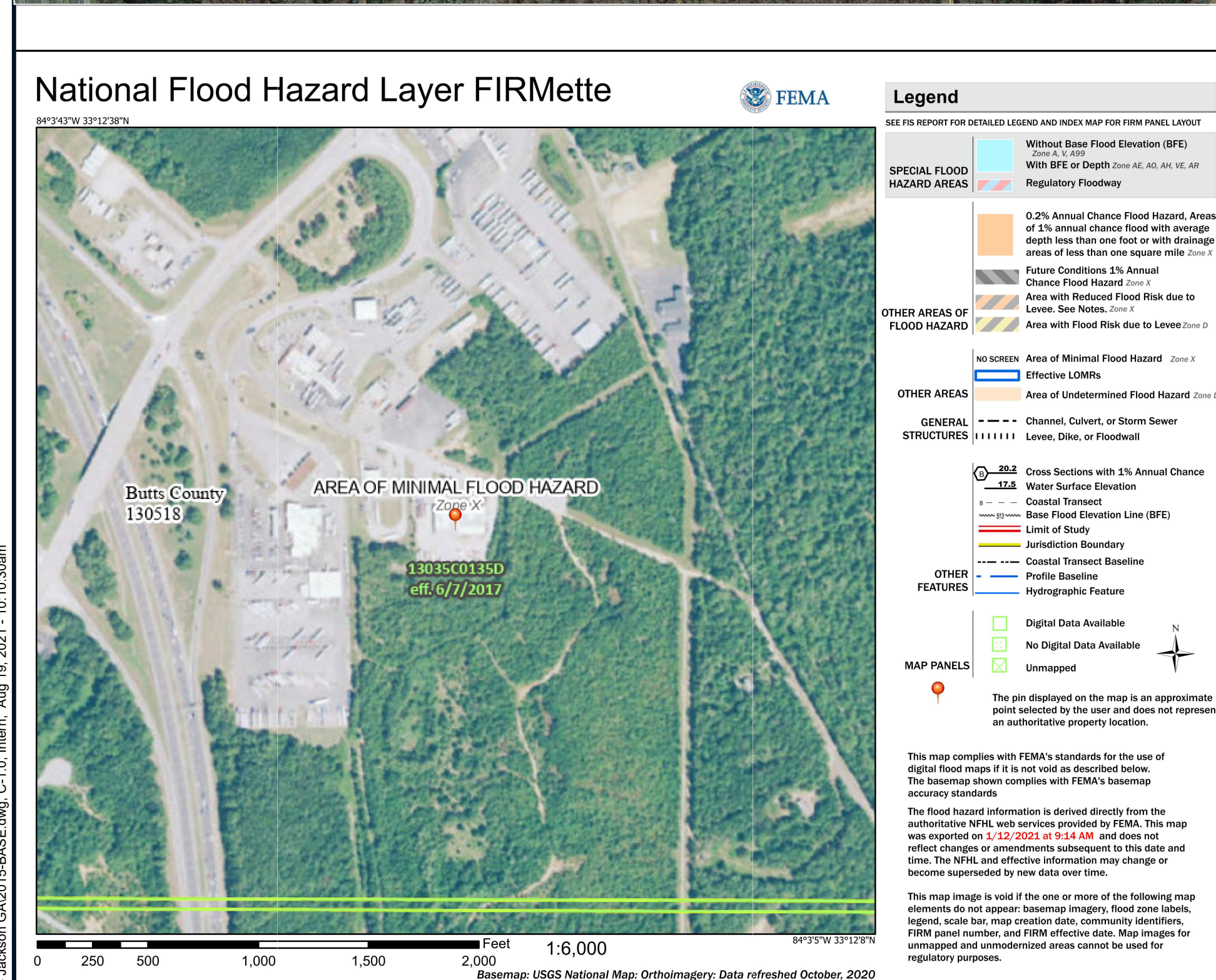


AERIAL PHOTO



VICINITY MAP (CHECKLIST ITEM #10)

APPROVAL STAMPS



DEVELOPMENT DATA (CHECKLIST ITEM #6)

OWNER/
PRIMARY PERMITTEE: HD TRUCK REPAIR AND SERVICES, LLC
136 TRUCK STOP WAY
JACKSON, GA 30233
(770)-775-4739
RGIBBY@HDTRS.COM

GPS COORDINATES: LAT: 33.206581°
LONG: -84.055472°

AREAS: TAX PARCEL 00140-012-G00 - 3.14 ACRES
TAX PARCEL 00140-012-H00 - 10.46 ACRES
TAX PARCEL 00140-012-000 - 42.35 ACRES

24-HOUR CONTACT: RANDY GIBBY
(770)-775-4739
RGIBBY@HDTRS.COM

ENGINEER: ROWLAND ENGINEERING, INC.
318 CORPORATE PKWY., STE. 301
MACON, GA 31210
(478) 621-7500 office
steven@rowland-engineering.com

SURVEYOR: JORDAN ENGINEERING
144 N. WARREN ST.
MONTICELLO, GA 31064
(706)-468-8999
BOUNDARY SURVEY DATED: MAY 2017

TOTAL PROPERTY AREA: 55.95 ACRES

DISTURBED AREA = 27 ACRES

ZONING: M2 (ALL TRACTS)

PROJECT SUMMARY

THE PROPOSED HD TRUCK REPAIR AND SERVICES PARKING AND STORAGE AREA IS LOCATED ON 55.95 ACRES IN THE SOUTHEASTERN QUADRANT OF THE INTERSECTION OF INTERSTATE 75 AND GA HWY. 36 (EXIT 201) AT 136 TRUCK STOP WAY, JACKSON, GEORGIA. HD TRUCK REPAIR AND SERVICES IS AN EXISTING FACILITY OF 13.6 ACRES. THE BUSINESS HAS PURCHASED THE ADJOINING 42.35-ACRE TRACT FOR THE PURPOSE OF PROVIDING ADDITIONAL PARKING AND STORAGE. THIS PLAN INCLUDES AN ES&PC PLAN FOR CLEARING AND GRUBBING OF 27 ACRES AND THE CONSTRUCTION OF A STORMWATER POND TO PROVIDE DETENTION OF THE DEVELOPED AREA. THE STORMWATER POND WILL PROVIDE SEDIMENT STORAGE DURING CONSTRUCTION UNTIL THE SITE IS STABILIZED WITH VEGETATION. NO NEW UTILITIES ARE PROPOSED.

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ROWLAND ENGINEERING
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08-18-2021 UPDATED ZONING OF RECENTLY REZONED PARCELS TO M2

DATE: 04-09-2021
PROJ NO: 2015



THIS SEAL IS VALID ONLY IF SIGNED AND DATED BY THE LICENSED PROFESSIONAL ENGINEER.

COVER SHEET

STEVEN A. ROWLAND, P.E. (GA PE# 25853)
GA LEVEL II CERTIFIED DESIGN PROFESSIONAL
CERTIFICATION NO. 155 EXPIRES: 07/16/2022

C-1.0

EROSION AND CONTROL:

1. ALL SILT BARRIERS MUST BE PLACED AS ACCESS IS OBTAINED DURING CLEARING AS SHOWN AND/OR AS DIRECTED BY THE PROJECT ENGINEER AND/OR THE CITY/COUNTY INSPECTOR. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION AND SEDIMENT CONTROL FACILITIES ARE CONSTRUCTED.
2. ADDITIONAL EROSION CONTROL MEASURES WILL BE EMPLOYED WHERE DETERMINED NECESSARY BY ACTUAL SITE CONDITIONS.
3. PROVISIONS TO PREVENT EROSION OF SOIL FROM SITE SHALL BE, AS MINIMUM, IN CONFORMANCE WITH THE REQUIREMENTS OF THE MANUAL FOR SEDIMENT AND EROSION CONTROL IN GEORGIA AND THE APPLICABLE CITY AND/OR COUNTY CODE OF LAWS DEALING WITH EROSION AND SEDIMENTATION.
4. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE.
5. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMANDS, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT.
6. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR INSIDE THE APPROVED LIMITS AS INDICATED ON THE APPROVED PLANS.
7. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
8. ALL APPLICABLE EROSION AND SEDIMENTATION CONTROLS, AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY EXCAVATION.
9. EROSION CONTROL MEASURES WILL BE INSPECTED AT LEAST WEEKLY AND FOLLOWING ALL RAINFALL EVENTS AND REPAIRED, IF NECESSARY, BY CONTRACTOR.
10. STORM DRAIN SYSTEMS SHALL BE MAINTAINED CLEAN AND FREE OF SILT AND DEBRIS.
11. A RESPONSE TO A NOTIFICATION OF NONCOMPLIANCE OR INADEQUATE MEASURES SHALL BE MADE WITHIN 24 HOURS AFTER RECEIVING SUCH NOTIFICATION, UNLESS OTHERWISE SPECIFIED FOR CONDITIONS DEEMED CRITICAL.
12. SEEDING SPECIFICATIONS AND APPLICATION RATES ARE AVAILABLE AT THE NATIONAL RESOURCES CONSERVATION SERVICES (NRCS). FOR TEMPORARY AND/OR PERMANENT SEEDING A VARIETY SUBSTITUTED FOR THAT SHOWN ON THE PLANS MAY BE UTILIZED WITH THE APPROVAL OF THE LOCAL GOVERNMENTAL AGENCY AND THE OWNER.
13. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROLS MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAYS HAVE BEEN PAVED.
14. 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 FINAL 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 ENGINEER IMMEDIATELY.
15. SANITARY SEWER EASEMENTS ARE TO BE STABILIZED WITH TEMPORARY AND PERMANENT VEGETATION AS SOON AS EACH SEGMENT IS COMPLETED. STREAM BANK RESTORATION AND STABILIZATION REQUIRED IN ALL DISTURBED STATE WATERS BUFFERS. THE STREAM BANK CANOPY IS TO BE RESTORED WITHIN THE STATE WATERS BUFFERS. GEOMAT AND RIP RAP ARE TO BE PLACED AS NECESSARY TO PREVENT EROSION WITHIN THE STREAM BANKS.
16. 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.
17. 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.
18. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 7 days SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

GRADING AND CONSTRUCTION:

1. GROUND SURFACE PREPARATION: REMOVE VEGETATION INCLUDING GRASS, ROOTS, AND SURFICIAL ORGANICS, DEBRIS, UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE PRIOR TO PLACEMENT OF FILLS. PLOW STRIP, OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERT. TO 2 HORIZ. SO THAT FILL MATERIAL WILL BOND WITH EXISTING SURFACE. WHEN EXISTING GROUND SURFACE HAS A DENSITY LESS THAN THAT SPECIFIED UNDER COMPACTION FOR PARTICULAR AREA CLASSIFICATION, BREAK UP GROUND SURFACE, PULVERIZE, MOISTURE CONDITION TO OPTIMUM MOISTURE CONTENT, AND COMPACT TO REQUIRED DEPTH AND PERCENTAGE OF MAXIMUM DENSITY.
2. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 12 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT AND NOT MORE THAN 6 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
3. BEFORE COMPACTION, MOISTEN AND AERATE EACH LAYER AS NECESSARY TO PROVIDE OPTIMUM MOISTURE CONTENT. COMPACT EACH LAYER TO REQUIRED PERCENTAGE OF MAXIMUM DRY DENSITY OR RELATIVE DRY DENSITY FOR EACH AREA CLASSIFICATION. DO NOT PLACE BACKFILL OR FILL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN OR CONTAIN FROST OR ICE.
4. COMPACT SUBGRADE AND EACH LAYER OF BACKFILL OF FILL MAT'L. TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY TO A DEPTH OF 6" BELOW BOTTOM OF FINAL GRADE. A REPORT FROM A GEOTECHNICAL ENGINEER MAY BE REQUIRED BY THE CONSTRUCTION INSPECTOR FOR ALL FILL AREAS WITHIN THE RIGHT-OF-WAY.
5. MOISTURE CONTROL: WHERE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE MOISTURE CONDITIONED BEFORE COMPACTION, UNIFORMLY APPLY WATER TO SURFACE OF SUBGRADE OR LAYER OF SOIL MAT'L. APPLY WATER IN MINIMUM QUANTITY AS NECESSARY TO PREVENT FREE WATER FROM APPEARING ON SURFACE DURING OR SUBSEQUENT TO COMPACTION OPERATIONS.
6. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY, SOIL MATERIAL THAT IS TOO WET TO PERMIT COMPACTION TO SPECIFIED DENSITY.
7. SPREAD SOIL MATERIAL THAT HAS BEEN REMOVED BECAUSE IT IS TOO WET TO PERMIT COMPACTION. ASSIST DRYING BY DISCING, HARROWING, OR PULVERIZING UNTIL MOISTURE CONTENT IS REDUCED TO A SATISFACTORY VALUE.
8. QUALITY CONTROL TESTING DURING CONSTRUCTION: ALLOW GEOTECHNICAL TESTING SERVICE TO INSPECT AND APPROVE EACH SUB-GRADE AND BACKFILL OR FILL LAYER BEFORE FURTHER BACKFILL OR CONSTRUCTION WORK IS PERFORMED. TEST SHALL BE PERFORMED EVERY 10,000 SQ. FT. OF AREA PER ONE FOOT LIFT (OR AS DIRECTED BY A REGISTERED GEOTECHNICAL ENGINEER.
9. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF THE DISCOVERY OF ANY GROUNDWATER, SUB-SURFACE SEEPAGE OR SPRINGS DURING THE COURSE OF CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO CONSULT WITH A REGISTERED GEOTECHNICAL ENGINEER TO INSPECT THE SITE, AND TO MAKE ANY RECOMMENDATIONS REGARDING EVIDENCE AND REMEDIATION (IF ANY) OF SAID SUB-SURFACE WATERS.
10. THE CONTRACTOR SHALL INCLUDE IN BID ANY COST IN RELATION TO TEMPORARY AND/OR PERMANENT MEASURES PROVIDED TO REMOVE SUBSURFACE SEEPAGE, SPRINGS OR OTHER GROUND WATER DURING AND AFTER CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, WELL PERMITTING, FRENCH DRAIN, ETC. WHETHER OR NOT DEPICTED IN THE BID SET.
11. ALL CUT AND FILL SLOPES (WHERE NO WALL IS PROPOSED) SHALL BE EQUAL TO OR LESS THAN 2:1.

CONTRACTOR/DEVELOPER NOTES:

1. FOR OTHER SITE, MISCELLANEOUS AND/OR SPECIAL NOTES SPECIFIC TO VARIOUS CONSTRUCTION PHASES, REFER TO EACH INDIVIDUAL SHEET FOR SAID NOTES AND/OR CONDITIONS.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE POSITIVE DRAINAGE TO THE STORMWATER CONVEYANCE SYSTEM.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT PRIOR TO ORDERING PROJECT MATERIALS, THAT THE MOST CURRENT SET OF CONSTRUCTION DOCUMENTS HAVE BEEN OBTAINED FROM THE PROJECT ENGINEER INCLUDING, BUT NOT LIMITED TO, THE PERMITTED SET(S) FROM ALL APPLICABLE AGENCIES AS APPROPRIATE. THE PROJECT ENGINEER ACCEPTS NO RESPONSIBILITY FOR IMPROPER ORDERING OF MATERIALS.
4. NO BURIAL PITS FOR WASTE DISPOSAL ARE ALLOWED ON THIS SITE. NO PORTION OF WASTE DISPOSAL AREA SHALL BE LOCATED WITHIN ONE HUNDRED (100) LINEAR FEET OF ANY PROPERTY LINE OR ENCLOSED STRUCTURE.
5. THE DEVELOPER AND/OR DEVELOPER'S CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION, SIZE AND MATERIAL OF ANY EXISTING WATER OR SEWER FACILITY PROPOSED FOR CONNECTION OR USE BY THIS PROJECT.
6. DISTURBANCE TO ANY SURVEY MARKERS OR MONUMENTS REQUIRES RE-ESTABLISHMENT BY A LICENSED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
7. IF IN THE COURSE OF CONSTRUCTION, A CONFLICT ARISES BETWEEN THE NEW WORK AND THE EXISTING WATER AND SEWER FACILITIES, IT WILL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER, AT HIS EXPENSE, TO CORRECT SAME AS DIRECTED BY A REPRESENTATIVE OF THE UTILITY OWNER.

FLOODPLAIN/WETLANDS/STATE WATERS:

1. WETLANDS SHOWN UPON THESE CONSTRUCTION DOCUMENTS (IF ANY) ARE UNDER THE JURISDICTION OF THE U.S. ARMY CORPS OF ENGINEERS. LOT OWNERS MAY BE SUBJECT BY LAW FOR DISTURBANCE TO THESE WETLANDS AREAS WITHOUT PROPER AUTHORIZATION.
2. THERE IS ESTABLISHED A 25 FOOT BUFFER ALONG THE BANKS OF ALL STATE WATERS, AS MEASURED HORIZONTALLY FROM THE POINT WHERE VEGETATION HAS BEEN WRESTED BY NORMAL STREAM FLOW OR WAVE ACTION. NO LAND DISTURBING 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. ONCE THE FINAL STABILIZATION OF THE SITE IS ACHIEVED, 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 STREAM BED; PROVIDED, HOWEVER, THAT ANY PERSON CONSTRUCTING A SINGLE FAMILY RESIDENCE, WHEN SUCH RESIDENCE IS CONSTRUCTED BY OR UNDER CONTRACT WITH THE OWNER FOR HIS OR HER OWN OCCUPANCY, MAY THIN OR TRIM VEGETATION IN A BUFFER AT ANY TIME AS LONG AS 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 STREAM.
3. THERE ARE NO LIVE STREAMS, WETLANDS, OR STATE WATERS LOCATED WITHIN THIS SITE, OR WITHIN 200 FEET OF THIS SITE.

UTILITY LOCATION:

1. CAUTION, UNDERGROUND SERVICE ALERT! THE CONTRACTOR SHALL TELEPHONE TOLL FREE 811 A MINIMUM OF 72 HOURS PRIOR TO THE START OF ANY EXCAVATION AS SHOWN AND NOTED ON THE APPROVED PLANS.
2. UNDERGROUND UTILITY LINE LOCATIONS (IF ANY) ARE APPROXIMATE ONLY, AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF ANY SUCH UTILITIES. THE CONTRACTOR SHALL VERIFY LOCATIONS OF WATER, SANITARY SEWER AND POWER. UTILITIES SHOWN ON PLANS ARE FOR THE CONTRACTORS CONVENIENCE ONLY. THE ENGINEER ASSUMES NO RESPONSIBILITY TO VERIFY ALL UTILITY LOCATIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL DAMAGES TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY EXISTING UTILITIES WILL EFFECT OR IMPEDE THE PROGRESSION OR COMPLETION OF THE DESIGN INTENT OF THESE CONSTRUCTION DOCUMENTS.
3. THE CONTRACTOR SHALL COORDINATE RELOCATION OF ANY EXISTING UTILITIES WITH THE APPROPRIATE UTILITY ENTITY PRIOR TO THE START OF ANY CONSTRUCTION.

STORMWATER:

1. PIPE IS TO BE INSTALLED PER GA. D.O.T. STD 1030D.
2. ALL DROP INLETS ARE TO BE PER GA. D.O.T. STD. 1019A.
3. ALL HEADWALLS ARE TO BE PER GA. D.O.T. STD 1125.
4. CURB INLETS ARE TO BE CONSTRUCTED PER GA DOT STD. 1019, TYPE B, WITH METAL HOOD.
5. ALL CATCH BASINS ARE TO BE CONSTRUCTED PER GA. D.O.T. STD. 1033D OR 1034D.
6. ALL FLARED END SECTIONS ARE TO BE PER GA. D.O.T. STD. 1120 CONCRETE.
7. ALL JUNCTION BOXES ARE TO BE PER GA. D.O.T. STD. OR OTHER ACCEPTABLE DESIGN MODIFIED WITH A METAL CLEAN OUT COVER.

STRIPING AND SIGNAGE:

1. WARNING DEVICES SHALL BE PLACED PRIOR TO THE COMMENCEMENT OF ANY ROAD IMPROVEMENT WORK ON COUNTY ROADS AND SHALL REMAIN IN PLACE UNTIL THE CONCLUSION OF ALL SIGNING AND STRIPING WORK.
2. ALL WARNING DEVICES SHALL BE EITHER TYPE I BARRICADES OR DRUMS WITH WARNING LIGHTS ON EVERY OTHER DEVICE, AND SHALL CONFORM WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR COLOR, SIZE, REFLECTIVITY, HEIGHT, AND PLACEMENT.
3. ALL SIGNS SHALL CONFORM WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS FOR COLOR, SIZE, REFLECTIVITY, HEIGHT, AND PLACEMENT.
4. STRIPING (WHITE AND YELLOW) AND ARROW MARKINGS ON PRIVATE PROPERTY SHALL BE APPLIED USING GEORGIA D.O.T. STANDARD PAINT. ALL STRIPING AND PAVEMENT MARKINGS WITHIN GDOT RIGHT-OF-WAY SHALL BE THERMOPLASTIC.
5. WHEN NECESSARY, EXISTING STRIPING SHALL BE REMOVED BY GRINDING, UNLESS SPECIFIED BY THE COUNTY TRAFFIC ENGINEER.
6. ALL SIGNS MUST BE INSTALLED CONCURRENTLY WITH THE PERFORMANCE OF THE STRIPING WORK.

UTILITIES NOTES:

1. ALL DESIGN AND CONSTRUCTION FOR WATER, SEWER, FIRE LINES, LIFT STATIONS AND BACKFLOW PREVENTION SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE LOCAL WATER AND SEWER AUTHORITY.
2. FIELD CHANGES DURING CONSTRUCTION MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE ENGINEER-OF-RECORD.
3. CONTRACTOR MUST NOTIFY WATER AND SEWER CONSTRUCTION INSPECTOR AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.

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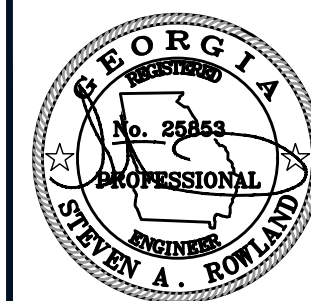


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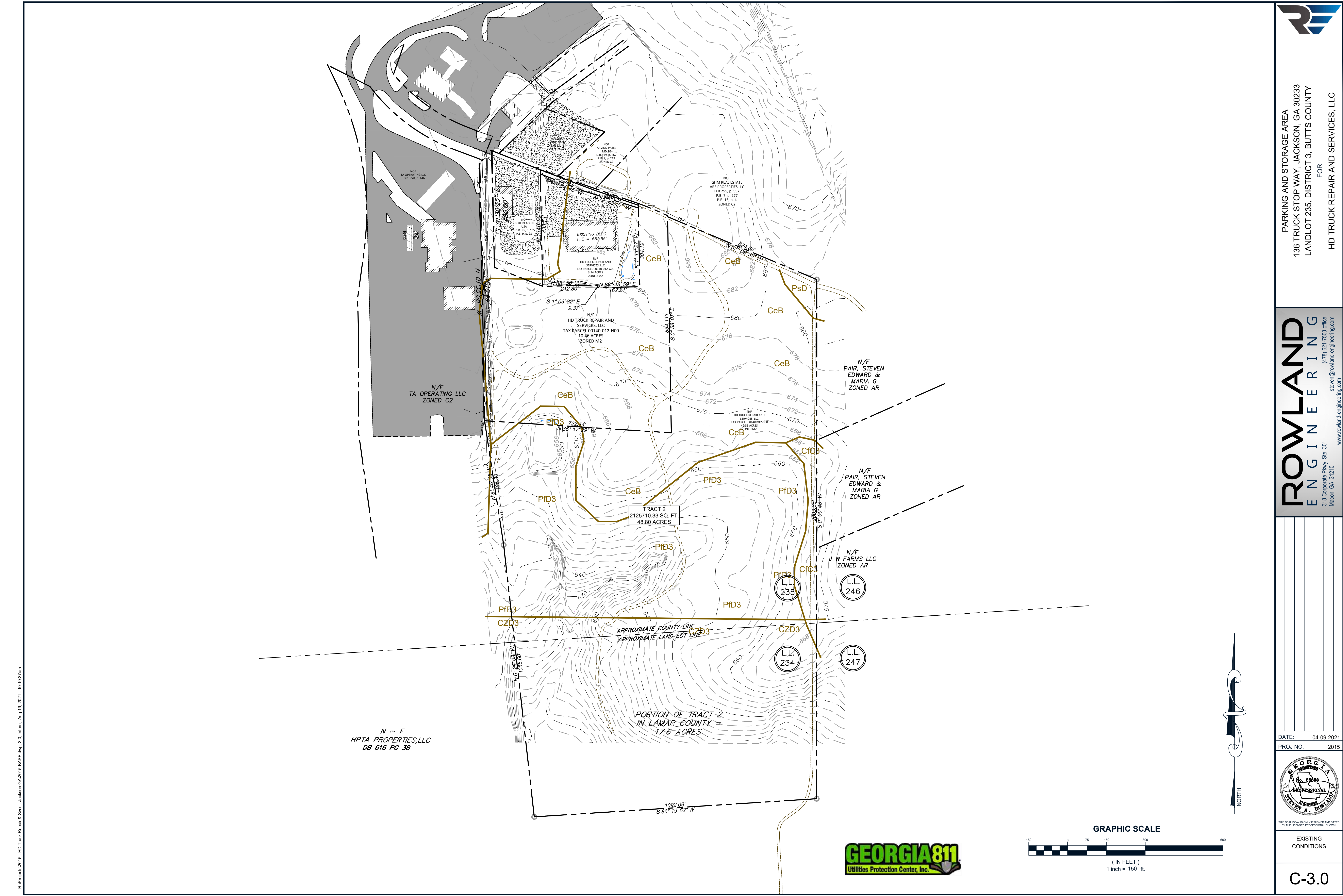


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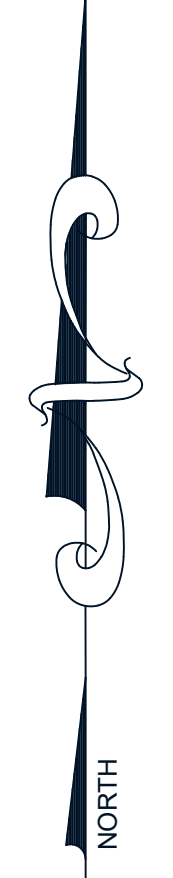
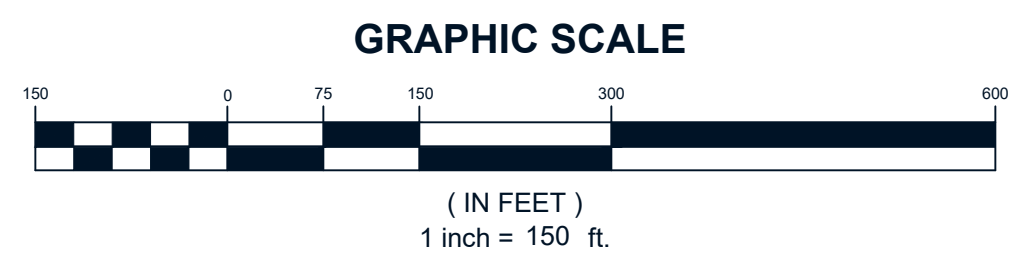
GENERAL NOTES

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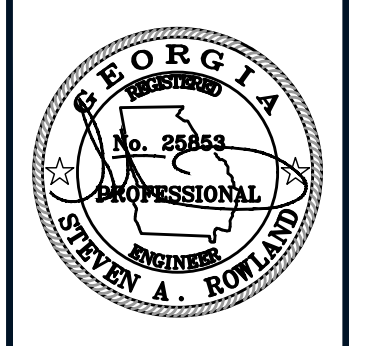
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HPTA PROPERTIES, LLC
DB 616 PG 38



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FOR
HD TRUCK REPAIR AND SERVICES, LLC

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DATE: 04-09-2021
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EXISTING
CONDITIONS

C-3.0

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I. AUTHORIZATION

1. Any person desiring coverage under this permit must submit a Notice of Intent (NOI) to the EPD and the NOI must be received by the EPD in accordance with the requirements of Part II, using the electronic submittal service provided by the EPD, in order for stormwater discharges from construction sites to be authorized.

2. Unless notified by the Director to the contrary, a permittee who submits an NOI in accordance with the requirements of this permit is authorized to discharge stormwater from construction sites under the terms and conditions of this permit fourteen (14) days after the date that the NOI is submitted and confirmation of submittal is received. The Director may deny coverage under this permit and require submittal of an application for an individual NPDES permit or alternative general NPDES permit based on a review of the NOI or other information. Should the Director deny coverage under this permit, coverage under this permit is authorized until the date specified in the notice of denial by the Director.

3. Where a new permittee is to begin work on-site after an NOI for the facility/construction site has been submitted, that new permittee must submit a new NOI in accordance with Part II.

II. EROSION, SEDIMENT AND POLLUTION CONTROL PLAN

This plan shall include, as a minimum, Best Management Practices, including sound conservation and engineering practices to prevent & minimize erosion & resultant sedimentation, which are consistent with those practices contained in the "Manual for Erosion & Sediment Control in Georgia" (current year edition), published by the Georgia Soil & Water Conservation Commission (706-542-3065) as well as the following:

- Stripping of vegetation, regrading, and other developmental activities shall be conducted in such a manner so as to minimize erosion, maintain the original vegetative cover, and disturb only that part of the site absolutely necessary at the time.
- Cut and fill operations shall be kept to a minimum.
- Development plans must conform to topography and soil type, so as to create the lowest practicable erosion potential.
- Whenever feasible, natural vegetation shall be retained, protected & supplemented, including protection of trees and preservation of mature vegetation.
- The disturbed area and the duration of exposure to erosive elements shall be kept to a practicable minimum.
- Disturbed soil shall be stabilized as quickly as practicable. Stabilization measures shall be initiated no more than 7 days after the construction activity has temporarily or permanently ceased, except when precluded by snow cover or other adverse weather conditions, when precluded by snow cover or other adverse weather conditions, then stabilization measures shall be initiated as soon as practicable.
- Temporary seeding or mulching shall be employed to protect exposed critical areas during development. Other measures may include geotextiles, sod stabilization, vegetative buffer strips, filter strips; protection of trees, permanent seeding, and preservation of mature vegetation.
- Permanent vegetation & structural erosion control measures shall be installed as soon as practicable. Structural practices may include silt fences; earth berms; drainage swales lined with grass, stone or timbers; pipe slope drains; level flow spreaders; storm drain inlet protection & storm drain outlet rock protection.
- Mulch - Use dry straw or dry hay of good quality and free of weed seeds. Dry straw will be applied at the rate of 2 tons per acre. dry hay will be applied at the rate of 2-1/2 tons per acre.
- Grass - Shoulder to have permanent grassing hulled bermuda or fescue.
- To the extent necessary, sediment in run-off water shall be trapped by the use of debris basins, silt traps, sediment traps, check dams, reinforced soil retaining systems, gabions or similar measures until the disturbed area is stabilized.
- Adequate provisions shall be provided to minimize damage from surface water to the cut face of excavations or the sloping surfaces of fills. Sediment basins, sediment traps, silt fences, or equivalent sediment controls are required for all side slope and down slope boundaries.
- Cuts and fills shall not endanger adjoining property.
- Fills shall not encroach upon natural water courses or constructed channels in a manner so as to adversely affect other property owners.
- Grading equipment shall 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.
- 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 the permit.

III. ACTIVITIES WITHIN STREAM BUFFERS

- Except as provided in (#2) below, no construction activities shall be conducted within a 25 ft 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.
- 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 stream."
- Except as provided above, for buffers required pursuant to (#1 and #2), 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. Between the time final stabilization of the site is achieved and upon the submittal of a notice of termination, 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 stream bed. (E&S CHECKLIST #s 15 & 17)
- No solid materials, including building materials, shall be discharged to waters of the state, except as authorized by a section 404 permit.
- Off-site vehicle tracking of dirt, soils, and sediments and the generation of dust shall be eliminated or minimized to the maximum extent practical. A best management practice for this is the use of a construction exit, being a stone stabilized pad located at any point where traffic will be leaving a construction site to a public right-of-way. Geotextile underliners are required to stabilize and support the pad aggregates. The stone aggregate size is 1.5 to 3.5 inches and is to be a minimum pad thickness of 6 inches. Pad width should not be less than 20 feet and should be of sufficient length to perform the function of removing sediment, but no less than 50 feet. Wheels must be cleaned to remove mud prior to entrance onto public rights-of-way.

IV. WASTE PICKUP AND DISPOSAL (E&S CHECKLIST #18)

Waste materials shall not be discharged to waters of the State, except as authorized by a section 404 permit

Worksite Housekeeping

Maintain good housekeeping practices at the project jobsite and equipment/material storage locations. Regularly pick up and dispose of waste, and recyclables. Waste Pickup and Disposal

Hazardous Wastes

All hazardous waste materials will be disposed of in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. The job site superintendent, who will also be responsible for seeing that these practices are followed, will instruct site personnel in these practices. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is sorted and/or used and another copy of each MSDS will be maintained in the ESPCC file at the jobsite construction trailer office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques. The contractor will implement the Spill Prevention Control and Countermeasures (SPCC) Plan found within this ESPCC and will train all personnel in the proper clean up and handling of spilled materials. No spilled hazardous materials or hazardous wastes will be allowed to come in contact with stormwater discharges. If such contact occurs, the stormwater discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated stormwater. It shall be the responsibility of the job site superintendent to properly train all personnel in the use of the SPCC plan.

IV. WASTE PICKUP AND DISPOSAL (cont.) (E&S CHECKLIST #s 29 & 31)

Sanitary Wastes

A minimum of one portable sanitary unit will be provided for every ten (10) workers on the site. All sanitary waste will be collected from the portable units a minimum of one time per week by a licensed portable facility provider in complete compliance with local and state regulations. All sanitary waste units will be located in an area where the likelihood of the unit contributing to stormwater discharge is negligible. Additional containment BMPs must be implemented, such as gravel bags or specially designed plastic skid contributing to stormwater discharges. The location of sanitary waste units must be identified on the Erosion Control Plan.

V. SPILL PREVENTION AND LEAKS (E&S CHECKLIST # 24, 25, 26)

Spill cleanup and Control Practices

- Local, State and manufacturer's recommended methods for spill cleanup will be clearly posted and procedures will be made available to site personnel.
- Material and equipment necessary for spill cleanup will be kept in the material storage areas. Typical materials and equipment includes, but is not limited to, brooms, dustpans, mops, rags, gloves, goggles, cat litter, sand, sawdust and properly labeled plastic and metal waste containers.
- Spill prevention practices and procedures will be reviewed after a spill and adjusted as necessary to prevent future spills.
- All spills will be cleaned up immediately upon discovery. All spills will be reported as required by local, State and Federal regulations.
- FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1 - 800 - 424 - 8802 or 1 - 202 - 426 - 2675.
- FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1 - 800 - 424 - 8802 or 1 - 202 - 426 - 2675.
- FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS OCCUR, THE GEORGIA E.P.D. WILL BE CONTACTED WITHIN 24 HOURS.
- FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS OCCUR, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED.

The contractor shall notify the licensed professional who prepared this Plan if more than 1320 gallons of petroleum is stored onsite (this includes capacities of equipment) or if anyone piece of equipment has a capacity greater than 660 gallons. The contractor will need a Spill Prevention Containment and countermeasures Plan prepared by that licensed professional. (NOTE: CONTACT NUMBERS HAVE CHANGED. HIGHLIGHTED BOLD CONTACT NUMBERS ARE CORRECT)

VI. INSPECTIONS: (E&S CHECKLIST ITEM #28)

- Permittee requirements.
 - Each day when any type of construction activity has taken place at a primary permittee's site, certified personnel provided by the primary permittee shall inspect (a) all areas at the primary permittee's site where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment and (b) all locations at the primary permittee's site where vehicles enter or exit the site for evidence of off-site sediment tracking. These inspections must be conducted until a Notice of Termination is submitted.
 - Measure and record rainfall within disturbed areas of the site that have not met final stabilization once every 24 hours except any non-working Saturday, non-working Sunday and non-working Federal holiday. The data collected for the purpose of compliance with this permit shall be representative of the monitored activity. Measurement of rainfall may be suspended if all areas of the site have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region.
 - 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.
 - Certified personnel (provided by the primary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination has been submitted) the areas of the site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region. These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving water(s). Erosion and sediment control measures identified in the Plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s).
 - Based on the results of each inspection, the site description and the pollution prevention and control measures identified in the Erosion, Sedimentation and Pollution Control Plan, the Plan shall be revised as appropriate not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection.
 - A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial, intermediate or final), major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance with Part IV.D.4.a.(5) of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction site that has been phased has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall be readily available by end of the second business day and/or working day and shall identify all incidents of best management practices that have not been properly installed and/or maintained as described in the Plan. Where the report does not identify any incidents, the inspection report shall contain a certification that the best management practices are in compliance with the Erosion, Sedimentation and Pollution Control Plan. The report shall be signed in accordance with Part V.G.2. of this permit.

VII. STORM WATER SAMPLING: (E&S CHECKLIST #s 29 & 31)

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 disturbed in association with the construction of single-family homes which are not part of a subdivision or planned common development unless five (5) acres or more will be disturbed. The following procedures constitute EPD's guidelines for sampling turbidity.

- Sampling Requirements shall include the following:
 - A USGS topographic map, a topographic map or a drawing (referred to as a topographic map) that is a scale equal to or more detailed than a 1:24000 map showing the location of the site or the stand alone construction; (a) the location of all perennial and intermittent streams and other water bodies 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 location of the receiving water(s) or outfall sampling locations. When the permittee has chosen to use a USGS topographic map and the receiving water(s) is not shown on the USGS topographic map, the location of the receiving water(s) must be hand-drawn on the USGS topographic map from where the stormwater(s) enters the receiving water(s) to the point where the receiving water(s) combines with the first blue line stream shown on the USGS topographic map;
 - A written narrative of site specific analytical methods used to collect, handle and analyze the samples including quality control/quality assurance procedures. This narrative must include precise sampling methodology for each sampling location;
 - When the 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
 - 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.
- Sample Type.

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

 - Sample containers should be labeled prior to collecting the samples.
 - Samples should be well mixed before transferring to a secondary container.

VIII. REPORTING (E&S CHECKLIST ITEM #28)

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

VII. STORM WATER SAMPLING (cont.): (E&S CHECKLIST #s 29 & 31)

- 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. should be cleaned thoroughly to avoid contamination.
- Manual, automatic or rising stage sampling may be utilized. Samples required by this permit should be analyzed immediately, but in no case later than the next business day after their accumulation, unless flow through automated analysis is utilized. If automatic sampling is utilized and the automatic sampler is not activated during the qualifying event, the permittee must utilize manual sampling or rising stage sampling during the next qualifying event. Dilution of samples is not required. Samples may be analyzed directly with a properly calibrated turbidimeter. Samples are not required to be cooled.
- Sampling and analysis of the receiving water(s) or outfalls beyond the minimum frequency stated in this permit must be reported to EPD as specified in Part IV.E.

c. Sampling Points.

- For construction activities the primary permittee must sample all receiving water(s), or all outfall(s), or a combination of receiving water(s) and outfall(s). Samples taken for the purpose of compliance with this permit shall be representative of the monitored activity and representative of the water quality of the receiving water(s) and/or the stormwater outfalls using the following minimum guidelines:
 - The upstream sample for each receiving water(s) must be taken immediately upstream of the confluence of the first stormwater discharge from the permitted activity (i.e., the discharge farthest upstream at the site) but downstream of any other stormwater discharges not associated with the permitted activity. Where appropriate, several upstream samples from across the receiving water(s) may be taken and the arithmetic average of the turbidity of these samples used for the upstream turbidity value.
 - The downstream sample for each receiving water(s) must be taken downstream of the confluence of the last stormwater discharge from the permitted activity (i.e., the discharge farthest downstream at the site) but upstream of any other stormwater discharge not associated with the permitted activity. Where appropriate, several downstream samples from across the receiving water(s) may be taken and the arithmetic average of the turbidity of these samples used for the downstream turbidity value.
 - Ideally the samples should be taken from the horizontal and vertical center of the receiving water(s) or the stormwater outfall channel(s).
 - Care should be taken to avoid stirring the bottom sediments in the receiving water(s) or in the outfall stormwater channel.
 - The sampling container should be held so that the opening faces upstream.
 - The samples should be kept free from floating debris.
 - 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 planted landscaped areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and a seeding of target crop perennials appropriate for the region).
 - All sampling pursuant to this permit must be done in such a way (including generally accepted sampling methods, locations, timing, and frequency) as to accurately reflect whether stormwater runoff from the construction site is in compliance with the standard set forth in Parts III.D.3. or III.D.4., whichever is applicable.
- Sampling Frequency.
 - The primary permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the permittee shall sample at the beginning of any stormwater discharge to a monitored receiving water and/or from a monitored outfall location within in forty-five (45) minutes or as soon as possible.
 - However, where manual and automatic sampling are impossible (as defined in this permit), or are beyond the permittee's control, the permittee shall take samples as soon as possible, but in no case more than twelve (12) hours after the beginning of the stormwater discharge.
 - Sampling by the permittee shall occur for the following qualifying events:
 - For each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a stormwater discharge that occurs during normal business hours as defined in this permit after all clearing and grubbing operations have been completed, but prior to completion of mass grading operations, in the drainage area of the location selected as the sampling location.
 - In addition to (a) above, for each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a stormwater discharge that occurs during normal business hours as defined in this permit either 90 days after the first sampling event or after all mass grading operations have been completed, but prior to submittal of a NOT, in the drainage area of the location selected as the sampling location, whichever comes first.
 - At the time of sampling performed pursuant to (a) and (b) above, if BMPs in any area of the site that discharges to a receiving water or from an outfall are not properly designed, installed and maintained, corrective action shall be defined and implemented within two (2) business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours* until the selected turbidity standard is attained, or until post-storm event inspections determine that BMPs are properly designed, installed and maintained.
 - 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
 - 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 an rain event that reaches or exceeds 0.5 inch and allows for sampling at any time of the day or week.

IX. USGS QUADRANGLE MAP (CHECKLIST ITEM #11)

The map shows a topographic view of an area in Butts County, Georgia. A red line labeled 'PROJECT SITE' runs diagonally from the top left towards the bottom right. Several blue lines represent 'RECEIVING WATERS' and 'STREAMS'. The map includes contour lines, a road network, and various landmarks. The title of the map is 'BUTTS CO. GEORGIA'.

X. EROSION CONTROL / NPDES CERTIFICATION STATEMENTS (E&S CHECKLIST #s 12,13, 14, 15, 16)

I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the Georgia Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, provides for the sampling of the receiving water(s) or the sampling of the 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.

I certify under penalty of law that this Plan was prepared after a site visit to the locations described herein by myself or my authorized agent, under my supervision.

The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMP's within 7 days after installation.

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.

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.

GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION # 155 DATE 04-09-2021

XI. ACTIVITY SCHEDULE (E&S CHECKLIST # 29)

ACTIVITY	MONTH											
	1	2	3	4								
PROJECT START												
INSTALL INITIAL BMP'S		█										
CLEARING & GRUBBING		█	█									
GRADING			█									
INSTALL STORM DRAINAGE			█									
TEMPORARY GRASSING				█								
PAVING/BASE					█							
PERMANENT VEGETATION *						█						
MAINTENANCE OF EROSION CONTROL MEASURES							█					
REMOVE TEMPORARY STRUCTURES **								█				
PROJECT END												

* IF PERMANENT VEGETATION FALL IN A PERIOD OF TIME WHEN PERMANENT GRASSING IS NOT ALLOWED, THE SITE SHALL BE PERMANENTLY GRASSED AT THE BEGINNING OF THE NEXT GRASSING SEASON.
** TEMPORARY EROSION CONTROL STRUCTURES SHALL BE REMOVED AFTER PERMANENT GRASS HAS BEEN ESTABLISHED.

XII. RETENTION OF RECORDS (E&S CHECKLIST ITEM #30)

- 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 copy of all Notices of Intent submitted to EPD;
 - A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit;
 - The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5. of this permit;
 - A copy of all sampling information, results, and reports required by this permit;
 - A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit;
 - A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit; and
 - Daily rainfall information collected in accordance with Part IV.D.4.a.(2), of this permit.
- 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 or at a designated alternative location once the construction activity has ceased at the permitted site. This period may be extended by request of the EPD at any time upon written notification to the permittee.

XIII. WASHDOWN AREAS (E&S CHECKLIST # 23)

- The discharge of washdown water into stormdrains, streams, rivers, etc. is strictly prohibited.
- Contractor shall coordinate with site superintendent to excavate a pit deep enough to contain the washdown water.
- Washdown only tools, concrete mixer chutes, hoppers, and rear of the vehicle. DO NOT wash out the drum.
- Contractor shall insure washdown water goes into and stays in the pit. NEVER allow washdown water to enter a storm drain.
- Pit shall be backfilled and smoothed out to proposed grade.
- If a pit is not accessible, contractor shall washdown into a wheelbarrow or container and carry to a disposal site.

(CHECKLIST ITEM #2)
STEVEN A. ROWLAND, P.E. (GA PE# 25853)
GA LEVEL II CERTIFIED DESIGN PROFESSIONAL
CERTIFICATION NO. 155 EXPIRES: 07/16/2022

XIV. DESCRIPTION OF RECEIVING WATERS (CHECKLIST ITEM #7, 11)

THE RECEIVING WATERS FOR THIS SITE IS BRUSHY CREEK.

XV. CRITICAL ADJACENT AREAS (E&S CHECKLIST # 11)

NO RESIDENTIAL AREAS, LAKES, WETLANDS, OR STREAMS WILL BE AFFECTED BY THE PROPOSED DEVELOPMENT NOR ARE ANY ADVERSE IMPACTS EXPECTED DUE TO THE PROPOSED DEVELOPMENT.

XVI. APPENDIX B RATIONALE (E&S CHECKLIST # 32)

Surface Water Drainage Area, square miles								
Site Size Acres	0- 4.99	5- 9.99	10- 24.99	25- 49.99	50- 99.99	100- 249.99	250- 499.99	500+
1.0-10	75	150	200	400	750	750	750	750
10.01-25	50	100	100	200	300	500	750	750
25.01-50	50	50	100	100	200	300	750	750
50.01-100	50	50	50	100	100	150	300	600
100.01+	50	50	50	50	50	100	200	100

X. EROSION CONTROL / NPDES CERTIFICATION STATEMENTS (E&S CHECKLIST #s 12,13, 14, 15, 16)

I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the Georgia Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, provides for the sampling of the receiving water(s) or the sampling of the 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.

I certify under penalty of law that this Plan was prepared after a site visit to the locations described herein by myself or my authorized agent, under my supervision.

The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMP's within 7 days after installation.

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.

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.

GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION # 155 DATE 04-09-2021

XI. ACTIVITY SCHEDULE (E&S CHECKLIST # 29)

ACTIVITY	MONTH											
	1	2	3	4								
PROJECT START												
INSTALL INITIAL BMP'S		█										
CLEARING & GRUBBING		█	█									
GRADING			█									
INSTALL STORM DRAINAGE			█									
TEMPORARY GRASSING				█								
PAVING/BASE					█							
PERMANENT VEGETATION *						█						
MAINTENANCE OF EROSION CONTROL MEASURES							█					
REMOVE TEMPORARY STRUCTURES **								█				
PROJECT END												

* IF PERMANENT VEGETATION FALL IN A PERIOD OF TIME WHEN PERMANENT GRASSING IS NOT ALLOWED, THE SITE SHALL BE PERMANENTLY GRASSED AT THE BEGINNING OF THE NEXT GRASSING SEASON.
** TEMPORARY EROSION CONTROL STRUCTURES SHALL BE REMOVED AFTER PERMANENT GRASS HAS BEEN ESTABLISHED.

XII. RETENTION OF RECORDS (E&S CHECKLIST ITEM #30)

- 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 copy of all Notices of Intent submitted to EPD;
 - A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit;
 - The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5. of this permit;
 - A copy of all sampling information, results, and reports required by this permit;
 - A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit;
 - A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit; and
 - Daily rainfall information collected in accordance with Part IV.D.4.a.(2), of this permit.
- 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 or at a designated alternative location once the construction activity has ceased at the permitted site. This period may be extended by request of the EPD at any time upon written notification to the permittee.

XIII. WASHDOWN AREAS (E&S CHECKLIST # 23)

- The discharge of washdown water into stormdrains, streams, rivers, etc. is strictly prohibited.
- Contractor shall coordinate with site superintendent to excavate a pit deep enough to contain the washdown water.
- Washdown only tools, concrete mixer chutes, hoppers, and rear of the vehicle. DO NOT wash out the drum.
- Contractor shall insure washdown water goes into and stays in the pit. NEVER allow washdown water to enter a storm drain.
- Pit shall be backfilled and smoothed out to proposed grade.
- If a pit is not accessible, contractor shall washdown into a wheelbarrow or container and carry to a disposal site.

(CHECKLIST ITEM #2)
STEVEN A. ROWLAND, P.E. (GA PE# 25853)
GA LEVEL II CERTIFIED DESIGN PROFESSIONAL
CERTIFICATION NO. 155 EXPIRES: 07/16/2022

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THE RECEIVING WATERS FOR THIS SITE IS BRUSHY CREEK.

XV. CRITICAL ADJACENT AREAS (E&S CHECKLIST # 11)

NO RESIDENTIAL AREAS, LAKES, WETLANDS, OR STREAMS WILL BE AFFECTED BY THE PROPOSED DEVELOPMENT NOR ARE ANY ADVERSE IMPACTS EXPECTED DUE TO THE PROPOSED DEVELOPMENT.

XVI. APPENDIX B RATIONALE (E&S CHECKLIST # 32)

Surface Water Drainage Area, square miles								
Site Size Acres	0- 4.99	5- 9.99	10- 24.99	25- 49.99	50- 99.99	100- 249.99	250- 499.99	500+
1.0-10	75	150	200	400	750	750	750	750
10.01-25	50	100	100	200	300	500	750	750
25.01-50	50	50	100	100	200	300	750	750
50.01-100	50	50	50	100	100	150	300	600
100.01+	50	50	50	50	50	100	200	100

(CHECKLIST ITEM #1)

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

Table with columns for Plan, Included, Y/N, and Description. Includes project name: HD TRUCK REPAIR PARKING AND STORAGE ARE, address: 136 TRUCKSTOP WAY, JACKSON GA 30233, and date on plans: 04-09-2021.

Table with columns for Code, Y/N, and Description. Contains items 30 through 52, detailing requirements for inspections, sampling, retention of records, and various erosion control practices.

Effective January 1, 2021

UNIFORM CODING SYSTEM

FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES

STRUCTURAL PRACTICES

Table of structural practices with columns: CODE, PRACTICE, DETAIL, MAP SYMBOL, DESCRIPTION. Includes practices like Check Dam, Channel Stabilization, Construction Exit, etc.

STRUCTURAL PRACTICES

Table of structural practices with columns: CODE, PRACTICE, DETAIL, MAP SYMBOL, DESCRIPTION. Includes practices like Temporary Stream Crossing, Storm Drain Outlet Protection, Surface Roughening, etc.

VEGETATIVE PRACTICES

Table of vegetative practices with columns: CODE, PRACTICE, DETAIL, MAP SYMBOL, DESCRIPTION. Includes practices like Buffer Zone, Coastal Dune Stable Erosion, Disturbed Area Stabilization, etc.

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PARKING AND STORAGE AREA
136 TRUCK STOP WAY, JACKSON, GA 30233
LANDLOT 235, DISTRICT 3, BUTTS COUNTY
FOR
HD TRUCK REPAIR AND SERVICES, LLC

ROWLAND
ENGINEERING
316 Corporate Pkwy, Ste. 301
Macon, GA 31210
stevenc@rowland-engineering.com
(478) 621-7500 office

DATE: 04-09-2021
PROJ NO: 2015



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ESPCP NOTES
PAGE 2 OF 2

(CHECKLIST ITEM #2)
STEVEN A. ROWLAND, P.E. (GA PE# 25853)
GA LEVEL II CERTIFIED DESIGN PROFESSIONAL
CERTIFICATION NO. 155 EXPIRES: 07/16/2022

C-4.1

CONSTRUCTION SEQUENCE:

- SUBMIT NOTICE OF INTENT ALONG WITH PERTINENT FEES AT LEAST 14 DAYS PRIOR TO COMMENCING CONSTRUCTION.
- INSTALL CONSTRUCTION ENTRANCE(S) AND INITIAL PERIMETER BMP'S (SILT FENCES, MULCH BERMS, TREE SAVE FENCES, AND TEMPORARY SEDIMENT BASINS, IF REQUIRED). IF CLEARING AND GRUBBING IS REQUIRED FOR SEDIMENT BASIN CONSTRUCTION, CLEAR AND GRUB ONLY THE AREA NEEDED TO CONSTRUCT THE BASIN. CONTACT THE DESIGN ENGINEER TO PERFORM AN INSPECTION OF THE INITIAL BMP'S WITHIN 7 DAYS OF THE BMP INSTALLATION.
- PERFORM DEMOLITION OF EXISTING STRUCTURES AND PARKING AREAS. STRIP AND STOCKPILE TOPSOIL WITHIN THE PROPOSED TOPSOIL STOCKPILE LOCATION.
- PERFORM ROUGH GRADING.
- INSTALL STORM DRAINAGE SYSTEM AND INLET PROTECTION SIMULTANEOUSLY.
- INSTALL UNDERGROUND UTILITIES, IF ANY.
- PERFORM FINE GRADING, PAVING, LANDSCAPE INSTALLATION, ETC.
- PERFORM FINAL STABILIZATION, INCLUDING THE REMOVAL AND STABILIZATION OF TEMPORARY SEDIMENT BASINS.
- REMOVE TEMPORARY BMP'S ONCE THE SITE IS PERMANENTLY STABILIZED.
- SUBMIT NOTICE OF TERMINATION.

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.

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

EROSION CONTROL AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

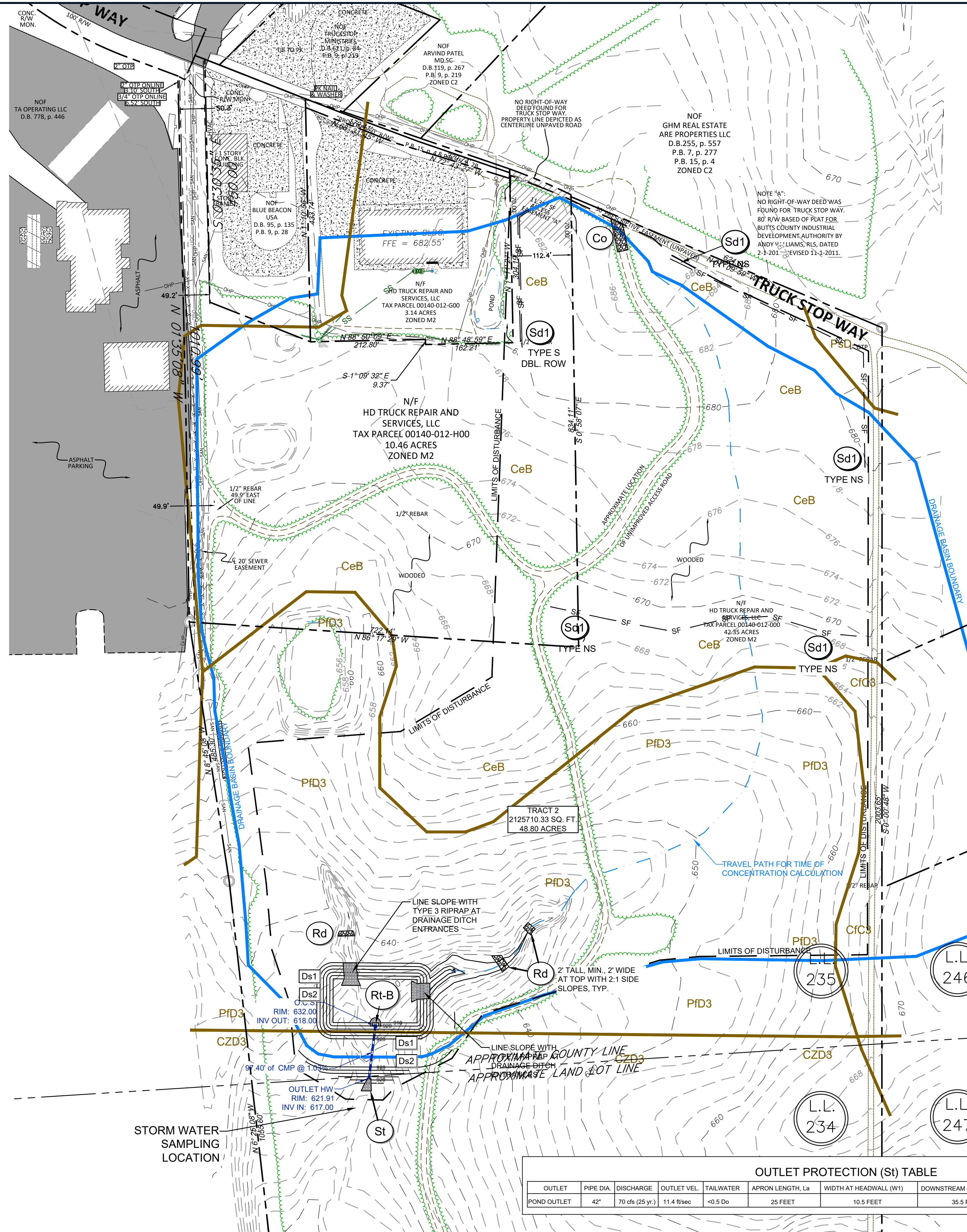
THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND-DISTURBING ACTIVITIES.

THERE ARE NO LIVE STREAMS, WETLANDS, OR STATE WATERS LOCATED WITHIN THIS SITE, OR WITHIN 200 FEET OF THIS SITE.

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

Retrofitting Storage Calculations

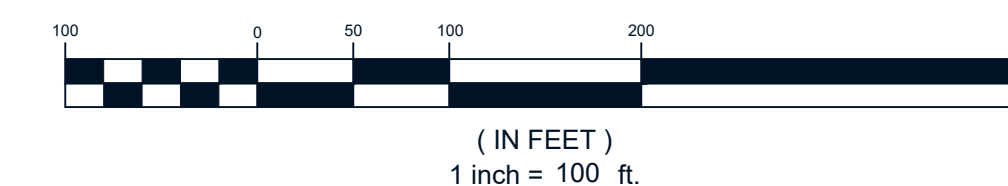
- Required stormwater storage = 8,318 cy (as determined by local ordinance)
- Required sediment storage = 1,809 cy (67 cy/ac * 27 acres disturbed area)
- Total required storage = 8,318 + 1,809 = 10,127 cy
- Available storage = 10,704 cy
- Is the available storage (4) greater than the total required storage (3)? YES
- If "no", the sediment storage capacity of the pond must be increased. Choose the method to be used:
 - ___ Raise the invert of the outlet structure inches
 - ___ Undercut the pond feet
 - ___ Other
- Clean-out elevation = .619 ft (Elevation corresponding to 22 cy/ac * 27 acres disturbed area)
- Is the length-width ratio 2:1 or greater? YES
- If "no", the length of flow must be increased. Choose the method to be used:
 - ___ Baffles (Type of baffle:)
 - ___ Other
- Note the CMP diameter and height if "P" retrofit is to be used.
 - Diameter = NA inches NA feet
 - (This is a slotted board dam retrofit, due to the drainage area being greater than 30 acres)



SOILS LEGEND

Map Unit Symbol	Map Unit Name
CeB	Cecil sandy loam, 2 to 6 percent slopes
Cfc3	Cecil sandy clay loam, 6 to 10 percent slopes, severely eroded
CuC	Cecil-Urban land complex, 2 to 10 percent slopes
Pfd3	Pacolet sandy clay loam, 6 to 15 percent slopes, severely eroded
Psd	Pacolet-Saw complex, 6 to 15 percent slopes, stony
CYC2	Cecil sandy loam, 6 to 10 percent slopes, moderately eroded
CZD3	Cecil sandy clay loam, 6 to 15 percent slopes, severely eroded

GRAPHIC SCALE



OUTLET PROTECTION (St) TABLE

OUTLET	PIPE DIA.	DISCHARGE	OUTLET VEL.	TAILWATER	APRON LENGTH, La	WIDTH AT HEADWALL (W1)	DOWNSTREAM WIDTH (W2)	AVG. STONE DIA. (#50)	DEPTH
POND OUTLET	42"	70 cfs (25 yr.)	11.4 ft/sec	<0.5 Do	25 FEET	10.5 FEET	35.5 FEET	1.0 FT.	2.25 FT.

FOR EROSION CONTROL UNIFORM CODING SYSTEM LEGEND, SEE SHEET C-4.1

STEVEN A. ROWLAND, P.E. (GA PE# 25853)
GA LEVEL II CERTIFIED DESIGN PROFESSIONAL
CERTIFICATION NO. 155 EXPIRES: 07/18/2022



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DATE: 04-09-2021

PROJ NO: 2015



INITIAL
ESPCP

C-4.2



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DRAINAGE BASIN SUMMARY

BASIN A:
AREA = 28 ACRES
CN (PRE) = 60 Q25 = 56.5 cfs
CN (POST) = 85 Q25 = 164.7 cfs

(E&S CHECKLIST ITEM #26)

THE FOLLOWING MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED:

- ALL IMPERVIOUS SURFACES WILL BE SURROUNDED BY GRASS AND/OR PERMANENT VEGETATION, WHICH WILL ACT AS A FILTER TO STORMWATER RUNOFF.
- VEGETATIVE BUFFERS OF 100 FEET WILL BE MAINTAINED ALONG LIVE STREAMS AND STATE WATERS.
- DRAINAGE SWALES ALONG ROADWAYS WILL BE VEGETATED TO PROVIDE STORMWATER FILTERING OF RUNOFF.
- STORMWATER DETENTION PONDS WILL FILTER SEDIMENT AND OTHER POLLUTANTS BEFORE RUNOFF IS DISCHARGED FROM THE SITE.

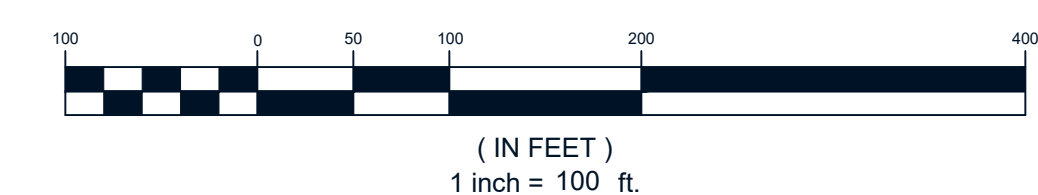
SEDIMENT STORAGE CALCULATIONS

(STORAGE VOLUMES ARE DOUBLED DUE TO DOWNSTREAM IMPAIRED STREAM SEGMENT)

1. Drainage area = 5.0 ac
2. Required sediment storage = 134 cubic ft drainage area
3. Required sediment storage = 670 cu y = 18,000 cu ft
4. Sediment Basin Storage Volume at a depth of 2 feet = 25,000 cu ft

Therefore, adequate storage is provided with 2 feet of freeboard provided above the storage volume requirement.

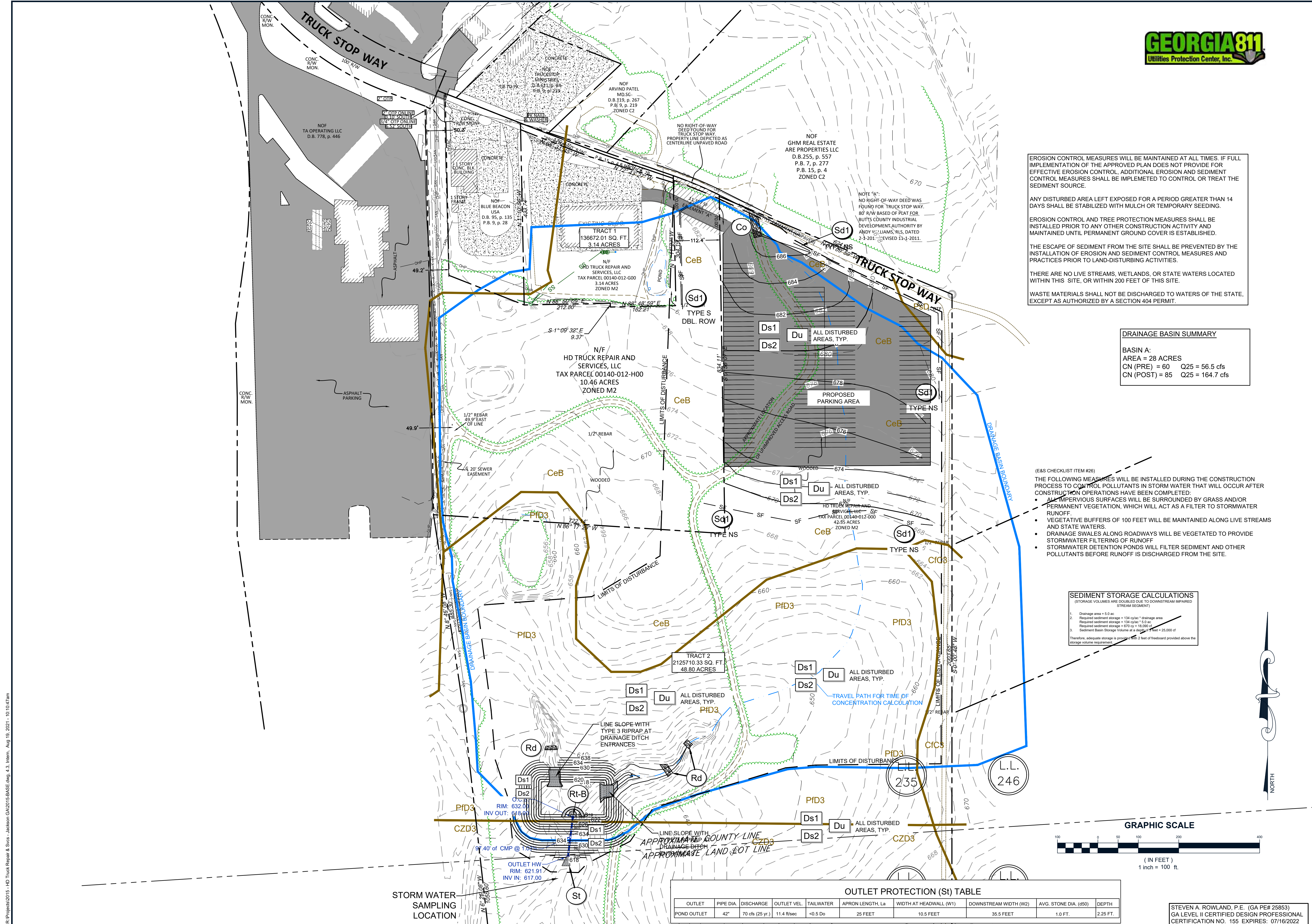
GRAPHIC SCALE



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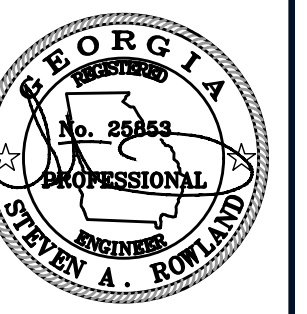




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DATE: 04-09-2021
 PROJ NO: 2015



FINAL
 ESPCP

C-4.4

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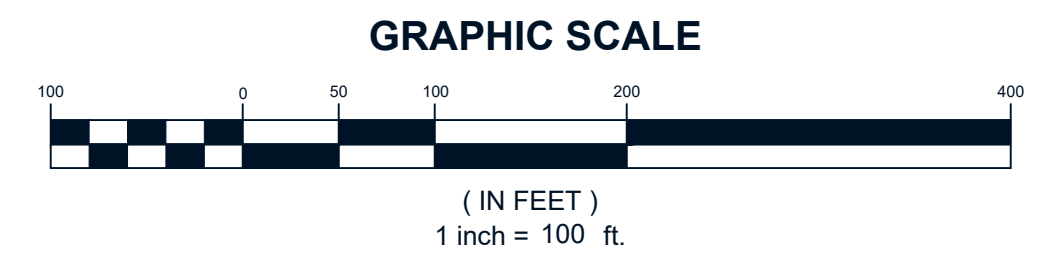
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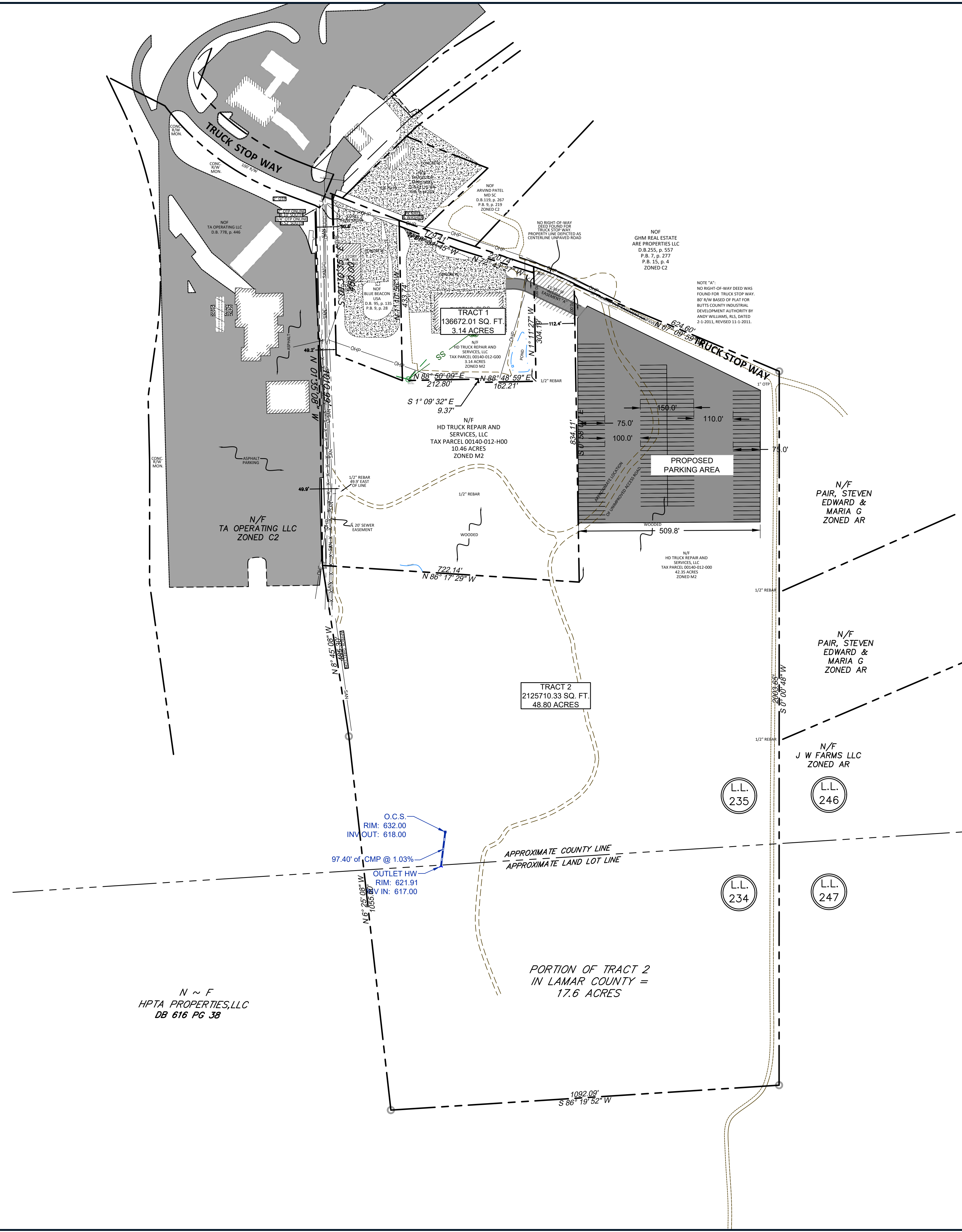
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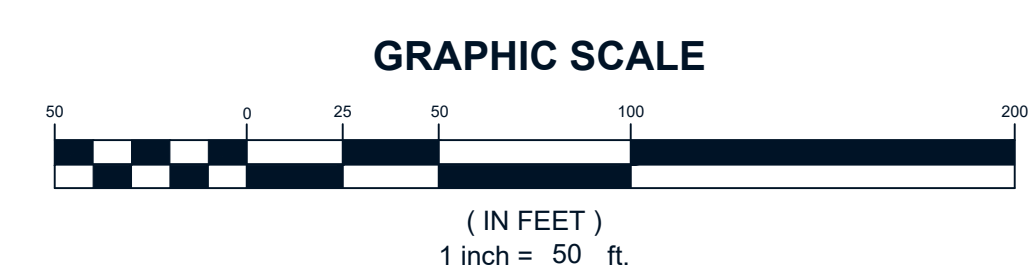
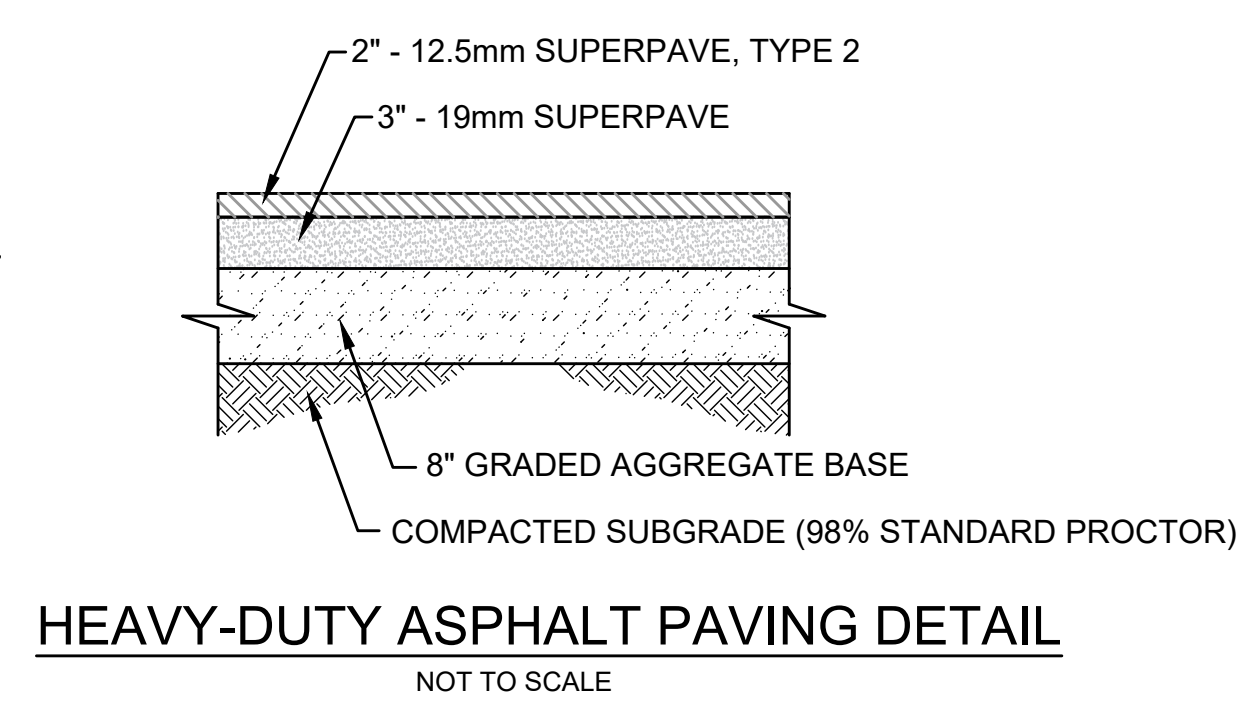
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LEGEND

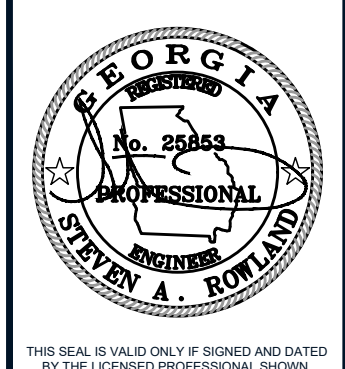
	EXISTING	PROPOSED
CONTOUR LINE	-45.3	155
SANITARY SEWER LINE	SS	SS
SS MANHOLE	SS	SS
SS CLEANOUT	SS	SS
STORM DRAIN LINE	SD	SD
STORM DRAINAGE INLETS	SD	SD
WATER LINE	W	W
WOODS LINE	W	W
FENCE LINE	F	F
WATER VALVE	WV	WV
WATER METER	WM	WM
FIRE DEPARTMENT CONNECTION	FD	FD
FIRE HYDRANT	FD	FD
TELEPHONE PEDESTAL	TP	TP
TELEPHONE MANHOLE	TM	TM
SIGN	S	S
TREE (SIZE AND TYPE NOTED)	T	T
REINFORCED CONCRETE PIPE	RCP	RCP
CORRUGATED METAL PIPE	CMP	CMP
HIGH DENSITY POLYETHYLENE PIPE	HDPE	HDPE
LIGHT POLE	LP	LP
ELECTRIC BOX	EB	EB
TELEVISION PEDESTAL	TV	TV
SPOT ELEVATION	100.00	100.00
BENCHMARK	B	B
ASPHALT PAVING	ASPH	ASPH
CURB AND GUTTER	CG	CG
SIDEWALK	SW	SW
GRAVEL	GRV	GRV
BUILDING	B	B



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SITE PLAN

C-5.0

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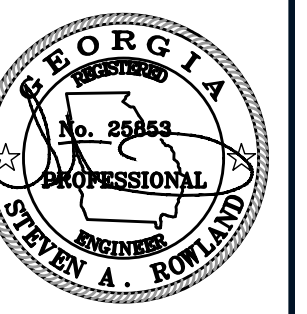




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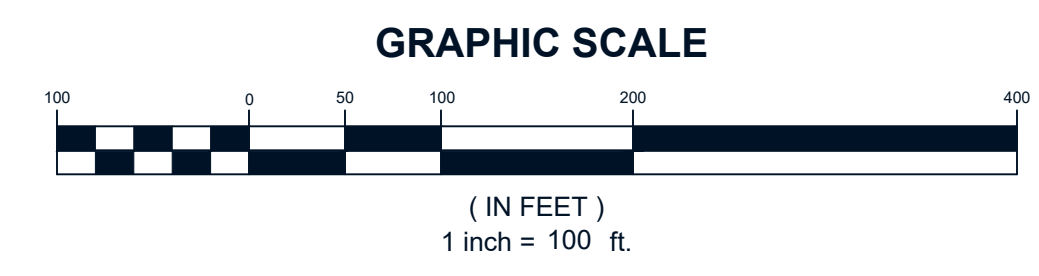
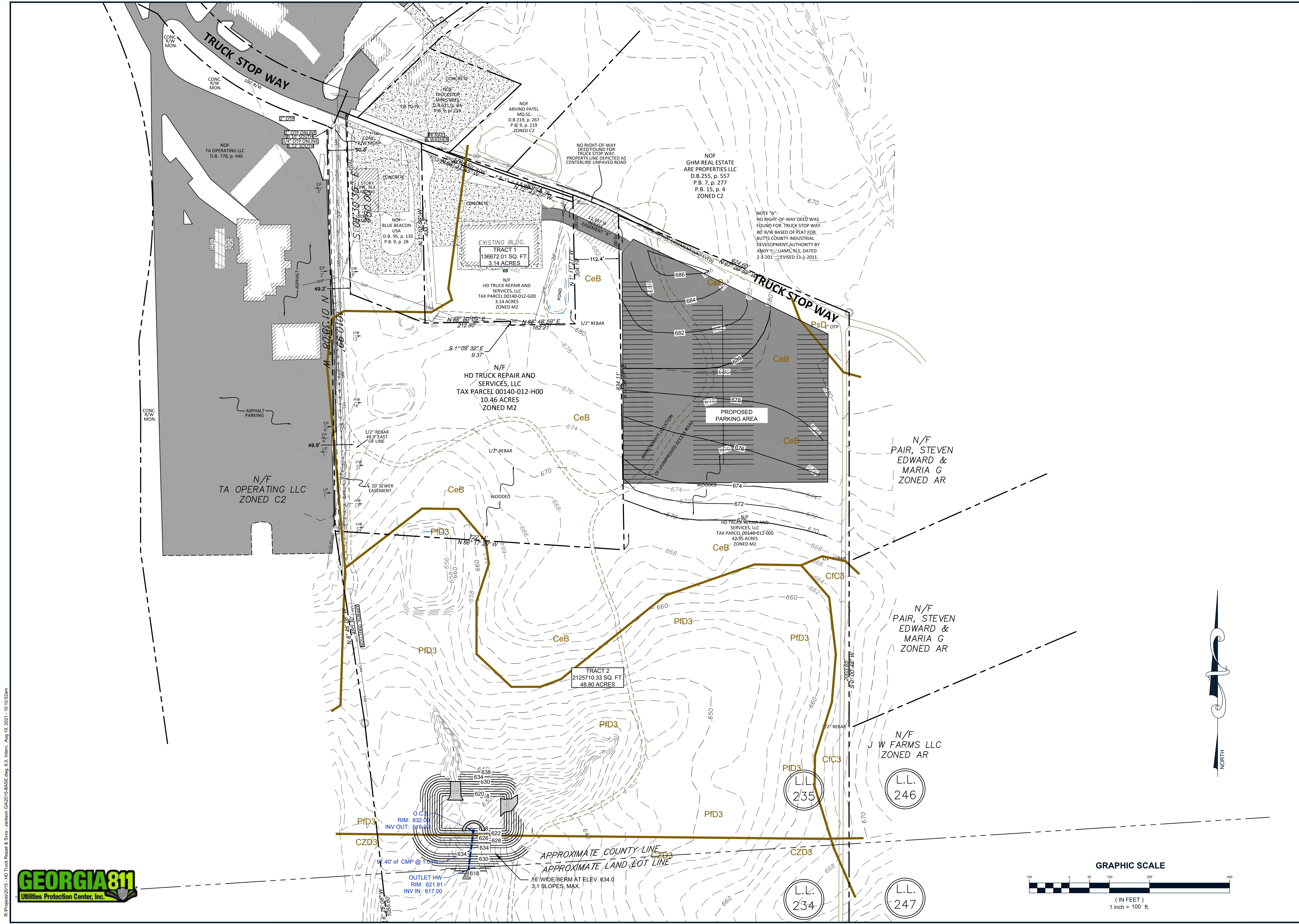
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GRADING AND DRAINAGE PLAN

C-6.0

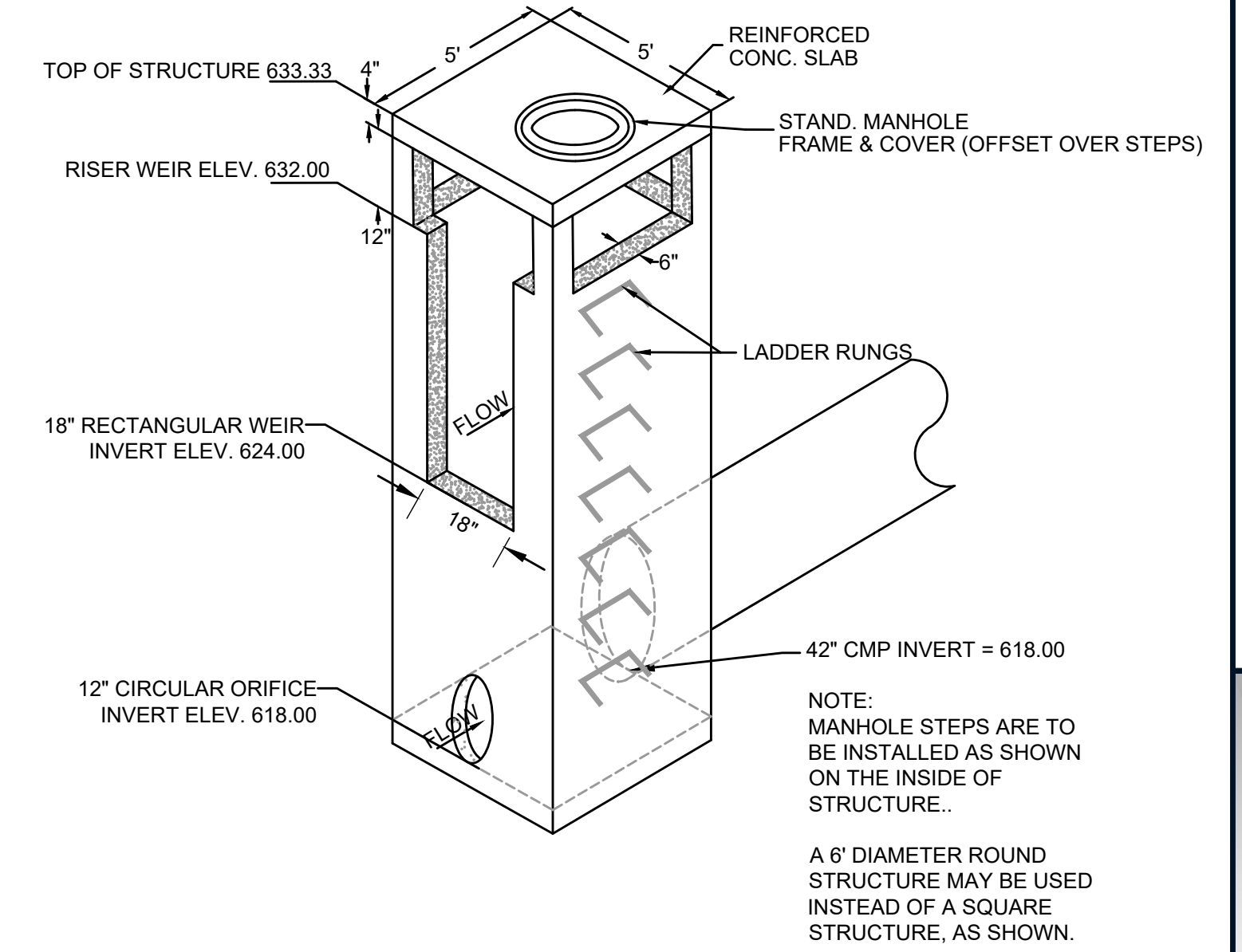
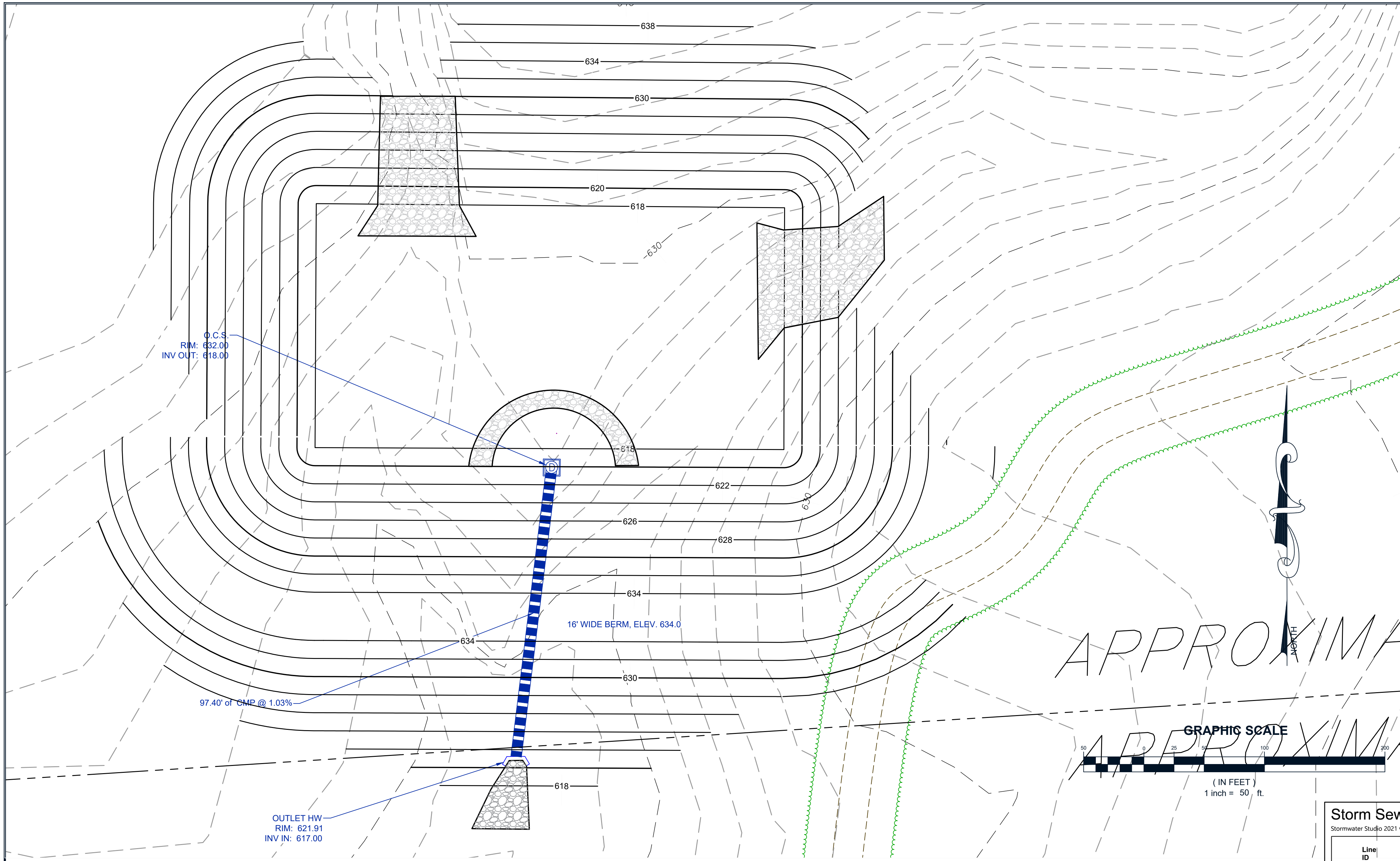


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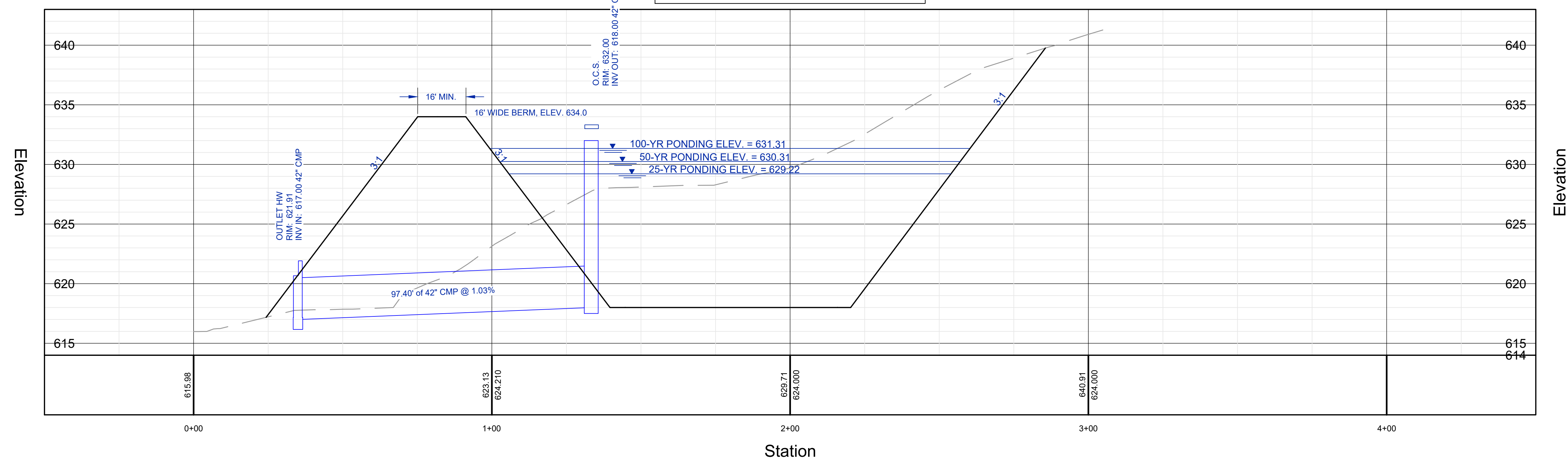


OUTLET CONTROL STRUCTURE
 N.T.S.

Stormwater Studio 2021 v 3.0.0.24 Project Name: Enter Project Name. 04-09-2021

Line ID	Length (ft)	Drng Area (ac)		Rational (C)	C x A		Tc (min)	Inlet Syst (min)	Intensity (in/hr)	Total Q (cfs)	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total							Up	Dn	Up	Dn	Up	Dn			
Pipe - (P) (POND OUTLET)	97.40	0.000	0.000	0.00	0.00	0.00	0.0	0.00	5.70	110.00	101.94	11.43	42	1.03	618.00	617.00	621.67	620.50	630.00	621.91	1

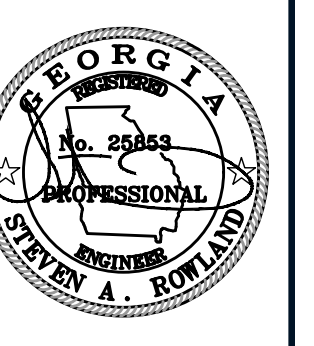
POND OUTLET PROFILE



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STORMWATER
 POND DETAIL
 SHEET

C-6.1

Ds1

Disturbed Area Stabilization (With Mulching Only)

REQUIREMENT FOR REGULATORY COMPLIANCE

Mulch or temporary grassing shall be applied to all exposed areas within 7 days of disturbance. Mulch can be used as a singular erosion control device for up to six months, but it shall be applied at the appropriate depth, depending on the material used, anchored, and have a continuous 90% cover or greater of the soil surface. Maintenance shall be required to maintain appropriate depth and 90% cover. Temporary vegetation may be employed instead of mulch if the area will remain undisturbed for less than six months. If an area will remain undisturbed for more than six months, permanent vegetative techniques shall be employed. Refer to Ds2 - Disturbed Area Stabilization (With Temporary Seeding), Ds3 - Disturbed Area Stabilization (With Permanent Seeding), and Ds4 - Disturbed Area Stabilization (With Sodding).

SPECIFICATIONS

Mulching Without Seeding

This standard applies to grades or cleared areas where seedings may not have a suitable growing season to produce an erosion retardant cover, but can be stabilized with a mulch cover.

Site Preparation

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

Mulching Materials

Select one of the following materials and apply at the depth indicated:
1. Dry straw or hay shall be applied at a depth of 2 to 4 inches providing complete soil coverage. One advantage of this material is easy application.
2. Wood waste (chips, sawdust or bark) shall be applied at a depth of 2 to 3 inches. Organic material from the clearing stage of development should remain on site, be chipped, and applied as mulch. This method of mulching can greatly reduce erosion control costs.
3. Polyethylene film shall be secured over banks or stockpiled soil material for temporary protection. This material can be salvaged and reused.

Applying Mulch

When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.
1. Dry straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.
2. If the area will eventually be covered with perennial vegetation, 20-30 pounds of nitrogen per acre in addition to the normal amount shall be applied to offset the uptake of nitrogen caused by the decomposition of the organic mulches.
3. Apply polyethylene film on exposed areas.

Anchoring Mulch

1. Straw or hay mulch can be pressed into the soil with a disk harrow with the disk set straight or with a special packer disk. Disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disk should be dull enough not to cut the mulch but to press it into the soil leaving much of it in an erect position. Straw or hay mulch shall be anchored immediately after application. Straw or hay mulch spread with special blower-type equipment may be anchored. Tackifiers, binders and hydraulic mulch with tackifier specifically designed for tacking straw can be substituted for emulsified asphalt. Please refer to specification Tac-Tackifiers. Plastic mesh or netting with mesh no larger than one inch by one inch shall be installed according to manufacturer's specifications.
2. Netting of the appropriate size shall be used to anchor wood waste. Openings of the netting shall not be larger than the average size of the wood waste chips.
3. Polyethylene film shall be anchored trenched at the top as well as incrementally as necessary.

Du

Dust Control on Disturbed Areas

METHOD AND MATERIALS

A. TEMPORARY METHODS

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

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

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

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

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

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

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

B. PERMANENT METHODS

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

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

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

Co

Construction Exit

CONSTRUCTION SPECIFICATIONS

It is recommended that the egress area be excavated to a depth of 3 inches and be cleared of all vegetation and roots.

Diversion Ridge

On sites where the grade toward the paved area is greater than 2%, a diversion ridge 6 to 8 inches high with 3:1 side slopes shall be constructed across the foundation approximately 15 feet above the road.

Geotextile

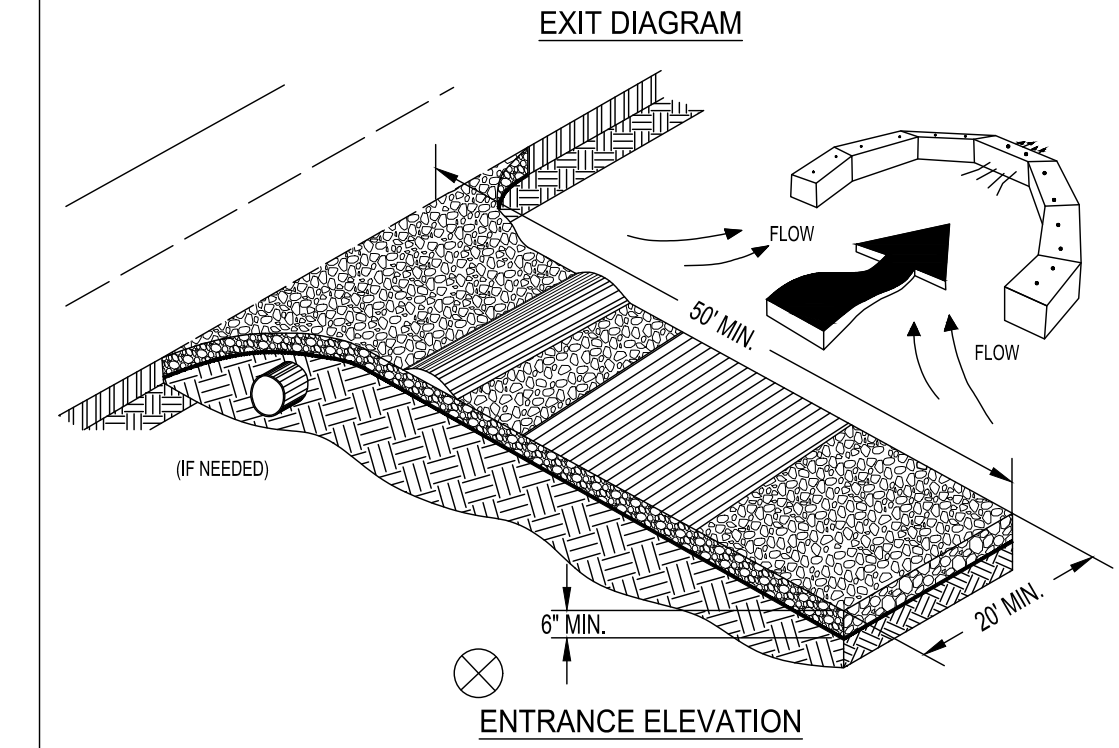
The geotextile underliner must be placed the full length and width of the entrance. Geotextile selection shall be based on AASHTO M288-98 specification:

- 1. For subgrades with a CBR greater than or equal to 3 or shear strength greater than 90 kPa, geotextile must meet requirements of section AASHTO M288-96 Section 7.3, Separation Requirements.
2. For subgrades with a CBR between 1 and 3 or shear strength between 30 and 90 kPa, geotextile must meet requirements of section AASHTO M288-96 Section 7.4, Stabilization Requirements.

MAINTENANCE

The exit shall be maintained in a condition which will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with 1.5-3.5 inch stone, as conditions demand, and repair and/or cleanout of any structures to trap sediment. All materials spilled, drained, washed, or tracked from vehicles or site onto roadways or into storm drains must be removed immediately.

CRUSHED STONE CONSTRUCTION EXIT



- NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHINGS ARE REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (INVERT 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 REMOVES 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.

Ds2

Disturbed Area Stabilization (With Temporary Seeding)

REQUIREMENT FOR REGULATORY COMPLIANCE

Mulch or temporary grassing shall be applied to all exposed areas within 7 days of disturbance. Temporary grassing, instead of mulch, can be applied to rough graded areas that will be exposed for less than six months. If an area is expected to be undisturbed for longer than six months, permanent perennial vegetation shall be used. If optimum planting conditions for temporary grassing is lacking, mulch can be used as a singular erosion control device for up to six months but it shall be applied at the appropriate depth, anchored, and have a continuous 90% cover or greater of the soil surface. Refer to specification Ds1 - Disturbed Area Stabilization (With Temporary Seeding).

CONDITIONS

Temporary vegetative measures should be coordinated with permanent measures to assure economical and effective stabilization. Most types of temporary vegetation are ideal to use as companion crops until the permanent vegetation is established. Note: Some species of temporary vegetation are not appropriate for companion crop plantings because of their potential to out-compete the desired species (e.g. annual ryegrass). Contact NRCS or the local SWCD for more information.

SPECIFICATIONS

Grading and Shaping

Excessive water run-off shall be reduced by properly designed and installed erosion control practices such as closed drains, ditches, dikes, diversions, sediment barriers and others. No shaping or grading is required if slopes can be stabilized by hand-seeded vegetation or if hydraulic seeding equipment is to be used.

Seedbed Preparation

When a hydraulic seeder is used, seedbed preparation is not required. When using conventional or hand-seeded, seedbed preparation is not required if the soil material is loose and not sealed by rainfall. When soil has been sealed by rainfall or consists of smooth cut slopes, the soil shall be pitted, trenched or otherwise scarified to provide a place for seed to lodge and germinate.

Lime and Fertilizer

Agricultural lime is required unless soil tests indicate otherwise. Apply agricultural lime at a rate determined by soil test for pH. Quick acting lime should be incorporated to modify pH during the germination period. Bio stimulants should also be considered when there is less than 3% organic matter in the soil. Graded areas require lime application. Soils must be tested to determine required amounts of fertilizer and amendments. Fertilizer should be applied before land preparation and incorporated with a disk, ripper or chisel. On slopes too steep for, or inaccessible to equipment, fertilizer shall be hydraulically applied, preferably in the first pass with seed and some hydraulic mulch, then topped with the remaining required application rate.

Seeding

Select a grass or grass-legume mixture suitable to the area and season of the year. Seed shall be applied uniformly by hand, cyclone seeder, drill, culti-packer-seeder, or hydraulic seeder (slurry including seed and fertilizer). Drill or cultipacker seeders should normally place seed one-quarter to one-half inch deep. Appropriate depth of planting is ten times the seed diameter. Soil should be "raked" lightly to cover seed with soil if seeded by hand.

Mulching

Temporary vegetation can, in most cases, be established without the use of mulch, provided there is little to no erosion potential. However, the use of mulch can often accelerate and enhance germination and vegetation establishment. Mulch without seeding should be considered for short term protection. Refer to Ds1 - Disturbed Area Stabilization (With Mulching Only).

Irrigation

During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will insure germination of the seed. Subsequent applications should be made when needed.

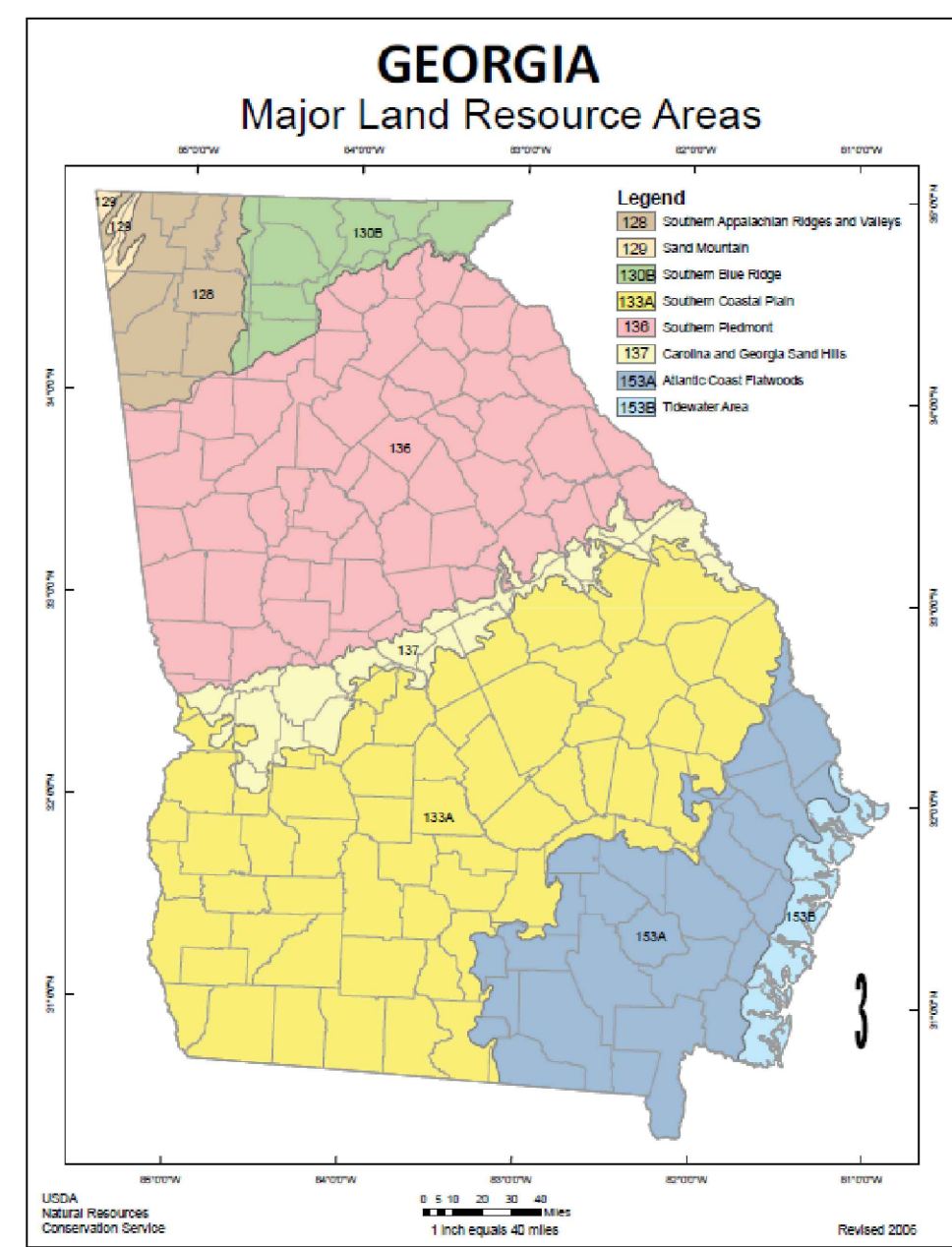
Table 6-4.1 - Temporary Cover or Companion Crops 1/ PLANT, PLANTING RATES, AND PLANTING DATED FOR TEMPORARY COVER OR COMPANION CROPS 1/

Table with columns: Species, Broadcast Dates, Resource Area, Planting Dates by Resource Area, and Remarks. Rows include BARLEY, LSPREDDAZ ANNUAL, LOWEGRASS WEEPING, MILLET BROWNTOP, MILLET PEARL, OATS, RYE, RYEGRASS ANNUAL, and SUDANGRASS.

Table 6-4.1 - Temporary Cover or Companion Crops 1/ - continued PLANT, PLANTING RATES, AND PLANTING DATED FOR TEMPORARY COVER OR COMPANION CROPS 1/

Table with columns: Species, Broadcast Dates, Resource Area, Planting Dates by Resource Area, and Remarks. Rows include TRITICALE and VIKRIST.

- 1/ Temporary cover crops are very competitive and will crowd out perennials if seeded too heavily.
2/ Reduce seeding rates by 50% when drilled.
3/ P.C.B. is an abbreviation for Pure Live Seed.
4/ M.L. represents the Mountain, Blue Ridge, and Ridges and Valleys MLRA.
P represents the Southern Piedmont MLRA.
C represents Southern Coastal Plain, Sand Hills, Black Land, and Atlantic Coast Flatwoods MLRA.
(See Figure 6-4.1, p. 6-40)



FI-Co Flocculants and Coagulants

PLANNING CONSIDERATIONS

Since settling of flocculated soil particles requires very slow moving (still) water, chemical additives should never be introduced into an outfall BMP where water leaves the property or enters state waters. In all cases where chemical additives are used to reduce turbidity, it is essential to include a sediment basin or sediment trap unless using a "pump and treat" treatment system.

CRITERIA

Application rates shall conform to manufacturer's guidelines for application. Only anionic forms of FI-Co shall be used. Following are examples of FI-Co applications within construction storm water ditches or drainageways that feed into sediment basins or other BMPs:

- FI-Co Bags or Socs that are installed directly in a ditch, pipe or culvert.
-FI-Co treated ditch checks (i.e. fiber rolls, wattles, or compost logs inoculated or used in conjunction with FI-Co).
-Granulated FI-Co treated rock ditch checks.
-Ditch checks with attached FI-Co Bags or Socs.
-Addition of granular FI-Co directly into a ditch.
-Erosion control blankets and turf reinforcement mats that have been inoculated with FI-Co.
-Pump and Treat systems that use mechanical mixing with a chemical treatment of a FI-Co.

OPERATION AND MAINTENANCE

Application rates shall conform to manufacturer's guidelines for application. Maintenance shall consist of reapplying FI-Co via one of means above when turbidity levels are no longer met or the FI-Co is used up. Bricks, blocks, socks, logs and bags shall be maintained when sediment sediment accumulates on the products.

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CERTIFICATION NO. 155 EXPIRES: 07/16/2022



PARKING AND STORAGE AREA
136 TRUCK STOP WAY, JACKSON, GA 30233
LANDLOT 235, DISTRICT 3, BUTTS COUNTY
FOR
HD TRUCK REPAIR AND SERVICES, LLC

ROWLAND ENGINEERING
318 Corporate Pkwy, Ste. 301
Macon, GA 31210
(478) 621-7500 office
stevenc@rowland-engineering.com
www.rowland-engineering.com

DATE: 04-09-2021
PROJ NO: 2015



ESPCP
BEST MANAGEMENT
PRACTICES DETAILS

C-8.0



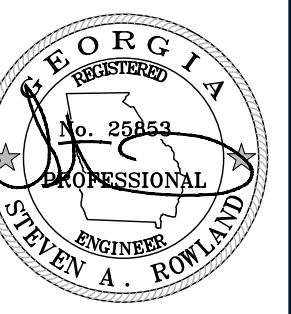


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THIS SEAL IS VALID ONLY IF SIGNED AND DATED BY THE LICENSED PROFESSIONAL ENGINEER.

ESPCP
BEST MANAGEMENT
PRACTICES DETAILS

C-8.1

DS3

Disturbed Area Stabilization (With Permanent Vegetation)

REQUIREMENT FOR REGULATORY COMPLIANCE

This practice shall be applied immediately to rough graded areas that will be undisturbed for longer than six months. This practice or sodding shall be applied immediately to all areas at final grade. **Final Stabilization** means that all soil disturbing activities at the site have been completed, and that for 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 the GA 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. Permanent vegetation shall consist of planted trees, shrubs, perennial vines; or a crop of perennial vegetation appropriate for the region, such that within the growing season a 70% coverage by perennial vegetation shall be achieved. Final stabilization applies to each phase of construction. For linear construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use. Until this standard is satisfied and permanent control measures and facilities are operational, interim stabilization measures and temporary erosion and sedimentation control measures shall not be removed.

CONDITIONS

Permanent perennial vegetation is used to provide a protective cover for exposed areas including cuts, fills, dams, and other denuded areas.

PLANNING CONSIDERATIONS

1. Use conventional planting methods where possible.
2. When mixed plantings are done during marginal planting periods, companion crops shall be used.
3. No-till planting is effective when planting is done following a summer or winter annual cover crop. Sericea lespedeza planted no-till into stands of rye is an excellent procedure.
4. Block sod provides immediate cover. It is especially effective in controlling erosion adjacent to concrete flumes and other structures. Refer to Specification **Ds4-Disturbed Area Stabilization (With Sodding)**.
5. Irrigation should be used when the soil is dry or when summer plantings are done.
6. Low maintenance plants, as well as natives, should be used to ensure long-lasting erosion control.
7. Mowing should not be performed during the quail nesting season (May to September).
8. Wildlife plantings should be included in critical area plantings.

Wildlife Plantings

Commercially available plants beneficial to wildlife species include the following:

Mast Bearing Trees
Beech, Black Cherry, Blackgum, Chestnut, Chinkapin, Hackberry, Hickory, Honey Locust, Native Oak, Persimmon, Sawtooth Oak and Sweetgum.

All trees that produce nuts or fruits are favored by many game species. Hickory provides nuts used mainly by squirrels and bear.

Shrubs and Small Trees
Bayberry, Bicolor Lespedeza, Crabapple, Dogwood, Huckleberry or Native Blueberry, Mountain Laurel, Native Holly, Red Cedar, Red Mulberry, Sumac, Wax Myrtle, Wild Plum and Blackberry.

Plant in patches without tall trees to develop stable shrub communities. All produce fruits used by many kinds of wildlife, except for lespedeza which produces seeds used by quail and songbirds.

Grasses, Legumes, Vines and Temporary Cover
Bahagrass, Bermudagrass, Grass-Legume mixtures, Partridge Pea, Annual Lespedeza, Orchardgrass (for mountains), Browntop Millet (for temporary cover), and Native grapes.

Provides herbaceous cover in clearings for a game bird brood-rearing habitat. Appropriate legumes such as vetches, clovers, and lespedezas may be mixed with grass, but they may die out after a few years.

CONSTRUCTION SPECIFICATIONS

Grading and Shaping

Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment. When conventional seeding and fertilizing are to be done, grade and shape where feasible and practical, so that equipment can be used safely and efficiently during seedbed preparation, seeding, mulching and maintenance of the vegetation. Concentrations of water that will cause excessive soil erosion shall be diverted to a safe outlet. Diversions and other treatment practices shall conform with the appropriate standards and specifications.

Lime and Fertilizer Rates and Analysis

Agricultural lime is required at the rate of one to two tons per acre unless soil tests indicate otherwise. Graded areas require lime application. If lime is applied within six months of planting permanent perennial vegetation, additional lime is not required. Agricultural lime shall be within the specifications of the Georgia Department of Agriculture. Lime spread by conventional equipment shall be "ground limestone." Ground limestone is calcitic or dolomitic limestone ground so that 90 percent of the material will pass through a 10-mesh sieve, not less than 50 percent will pass through a 50-mesh sieve and not less than 25 percent will pass through a 100-mesh sieve. Fast-acting lime spread by hydraulic seeding equipment should be "finely ground limestone" spanning from the 180 micron size to the 5 micron size. Finely ground limestone is calcitic or dolomitic limestone ground so that 95% of the material will pass through a 100-mesh sieve. It is desirable to use dolomitic limestone in the Sand Hills, Southern Coastal Plain and Atlantic Coast Flatwoods MLRAs. (See Figure 6-4.1) Agricultural lime is generally not required where only trees are planted. Initial fertilization, nitrogen, topdressing, and maintenance fertilizer requirements for each species or combination of species are listed in Table 6-5.1.

Planting

Hydraulic Seeding

Mix the seed (inoculated if needed), fertilizer, and wood cellulose or wood pulp fiber mulch with water and apply in a slurry uniformly over the area to be treated. Apply within one hour after the mixture is made.

Conventional Seeding

Seeding will be done on a freshly prepared and firmed seedbed. For broadcast planting, use a culti-packer-seeder, drill, rotary seeder, other mechanical seeder, or hand seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with 1/8 to 1/4 inch of soil for small seed and 1/2 to 1 inch for large seed when using a cultipacker or other suitable equipment.

No-Till Seeding

No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no-till seeding equipment. The seed must be uniformly distributed and planted at the proper depth.

Individual Plants

Shrubs, vines and sprigs may be planted with appropriate planters or hand tools. Pine trees shall be planted manually in the subsoil furrow. Each plant shall be set in a manner that will avoid crowding the roots. Nursery stock plants shall be planted at the same depth or slightly deeper than they grew at the nursery. The tips of vines and sprigs must be at or slightly above the ground surface. Where individual holes are dug, fertilizer shall be placed in the bottom of the hole, two inches of soil shall be added and the plant shall be set in the hole.

Mulching

Mulch is required for all permanent vegetation applications. Mulch applied to seeded areas shall achieve 75% to 100% soil cover. When selecting a mulch, design professionals should consider the mulch's functional longevity, vegetation establishment enhancement, and erosion control effectiveness. Select the mulching material from the following and apply as indicated:

1. *Dry straw or dry hay* of good quality and free of weed seeds can be used. Dry straw shall be applied at the rate of 2 tons per acre. Dry hay shall be applied at a rate of 2 1/2 tons per acre.
2. *Wood cellulose mulch or wood pulp fiber* shall be used with hydraulic seeding. It shall be applied at the rate of 500 pounds per acre. Dry straw or dry hay shall be applied (at the rate indicated above) after hydraulic seeding.
3. One thousand pounds of *wood cellulose or wood pulp fiber*, which includes a tackifier, shall be used with hydraulic seeding on slopes 3/4:1 or steeper.
4. *Sericea lespedeza hay* containing mature seed shall be applied at a rate of three tons per acre.
5. *Pine straw or pine bark* shall be applied at a thickness of 3 inches for bedding purposes. Other suitable materials in sufficient quantity may be used where ornamentals or other ground covers are planted. This is not appropriate for seeded areas.
6. When using temporary erosion control blankets or block sod, mulch is not required.
7. *Bituminous treated roving* may be applied on planted areas on slopes, in ditches or dry waterways to prevent erosion. Bituminous treated roving shall be applied within 24 hours after an area has been planted. Application rates and materials must meet Georgia Department of Transportation specifications.

Wood cellulose and wood pulp fibers shall not contain germination or growth inhibiting factors. They shall be evenly dispersed when agitated in water. The fibers shall contain a dye to allow visual metering and aid in uniform application during seeding.

Applying Mulch

Straw or hay mulch will be spread uniformly within 24 hours after seeding and/or planting. The mulch may be spread by blower-type spreading equipment, other spreading equipment or by hand. Mulch shall be applied to cover 75% of the soil surface. Wood cellulose or wood pulp fiber mulch shall be applied uniformly with hydraulic seeding equipment.

Anchoring Mulch

- Anchor straw or hay mulch immediately after application by one of the following methods:
1. Hay and straw mulch shall be pressed into the soil immediately after the mulch is spread. A special "packer disk" or disk harrow with the disks set straight may be used. The disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disks shall be dull enough to press the mulch into the ground without cutting it, leaving much of it in an erect position. Mulch shall not be plowed into the soil.
 2. Synthetic tackifiers, binders, or hydraulic mulch specifically designed to tack straw, shall be applied in conjunction with or immediately after the mulch is spread. Synthetic tackifiers shall be mixed and applied according to manufacturer's specifications. All tackifiers, binders or hydraulic mulch specifically designed to tack straw should be verified nontoxic through EPA 2021.0 testing. Refer to **Tackifiers-Tac**.
 3. Rye or wheat can be included with Fall and Winter plantings to stabilize the mulch. They shall be applied at a rate of one-quarter to one-half bushel per acre.
 4. Plastic mesh or netting with mesh no larger than one inch by one inch may be needed to anchor straw or hay mulch on unstable soils and concentrated flow areas. These materials shall be installed and anchored according to manufacturer's specifications.

Bedding Material

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

Material Depth

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

Irrigation

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

Topdressing

Topdressing will be applied on all temporary and permanent (perennial) species planted alone or in mixtures with other species. Recommended rates of application are listed in Table 6-5.1.

Second Year and Maintenance Fertilization

Second year fertilizer rates and maintenance fertilizer rates are listed in Table 6-5.1.

Lime Maintenance Application

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

Use and Management

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

Table 6-5.1. Fertilizer Requirements

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
1. Cool season grasses	First	6-12-12	1500 lbs./ac.	50-100 lbs./ac. 1/2
	Second	6-12-12	1000 lbs./ac.	30
	Maintenance	10-10-10	400 lbs./ac.	—
2. Cool season grasses and legumes	First	6-12-12	1500 lbs./ac.	0-50 lbs./ac. 1/
	Second	0-10-10	1000 lbs./ac.	—
	Maintenance	0-10-10	400 lbs./ac.	—
3. Ground covers	First	10-10-10	1300 lbs./ac. 3/	—
	Second	10-10-10	1300 lbs./ac. 3/	—
	Maintenance	10-10-10	1100 lbs./ac.	—
4. Pine seedlings	First	20-10-5	one 21-gram pellet per seedling placed in the closing hole	—
				—
5. Shrub Lespedeza	First	0-10-10	700 lbs./ac.	—
		Maintenance	0-10-10	700 lbs./ac. 4/
6. Temporary cover crops seeded alone	First	10-10-10	500 lbs./ac.	30 lbs./ac. 5/
				—
7. Warm season grasses	First	6-12-12	1500 lbs./ac.	50-100 lbs./ac. 2/6/
	Second	6-12-12	800 lbs./ac.	50-100 lbs./ac. 2/
	Maintenance	10-10-10	400 lbs./ac.	30 lbs./ac.
8. Warm season grasses and legumes	First	6-12-12	1500 lbs./ac.	50 lbs./ac. 6/
		Second	0-10-10	1000 lbs./ac.
	Maintenance	0-10-10	400 lbs./ac.	—

- 1/ Apply in spring following seeding.
- 2/ Apply in split applications when high rates are used.
- 3/ Apply in 3 split applications.
- 4/ Apply when plants are pruned.
- 5/ Apply to grass species only.
- 6/ Apply when plants grow to a height of 2 to 4 inches.

Table 6-5.3. Durable Shrubs and Ground Covers for Permanent Cover

Common Name	Scientific Name	Mature Height	Plant Spacing	Comments
Cherokee Rose	Rosa laevigata	2 ft.	5 ft.	Rampant grower. Not for restricted spaces. State flower.
Memoria Rose	Rosa weuchuriana	2 ft.	5 ft.	Rampant grower.
St. Johnswort	Hypericum calycenum	8-12 in.	3 ft.	Semi-shade.
Anthony Waterer Spirea	Spirea bumalda	3-4 ft.	5 ft.	Sun.
Thunberg Spirea	Spirea thunbergii	3-4 ft.	5 ft.	Sun.

Table 6-5.4. Trees for Erosion Control

SITE	SOIL MATERIAL	COMMON SOILS	PLANTING TREE SPECIES 1/	SPACING	PLANTING DATES 3/
Borrow areas, graded areas, and spoil material	Sandy	Lakeland, Troup	Loblolly pine (Pinus taeda)	2/	M-L,P 12/1-3/15 C 12/1-3/1
			Longleaf pine (Pinus palustris)		
	Loamy	Orangeburg, Tifton	Loblolly pine	2/	M-L,P 12/1-3/15 C 12/1-3/1
			Slash pine		
	Clay	Ceoil, Faceville	Loblolly pine	2/	M-L,P 12/1-3/15 C 12/1-3/1
			Slash pine		
			Virginia pine (Pinus virginiana)		
			Willows 4/ (Salix species)	2 ft x 2 ft	ALL 11/15-3/15

1/Other trees and shrubs listed on Table 6-5.3 may be interplanted with the pines for improved wildlife benefits.

Type of Planting	Tree Spacing	No. of Trees Per Acre
Trees alone	4 ft x 4 ft	2722
Trees in combination with grasses and/or other plants	6 ft x 6 ft.	1210

3/M-L represents the Mountains; Blue Ridge; and Ridges and Valleys MLRAs

P represents the Southern Piedmont MLRA

C represents the Southern Coastal Plain; Sand Hills; Black Lands; and Atlantic Coast Flatwoods MLRAs (See Figure 6-4.1).

4/Fertilization of companion crop is ample for this species.



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Disturbed Area Stabilization (With Permanent Vegetation) Continued from previous page...

Species	Broadcast Rates 1/ - PLS 2/ Per Acre Per 1000 sq. ft.	Resource Area 3/	Planting Dates by Resource Areas												Remarks		
			Planting Dates (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.)														
			J	F	M	A	M	J	J	A	S	O	N	D			
BAHIA, PENSACOLA (Paspalum notatum)	60 lbs. 1.4 lb. 30 lbs. 0.7 lb.	P C													166,000 seed per pound. Low growing. Sod forming. Slow to establish. Plant with a companion crop. Will spread into bermuda pastures and lawns. Mix with Sericea lespedeza or weeping lovegrass.		
BAHIA WILMINGTON (Paspalum notatum)	60 lbs. 1.4 lb. 30 lbs. 0.7 lb.	M-L P													Same as above.		
BERMUDA, COMMON (Cynodon dactylon)	10 lbs. 0.2 lb. 6 lbs. 0.1 lb.	P C													1,787,000 seed per pound. Quick cover. Low growing and sod forming. Full sun. Good for athletic fields.		
BERMUDA, COMMON (Cynodon dactylon)	10 lbs. 0.2 lb. 6 lbs. 0.1 lb.	P C													Plant with winter annuals. Plant with tall fescue.		
BERMUDA SPRIGS (Cynodon dactylon)	40 cu. ft. or 0.9 cu. ft. sod plugs 3' x 3'	M-L P C													A cubic foot contains approximately 650 sprigs. A bushel contains 1.25 cubic feet or approximately 800 sprigs. Same as above. Southern Coastal Plain only.		
CENTIPEDE (Eriochloa ophiuroides)	Block sod only	P C													Drought tolerant. Full sun or partial shade. Effective adjacent to concrete and in concentrated flow areas. Irrigation is needed until fully established. Do not plant near pastures. Winterhardy as far north as Athens and Atlanta.		
CROWNVEATCH (Cornilia varia)	15 lbs. 0.3 lb.	M-L P													100,000 seed per pound. Dense growth. Drought tolerant and fire resistant. Attractive rose, pink, and white blossoms spring to late fall. Mix with 30 pounds of Tall fescue or 15 pounds of rye. Inoculate seed with M inoculant. Use from North Atlanta and Northward.		
FESCUE, TALL (Festuca arundinacea)	50 lbs. 1.1 lbs. 30 lbs. 0.7 lb.	M-L P													227,000 seed per pound. Use alone only on better sites. Not for droughty soils. Mix with perennial lespedezas or crownvetch. Apply topdressing in spring following fall plantings. Not for heavy use areas or athletic fields.		
KUDZU (Pueraria thurbergiana)	3' - 7' apart	ALL													Rapid and vigorous growth. Excellent in gully erosion control. Will climb. Good livestock forage.		

Species	Broadcast Rates 1/ - PLS 2/ Per Acre Per 1000 sq. ft.	Resource Area 3/	Planting Dates by Resource Areas												Remarks		
			Planting Dates (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.)														
			J	F	M	A	M	J	J	A	S	O	N	D			
LEPDEZA, SERICEA (Lespedeza cuneata)	60 lbs. 1.4 lbs.	M-L P C													350,000 seed per pound. Widely adapted. Low maintenance. Mix with weeping lovegrass, common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate seed with EL inoculant.		
unscarified	75 lbs. 1.7 lb.	M-L P C													Mix with Tall fescue or winter annuals.		
seed-bearing hay	3 tons 138lb.	M-L P C													Cut when seed is mature, but before it shatters. Add Tall fescue or winter annuals.		
LEPDEZA, AMBRO VIRGATA (Lespedeza virgata DC) or Appalaw (Lespedeza cuneata [Dumont] G. Don)	60 lbs. 1.4 lb.	M-L P C													300,000 seed per pound. Height of growth is 18 to 24 inches. Advantageous in urban areas. Spreading-type growth has bronze coloration. Mix with Weeping lovegrass, Common bermuda, bahia, tall fescue or winter annuals. Do not mix with Sericea lespedeza. Slow to develop solid stands. Inoculate seed with EL inoculate.		
unscarified	75 lbs. 1.7 lb.	M-L P C															
LEPDEZA, SHRUB (Lespedeza bicolor) (Lespedeza thumbergii) plants	3' x 3'	M-L P C													Provide wildlife food and cover.		
LOVEGRASS, WEEPING (Eragrostis curvula)	4 lbs. 0.1 lb. 2 lbs. 0.05 lb.	M-L P C													1,500,000 seed per pound. Quick cover. Drought tolerant. Grows well with Sericea lespedeza on roadbanks.		
MAIDENCANE (Panicum hemitomom)	2' x 3' spacing	ALL													For very wet sites. May clog channels. Dig springs from local sources. Use along river banks and shorelines.		
PANICGRASS, ATLANTIC COASTAL (Panicum amarum var. amarulum)	20 lbs. 0.5 lb.	P C													Grows well on coastal sand dunes, borrow areas, and gravel pits. Provides winter cover for wildlife. Mix with Sericea lespedeza except on sand dunes.		
REED CANARY GRASS (Phalaris arundinacea)	50 lbs. 1.1 lb. 30 lbs. 0.7 lb.	M-L P													Grows similar to tall fescue.		
SUNFLOWER, AZTEC MAXIMILLIAM (Helianthus maximilianii)	10 lbs. 0.2 lb.	M-L P C													227,000 seed per pound. Mix with weeping lovegrass or other low-growing grasses or legumes.		

Common Name	Scientific Name	Mature Height	Plant Spacing	Comments
Abelia	Abelia grandiflora	3-4 ft.	5 ft.	Also a prostrate form 2 feet high. Sun, semi-shade. Semi-evergreen.
Carolina Yellow Jessamine	Gelsemium sempervirens	low	3 ft.	Vine. Yellow, trumpet-like flowers. Hardy, one of best vines. Evergreen.
Carpet Blue	Ajuga reptans	2-4 in.	3 ft.	Needs good drainage, partial shade. Blue or white flowers. Evergreen.
Bearberry	Cotoneaster dammeri	2-4 ft.	5 ft.	White flowers, red fruit. Sun. Evergreen.
Ground Cover Cotoneaster	Cotoneaster salicifolius 'Repens'	1-2 ft.	5 ft.	White flowers, red fruit. Sun. Evergreen.
Rock Cotoneaster	Cotoneaster horizontalis	1-2 ft.	5 ft.	Semi-evergreen. Sun.
Virginia Creeper	Parthenocissus quinquefolia	low	3 ft.	Red in fall. Vine. Deciduous. Native to Georgia.
Daylily	Hemerocallis spp.	2-3 ft.	2 ft.	Many flower colors. Full sun. Very hardy.
English Ivy	Hedera helix	low	3 ft.	Shade only. Climbs.
Compacta Holly	Ilex crenata 'Compacta'	3-4 ft.	5 ft.	Sun, semi-shade.
Chinese Holly	Ilex cornuta 'Rotunda'	3-4 ft.	5 ft.	Very durable. Sun, semi-shade.
Dwarf Burford Holly	Ilex burfordii 'Nana'	5-8 ft.	8 ft.	Very durable, sun, semi-shade.
Dwarf Yaupon Holly	Ilex vomitoria 'Nana'	3-4 ft.	5 ft.	Very durable, sun, semi-shade.

Common Name	Scientific Name	Mature Height	Plant Spacing	Comments
Repensens Holly	Ilex crenata 'Repensens'	2-3 ft.	5 ft.	Sun, semi-shade.
Andorra Juniper	Juniperus horizontalis 'Plumosa'	2-3 ft.	5 ft.	Excellent for slopes. Sun.
Andorra Compacta Juniper	Juniperus horizontalis 'Plumosa compacta'	1-2 ft.	5 ft.	More compact than andorra.
Blue Chip Juniper	Juniperus horizontalis 'Blue Chip'	8-10 in.	4 ft.	
Blue Rug Juniper	Juniperus horizontalis 'Wiltonii'	4-6 in.	3 ft.	Very low. Sun.
Parsons Juniper	Juniperus davurica 'Expansa' (Squamata Parson)	18-24 in.	5 ft.	One of the best, good winter cover.
Pfitzer Juniper	Juniperus chinensis 'Pfitzerana'	6-8 ft.	6 ft.	Needs room.
Prince of Wales Juniper	Juniperus horizontalis 'Prince of Wales'	8-10 in.	4 ft.	Feathery appearance.
Sargent Juniper	Juniperus chinensis 'Sargentii'	1-2 ft.	5 ft.	Full sun. Needs good drainage. Good winter color.
Shore Juniper	Juniperus conferta	2-3 ft.	5 ft.	Emerald Sea or Blue Pacific cultivars are good.
Liriope	Liriope muscari	8-10 in.	3 ft.	
Creeping Liriope	Liriope spicata	10-12 in.	1 ft.	Spreads by runners.
Big Leaf Periwinkle	Vinca major	12-15 in.	4 ft.	Lilac flowers in spring. Semi-shade.
Common Periwinkle	Vinca minor	5-6 in.	4 ft.	Lavender-blue flowers in spring. Semi-shade.



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DATE: 04-09-2021
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CERTIFICATION NO. 155 EXPIRES: 07/16/2022

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Ds4 Disturbed Area Stabilization (With Sodding)

CONSTRUCTION SPECIFICATIONS

Soil Preparation

Bring soil surface to final grade. Clear surface of trash, woody debris, stones and clods larger than 1". Apply sod to soil surfaces only and not frozen surfaces, or gravel type soils.

Topsoil properly applied will help guarantee a stand. Don't use topsoil recently treated with herbicides or soil sterilants.

Agricultural lime should be applied based on soil tests or at a rate of 1 to 2 tons per acre.

Installation

Lay sod with tight joints and in straight lines. Don't overlap joints. Stagger joints and do not stretch sod (See Figure 6-6.2)

On slopes steeper than 3:1, sod should be anchored with pins or other approved methods. Installed sod should be rolled or tamped to provide good contact between sod and soil.

Irrigate sod and soil to a depth of 4" immediately after installation.

Sod should not be cut or spread in extremely wet or dry weather. Irrigation should be used to supplement rainfall for a minimum of 2-3 weeks.

MATERIALS

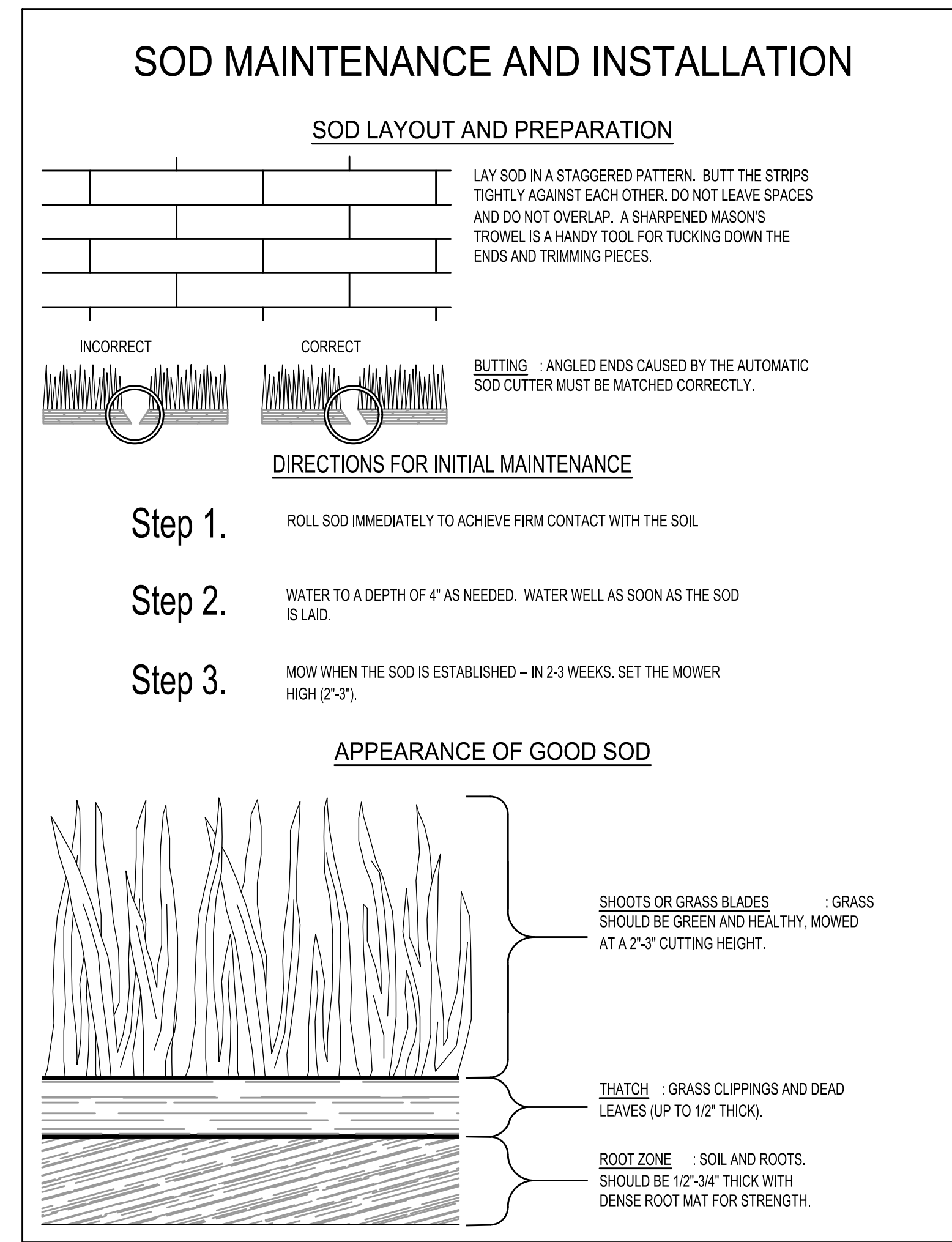
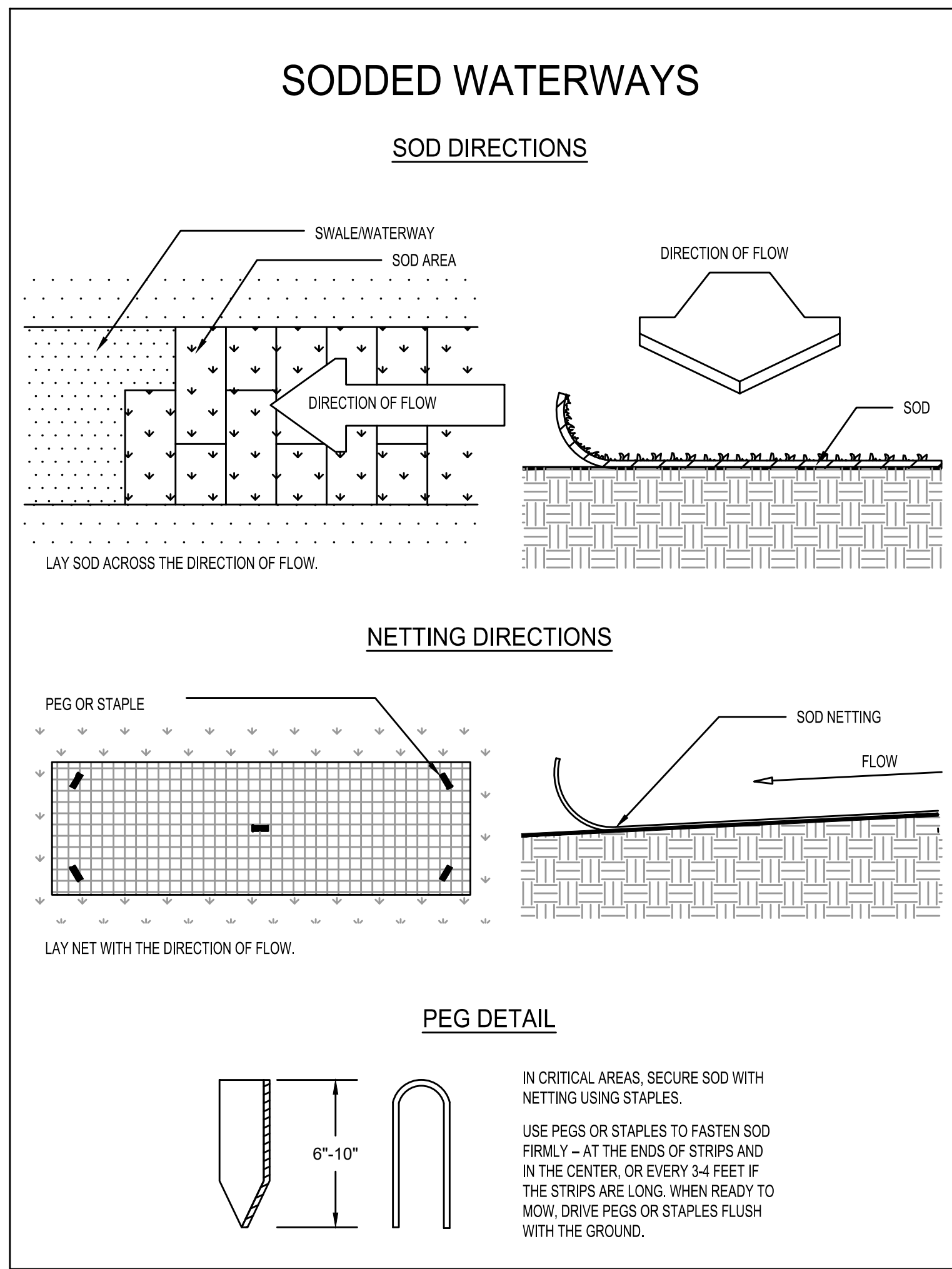
Sod selected should be certified. Sod grown in the general area of the project is desirable.

- Sod should be machine cut and contain 3/4" (+ or -1/4") of soil, not including shoots or thatch.
- Sod should be cut to the desired size within + or -5%. Torn or uneven pads should be rejected.
- Sod should be cut and installed within 36 hours of digging.
- Avoid planting when subject to frost heave or hot weather, if irrigation is not available.
- The sod type should be shown on the plans or installed according to Table 6-6.2. See Figure 6-4.1 for your Resource Area.

MAINTENANCE

Re-sod areas where an adequate stand of sod is not obtained. New sod should be mowed sparingly. Grass height should not be cut less than 2"-3" or as specified (See Figure 6-6.2).

Apply one ton of agricultural lime as indicated by soil test or every 4-6 years. Fertilize grasses in accordance with soil tests or Table 6-6.3.



Sd1 Sediment Barrier

CONSTRUCTION SPECIFICATIONS

Nonsensitive Areas (Sd1-NS)

Sediment barriers being used as Type NS shall have a support spacing of no greater than 6 feet on center, with each being driven into the ground a minimum of 18 inches.

Sensitive Areas (Sd1-S)

Sediment barriers being used as Type S shall have a support spacing of no greater than 4 feet on center, with each being driven into the ground a minimum of 18 inches.

*As of January 1 2016, in the existing Georgia Department of Transportation Qualified Products list #36 (QPL-36), Type A, B, or C will fall under sensitive and non-sensitive applications. Type C will be classified as sensitive and Type A and B as non-sensitive. Refer to Appendix A-2 and the Equivalent BMP List.

PRACTICE CLASSIFICATIONS

For silt fence Type A, B, or C, refer to Table 6-27.4.

Type A Silt Fence

This 36-inch wide filter fabric shall be used on developments where the life of the project is great than or equal to six months. Type A is classified as non-sensitive application.

Type B Silt Fence

Though only 22-inches wide, this filter fabric allows the same flow rate as Type A silt fence. Type B silt fence shall be limited to use on minor projects, such as residential home sites or small commercial developments where permanent stabilization will be achieved in less than six months. Type B is classified as non-sensitive application.

Type C Silt Fence

Type C fence is 36-inches wide with wire reinforcement or equivalent. The wire reinforcement is necessary because this fabric allows almost three times the flow rate as Type A silt fence. Type C silt fence shall be used where runoff flows or velocities are particularly high or where slopes exceed a vertical height of 10 feet. Type C is classified as sensitive application.

Filter Media Sock Specifications

Compost filter media used for sediment barrier filter material shall be weed free and derived from a well-decomposed source of organic matter. Filter Media Sock is classified as a Type B, non-sensitive application. The compost shall be produced using an aerobic composting process meeting CFR 503 regulations including time and temperature data. The compost shall be free of any refuse, contaminants or other materials toxic to plant growth. Non-composted products will not be accepted without applicable water quality test results. Test methods for the items below should follow US Composting Council Test Methods for the Examination of Composting and Compost guidelines for laboratory procedures:

- pH - 5.0-8.0 in accordance with TMECC 04.11-A, "Electrometric pH Determinations for Compost"
- Particle size - 99% passing a 2 inch (50mm) sieve and a maximum of 40% passing a 3/8 inch (9.5mm) sieve, in accordance with TMECC 02.02-B, "Sample Sieving for Aggregate Size Classification". (Note: in the field, product commonly is between 1/2 in./12.5mm and 2 in./50 mm in particle size.)
- Moisture content of less than 60% in accordance with standardized test methods for moisture determination.
- Material shall be relatively free (<1% by dry weight) of inert or foreign manmade materials.
- Sock containment system for compost filter media shall be a photodegradable or biodegradable knitted mesh material and should have 1/8 in. to 3/8 in., openings.

Brush Barrier - Sd1-BB

(Only during timber clearing operations)
Brush obtained from clearing and grubbing operations may be piled in a row along the perimeter of disturbance at the time of clearing and grubbing. Brush barriers should not be used in developed areas or locations where aesthetics are a concern. Brush should be wind-rowed on the contour as nearly as possible and may require compaction. Construction equipment may be utilized to satisfy this requirement. The minimum base width of the brush barrier shall be 5 feet and should be no wider than 10 feet. The height of the brush barrier should be between 3 and 5 feet tall. A brush barrier is a good tool to use in developing pasture in an agricultural situation to prevent sediment from leaving the site until the pasture is stabilized. If greater filtering capacity is required, a commercially available sediment barrier may be placed on the side of the brush barrier receiving the sediment-laden runoff. The lower edge of the fabric must be buried in a 6-inch deep trench immediately uphill from the barrier. The upper edge must be stapled, tied or otherwise fastened to the brush barrier. Edges of adjacent fabric pieces must overlap each other. See Figure 6-27.5.

Installation

Sediment barriers should be installed along the contour. Temporary sediment barriers shall be installed according to the following specifications as shown on the plans or as directed by the design professional. For installation of the barriers, see Figures 6-27.1, 6-27.2, 6-27.3 and 6-27.4, respectively. It is important to remember that not all sediment barriers need to be trenched into the ground but most taller sediment barriers do. Post installation shall start at the center of a low point (if applicable) with the remaining posts spaced no greater than 6 feet apart for Type NS sediment barriers and no greater than 4 feet apart for Type S sediment barriers. For post size requirements, see Table 6-27.2. Fasteners for wood posts are listed in Table 6-27.3

Static Slicing Method

The static slicing machine pulls a narrow blade through the ground to create a slit 12" deep, and simultaneously inserts the silt fence fabric into this slit behind the blade. The blade is designed to slightly disrupt soil upward next to the slit and to minimize horizontal compaction, thereby creating an optimum condition for compacting the soil vertically on both sides of the fabric. Compaction is achieved by rolling a tractor wheel along both sides of the slit in the ground 2 to 4 times to achieve nearly the same or greater compaction as the original undisturbed soil. This vertical compaction reduces the air spaces between soil particles, which minimizes infiltration. Without this compaction infiltration can saturate the soil, and water may find a pathway under the fence. When a silt fence is holding back several tons of accumulated water and sediment, it needs to be supported by posts that are driven 18 inches into the soil. Driving in the posts and attaching the fabric to them completes the installation.

Trenching Method

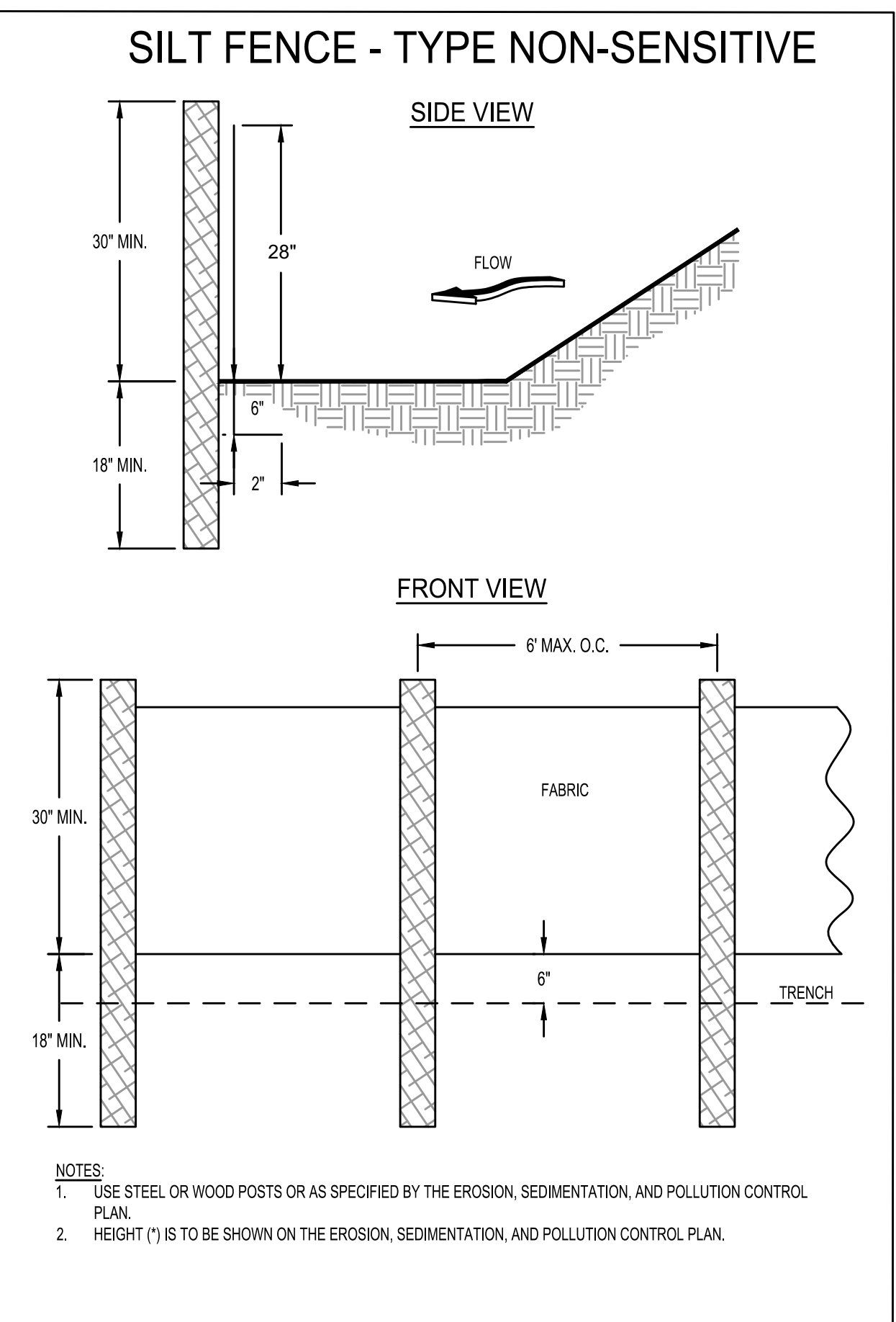
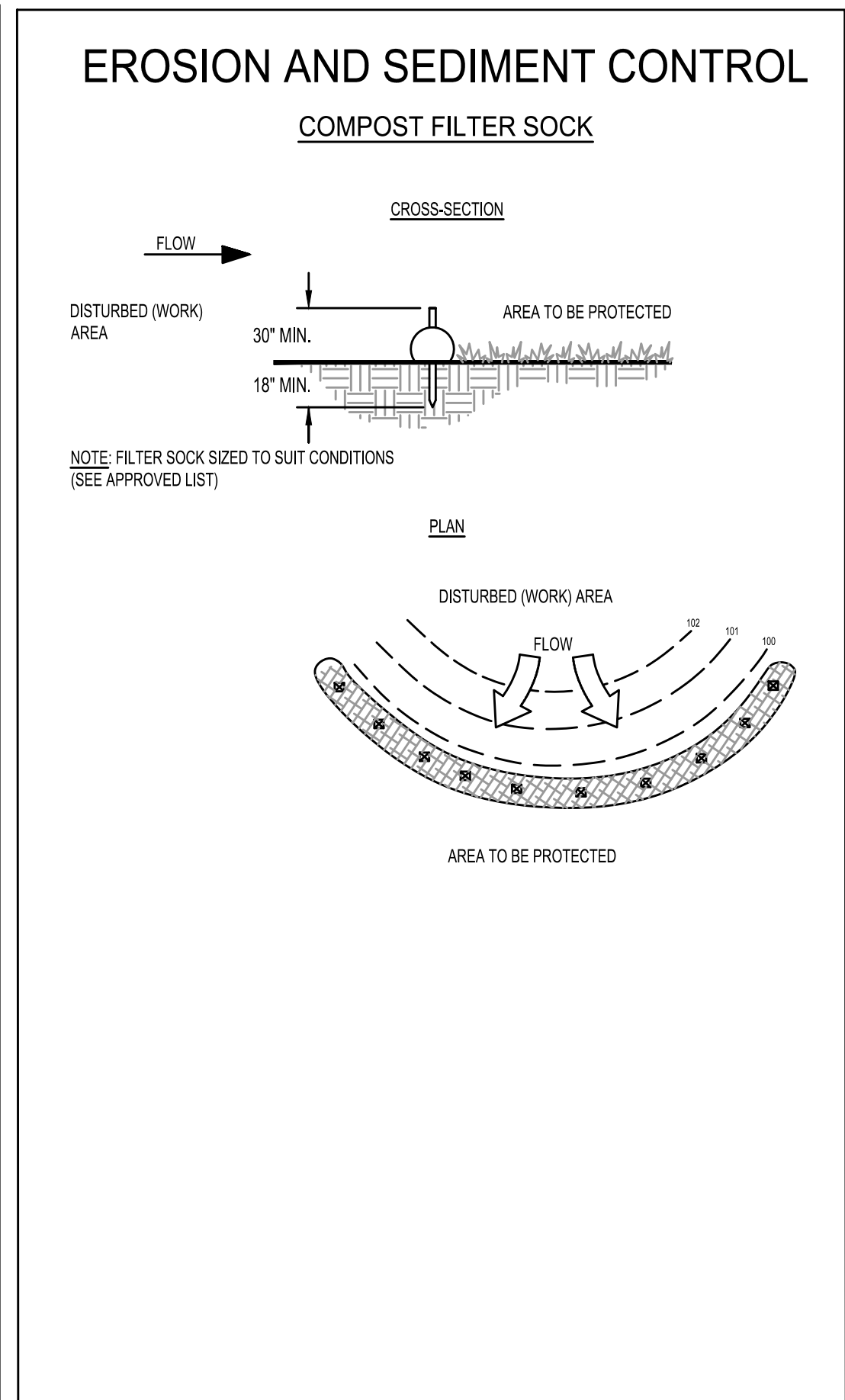
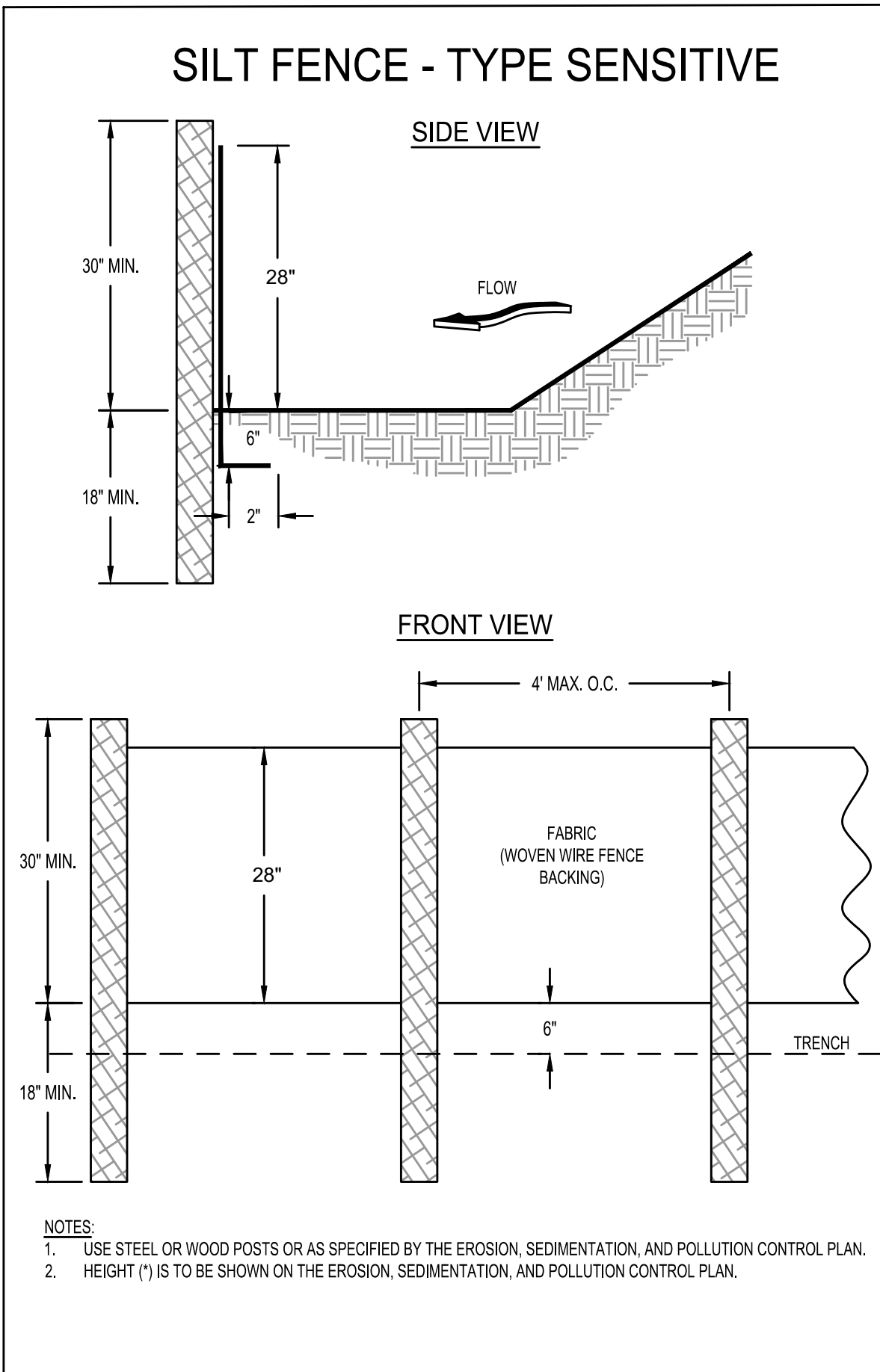
Trenching machines have been used for over twenty-five years to dig a trench for burying part of the filter fabric underground. Usually the trench is about 2"-6" wide with a 6" excavation. Post setting and fabric installation often precede compaction, which make effective compaction more difficult to achieve. EPA supported an independent technology evaluation (ASCE 2001), which compared three progressively better variations of the trenching method with static slicing method. The static slicing method performed better than two lower performance levels of the trenching method, and was as good as or better than the trenching method's highest performance level. The best trenching method typically required nearly triple the time and effort to achieve results comparable to the static slicing method. Along state water and other sensitive areas, two rows of Type S sediment barriers shall be used. The two rows Type S should be placed a minimum of 36 inches apart.

MAINTENANCE

Sediment shall be removed once it has accumulated to one-half the original height of the barrier.

Sediment barriers shall be replaced whenever they have deteriorated to such an extent that the effectiveness of the product is reduced (approximately six months) or the height of the product is not maintaining 80% of its properly installed height.

Temporary sediment barriers shall remain in place until disturbed areas have been permanently stabilized. All sediment accumulated at the barrier shall be removed and properly disposed of before the barrier is removed.



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C-8.3

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Rt Retrofitting

DESIGN CRITERIA

- The height of the retrofit should be approximately one-half the height of the structure.
- A retrofitted detention pond must be capable of storing the required volume of sediment in addition to the required stormwater volume. The required sediment storage volume shall be achieved by either excavating the basin or raising the outlet structure's invert to achieve 67 cubic yards per acre of sediment storage. Remove sediment when one-third of the sediment storage capacity, not total pond capacity, is lost to sediment accumulation. This volume shall be marked on the riser or by setting a marked post near the riser.
- For effective trapping efficiency, the sediment delivery inlets should be at the upper end of the basin.
- For effective trapping efficiency, the length-width ratio of the basin shall be at least 2:1. If the length-width ratio is not at least 2:1, the flow length shall be increased with the use of baffles installed within the basin.
- Discharging from sediment basins and impoundments require outlet structures that withdraw water from the surface, unless infeasible.

CONSTRUCTION SPECIFICATIONS

The following types of structures are acceptable under the designated conditions:

Perforated Half-Round Pipe with Stone Filter **Rt-P**
(See Figure 6-26.1)

- Should be used only in detention ponds with less than 30 acre total drainage area.
- Never to be used on exposed pipe end or winged headwall.
- Diameter of half-round pipe should be 1.5 times the diameter of the principal pipe outlet or wider than the greatest width of the concrete weir.
- Perforations and stone sizes are shown in Figure 6-26.1.
- Shall be affixed by specified means (bolts, etc) to concrete outlet structure.

Slotted Board Dam with Stone or Filter Fabric **Rt-B**
(See Figure 6-26.3)

- Can be used in detention ponds with drainage areas up to 100 acres, and on roadway drainage structures with drainage areas less than 30 acres.
- Can be used with open end pipe outlets, winged headwalls, or concrete weir outlets.
- Should be installed with minimum size 4x4 inch posts.
- Boards should have 0.5-1.0 inch space between them.
- Minimum size 3-4 inch stone filter or approved filter fabric shall be installed around the upstream side of the board dam.



Example of Slotted Board Dam

Silt Control Gate **Rt-Sg**
(See figure 6-26.3, 6-26.4, 6-26.5)

The silt control gate may be used for temporary sediment storage on linear construction projects including roadway construction or maintenance, and utility line installation. The following specifications shall apply:

- Shall only be used on roadway drainage structures with the following inlets: winged headwalls, tapered headwalls, straight headwalls, open end pipes, or flared end sections.
- Drainage area to the silt control gate shall not exceed 50 acres, and the disturbed area of the basin shall not exceed 5 acres.
- Post shall be 4"x4" treated lumber, and face boards shall be 2"x6" treated lumber with no spacing allowed between the boards.
- An approved silt fence fabric shall be securely fastened to the front of the structure using staples or nails.
- Sediment shall be removed and properly disposed of when it reaches one-third the height of the silt gate. Filter fabric shall be replaced when damaged or deteriorated.

f. Silt control gates should not be used as perimeter control alone, but instead be part of a treatment train that allows the drainage structure to discharge through another barrier before leaving the project.

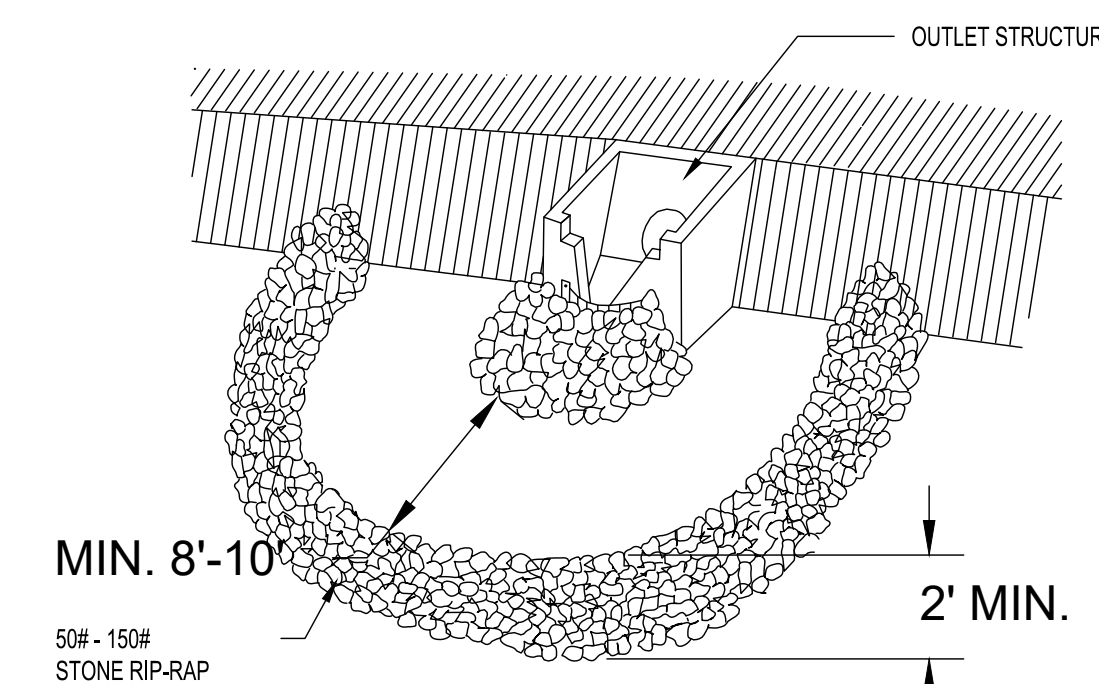
All disturbed areas shall be vegetated immediately after construction with permanent vegetation. Refer to **Ds3** and **Ds4 - Disturbed Area Stabilization (With Permanent Vegetation)** and **Disturbed Area Stabilization (With Sodding)** and **Ss- Slope Stabilization**.

MAINTENANCE

Retrofit structures shall be kept clear of trash and debris. This will require continuous monitoring and maintenance, which includes sediment removal when one-third of the sediment storage capacity has been lost. Structures are temporary and shall be removed when disturbed areas have been permanently stabilized.

STONE FILTER RING

PERSPECTIVE VIEW



St Storm Drain Outlet Protection

CONSTRUCTION SPECIFICATIONS

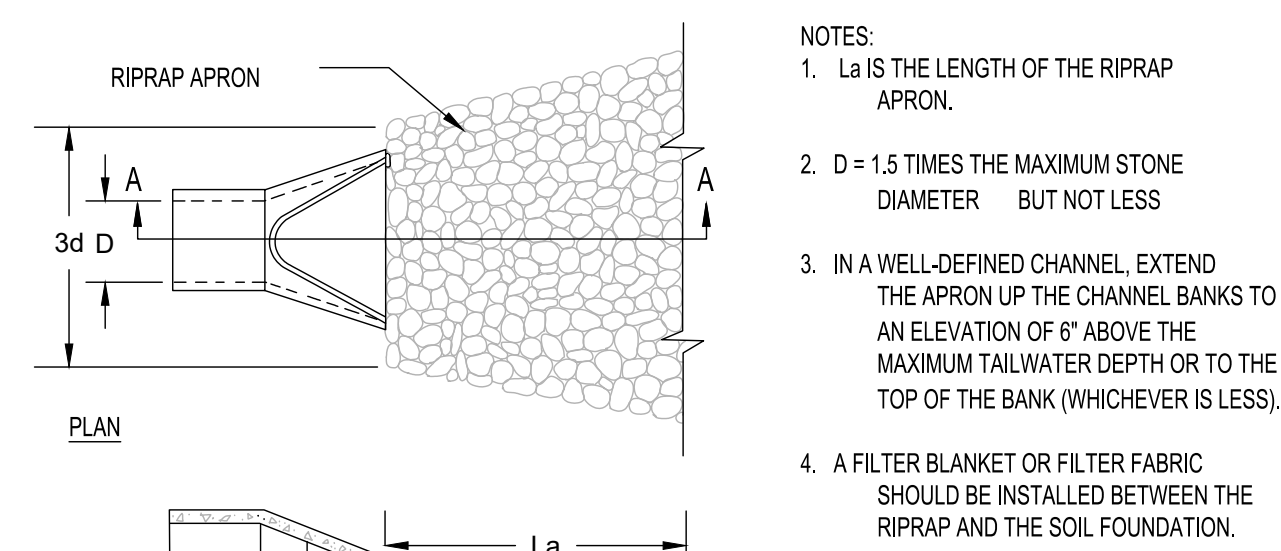
- Ensure that the subgrade for the filter and riprap follows the required lines and grades shown in the plan. Compact any fill required in the subgrade to the density of the surrounding undisturbed material. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.
- The riprap and gravel filter must conform to the specified grading limits shown on the plans.
- Geotextile must meet design requirements and be properly protected from punching or tearing during installation. Repair any damage by removing the riprap and placing another piece of filter fabric over the damaged area. All connecting joints should overlap a minimum of 1 ft. If the damage is extensive, replace the entire filter fabric.
- Riprap may be placed by equipment, but take care to avoid damaging the filter.
- The minimum thickness of the riprap should be 1.5 times the maximum stone diameter.
- Construct the apron on zero grade with no overfall at the end. Make the top of the riprap at the downstream end level with the receiving area or slightly below it.
- Ensure that the apron is properly aligned with the receiving stream and preferably straight throughout its length. If a curve is needed to fit site conditions, place it in the upper section of the apron.
- Immediately after construction, stabilize all disturbed areas with vegetation.
- Stone quality - Select stone for riprap from field stone or quarry stone. The stone should be hard, angular, and highly weather-resistant. The specific gravity of the individual stones should be at least 2.5.
- Filter - Install a filter to prevent soil movement through the openings in the riprap. The filter should consist of a graded gravel layer or a synthetic filter cloth. See Appendix C, p. C-1.

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.

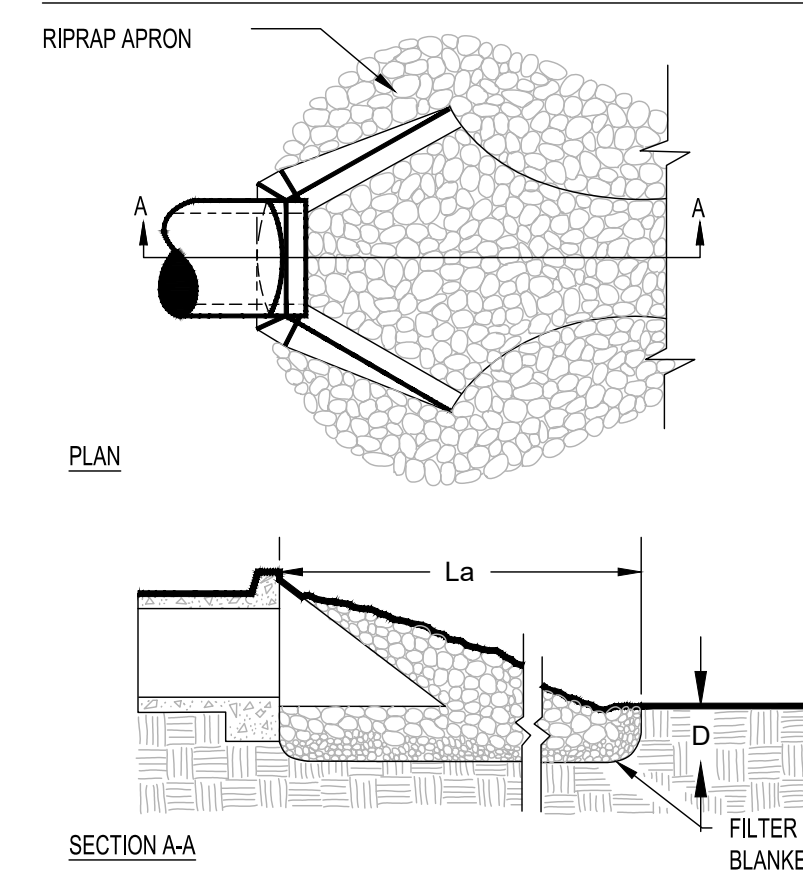
RIPRAP OUTLET PROTECTION

PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL



- NOTES:
- La IS THE LENGTH OF THE RIPRAP APRON.
 - D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS
 - 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).
 - A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND THE SOIL FOUNDATION.

PIPE OUTLET TO WELL DEFINED CHANNEL



Rd Rock Filter Dam

DESIGN CRITERIA

The following standards shall be followed:

Drainage Area:
The drainage area to the dam shall not exceed 50 acres.

Height
The dam should not be higher than the channel banks or exceed the elevation of the upstream property line. The center of the rock dam should be at least nine inches lower than the outer edges of the dam at the channel banks.

Side Slopes
The side slopes shall be 2:1 or flatter.

Location
The dam shall be located as close to the source of sediment as possible and so that it will not cause water to back up on upstream adjacent property or into state waters.

Stone Size
The stone size shall be determined by the design criteria established in **Riprap - Appendix C**. The rock dam can be faced with smaller stone on the upstream side for additional filtering effect. However, this may make the dam more prone to clogging.

Top Width
The width across the top of the dam should be no less than six feet.

Geotextile
Geotextiles should be used as a separator between the graded stone, the soil base, and the abutments. The geotextile will prevent the migration of soil particles from the subgrade into the graded stone. The geotextile shall be specified in accordance with AASHTO M288-96 Section 7.5, Permanent Erosion Control Recommendations. The geotextile should be placed immediately adjacent to the subgrade without any voids and extend five feet beyond the downstream toe of the dam to prevent scour.

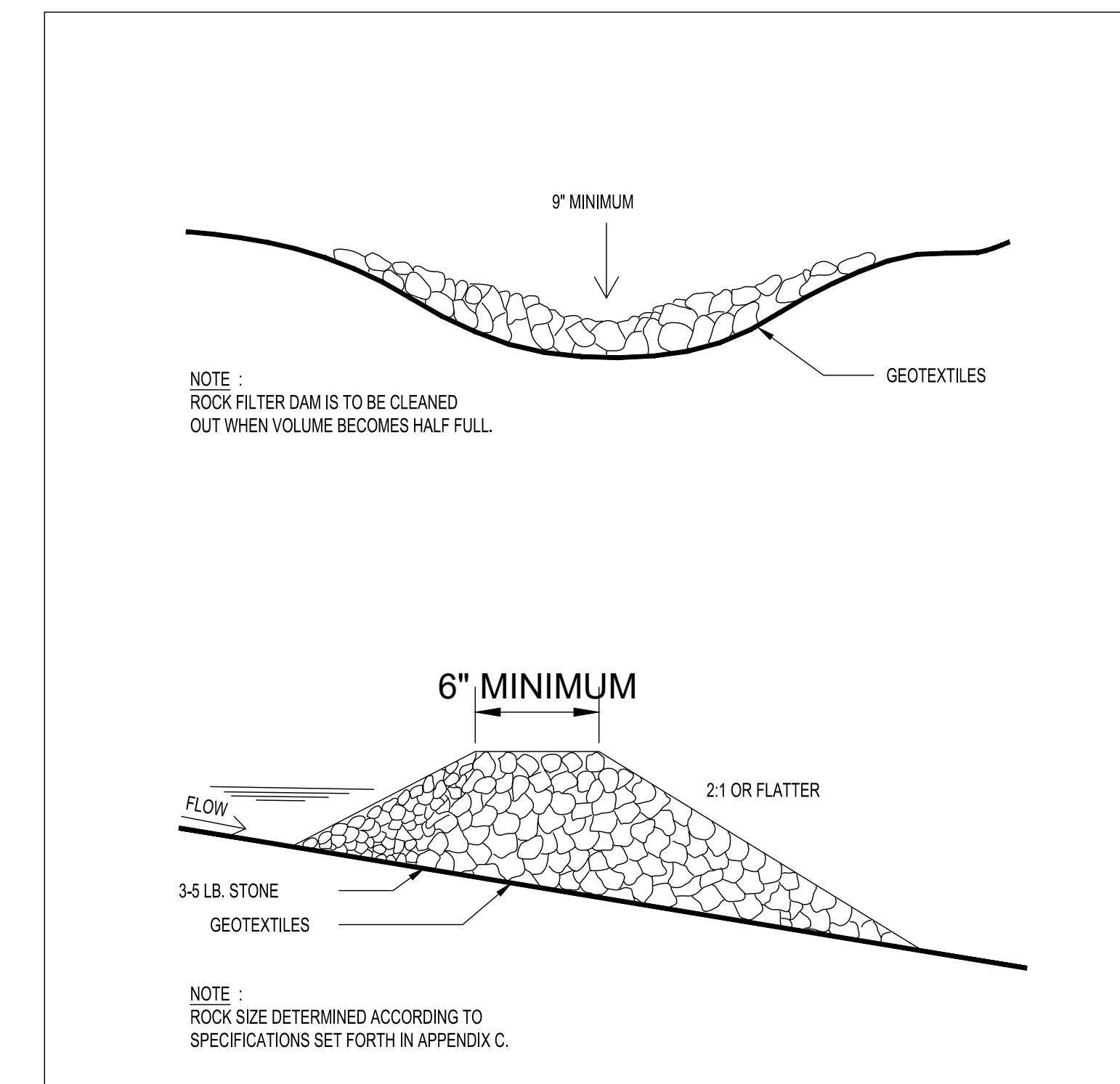
CONSTRUCTION SPECIFICATIONS

Mechanical or hand placement will be required to insure that the rock dam extends completely across the channel and securely ties into both channel banks. The center of the dam must be no less than nine inches lower than the lowest side, to serve as a type of weir. Gabions can be installed to serve as rock filter dams, but should follow recommended sizing and installation specifications. Refer to specification **Ga - Gabion**. See Figure 6-24.1

MAINTENANCE

Rock dams should be removed once disturbed areas have been stabilized. Periodic inspection and required maintenance must be provided. Sediment shall be removed when it reaches a depth of one-half of the original height of the dam.

ROCK FILTER DAM



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