



**GEORGIA DEPARTMENT OF
TRANSPORTATION**

**WORKSITE EROSION CONTROL
SUPERVISOR MANUAL**

2016



CONSTRUCTION OFFICE

Marc Mastronardi, P.E., CPESC, CPSWQ, CISEC

**Georgia Department Of
Transportation**

WORKSITE EROSION CONTROL MANUAL





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WECS PROGRAM AGENDA

8:00 TO NOON

- | | |
|----------------------|----------------------------|
| ➤ INTRODUCTION | ➤ UTILITIES |
| ➤ DEFINITIONS | ➤ STATE WATER BUFFERS |
| ➤ WECS | ➤ E&S INSPECTIONS |
| ➤ SPECIAL PROVISIONS | ➤ E&S MAINTENANCE |
| ➤ CORPS OF ENGINEERS | ➤ GRASSING |
| ➤ ESPCP | ➤ VIOLATIONS & ENFORCEMENT |

1:00 TO 4:00

- BMP'S
- QUESTIONS
- EXAM

**Georgia Department Of
Transportation**

WORKSITE EROSION CONTROL MANUAL



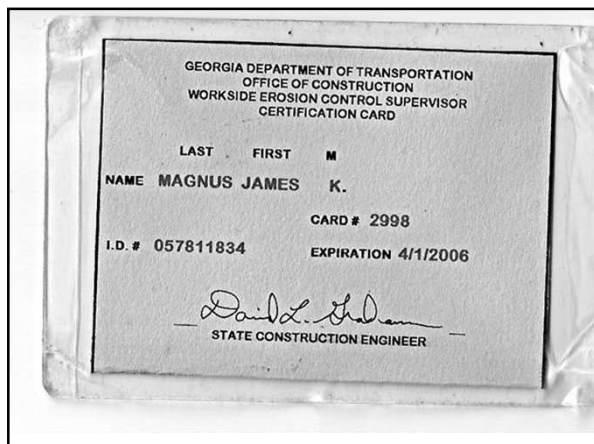
**WORKSITE EROSION
CONTROL SUPERVISOR
CERTIFICATION
TRAINING PROGRAM
2016**

**Today's Program
WECS Certification**

- Introduction
- Definitions
- WECS
- Special Provisions
- Corps of Engineers
- ESPCP
- Utilities
- State Water Buffers
- E&S Inspections
- E&S Maintenance
- Grassing
- Violations & Enforcement
- BMP's
- Test

Certification Status

- WECS & State Certification Separated
- WECS Certification Only Good for DOT Work
- WECS Training Does Not Meet Requirements for GASWCC Certified Person—Private, Local Government Work



Certification Status

- WECS Personnel Must Also Obtain GASWCC Certification for Level 1A Training
- Log on to: <https://gaswcc.georgia.gov/>



WECS Test Score

- Must make 70 to receive WECS Card
- It takes about 4 week to receive your card

CERTIFICATION IS VALID
FOR 3 YEARS

RE-CERTIFICATION REQUIRED WHEN
CARD EXPIRES OR IS REVOKED

GDOT LTAP Training Office
Comarletia Pierce

404-507-3437

or

1-800-573-6445

Department of
Transportation

Office of Construction

*Marc Mastronardi,
State Construction Engineer,
P.E., CPESC, CPSWQ, CISEC
404 - 631-1971*

INTRODUCTION

- WE ARE GOING TO DISCUSS THE W'S OF EROSION CONTROL AND RESPONSIBILITIES OF THE WECS.
- WHAT ARE THE W'S?

INTRODUCTION

- WHAT WHY
- WHO WHEN
- WHERE HOW
- WE WILL ANSWER THESE QUESTIONS FOR EACH SECTION OF THE PROGRAM

2015 EROSION CONTROL TOTALS:

- FY 2012 27 MILLION
- FY 2013 35 MILLION
- FY 2014 18 MILLION
- FY 2015 30 MILLION
- TOTAL 110 MILLION

(TOTALS BASED ON ITEMS LET IN FY)

Why spend the money?

Why place the emphasis on erosion control?

Here's Why

- Must comply with State and Federal Requirements
 - State Law Code Section 12-7
 - NPDES General Permit 100002
- Production/Time/Money Lost
- Protect the natural resources of Georgia.





Projects Monitored By:

- Corps of Engineers
- EPA / EPD
- Fish and Wildlife
- Georgia Conservancy
- Sierra Club
- River keepers
- Citizens

EPD Fines-Construction

- 8 Consent Orders from 2011-2015
- Fine Total = \$ 99,700

JUL 30 2015

RECEIVED

AUG - 3 2015

CHIEF ENGINEER'S OFFICE

Georgia Department of Transportation
 Meg Pirkle, P.E., Chief Engineer
 One Georgia Center
 600 West Peachtree NW
 Atlanta, GA 30308

RE: **CONSENT ORDER (Order)**
 NH00-0002-07(023) PI# 162390
 GAR235607
 White County

Dear Ms. Pirkle:

It is the responsibility of the Georgia Department of Natural Resources, Environmental Protection Division (EPD) to enforce the provisions of the Georgia Water Quality Act, O.C.G.A. 12-5-20 as amended as well as the Rules and Regulations adopted to insure proper administration of this Act.

Representatives of the EPD have documented noncompliance of the subject facility with the Act and the Rules. The enclosed proposed Order is to provide an amicable disposition of the alleged violations. Please return the signed original Order within fifteen (15) days of receipt this correspondence to:

Environmental Protection Division
 Mountain District Office
 Post Office Box 3250
 Cartersville, Georgia 30120

One Georgia Center
 600 West Peachtree NW
 Atlanta, GA 30308

CONSENT ORDER

WHEREAS, Georgia Department of Transportation (hereinafter "Respondent") is responsible for the construction activities located at the west Cleveland Bypass from Hope Drive to SR 115 known as NH00-0002-07(023) PI# 162390 (hereinafter "Site"), White County, Georgia; and

Authority

WHEREAS, under the "Georgia Water Quality Control Act" as amended O.C.G.A. § 12-5-20 et seq. (hereinafter the "Water Quality Act"), the General Assembly of Georgia designated the Director of the Georgia Department of Natural Resources, Environmental Protection Division, (hereinafter the "Director" and the "Division") to administer the provisions of the Water Quality Act; and

WHEREAS, the Rules for Water Quality Control, Chapter 391-3-6, as amended, (hereinafter "Rules") required under O.C.G.A. § 12-5-23 of the Water Quality Act, were established and became effective; and

WHEREAS, O.C.G.A. § 12-5-23 of the Water Quality Act, assigns the Director the authority to issue permits stipulating in each permit the conditions or limitations under which such permit was issued and the authority to issue orders as may be necessary to enforce compliance with the provisions of the Act and all rules and regulations promulgated thereunder;

Regulatory Agency Visits

EPA, EPD, COE, F&W

- **Contact the ECB and the Construction Office or the appropriate Liaison within 24 hours of the visit. Provide project number and county.**
- **If you know in advance of a visit, contact ECB, Erosion Control Liaison or Construction Liaison.**

Regulatory Agency Visits

■ **I.D.**

- Ask for identification or business card.
- Record their name and title.
- Get their office address and phone number.

■ **Cooperate**

- Answer their questions the best you can.
- Show any erosion control records they ask to see.
However, if they have others with them that are not EPD/EPA/COE employees be careful.

Regulatory Agency Visits

■ **Violations**

- If they point out a violation do not argue with them. Make sure you clearly understand the nature and location of the violation.
- DO NOT ask for recommendations from the inspector on how to make corrections.
- DO NOT volunteer to add or delete items without discussing with ECB or Liaison.
- If the inspector gives instructions or directions on adding items to correct the violation, note this and contact ECB or the Construction Office, before adding any items.

Regulatory Agency Visits

■ **Correspondence**

- Before they leave ask if they will be sending any correspondence concerning their visit and inspection.
- Remind them to address any correspondence or further communication to the Project Engineer and the contractor. If they issue a NOV or CO, ask them to include the contractor as the "operator".
- Forward copies of any correspondence from these agencies to the Construction Office and ECB.

NPDES

- National Pollutant Discharge Elimination System
- Created by the federal Clean Water Act to control water pollution by regulating the discharge of pollutants from construction projects.

HOW DO WE DO IT?

- THE WECS IS RESPONSIBLE FOR ENSURING PROJECTS REMAIN IN COMPLIANCE.
- A WECS IS A STEWARD OF THE ENVIRONMENT THAT IS ON CALL 24 HOURS A DAY.

HOW DO WE DO IT?

- THE WECS IS HOW.
- THE WECS OR THEIR REPRESENTATIVE IS RESPONSIBLE FOR REVIEWING AND REPORTING THE **LOCATION AND PERFORMANCE AND CONDITION** OF EVERY BMP ON THE PROJECT.
- HOWEVER, THE WECS IS REPSONSIBLE FOR SIGNING AND SUBMITTING THE REPORTS.

HOW DO WE DO IT?

- THE WECS IS THE COORDINATOR OF ALL LAND DISTURBING ACTIVITIES ON THE PROJECT.

Erosion and Sedimentation Process

Erosion

- Process whereby soil particles are dislodged by rainfall and carried away by water, wind, ice or gravity.
- The annual impact energy of raindrops has been estimated to be equivalent to 10 thousand tons of T.N.T. per square mile.
- Water flowing over exposed areas loosens soil particles and as the velocity increases, additional soil particles are detached.

Erosion

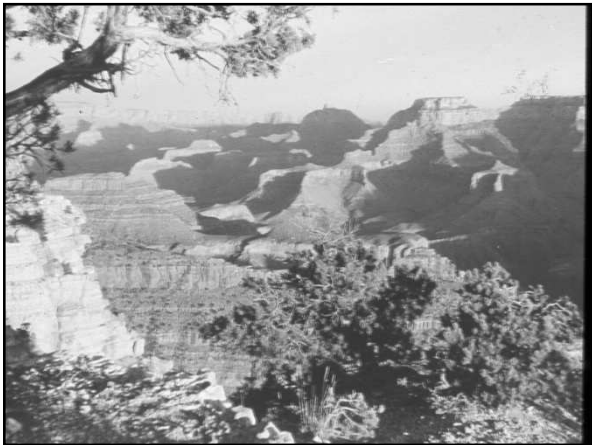
- As the velocity and volume of runoff increase in unprotected channels erosion becomes more severe.
- Reduction of velocity and volume of flow will result in less erosion on sites.

Erosion Factors

- Soil type (i.e.) sand, silt, clay
- Topography
- Vegetative cover
- Climate
- Which do we have control over?







Sedimentation

- Sedimentation is the process where soil particles settle out of suspension as the velocity of water decreases.
- Heavier particles, gravel and sand, settle out faster than fine silt and clay particles.
- The reddish color of Georgia's streams are usually the result of suspended clay particles.







SITE CONDITIONS CHANGE FOR
TWO REASONS:

- 1. A RESULT OF THE WORK
- 2. A RESULT OF THE WEATHER
- **YOU CONTROL ONE REASON AND
SHOULD ALWAYS BE PREPARED FOR
THE OTHER.**

INTRODUCTION

Worksite Erosion Control Supervisor (WECS). What does it mean to be a WECS? It is a tremendous responsibility to be named a WECS on a GDOT construction project. A WECS is a steward of the environment, on call 24 hours a day, and has access to equipment and personnel. Those are some of the qualities that can be gleaned from contract special provisions and specifications. The WECS is the person GDOT is looking to for the answers to controlling erosion and sedimentation on GDOT projects. The responsibilities of the WECS job begins before clearing starts and continues until all land disturbing activities are complete and the Notice of Termination has been submitted and accepted.

When violations occur it's the WECS that answers the questions and makes corrections. When fines are levied and consent orders are received, it's often the WECS that answers the questions.

The WECS is responsible for the proper installation and timely maintenance of all BMP's. Erosion and sediment control does not stop with the end of land disturbing activities. The permanent BMP's are to be monitored and maintained until the NOT is submitted. The WECS is responsible for ensuring the location and performance of every BMP on the project is reviewed and modified as needed to ensure compliance with contract requirements, including rules, regulations, laws and permits.

The WECS is the coordinator of all land disturbing activities on the project. The WECS must remain in contact with all entities performing any land disturbing activity, including utilities to ensure the entire project is in compliance and all BMP's are properly installed and maintained.

The Department of Transportation recognizes the importance of protecting the waters and wetlands of the State. The use of effective erosion and sediment control is necessary to accomplish this goal. Continual emphasis must be placed on BMP installation and maintenance for every construction project. This workbook and course have been developed to assist you in the proper installation, inspection, maintenance and reporting of BMP's.

The Department of Transportation has let to contractors over \$ 110 million on temporary and permanent erosion control devices statewide in the last 4 fiscal years (2012-2015). The Department is dedicated to controlling erosion and sediment on construction projects. The Department is providing the necessary tools to control erosion and sediment. Yet we continue to report violations to regulatory agencies for failure to maintain BMP's, and violations of state water buffers. **The Worksite Erosion Control Supervisor (WECS) and the Project Engineer are the captains of the team that must work together to eliminate failures and violations.**

DEFINITIONS

- THIS SECTION OF THE MANUAL PROVIDES DEFINITIONS OF THE MOST COMMON USED TERMS AND ACRONYMS THAT OCCUR IN EROSION CONTROL.

DEFINITIONS

- NPDES: MEANS THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM. GDOT OPERATES UNDER NPDES GAR 100002 INFRASTRUCTURE PERMIT.

DEFINITIONS

- NPDES GAR 100002 Permit for Infrastructure Construction Projects.
- All DOT projects are covered by the Infrastructure Permit.

DEFINITIONS

- **Primary Permittee** – means the Owner or Operator or both of a tract of land for an infrastructure construction project.
- **Owner** – means the legal title holder to the property.
- **Operator** – means the entity that has day to day control of the activities on the site.



DEFINITIONS

2016

1. "Best Management Practices" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent and minimize erosion and resultant sedimentation, which are consistent with, and no less stringent than, those practices contained in the "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted to prevent or reduce the pollution of waters of Georgia. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
2. "Buffer" means the area of land immediately adjacent to the banks of state waters in its natural state of vegetation, which facilitates the protection of water quality and aquatic habitat.
3. "Certified Personnel" means a person who has successfully completed the appropriate certification course approved by the State Soil and Water Conservation Commission.
4. "Checkdam" means a temporary barrier constructed across a swale, drainage ditch, or area of concentrated flow.
5. "Commencement of Construction" means the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.
6. "Consent Order" means a document from a regulatory agency as a result of a violation of the E&S law or NPDES permit. Typically associated with a monetary fine and/or mitigation.
7. "Commission" means the Georgia Soil and Water Conservation Commission (GSWCC). This is a state commission.
8. "Construction Activity" means the disturbance of soils associated with clearing, grading, excavating, filling of land, or other similar activities which may result in soil erosion. Construction activity does not include agricultural and silvicultural practices, but does included agricultural buildings.
9. "COE" means the Corps of Engineers. This is a federal agency that has jurisdictional control over waterways and wetlands.

10. "CPESC" means Certified Professional in Erosion and Sediment Control with current certification by EnviroCert International, Inc.(www.EnviroCertInt.org)
11. "CWA" means Federal Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972).
12. "Deficiency" means BMP's are not properly designed, installed or maintained. BMP's are not up to normal standards or lack in quality.
13. "Design Professional" means a professional licensed by the State of Georgia in the field of: engineering, architecture, landscape architecture, forestry, geology, or land surveying; or a person that is a Certified Professional in Erosion and Sediment Control (CPESC) with a current certification by EnviroCert International, Inc. Design Professionals shall practice in a manner that complies with applicable Georgia law governing professional licensure.
14. "Director" means the Director of the Environmental Protection Division or an authorized representative.
15. "Division" means the Environmental Protection Division of the Department of Natural Resources.
16. "Drainage structure" means a device composed of a virtually non-erodible material such as concrete, steel, plastic, or other material that conveys water from one place to another by intercepting the flow and carrying it to a release point for storm water management, drainage control, or flood control purposes.
17. "ECB" means the Environmental Compliance Bureau. This is a GDOT internal function.
18. "EPD" means the Environmental Protection Division. Also known as the "Division". This is a state agency and a part of the Department of Natural Resources.
19. "EPA" means the Environmental Protection Agency. This is a federal agency.
20. "Erosion, Sedimentation and Pollution Control Plan" or "E & S Plan" means a plan for the control of soil erosion, sediment and pollution resulting from a construction activity.

21. "ESA" means environmental sensitive area. An area that contains resources that are environmentally, culturally or historically sensitive.
22. "Erosion" means the process by which land surface is worn away by the action of wind, water, ice or gravity.
23. "ESCL" means the Erosion Sediment Control Liaison Engineer. This is a GDOT internal person from the Office of Construction
24. "Exemption" means approval by GESA (Georgia Erosion and Sedimentation ACT – State Law) that allows land disturbing activity within a state water buffer. This does not require an application or approval from EPD.
25. "Filling" means the placement of any soil or solid material either organic or inorganic on a natural ground surface or an excavation.
26. "Filtercake" means the sediment that has accumulated on erosion control fabrics, such as silt fence, after the water has receded.
27. "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, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and a seeding of target crop perennials appropriate for the region). For infrastructure construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use.
28. "General Contractor" means the operator of the infrastructure construction or site.
29. "GDOT" means the Georgia Department of Transportation.
30. "GSWCC" means Georgia Soil & Water Conservation Commission.
31. "Hydraulic Component"- those BMPs where the design is based upon rainfall intensity, duration, and return frequency of storms.

32. "Impossible" means the monitoring location(s) are either physically or legally inaccessible, or access would cause danger to life or limb.
33. "Infrastructure Construction" or "Infrastructure Construction Project" means construction activities that are not part of a common development that included the construction, installation and maintenance of roadway and railway projects and conduits, pipes, pipelines, substations, cables, wires, trenches, vaults, manholes and similar or related structures for the conveyance of natural gas (or other types of gas), liquid petroleum products, electricity, telecommunications (telephone, data, television, etc.), water, storm water or sewage.
34. "Infrastructure Company" or "Infrastructure Contractor" means, for the purposes of this Permit, an entity or sub-contractor that is responsible, either directly or indirectly, for infrastructure construction or an infrastructure construction project.
35. "J-Hook" means a device constructed of silt fence that turns back into the fill or slope to create pockets that trap sediment and force stormwater to filter through the silt fence.
36. "Land Disturbing Activity" means any activity which may result in soil erosion from water or wind and the movement of sediments into state water or onto lands within the state, including, but not limited to, clearing, dredging, grading, excavating, transporting, and filling of land but not including agricultural practices.
37. "Line Code" means the symbol used to represent a BMP on the ESPCP plan sheets.
38. "Local Issuing Authority" means the governing authority of any county or municipality which is certified pursuant to Official Code of Georgia Section 12-7-8(a).
39. "Mass Grading" means the movement of earth by mechanical means to alter the gross topographic features (elevations, slopes, etc.) to prepare a site for final grading and the construction of facilities (buildings, roads, parking, etc.).
40. "Maintenance" means the removal of accumulated sediment from BMP's and the repair of any damage to BMP's. Removal of sediment to original ground line (0% filled). This includes the removal of filtercake from fabric.

41. "NPDES" means the National Pollutant Discharge Elimination System. Federal permit that regulates the point source discharge of stormwater from construction sites to the waters of the state.
42. "Normal Business Hours" means Monday thru Friday, 8:00 AM to 5:00 PM, excluding any non-working Saturday, non-working Sunday and non-working Federal holiday.
43. "Nephelometric Turbidity Unit (NTU)" means a numerical unit of measure based upon photometric analytical techniques for measuring the light scattered by fine particles of a substance in suspension.
44. "NOI" means Notice of Intent to be covered by this permit (see Part II).
45. "NOT" means Notice of Termination (see Part VI).
46. "Operator" means the entity that has the primary day-to-day operational control of those activities at the facility necessary to ensure compliance with Erosion, Sedimentation and Pollution Control Plan requirements and permit conditions.
47. "Orange Barrier Fence" means the plastic fencing that is orange in color and placed adjacent to environmentally sensitive areas, including state water buffers.
48. "Other Water Bodies" means ponds, lakes, marshes and swamps which are waters of the State.
49. "Outfall" means the location where storm water, in a discernible, confined and discrete conveyance, leaves a facility or construction site or, if there is a receiving water on site, becomes a point source discharging into that receiving water.
50. "Owner" means the legal title holder to the real property on which is located the facility or site where construction activity takes place. For purposes of this permit, this definition does not include the legal title holder to property on which the only construction activity planned and being conducted is by a infrastructure company or infrastructure contractor and the legal title holder has no significant control over design and implementation of the construction activity.
51. "Permittee" means any entity that has submitted a Notice of Intent.

52. "Phase" or "Phased" means sub-parts or segments of infrastructure construction projects where the sub-part or segment is constructed and stabilized prior to completing the entire construction site.
53. "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure or container from which pollutants are or may be discharged. This term also means sheetflow which is later conveyed via a point source to waters of the State. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.
54. "Primary Permittee" means the Owner or the Operator or both of a tract of land for a construction project subject to this permit
55. "Proper design" and "properly designed" means designed in accordance with the design requirements and specifications contained in the "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted and amendments to the Manual as approved by the State Soil and Water Conservation Commission up until the date of NOI submittal.
56. "Qualified Personnel" means a person who has successfully completed an erosion and sediment control short course eligible for continuing education units, or an equivalent course approved by EPD and the State Soil and Water Conservation Commission. After December 31, 2006, a Qualified Person means a person who has successfully completed the appropriate certification course approved by the State Soil and Water Conservation Commission.
57. "Receiving Water(s)" means all perennial and intermittent waters of the State into which the runoff of storm water from a construction activity will actually discharge, either directly or indirectly.
58. "Roadway Project(s)" means traveled ways including but not limited to roads, sidewalks, multi-use paths and trails, and airport runways and taxiways. This term also includes accessory components to a roadway project that are necessary for the structural integrity of the roadway and applicable safety requirements. These accessory components include but are not limited to slopes, shoulders, storm water drainage ditches and structures, guardrails, lighting, signage, cameras and fences and exclude subsequent landscaping and beautification projects,

59. "Roadway drainage structure" means a device, such as a bridge, culvert, or ditch, composed of a virtually non-erodible material such as concrete, steel, plastic, or other such material that conveys water under a roadway by intercepting the flow on one side of a travel way consisting of one or more defined lanes, with or without shoulder areas, and carrying water to a release point on the other side.
60. "Sediment" means solid material, both organic and inorganic, that is in suspension, is being transported, or has been moved from its site of origin by, wind, water, ice, or gravity as a product of erosion.
61. "Sedimentation" means the action or process of forming or depositing sediment.
62. "Self-policing" means reporting violations of the NPDES permit to the appropriate regulatory agency within the time specified.
63. "Sheetflow" means runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel.
64. "Site" or "Construction Site" means a facility of any type on which construction activities are occurring or are to occur which may result in the discharge of pollutants from a point source into the waters of the State.
65. "Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.
66. "State Waters" means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and other bodies of surface or subsurface water natural or artificial, lying within or forming a part of the boundaries of the state.
67. "Structural Erosion and Sediment Control Practices" means measures for the stabilization of erosive or sediment producing areas by utilizing the mechanical properties of matter for the purpose of either changing the surface of the land or storing, regulating or disposing of runoff to prevent excessive sediment loss.
68. "Sub-contractor" means an entity employed or retained by the permittee to conduct any type of construction activity (as defined in this permit) at an infrastructure construction site. Sub-contractors must complete the appropriate certification course approved by the Georgia Soil and Water Conservation Commission in accordance with the provision of O.C.G.A. 12-7-19. Sub-contractors are not permittees unless they meet the definition of either a primary, secondary or tertiary permittee.

69. "Surface Water Drainage Area" means the hydrologic area starting from the lowest downstream point where the storm water from the construction activity enters the receiving water(s) and following the receiving water(s) upstream to the highest elevation of land that divides the direction of water flow. This boundary will connect back with the storm water entrance point. Boundary lines follow the middle of the highest ground elevation or halfway between contour lines of equal elevation.
70. "Trout Streams" means waters of the State classified as either primary trout waters or secondary trout waters, as designated in the Rules and Regulations for Water Quality Control, Chapter 391-3-6 at www.gaepd.org.
71. "USGS Topographic Map" means a current quadrangle, 7½ minute series map prepared by the United States Department of the Interior, Geological Survey.
72. "Utility Company or Utility Contractor" means, for the purpose of this Permit, an entity or sub-contractor that is responsible, either directly or indirectly, for the construction, installation and maintenance of conduits, pipes, pipelines, cables, wires, trenches, vaults, manholes, and similar structures or devices for the conveyance of natural gas (or other types of gas, liquid petroleum products, electricity, telecommunications (telephone, data, television, etc.), water, storm water, or sewage.
73. "Variance" means written approval from EPD that allows land disturbing activity to take place within a state water buffer. This requires an application being sent to EPD.
74. "Vegetative Erosion and Sediment Control Practices" means measures for the stabilization of erosive or sediment producing areas by covering the soil with: (1) permanent seeding, sprigging or planting, producing long term vegetative cover; (2) temporary seeding, producing short-term vegetative cover; or (3) sodding, covering areas with a turf of perennial sod forming grass.
75. "Violation" means the failure to properly design, install or maintain BMP's.

76. "Waters Supporting Warm Water Fisheries" means all waters of the State that sustain, or has the potential to sustain, aquatic life but excluding trout streams.
77. "Waters of Georgia" or "Waters of the State" means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, wetlands, and all other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the state which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation.
78. "WECS" means the Worksite Erosion Control Supervisor. This is a requirement of the Georgia Department of Transportation. This person must possess a current WECS certification card from the Department.
79. "WECS Alternate" means the person approved to temporarily assume the duties of the WECS.

WECS

- WHAT IS A WECS?
- WHY GDOT REQUIRES A WECS?
- WECS QUALIFICATIONS
- DUTIES OF A WECS
- WHEN ARE THE DUTIES PERFORMED?
- RESULTS OF NON-PERFORMANCE
- HOW GDOT EVALUATES A WECS



WHAT IS A WECS

- REF: SECTION 161.3
- WORKSITE EROSION CONTROL SUPERVISOR
- PERSON WITH OPERATIONAL CONTROL OF A CONSTRUCTION SITE
- HAS PROPER TRAINING FOR INSTALLATION, MAINTENANCE & REPORTING OF BMP'S

WHAT IS A WECS

- **AN EMPLOYEE OF THE PRIME CONTRACTOR**

(*The prime contractor may have an approved sub contractor perform the inspection duties but all associated paperwork **SHALL** be reviewed and signed by prime contractor's WECS)

- HAS THE AUTHORITY TO PERFORM THE DUTIES OF THE POSITION

WHAT IS A WECS

- COORDINATES WITH OTHER PARTIES & UTILITIES ON THE PROJECT PERFORMING LAND DISTURBING ACTIVITIES.
- ALTERNATE WECS – SUBSTITUTE WHO PERFORMS THE DUTIES WHEN THE WECS IS NOT AVAILABLE

WHAT IS A WECS

- A PERSON ABLE TO RECOGNIZE AREAS OF POTENTIAL EROSION AND TAKES INITIATIVE TO ADDRESS THESE AREAS BEFORE THEY BECOME PROBLEMS.
- THE SUPERVISOR OF THE SITE FOR EROSION & SEDIMENT ITEMS.
- A PERSON WHO THINKS AHEAD AND PLANS AHEAD.

WHY DOES GDOT REQUIRE A WECS ?

- REF OCGA 12-7 & NPDES GAR 100002
- GDOT DECISION TO IMPROVE ENFORCEMENT AND COMPLIANCE OF EROSION & SEDIMENTATION LAWS, RULES AND REGULATIONS.

WHY DOES GDOT REQUIRE A WECS ?

- IN ORDER TO PERFORM LAND DISTURBING ACTIVITIES (LDA) GDOT MUST COMPLY WITH APPLICABLE LAWS & PERMITS – i.e.- INSPECTIONS, RAINFALL DATA, WATER QUALITY MONITORING

WHY DOES GDOT REQUIRE A WECS ?

- THE STATE LAW ADDRESSES:
- BMP'S
- VIOLATIONS
- STATE WATER BUFFER / VARIANCE & EXEMPTIONS
- GSWCC CERTIFICATIONS
- PERMIT FEES - \$80.00 PER ACRE OF DISTURBED AREA

WHY DOES GDOT REQUIRE A WECS ?

- THE NPDES PERMIT ADDRESSES:
- NOTICE OF INTENT
- EROSION CONTROL PLAN (ESPCP)
- INSPECTIONS & REPORTS
- SAMPLING RECEIVING WATERS
- NOTICE OF TERMINATION

WECS QUALIFICATIONS

- REF SECTION 161.3
- SUBMIT WECS RESUME ON DOT FORM
- GDOT TO REVIEW FOR APPROVAL
- 24 HOUR CONTACT NUMBER
- AVAILABLE WITHIN 3 HOURS AFTER NOTIFICATION OF PROBLEMS

WECS RESUME

Form 82107

NAME:

EMPLOYER:

YEARS W/CURRENT EMPLOYER:

WECS CARD NO. & EXPIRATION DATE:

LEVEL IA CARD NO. & EXPIRATION DATE:

WECS EXPERIENCE:

(Including project descriptions, dates actively working on the project, and job title / capacity of service. Also detail any past periods of probation or removal from WECS duties.)
LIST EACH PROJECT BY TYPE (I.E., WIDENING, BRIDGE, INTERSTATE RECONSTRUCTION) AND COUNTY THAT YOU ARE CURRENTLY ASSIGNED TO AS WECS AND GIVE% EACH IS COMPLETE.

SIGNATURE:

SUPERINTENDENT SIGNATURE:

Submit this form at the preconstruction conference to the engineer for review and approval. Do not begin work without this approval.

WECS QUALIFICATIONS

- AT LEAST 1 YEAR EXPERIENCE AS A SUPERVISOR FOR INSTALLATION, MAINTENANCE AND REPORTING OF BMP'S
- EMPLOYEE OF THE PRIME CONTRACTOR
- SUCCESSFULLY COMPLETED THE GSWCC LEVEL 1A COURSE (or higher) & HAS A VALID CARD
- SUCCESSFULLY COMPLETES GDOT WECS COURSE & HAS A VALID CARD

DUTIES OF A WECS

- INSTALLATION, MAINTENANCE & REPORTING OF BMP'S
- PERFORM REQUIRED INSPECTIONS & SUBMIT REPORTS

DUTIES OF A WECS

- REF SECTION 161.3
- BE AVAILABLE 24 HOURS A DAY
- PERFORM OR DIRECT TO BE PERFORMED DAILY, WEEKLY & MONTHLY INSPECTIONS & AFTER RAINFALL OF ONE-HALF INCH OR MORE
- PROVIDE REPORTS OF INSPECTIONS ON PROPER FORM TO THE ENGINEER

DUTIES OF A WECS

- MAINTAIN & SUBMIT "AS-BUILT" EROSION CONTROL PLANS THAT GRAPHICALLY DEPICT EC-1 REPORTED BMP'S ON THE SITE.
- SUBMIT REPORTS WITHIN 24 HOURS OF THE INSPECTION
- PROVIDE NAME OF ALTERNATE TO THE ENGINEER 1 WEEK IN ADVANCE

DUTIES OF A WECS

- ENSURE EROSION CONTROL DEFICIENCIES ARE CORRECTED WITHIN 72 HOURS
- DEFICIENCIES THAT AFFECT TRAFFIC FLOW, SAFETY OR DOWNSTREAM TURBIDITY ARE TO BE CORRECTED IMMEDIATELY

DUTIES OF A WECS

- ENSURE THAT DISTURBED AREAS ARE GRASSED AND/OR MULCHED AS REQUIRED BY SPECIAL PROVISIONS
- MAINTAIN DUST CONTROL ON THE SITE
- **ENSURE ALL SUBS ARE IN COMPLIANCE WITH E&S REQUIREMENTS**



DUTIES OF A WECS

- CORRECT MINOR CONDITIONS THAT DEVELOP DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE PLAN, e.g. BETWEEN STAGING DETAILS, ETC
- DETERMINE MOST OPPORTUNE TIME TO INSTALL PERMANENT BMP'S
- REVIEW AREAS OF EQUIPMENT & MATERIAL STORAGE FOR PROBLEMS

DUTIES OF A WECS

- REVIEW AREAS OF FUEL STORAGE AND FUEL HANDLING FOR COMPLIANCE WITH GAR100002
- REVIEW THE LOCATION OF PORT-A-JOHNS FOR RISK TO RESOURCES
- REVIEW THE LOCATION & PERFORMANCE OF EVERY BMP







DUTIES OF A WECS

- PREVENT THE INITIAL MOVEMENT OF UNPROTECTED SOIL
- MONITOR THE PROJECT AND ADJUST BMP'S AS NECESSARY

WHEN ARE THESE DUTIES PERFORMED ?

- REF 161.3 & 167.3
- FROM THE NOTICE TO PROCEED UNTIL THE NOTICE OF TERMINATION
- INSPECT BMP'S, DAILY, WEEKLY, MONTHLY, AFTER RAINFALL, & AS DIRECTED BY THE ENGINEER

WHEN ARE THESE DUTIES PERFORMED ?

- ENSURE PERIMETER BMP'S ARE INSTALLED BEFORE OR IN CONJUNCTION WITH THE CLEARING OPERATION.





**WHEN ARE THESE DUTIES
PERFORMED ?**

- IT IS IMPERATIVE THAT NO CLEARING OR CONSTRUCTION OCCUR WITHIN AREAS NOTED AS AN "ESA"
- BEFORE WORK BEGINS REVIEW THE CONTRACT FOR PROJECT SPECIFIC SPECIAL CONDITIONS

**WHEN ARE THESE DUTIES
PERFORMED ?**

- **BEFORE WORK BEGINS**, REVIEW THE ESPCP PLAN SHEETS & PAY ITEMS
- ENSURE THERE ARE NO MISSING PAY ITEMS

**WHEN ARE THESE DUTIES
PERFORMED ?**

- REVIEW PROJECT SITE FOR POTENTIAL STATE WATERS NOT DESIGNATED ON PLANS BEFORE CLEARING BEGINS
- BEFORE CLEARING, PERFORM PROJECT WALK THRU ON THE ENTIRE PROJECT WITH APPROPRIATE CONSTRUCTION PERSONNEL (WECS, PROJECT SUPERINTENDENT, ECB, ESCL, CPM, ETC).

**WHEN ARE THESE DUTIES
PERFORMED ?**

- DETERMINE AREAS WHERE "ESA" ORANGE BARRIER FENCE (OBF) IS TO BE LOCATED
- ENSURE ORANGE BARRIER FENCE (OBF) IS INSTALLED OR THE ESA IS DELINEATED BEFORE CLEARING BEGINS.

**RESULTS OF NON
PERFORMANCE OF WECS
DUTIES**

- Ref: 161.3.01.A
- STOP WORK ORDER
- NON-REFUNDABLE DEDUCTIONS
- SUSPEND THE WECS FOR 30 DAYS

**RESULTS OF NON
PERFORMANCE OF WECS
DUTIES**

- DOUBLING OF NON-REFUNDABLES
- SUSPEND THE SUPERINTENDENT FOR 14 DAYS
- REVOKE CERTIFICATION OF WECS
- REMOVE SUPERINTENDENT FROM PROJECT

**RESULTS OF NON
PERFORMANCE OF WECS
DUTIES**

- FINES IMPOSED BY REGULATORY AGENCIES – STATE & FEDERAL
- CONSENT ORDERS FROM REGULATORY AGENCIES - STATE & FEDERAL
- PERIODIC INSPECTIONS BY REGULATORY AGENCIES

HOW GDOT EVALUATES A WECS ?

- THE CONSTRUCTION PROJECT MANAGER SHOULD CONSIDER THE PERFORMANACE OF THE WECS IN THE EVALUATION OF THE PRIME CONTRACTOR WHEN PROCESSING THE "REPORT OF CONTRACTOR'S PERFORMANCE".
- THIS REPORT IS FILLED OUT ON THE PRIME CONTRACTOR ON THE INTERMEDIATE AND FINAL PERFORMANCE.

GOALS OF THE WECS:

- BUILD THE PROJECT WHILE KEEPING EROSION TO A MINIMUM
- OBTAIN OPTIMIM EROSION CONTROL EFFICIENCY



WECS INDEX

- 1. WHAT IS A WECS**
- 2. WHY DOES GDOT REQUIRE THIS**
- 3. WECS QUALIFICATIONS**
- 4. WHAT ARE THE DUTIES OF A WECS**
- 5. WHEN ARE THESE DUTIES PERFORMED**
- 6. RESULTS OF NON PERFORMANCE OF WECS DUTIES**

WHAT IS A WECS

REF: Section 161.3:

WECS – is an acronym for Worksite Erosion Control Supervisor.

A WECS is the individual who has day to day operational control of the erosion and sediment control on a construction site. The WECS is an individual that has had the appropriate training concerning the installation, inspection, maintenance and reporting of BMPs. As the acronym states this individual is the supervisor of the site responsible for controlling erosion.

WECS is the employee who has the total responsibility of ensuring all BMP's (temporary and permanent) are properly installed and maintained.

WECS is a person who can recognize areas of potential erosion and sedimentation problems without the input of the Engineer and takes initiative to recognize and address areas before they become problems.

WECS is a person who has the authority to perform the duties required of this position. This person must coordinate on a daily basis with the responsible parties of all land disturbing operations on the project.

A WECS Alternate – is a substitute who performs the duties of WECS, when the WECS is not available. The Alternate shall be approved by the Engineer prior to assuming the duties of the WECS.

WHY DOES GDOT REQUIRE THIS

Ref: OCGA 12-7 & NPDES GAR 1000002

Why does GDOT require this?

To improve the enforcement and compliance of erosion and sedimentation laws, rules and regulations.

The requirements of the WECS have been developed as a result of the State of Georgia Erosion and Sedimentation Control Act (GESA) OCGA 12-7. Also the Environmental Protection Agency, National Pollutant Discharge Elimination System (NPDES) Permit.

The law and the permit both have requirements that GDOT must comply with in order to perform land disturbing activities that disturb one acre or more.

The GESA addresses the requirements of GDOT for Erosion Control:

Best management practices (BMPs)

Violations

Stream buffers/variances/exemptions

GASWCC certifications

Local issuing authorities

Permit fees - \$80.00 per acre of disturbed area on every project

The NPDES permit addresses the following:

Notice of Intent

Erosion, Sedimentation & Pollution Control Plan (ESPCP)

Inspections & Reports

Sampling of Receiving Waters

Notice of Termination

WECS QUALIFICATIONS

REF: Section 161.3:

The Qualifications of the WECS and alternate are :

- A. An employee of the prime contractor on a GDOT construction site.
The WECS is the twenty four (24) hour contact person as required by the current NPDES permit.
- B. Have the ability to be on site within three (3) hours after receiving notification of an issue that needs the attention of the WECS.
- C. Shall have at least one year of experience directly related to the installation, maintenance and reporting of BMP's, in a supervisory capacity.
- D. **Successfully completed the Georgia Soil and Water Conservation Commission Certification course Level IA (or higher) and has a valid certification card.**
- E. **Successfully completed the Departments WECS certification course and has valid certification card.**
- F. Provide phone numbers where the WECS can be contacted twenty four (24) hours a day.

WHAT ARE THE DUTIES OF THE WECS?

REF: Section 161.3:

Duties of the WECS and alternate:

- A. Be available or have an approved representative (alternate WECS) available 24 hours a day and have access to the equipment, personnel, and materials needed to maintain erosion control and flooding control.
- B. **Perform or direct to be performed the inspections of BMPs and stabilized areas, daily, weekly, monthly and after rainfall of one-half inch (1/2") or greater.**
- C. **Maintain and submit for project record, "As-built" Erosion, Sedimentation and Pollution Control Plans (ESPCP) that supplement and graphically depict EC-1 reported additions and deletions of BMPs.**
- D. Provide to the project engineer a written report of the status/condition of the BMPs found during the inspections. This report is to be provided within twenty four (24) hours of the inspection. This report to be prepared on form DOT EC-1.
- E. Submit to the Engineer in writing whenever the alternate WECS assumes project responsibilities. This is to be submitted a minimum of one (1) week in advance of the alternate assuming the WECS duties.
- F. **Ensure that erosion control deficiencies are corrected within seventy two (72) hours or immediately during emergencies. Deficiencies that interfere with traffic flow, safety or downstream turbidity are to be corrected immediately.**

- G. During heavy rain, have the construction area patrolled day or night, any day of the week to detect and correct erosion or flooding problems before they interfere with traffic flow, safety, or downstream turbidity.
- H. Be on the site three (3) hours after receiving notification of an emergency. The Department may handle emergencies without notifying the Contractor. The Department will recover costs for emergency maintenance work according to [Subsection 105.15, "Failure to Maintain Roadway or Structures."](#)
- I. The WECS and alternate shall maintain a current certification card for the duration of the project. Recertification of the WECS and alternate will be required prior to the expiration date shown on the Certification card in order to remain as the Certified Personnel and the WECS for the project.
- J. Ensure that disturbed areas are stabilized (grassed or mulched) as required by GDOT specifications and special provisions.
- K. Maintain dust control on the entire project.
- L. Ensure all sub-contractors involved in land disturbing activities or drainage structure work are in compliance with all GDOT specifications, special provisions, and any permit requirements or law requirements.
- M. Ensure clearing does not exceed seventeen (17) acres. Ensure grading operations do not exceed seventeen (17) acres. Obtain written approval from the State Construction Engineer to exceed the seventeen (17) acre limit. **If approval to exceed seventeen (17) acres is granted the WECS shall not be assigned to another project in that capacity and should remain on site at all times the exposed acreage exceeds seventeen (17) acres.**
- N. Correct any conditions that develop during construction that were unforeseen during the design stage.

- O. Determine the most opportune time to install permanent BMPs.
- P. Review areas of equipment storage and material storage for potential problems and sources of pollutants.
- Q. Review locations of port-a johns for risk to resources.
- R. Review areas of fuel storage and fuel handling.
- S. Review all vehicle access points to the project.
- T. The location and performance of every BMP shall be continuously reviewed by the WECS or certified personnel and modified as needed to meet the goals of the WECS.
- U. Submit a WECS resume at the Preconstruction conference to the Engineer for review and approval. Approval by the Engineer is required prior to beginning construction (including clearing).

WHEN ARE THESE DUTIES PERFORMED?

REF: Section 161.3 & 167.3:

From the Notice to Proceed (NTP) to the Notice of Termination (NOT).

The duties of the WECS begin before land disturbing activity begins. Along with the Engineer, review the areas where ESA (environmentally sensitive area) fence is to be installed and ensure that installation is performed either before clearing and grubbing begins, or is installed in conjunction with in that area. Ensure perimeter BMPs are installed either before or in conjunction with clearing and grubbing. **It is imperative the WECS ensure no clearing or construction activities occur within the demarked ESAs.**

Inspection of BMP's is to occur:

Daily Weekly Monthly After Rainfall

As Directed

Refer to the Inspections Section of this manual for more information on the frequency of inspections and instructions for inspections.

Time frame for corrections to BMPs is within seventy two (72) hours or the time specified by the Engineer.

Prior to the onset of clearing and grubbing, review the project special provisions and plans. Look for conditions that are specific to your project. Review the erosion control plans and erosion control pay items. Ensure all items shown on the plan sheets have a corresponding pay item. Inform the Engineer of any discrepancies prior to beginning work.

RESULTS OF NON PERFORMANCE OF WECS DUTIES

REF: Section 161.5

Results of Non Performance of Duties by the WECS.

Stop work order.

Non-refundable deductions.

Suspend the WECS for 30 calendar days.

Doubling of non-refundable deductions.

Remove the Contractor's superintendent for 14 calendar days.

Department wide revocation of WECS certification for 12 months.

Removal of Contractor's superintendent.

Fines imposed by regulatory agencies (state and federal).

Consent orders from regulatory agencies (state and federal).

Periodic inspections by regulatory agencies.

Erosion Control
Special Provisions

SECTION 107.23
Environmental
Considerations

- WILL VARY PER PROJECT BASED ON SPECIAL CONDITIONS:
- ENVIRONMENTAL:
- HISTORICAL:
- ENDANGERED SPECIES:

Environmental Considerations

Roadway and Bridge Construction

107.23.A

- Erosion control measures shall be installed, to the greatest practical extent, prior to clearing and grubbing. Particular care shall be exercised along stream buffers, wetlands, open waters and other environmentally sensitive areas to ensure that these areas are not adversely affected.
- Construction equipment shall not cross streams, rivers, or other waterways except at temporary stream crossing structures shown on plans or as allowed by permit.
- Construction activities within wetland areas are prohibited except for those within the construction limits as shown on the plans and as specified in Subsection 107.23.E.
- All sediment control devices(except sediment basins) installed on a project shall, as a minimum, be cleaned of sediment when one half the capacity, by height, depth or volume has been reached. Sedimentation basins shall be cleaned of sediment when one third of the capacity by volume has been reached.



Environmental Considerations

Bridge Construction Over Waterways

107.23.B

- Construction waste and debris, from bridge construction or demolition, shall be prevented from being allowed to fall or be placed into wetlands, streams, rivers, or lakes.
- Excavation, dewatering, and cleaning of cofferdams shall be performed in such a manner as to prevent siltation. Pumping from cofferdams to a settling basin or a containment unit will be required if deemed necessary by the Engineer
- Operations required within rivers or streams, I.e. jetting or spudding, shall be done within silt containment areas, cofferdams, silt fence, sediment barriers or other devices to minimize migration of silt off the project.



Environmental Considerations

Borrow and Excess Materials Pits

107.23.C

- Specific written environmental clearance from the Engineer will be required for any site not included in the Plans as excess materials or borrow areas.
- The Engineer will require a written notice from the Contractor requesting environmental clearance studies and written permission from the property owner at least six weeks prior to intended use on the site. The Department will not begin studies on such sites before the Notice to Proceed is issued.

Environmental Considerations

Borrow and Excess Material Pits

107.23.C

- The Engineer will inform the Contractor in writing as to the granting or denial of environmental clearance. If denied, the Contractor may, at no expense to the Department, seek to obtain permits or pursue other remedies that might otherwise render the site(s) acceptable.

Environmental Considerations

Control of Pollutants

107.23.D

- Pollutants or potentially hazardous materials, such as fuels, lubricants, lead paint, chemicals or batteries, shall be transported, stored and utilized in a manner to prevent leakage or spillage into the environment. The Contractor shall also be responsible for proper disposal of all such materials.
- Equipment, especially concrete or asphalt trucks, shall not be washed or cleaned-out on the Project except in areas where unused product contaminants can be prevented from entering waterways.





Cleaning your equipment is important -- both for road safety AND for protection of the environment. Avoid environmental penalties by using BEST MANAGEMENT PRACTICES.

A Typical Best Management Practice

PICK THE RIGHT SPOT TO WASHDOWN
Make sure:

- Washdown water stays in the pit.
- The pit is located away from a storm drain, stream or river.
- The pit is accessible to your vehicle.
- You have permission to use area for washdown.

1 Coordinate with site superintendent to excavate a pit deep enough to contain the washdown water.

2 Back in your equipment.

3 Washdown only the chute, hopper and rear of the vehicle. Do NOT wash out the drum.

4 Make sure washdown water goes into and stays in the pit.

5 Coordinate with site superintendent to fill in pit and smooth out ground.


For additional examples of Best Management Practices, please contact the Small Business Environmental Assistance Program
Toll-free 1-877-427-6255
404-362-4942

When you washdown...


Use Best Management Practices (BMPs) to keep washdown water from making its way into streams and rivers.

Protect your company. Discharging washdown water into storm drains, streams or rivers is illegal.


Take Pride that the ready mix industry is working to keep Georgia's waterways clean.




NOTE
On some sites, you may not have permission or access to a location suitable to dig a washdown pit. In those cases, you may have to washdown into a wheelbarrow or container and carry the container to a disposal site.




NEVER let washdown water enter a storm drain.



If you need help...
Georgia Small Business
Environmental Assistance Program
Georgia Environmental Protection Division
toll-free 1-877-427-6255
404-362-4842
www.gsmallbiz.org
FREE & CONFIDENTIAL



**A Guide
Ready
Chute/H
Washd**



Georgia Small Business
Environmental Assistance Program
1-877-427-6255

Environmental Considerations

Temporary Work in Wetlands Outside of the Construction Limits

107.23.E

- Temporary work in wetlands (that are not delineated with orange barrier fence) will be subject to the following requirements
 - 1. Temporary work in wetlands shall be accomplished by using temporary structures, timbers, concrete, soil with geotextile fabric, or other suitable matting. The area shall not be grubbed.
 - 2. Soil matting shall be protected from erosion in accordance with Specifications

Environmental Considerations

107.23.E (cont.)

- 3. When temporary work is required in Saltwater Marsh Wetlands, all temporary structures and/or matting shall be removed in their entirety prior to Final Acceptance of the project. Matted and compressed soils shall be backfilled to their original ground elevation with material meeting the requirements of Section 212- Granular Embankment

Environmental Considerations

107.23.E (cont.)

- 4. When temporary work is required in Freshwater Wetlands, all temporary structures and/or matting (exclusive of soil matting to be retained in the final roadway section) shall be removed in their entirety prior to Final Acceptance of the project.

Environmental Considerations

107.23.E (cont.)

- 4 (cont.) Once the temporary material have been removed, the area shall be covered with by Excelsior or Straw blankets according to Section 713 of the Specifications. The grassing and ground preparation referenced in Subsection 713.303, "Preparation" will not be applicable to this work

Environmental Considerations

107.23.E (cont.)

- 5. The Engineer shall be notified so that field inspection may be conducted to certify that the temporary material were properly removed and that the area was properly restored. The Contractor shall be responsible for any corrective action required to complete the Work.

Environmental Considerations
107.23.E (cont.)

- 6. There is no separate measurement or payment for this Work. The cost associated with this work shall be included in the overall Bid submitted.







Environmental Considerations
Environmentally Sensitive Areas
107.23.F

- Some archaeologist sites, wetlands, streams, stream and pond buffers, open waters and protected animals and plant species habitat within the existing/ required ROW and easements areas may be designated as ENVIRONMENTALLY SENSITIVE AREAs (ESAs)

Environmental Considerations
ESAs 107.23.F (cont.)

- These areas are shown on the applicable Plan sheets and labeled "ESA" (eg. ESA-Historical Boundary, ESA-Wetland Boundary). The Department may require that some ESAs or portions thereof be delineated with orange barrier fence. **The Contractor shall install, maintain, and replace as necessary orange barrier fence at ESAs as delineated in the Plan sheet.**

Environmental Considerations

Protection of Migratory Birds and Bats

107.23.G

- Federally protected migratory birds (barn swallow, cliff swallow, eastern phoebe, and all bats).
- Criteria associated with demolition and extension of existing bridges and box culverts (i.e. netting, curtains, time limitations, etc.) Prior to the installation of any exclusionary devices, notify project ecologist (OES)
- Other structures with possible nesting require reporting to Office of Environmental Services

Environmental Considerations

107.23.G (cont)

- Bat sighting need reporting to Office of Environmental Services
- Incident event require reporting to Office of Environmental Services
- Final report at the completion of project
- All cost associated with 107.23.G is included in overall bid price submitted.

PROTECTED SPECIES ON THE PROJECT



Adult Barn Swallow



Barn Swallow nest under a bridge.

Barn Swallow

Description:

- 6 1/2 inches in length
- Long, deeply forked tail
- Upperparts iridescent blue, underparts either cinnamon or white, throat reddish-brown
- Nests in pairs or small colonies



Barn Swallow nest under a bridge.



Immature Barn Swallows in nest.

There are civil and criminal penalties for harming or killing this animal and its nest or eggs.
See Special Provision 107.23.G.



Environmental Considerations
PROTECTION OF FEDERALLY & STATE
PROTECTED ENVIRONMENTALLY SENSITIVE
SPECIES 107.23.H

- See Special Provision in Contract for Project Specific Requirements
- Specific guidelines may be associated with netting, birds, plants, animals, fish, work time related restrictions, etc.
- Prior to the installation of any exclusionary devices, notify project ecologist (OES)

PI# 0000546

Section 107 – Legal Regulations and Responsibility to the Public

Add the following to Subsection 107.23:

H. Protection of State Protected Species and Federally Threatened Species:

The following conditions are intended as a minimum to protect these species and their habitat during any activities that are in close proximity to the known location(s) of these species. The specific activities to which these conditions apply are culvert work on Streams 23, 23A, and 22.

1. All Project personnel employed on this Project shall be notified about the potential presence and appearance of the federally protected wood stork (*Mycteria americana*). All personnel shall be advised that there are civil and criminal penalties for harming, harassing, and killing this species, which is protected under the Endangered Species Act. Pictures and habitat information will be provided at the preconstruction conference and shall be posted in a conspicuous location in the Project field office until such time that Project construction has been completed and time charges have stopped.
2. All construction activities shall cease upon the sighting of a wood stork within 100 yards of the project area. The wood stork shall not be touched, moved, or harassed. Construction activities shall not resume until the wood stork has not been observed in the project area or within 100 yards of the project area for at least 30 minutes.
3. In the event of any incident that causes harm to the wood stork within the project corridor, the Contractor shall report the incident immediately to the Project Engineer who in turn will notify:
State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1440.
In addition, all activity shall cease pending consultation by the Department with the U. S. Fish and Wildlife Service and the lead Federal Agency.
4. Following project completion, a report summarizing any occurrences of or incidents with these species shall be submitted by the Contractor to the:
 - a. the Project Engineer;
 - b. State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services, 600 W. Peachtree St., 16th Floor, Atlanta, GA 30308.
5. All costs pertaining to any requirement contained herein shall be included in the overall bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

Federally Protected Animal on the Project

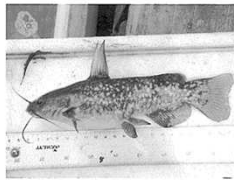


Wood Stork

Description

- large wading bird
- dark featherless head
- stout bill
- white feathers on the body
- black wing feathers

PROTECTED SPECIES ON THE PROJECT



Spotted Bullhead (*Ameiurus serracanthus*)

Maximum Length: 9 inches

Distinguishing Characteristics:

- Body is covered by many rounded light colored spots on a dark body
- Black blotch on base of dorsal fin
- Body and fins are suffused with yellow

Section 161 Control of Soil Erosion and Sedimentation

- 161.1.03: Status of Erosion Control Devices.
- 161.3.01.A: Duties of Worksite Erosion Control Supervisor
- 161.1.03.A.2: The Engineer will review the reports and inspect the Project for compliance and concurrence with the submitted reports.

161.1.03.B.1

ESPCP

■ **E & S PLANS PROVIDED BY DOT.**

- Contractor may revise the E & S Plan for staging or other issues provided:
 - DOT reviews the requested change
 - A licensed Design Professional is employed by the Contractor to revise the Plan

161.1.03.B.2&3

ESPCP

- Contractor is also responsible for:
 - E&S Plan for their borrow and waste pits that are not within the GDOT right-of -way.
 - Amending the approved E&SCP if they add a haul road that is outside the project roadway but within the RW.
 - Items not included in the plans.
 - All other permits at these NON DOT sites. Providing copies of the NOI to the Engineer.

161.1.03.B.4

- **CULVERTS & PIPES:** Prior to construction on new or existing culverts or pipes, the contractor must implement a diversion plan prepared by a Design Professional IE.: diversion, pumping, piping, etc.
- GDOT ESPCP sheets do not contain approved methods to construct a stream diversion or stream diversion channel.





161.1.03.B.5

- Temporary Asphalt or Concrete Batch Plants: If the Department authorizes the temporary installation and use of any asphalt, concrete or similar batch plant w/in the ROW, the contractor shall submit a NOI , as owner and operator, to the GaEPD for coverage under the following NPDES permit; the Infrastructure permit and the Industrial permit.

161.3.05.I

- Includes Requirements for Asphalt Resurfacing, Shoulder Reconstruction, and Shoulder Widening projects.
 - Limit Disturbed area to 1.0 acre
 - Permanently stabilize all disturbed areas at the end of each work day
 - Use temp or permanent grassing and Type II Wood Fiber Blanket





Section 161.3.07 Contractor Warranty and Maintenance

- ANY BMP'S THAT ARE DAMAGED BY ANY CONTRACTOR EITHER BY NEGLECT, BY CONSTRUCTION METHODS, OR ANY OTHER REASONS, INCLUDING ACTS OF NATURE, THEY SHALL BE REPAIRED WITHIN 24 HOURS BY THE PRIME CONTRACTOR AT **NO COST** TO THE DEPARTMENT.



Section 163
Miscellaneous Erosion
Control Items

163.3.05 A-I: Construction BMP'S

- | | |
|----------------------------------|--|
| ■ Silt Control Gates | ■ Other Temp Str. |
| ■ Temporary Slope Drains | ■ Temporary Grass Mulch |
| ■ Sediment Basins | ■ Erosion Control not shown on the plans |
| ■ Sediment Barrier (baled straw) | ■ Diversion Channels |

Section 163
Miscellaneous Erosion
Control Items

163.3.05 J-Q: Construction BMP'S

- | | |
|-----------------------|----------------------|
| ■ Temp Check Dams | ■ Stone Filter Berms |
| ■ Construction Exits | ■ Stone Filter Rings |
| ■ Retrofits | ■ Temp Sediment Trap |
| ■ Inlet Sediment Trap | |
| ■ Rock Filter Dams | |

Section 163.4 Measurement

- 163.4.F: TEMPORARY GRASS MEASURED BY THE ACRE AND REQUIRES PAM.
- 163.4.G: MULCH MEASURED BY THE TON.
- 163.4.J: TEMP. DITCH CHECKS (FABRIC) PER LINEAR.
- 163.4.J: RIP RAP CHECK DAMS PER EACH.
- 163.4.K: CONSTRUCTION EXIT PER EACH.

SECTION 165

MAINTENANCE OF TEMPORARY EROSION & SEDIMENTATION CONTROL DEVICES

Section 165 Maintenance

- MAINTENANCE OF TEMPORARY EROSION & SEDIMENTATION CONTROL DEVICES
 - Payment Per Unit
 - DOT Definition of Maintenance
 - CLEAN OUT TO ORIGINAL GROUND LINE (0% FILLED & REMOVE FILTERCAKE)
 - Measurement and Payment—Linear (per foot or meter) or per Each

Section 165 Maintenance

- 165.3.05.A: TEMPORARY SILT FENCE: PAID FOR BY THE FOOT/METER.
- 165.3.05.B: SILT CONTROL GATES: PAID FOR PER EACH.
- 165.3.05.C: CHECKDAMS: PAID FOR PER EACH.
- 165.3.05.D: SILT RETENTION BARRIER: PAID FOR BY THE FOOT/METER.







Section 165 Maintenance

- 165.3.05.E: TEMPORARY SEDIMENT BASINS: PAID FOR PER EACH CLEANOUT.
- 165.3.05.F: SEDIMENT BARRIER (Baled Straw): PAID FOR BY THE FOOT/METER.
- 165.3.05.I: CONSTRUCTION EXITS: PAID PER EACH TIME MAINTENANCE IS PERFORMED.
- 165.3.05.K: ROCK FILTER DAMS: PAID PER EACH TIME MAINTENANCE IS PERFORMED
- 165.3.05.L: STONE FILTER BERMS: PAID PER LINEAR FOOT WHEN MAINTENANCE IS PERFORMED

Section 167 Water Quality Monitoring

- Monitoring –Inspections – Required by General Permit
- Sample Testing – Qualified Rainfall Event

Section 167

- **Certified Personnel must perform the work required by this Specification.**
- Certified Personnel Definition:
 - Certified Personnel is defined as person who has successfully completed the appropriate certification course approved by the GSWCC. Use the Contractor designated WECS or select a prequalified consultant from the Qualified Consultant List (QCL) to perform water quality monitoring.

SAMPLING

■ **Qualifying Event**

- First ½" rainfall or greater that occurs after clearing and grubbing is accomplished in the area selected for monitoring that occurs between 8:00 a.m. and 5:00 p.m. Monday through Friday, and Saturday if normal workday.
- First ½" rainfall or greater that occurs 90 days after the first event using the same criteria as above or when mass grading in the area selected is accomplished, whichever comes first.
- Submit sampling results to Engineer within 7 working days after sample was taken.

167.3.05.D.3 REPORTS

- REQUIREMENTS FOR RAINFALL DATA REPORTS CONTINUE UNTIL THE NOTICE OF TERMINATION (NOT) IS SUBMITTED OR UNTIL THE PREVIOUS CONDITIONS ARE MET.

167.4 MEASUREMENT

- REQUIRED INSPECTIONS AND REPORTS AFTER CONTRACT TIME HAS EXPIRED **WILL NOT** BE MEASURED FOR PAYMENT.

167.3.05.D.3 Rainfall Data Reports

- Record measurement of rainfall each 24-hour period on days when construction activity has taken place
- WECS submits daily report to Engineer showing daily rainfall which serves as official rainfall for project.

GDOT DAILY INSPECTION REPORT (rev 2016)

ENGINEER- GDOT REPRESENTATIVE _____ WECS or INSPECTOR- CONTRACTOR _____

PROJECT NO.: _____ DATE OF INSPECTION: _____

COUNTY: _____

Co. CONSTRUCTION EXIT

1. TRACKING MATERIAL ONTO ROADWAY? _____
2. STONE CONSOLIDATED? _____
3. MAINTENANCE REQUIRED: (Specify) _____
4. LOCATION OF EXITS: _____

PETROLEUM PRODUCTS STORAGE/TRANSFER

1. SPILLS/LEAKS OF PETROLEUM PRODUCTS FROM VEHICLES? _____
2. SPILLS/LEAKS OF PETROLEUM PRODUCTS FROM EQUIPMENT? _____
3. SPILLS/LEAKS OF PETROLEUM PRODUCTS FROM STORAGE TANKS? _____
4. IF THE ANSWER TO 1, 2 OR 3 WAS YES, DESCRIBE HOW THE SPILL/LEAK WAS HANDLED: _____

DAILY RAINFALL: _____

CONTRACTOR WECS/CERTIFIED INSPECTOR SIGNATURE: _____

WECS/INSPECTOR'S WECS CARD NUMBER: _____

WECS/INSPECTOR'S GSWCC LEVEL 1A CARD: _____

EMPLOYED BY: _____

I certify under penalty of law that this report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If there are no incidents of non-compliance, contractors certified inspector initials the statement below.

I certify the site is in compliance with the Erosion, Sedimentation, and Pollution Control

Section 167.5 Payment

- Water Quality Inspections—Per Month
- Water Quality Monitoring and Sampling — Per Each

Water Quality Monitoring Check

- Was a Certified Personnel (level 1A, WECS certification, QCL) used to perform monitoring, sampling, inspection and rainfall data collection?
- Was the sample taken manually or with the use of automatic samplers?
- If the samples were analyzed in the field using portable turbidimeters, did the monitoring results state that they are being used and a digital readout of NTU's is what is provided?
- Were bench sheets, work sheets, etc. submitted when using a portable turbidimeter?
- Were weekly and rainfall EC-1 inspections reporting checks on the water quality monitoring locations and equipment?
- If required, was additional sampling performed as specified in Part IV.D.6.d.3.(c) of the NPDES permit if either the BMP's shown in the plans were not properly installed and maintained or BMP's designed by the contractor were not properly designed, installed and maintained?
- Was the required certification statement shown on the monitoring reports and signed by the WECS or consultant providing monitoring on the project?
- Was the monitoring report of the monitoring results submitted to the engineer within seven working days of the date the sample was obtained?

Section 171

- Installation of silt fence
- Removal of silt fence
- Measurement of silt fence
- Payment of silt fence

Section 171

- Install via excavated trench method or soil slicing method.
- Ensure fabric is on the QPL.
- Ensure the fabric is free of defects and flaws.
- Attachment of fabric to posts.



Section 700 Grassing

- 700.3.05: Construction (Planting Data)
- 700.3.05.A: Ground Preparation
- 700.3.05.D: Lime and Fertilizers
- 700.3.05.E: Overseeding (no-till seeding)
- 700.3.05.H: Sod
- 700.3.05.I: Nitrogen
- 700.3.05.J: Apply Polyacrylamide (PAM) to all areas that receive permanent grassing.

Section 700

- 700.3.05: PLANTING ZONES & MAP & SEED CHART
- 700.5: PAYMENT --PERMANENT GRASSING IS PAID FOR BY THE ACRE; FERTILIZER BY THE TON; LIME BY THE TON; NITROGEN BY THE TON, ETC.



Section 700-Grassing

NON-NATIVE GRASS SEEDING TABLE 1
(Temporary and Permanent Seed Types for Shoulders, Medians and Slopes 1:1 or Flatter)

Common Name	Botanical Name	Class Type	Rate/lb ac	Planting Date	Planting Dates
Common Bermuda Grass (Established)	Cynodon dactylon	Required Permanent Grass	10 (10)	1	April 14 - August 31
Common Bermuda Grass (Established)			10 (10)		
Common Bermuda Grass (Established)	Cynodon dactylon	Required Permanent Grass	10 (10)	3,3,4	April 1 - October 15
Common Bermuda Grass (Established)			10 (10)		
Bahia Grass	Paspalum notatum		10 (10)		
Sty Grass, Yellow, Crest Grass (Desi)	Lolium perenne ssp. multiflorum Echinochloa crusgalli - Avena sativa	Temporary Grass	10 (20)	1	September 1 - April 11
Sty Grass, Yellow, Crest Grass (Desi)			10 (20)		
Sty Grass, Yellow, Crest Grass (Desi)	Lolium perenne ssp. multiflorum Echinochloa crusgalli - Avena sativa	Temporary Grass	10 (20)	3,3,4	October 16 - March 11
Sty Grass, Yellow, Crest Grass (Desi)			10 (20)		

Section 894—Fencing

■ **Sub-section 894.2.06.A.1.b.1 Woven Wire**

- Ensure the woven wire fence is at least 26 inches (700 mm) high with at least 6 horizontal wires.
- Ensure the vertical wires have maximum spacing of 12 in (155mm)
- Ensure the top and bottom wires are at least 10 gauge and all other wires are at least 12 ½ gauge.

Section 894—Fencing

■ Sub-section 894.2.06.A.1.b.2 Polypropylene Support Mesh

- Ensure the polypropylene support mesh is sewn in the fabric 2 in +/- 1 in from the top and bottom of the fabric and 11 in +/- 1 in from the top and bottom of fabric.
- Ensure the height of the polypropylene support mesh is at least 36 in with a plus tolerance of 1 in
- Ensure the polypropylene support mesh minimal tensile strength in machine direction is 60 lb/3 inches and 72 lb/3 inches in the transverse direction.

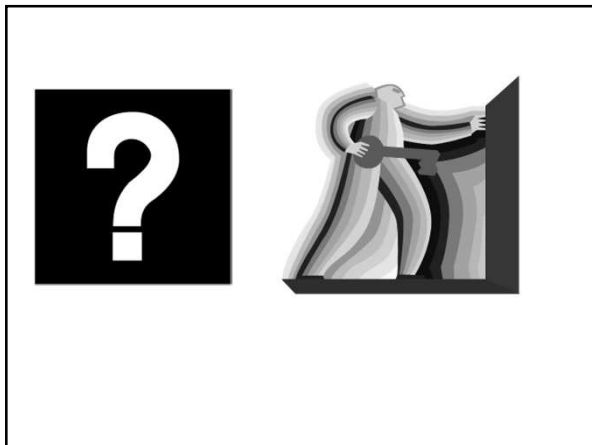
Section 894—Fencing

■ Sub-section 894.2.06.A.2.c Type "C" Fence:

- Woven Wire Supported: Use only steel posts with a minimum length of 4 ft (1.2 m). Use "U", "T", or "C", shaped posts with a minimum weight of 1.15 lb/ft (1.7 kg/m). Use posts that have projections for fastening the woven wire and filter fabric.
- Polypropylene Mesh Supported: use either wood or steel post that are at least 4 ft (1.2 m) long.
 - Soft wood post shall be at least 3" inches in diameter or nominal 2" X 4"
 - Hard wood post shall be 2' x 2" with a cross sectional area at least 3.28 sq in
 - Steel post shall be "U", "T", or "C" shaped post with a minimum weight of 1.15 lb/ft







SPECIFICATIONS

Special Provision References (Contract)

Special Provision	Description	Date
161	Control of Erosion and Sedimentation	4/11/2016
171	Silt Fence	3/18/2013

Supplemental Specifications References (Contract)

Supplemental Specification	Description	Date
107	Legal Regulations and Responsibilities to the Public	August 2015
163	Miscellaneous Erosion Control Items	5/22/2015
165	Maintenance of Temporary Erosion and Sedimentation Control Devices	7/17/2015
167	Water Quality Monitoring	8/2/2014

2013 Standard Specification Book

Standard Specification	Description
700	Grassing
894	Fencing

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

Section 161—Control of Soil Erosion and Sedimentation

Add the following:

161.1 General Description

This Work includes using control measures shown on the Plans, ordered by the Engineer, or as required during the life of the Contract to control soil erosion and sedimentation through the use of any of the devices or methods referred to in this Section.

161.1.01 Definitions

Certified Personnel— certified personnel are defined as persons who have successfully completed the Level IA, or higher, certification course approved by the Georgia Soil and Water Conservation Commission. For Department projects the certified person must also have successfully completed the Department's WECS certification course.

Design Professional as defined in the current GAR100002 NPDES permit.

161.1.02 Related References

A. Standard Specifications [Section](#)

[105—Control of Work Section](#)

[106—Control of Materials](#)

[Section 107—Legal Regulations and Responsibility to the Public](#)

[Section 109—Measurement and Payment](#)

[Section 160—Reclamation of Material Pits and Waste Areas](#)

[Section 162—Erosion Control Check Dams](#)

[Section 163—Miscellaneous Erosion Control Items](#)

[Section 166—Restoration or Alteration of Lakes and Ponds](#)

[Section 170—Silt Retention Barrier](#)

[Section 171—Temporary Silt Fence](#)

[Section 205—Roadway Excavation](#)

[Section 434—Sand Asphalt Paved Ditches](#)

[Section 441—Miscellaneous Concrete](#)

[Section 603—Rip Rap](#)

[Section 700—Grassing](#)

[Section 710—Permanent Soil Reinforcing Mat](#)

[Section 715—Bituminous Treated Roving](#)

[Section 716—Erosion Control Mats \(Blankets\)](#)

Erosion control measures contained in the Specifications include:

Erosion Control Measure	Section
Temporary Check Dams	163.3.05.J

Erosion Control Measure	Section
Bituminous Treated Mulch	700.3.05.G
Concrete Paved Ditches	441
Bituminous Treated Roving	715
Erosion Control Mats (Blankets)	716
Erosion Control Check Dams	162
Grassing	700
Maintenance of Temporary Erosion Control Devices	165
Permanent Soil Reinforcing Mat	710
Reclamation of Material Pits and Waste Areas	160
Rip Rap	603
Restoration or Alteration of Lakes and Ponds	166
Sand-Asphalt Ditch Paving	434
Sediment Basin	163.3.05.C
Silt Control Gate	163.3.05.A
Silt Retention Barrier	170
Sod	700.3.05.H & 700.3.05.I
Mulch	163
Temporary Grassing	163.3.05.F
Temporary Silt Fence	171
Temporary Slope Drains	163.3.05.B
Triangular Sediment Barrier	720
Silt Filter Bag	719
Organic & Synthetic Material Fiber Blanket	713

B. Referenced Documents

Erosion and Sedimentation Pollution Control Plans (ESPCP)

161.1.03 Submittals

A. Status of Erosion Control Devices

The Worksite Erosion Control Supervisor (WECS) or certified personnel will inspect the installation and maintenance of the Erosion Control Devices according to [Subsection 167.3.05.B](#) and the ESPCP.

1. Submit all reports to the Engineer within 24 hours of the inspection. Refer to [Subsection 167.3.05.C](#) for report requirements.
2. The Engineer will review the reports and inspect the Project for compliance and concurrence with the submitted reports.
3. The Engineer will notify the WECS or certified personnel of any additional items that should be added to the reports.
4. Items listed in the report requiring maintenance or correction shall be completed within 72 hours.

B. Erosion and Sedimentation Pollution Control Plan

1. Project Plans

An erosion and sedimentation pollution control plan (ESPCP) for the construction of the project will be provided by the Department. The ESPCP will be prepared for the various stages of construction necessary to complete the project.

If the Contractor elects to alter the stage construction from that shown in the plans, it will be the responsibility of the Contractor to have the plans revised and prepared in accordance with the current GAR100002 NPDES permit by a Design Professional to reflect all changes in Staging. This will also include any revisions to erosion and sedimentation control item quantities. If the changes affect the Comprehensive Monitoring Program (CMP), the Contractor will be responsible for any

revisions to the CMP as well. Submit revised plans and quantities to the Engineer for review prior to land disturbing activities.

2. Haul Roads, Borrow Pits, Excess Material Pits, etc.

The Contractor is responsible for amending the approved erosion and sedimentation control plans if they add a haul road that is outside of the project roadway but within the right of way, or construct any borrow pits, or excess material pits inside the Right of Way. Prepare these plans for all stages of construction and include the appropriate items and quantities. Submit these plans to the Engineer for review prior to land disturbing activities. These plans are to be prepared by a Design Professional.

If construction of haul roads, or borrow pits, or excess material pits, etc., (inside the Right of Way) encroach within the 25 foot (7.6 m) buffer along the banks of all state waters or within the 50 ft. (15 m) buffer along the banks of any state waters classified as a “trout stream”, a state water buffer variance must be obtained by the Contractor prior to beginning any land disturbing activity in the stream buffer.

3. Erosion Control for Borrow and Excess Material Pits Outside the Right-of-Way

Erosion control for borrow pits and excess material pits outside the right of way is the responsibility of the Contractor. If borrow or excess material pits require coverage under the National Pollutant Discharge Elimination System permit (NPDES) or other permits or variances are required, submit a copy of all documentation required by the permitting agency to the Engineer. All costs associated with complying with local, state, and federal laws and regulations are the responsibility of the Contractor.

4. Culverts and Pipes

The ESPCP does not contain approved methods to construct a stream diversion or stream diversion channel. The Contractor shall prepare a diversion plan utilizing a Design Professional as defined in the current NPDES permit. See [Subsection 161.3.05 G](#) for additional information.

5. Temporary Asphalt or Concrete Batch Plants

In addition to the requirements of any applicable specifications, if the Department authorizes the temporary installation and use of any asphalt, concrete or similar batch plants within its right of way, the contractor shall submit an NOI to the Georgia Environmental Protection Division for coverage under the following NPDES permits; The Infrastructure permit for the construction of the plant, and the Industrial permit for the operation of, such a plant. The contractor shall submit the NOIs as both the Owner and the Operator.

161.2 Materials

General Provisions 101 through 150.

161.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

161.3 Construction Requirements

161.3.01 Personnel

A. Duties of the Worksite Erosion Control Supervisor

Before beginning Work, designate a Worksite Erosion Control Supervisor (WECS) to initiate, install, maintain, inspect, and report the condition of all erosion control devices as described in Sections 160 through 171 or in the Contract and ESPCP documents. The designee shall submit their qualifications on the Department provided resume form for consideration and approval. The contractor may utilize additional persons having WECS qualifications to facilitate compliance however, only one WECS shall be designated at a time.

The WECS and alternates shall:

Be an employee of the Prime Contractor.

Have at least one year of experience in erosion and sediment control, including the installation, inspection, maintenance and reporting of BMPs.

Successfully completed the Georgia Soil and Water Conservation Commission Certification Course Level IA, or higher, and the Department’s WECS Certification Course.

Provide phone numbers where the WECS can be located 24 hours a day.

The WECS’ duties include the following:

1. Be available 24 hours a day and have access to the equipment, personnel, and materials needed to maintain erosion control, and to the extent practicable, flooding control. An approved representative can be substituted for the WECS in regard to 24 hour availability. This representative shall be at least GSWCC Level IA, or higher, but is not required to be certified as a WECS.

2. Inform the Engineer in writing whenever the alternate WECS will assume project responsibilities for more than 3 (three) days.
3. Ensure that erosion control deficiencies are corrected within seventy two (72) hours. Deficiencies that interfere with traffic flow, safety, or downstream turbidity are to be corrected immediately.
4. Be on the site within three (3) hours after receiving notification of an emergency prepared to positively respond to the conditions encountered. The Department may handle emergencies without notifying the Contractor. The Department will recover costs for emergency maintenance work according to [Subsection 105.15, "Failure to Maintain Roadway or Structures."](#)
5. Maintain and submit for project record, "As-built" Erosion and Sedimentation Control Plans that supplement and graphically depict EC-1 reported additions and deletions of BMPs. The As-Built plans are to be accessed and retained at a Department facility at all times.
6. Ensure that both the WECS and the alternate meet the criteria of this Subsection.
7. The WECS shall maintain a current certification card for the duration of the project. Recertification of the WECS will be required prior to the expiration date shown on the Certification card in order to remain as Certified Personnel and the WECS for the project.

161.3.02 Equipment

General Provisions 101 through 150.

161.3.03 Preparation

General Provisions 101 through 150.

161.3.04 Fabrication

General Provisions 101 through 150.

161.3.05 Construction

Coordinate the temporary and permanent erosion control provisions in this Specification with the permanent erosion control provisions in the Contract to ensure economical, effective, and continuous erosion control throughout the construction and post-construction periods.

At all times that land disturbing activity is underway, a person meeting the requirements of, "certified person" as defined by the GSWCC (Level IA, or higher) must be on the project.

A. Control Dust Pollution

The contractor shall keep dust pollution to a minimum during any of the activities performed on the project. It may be necessary to apply water or other BMPs to roadways or other areas reduce pollution.

B. Perform Permanent or Temporary Grassing

Perform permanent grassing, temporary grassing, or mulching on cut and fill slopes weekly (unless a shorter period is required by [Subsection 107.23](#)) during grading operations. When conditions warrant, the Engineer may require more frequent intervals.

Under no circumstances shall the grading (height of cut) exceed the height operating range of the grassing equipment. It is extremely important to obtain a cover, whether it is mulch, temporary grass or permanent grass. Adequate mulch is a must.

When grading operations or other soil disturbing activities have stopped, perform grassing or erosion control as shown in the Plans, as shown in an approved Plan submitted by the Contractor, or as directed by the Engineer.

C. Seed and Mulch

Refer to [Subsection 161.3.05.B, “Perform Permanent or Temporary Grassing”](#).

D. Implement Permanent or Temporary Erosion Control

1. Silt fence shown along the perimeter, e.g. right of way, and sediment containment devices, e.g. sediment basins, shall be installed prior to or concurrently with clearing and grubbing operations.
2. Incorporate permanent erosion control features into the Project at the earliest practicable time, e.g. velocity dissipation, permanent ditch protection.
3. Use temporary erosion control measures to address minor conditions that develop during construction, e.g. between construction stages.
4. Use temporary erosion control measures when installation of permanent erosion control features cannot be accomplished.

The Engineer has the authority to:

Limit the surface area of erodible earth material exposed by clearing and grubbing.

Limit the surface area of erodible earth material exposed by excavation and borrow and fill operations.

Limit the area of excavation, and embankment operations in progress to correspond with the Contractor's ability to keep the finish grading, mulching, seeding, and other permanent erosion control measures current.

Direct the Contractor to provide immediate permanent or temporary erosion control to prevent contamination of adjacent streams or water courses, lakes, ponds, or other areas of water impoundment.

Such Work may include constructing items listed in the table in [Subsection 161.1.02.A, “Related References”](#) or other control devices or methods to control erosion.

E. Erodible Area

NOTE: Never allow the surface area of erodible earth material exposed at one time to exceed 17 acres (7 ha) except as approved by the State Construction Engineer.

The maximum of 17 acres (7 ha) of exposed erodible earth applies to the entire Project and to all of its combined operations as a whole, not to the exposed erodible earth of each individual operation.

Upon receipt of a written request from the contractor the State Construction Engineer, or his designee, will review; the request, any justifications and the Project conditions for waiver of the 17 acres (7 ha) limitation. If the 17 acre limitation is increased by the State Construction Engineer, the WECS shall not be assigned to another project in that capacity and should remain on site each work day that the exposed acreage exceeds 17 acres.

After installing temporary erosion control devices, e.g., grassing, mulching, stabilizing an area, and having it approved by the Engineer, that area will be released from the 17 acres (7 ha) limit.

F. Perform Grading Operations

Perform the following grading operations:

1. Whenever practicable, complete each roadway cut and embankment continuously
2. Maintain the top of the earthwork in roadway sections throughout the construction stages to allow water to run off to the outer edges, including techniques to minimize concentrated flow.
3. Provide temporary slope drain facilities with inlets and velocity dissipaters (straw bales, silt fence, aprons, etc.) to carry the runoff water to the bottom of the slopes. Place drains at intervals to handle the accumulated water.
4. Continue temporary erosion control measures until permanent drainage facilities have been constructed, pavement placed, and the grass on planted slopes stabilized to deter erosion.

G. Perform Construction in Rivers and Streams

Perform construction in river and stream beds as follows:

1. Unless otherwise agreed to in writing by the Engineer, restrict construction operations in rivers, streams, and impoundments to:

Areas where channel changes or access for construction are shown on the Plans to construct temporary or permanent structures.

2. If channel changes or diversions are not shown on the Plans, the Contractor shall develop diversion plans prepared in accordance with the current GAR100002 NPDES Infrastructure Construction permit utilizing a design professional as defined within the permit. The Engineer will review prepared diversion plans for content only and accepts no responsibility for design errors or omissions. Amendments will be made part of the project plans by attachment. Include any associated costs in the price bid for the overall contract. Any contract time associated with the submittal or its review and subsequent response will not be considered for an extension of Contract time. All time associated with this subsection shall be considered incidental.
3. If additional access for construction or removal of work bridges, temporary roads/access or work platforms is necessary, and will require additional encroachment upon river or stream banks and bottoms, the contractor shall prepare a plan in accordance with the current GAR100002 NPDES Infrastructure Construction permit utilizing a design professional as defined within the permit. Plans should be submitted at least 12 weeks prior to the date the associated work is expected to begin. If necessary, the plan will be provided to the appropriate regulating authority, e.g. United States Army Corps of Engineers by the Department for consideration and approval. No work that impacts areas beyond what has been shown in the approved plans will be allowed to begin until written approval of the submitted plan has been provided by the Department. Approved plan amendments will be made part of the project plans by attachment. Include any associated costs in the price bid for the overall contract. Any contract time associated with the submittal or its review and subsequent response will not be considered for an extension of Contract time. All time associated with this subsection shall be considered incidental.
4. Clear rivers, streams, and impoundments of the following as soon as conditions permit:
 - Falsework
 - Piling that is to be removed
 - Debris
 - Other obstructions placed or caused by construction operations
5. Do not ford live streams with construction equipment.
6. Use temporary bridges or other structures that are adequate for a 25-year storm for stream crossings. Include costs in the price bid for the overall contract.
7. Do not operate mechanized equipment in live streams except to construct channel changes or temporary or permanent structures, and to remove temporary structures, unless otherwise approved in writing by the Engineer.

H. State Water Buffers and Environmental Restrictions

- 1 The WECS shall review the plans and contract documents for environmental restrictions, Environmentally Sensitive Areas (ESA), e.g. buffers, etc prior to performing land disturbing activities.
2. The WECS shall ensure all parties performing land disturbing activities within the project limits are aware of all environmental restrictions.
3. Buffer delineation shall be performed prior to clearing, or any other land disturbing activities. Site conditions may require temporary delineation measures are implemented prior to the installation of orange barrier/safety fencing. The means of temporary delineation shall have the Engineer's prior approval.
4. The WECS shall allow the Engineer to review the buffer delineation prior to performing any land disturbing activities, including but not limited to clearing, grubbing and thinning of vegetation. Any removal and relocation of buffer delineation based upon the Engineer's review will not be measured for separate payment.
5. The WECS shall advise the Engineer of any surface water(s) encountered that are not shown in the plans. The WECS shall prevent land disturbing activities from occurring within surface water buffers until the Engineer provides approval to proceed.

I. General Requirements

Projects that consist of asphalt resurfacing, shoulder reconstruction and/or shoulder widening; schedule and perform the construction of the project to comply with the following:

After temporary and permanent erosion control devices are installed and the area permanently stabilized (temporary or permanent) and approved by the Engineer, the area may be released from the 1 acre (0.4 ha) limit.

The maximum of 1 acre (0.4 ha) of erodible earth applies to the entire project and to all combined operations, including borrow and excess material operations that are within the right of way, not 1 acre (0.4 ha) of exposed erodible earth for each operation.

NOTE: Never allow the surface area of erodible earth material exposed at one time to exceed 1 acre (0.4 ha).

1. Do not allow the disturbed exposed erodible area to exceed 1 acres (0.4 ha). This 1 acre (0.4 ha) limit includes all disturbed areas relating to the construction of the project including but not limited to slope and shoulder construction.
2. At the end of each working day, permanently stabilize all of the area disturbed by slope and shoulder reconstruction to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment. For purposes of this Specification, the end of the working day is defined as when the construction operations cease. For example, 6:00 a.m. is the end of the working day on a project that allows work only between 9:00 p.m. and 6:00 a.m.)
3. Stabilize the cut and fill slopes and shoulder with permanent or temporary grassing and a Wood Fiber Blanket ([Section 713](#), Type II). Mulching is not allowed. Borrow pits, soil disposal sites and haul roads will not require daily applications of wood fiber blanket. The application rate for the Wood Fiber Blanket on shoulder reconstruction is the rate specified for Shoulders. For shoulder reconstruction, the ground preparation requirements of [Subsection 700.3.05.A.1](#) are waived. Preparation consists of scarifying the existing shoulders 4 to 6 in (100 to 150 mm) deep and leaving the area in a smooth uniform condition free from stones, lumps, roots or other material.
4. If a sudden rain event occurs that would not allow the Contractor to apply the Type II Wood Fiber Blanket per [Section 713](#), install Wood Fiber Blanket Type I per [Section 713](#) if directed by the Engineer. Wood Fiber Blanket Type I application is for emergency use only.

Install temporary grass or permanent grass according to seasonal limitations and Specifications. When temporary grass is used, use the overseeding method ([Subsection 700.3.05.E.4](#)) when planting permanent grass.

3. Remove and dispose of all material excavated for the trench widening operation at an approved soil disposal site by the end of each working day. When shoulder reconstruction is required, this material may be used to reconstruct the graded shoulder after all asphaltic concrete pavement has been placed.
4. Provide immediate permanent and/or temporary erosion control measures for borrow pits, soil disposal sites and haul roads to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment.
5. Place asphalt in the trench the same day as the excavation occurs. Place asphalt or concrete in driveways and side roads being re-graded the same day as the excavation occurs. Stabilize any disturbed or exposed soil that is not covered with asphalt with a Wood Fiber Blanket (and grass seed). Payment will be made for the Wood Fiber Blanket and grass seed only if the shoulder has been constructed to final dimensions and grade and no further grading will be required.
6. Do not allow the grading (height of cut or fill) to exceed the operating range of the grassing equipment.
7. When grading operations or other soil disturbing activities are suspended, regardless of the reason, promptly perform all necessary permanent stabilization and/or erosion control work.
8. Use temporary erosion control measures to:
 - To correct conditions that develop during construction but were unforeseen during the design stage.
 - To use as needed before installing permanent erosion control features.
 - To temporarily control erosion that develops during normal construction practices but are not associated with permanent control features on the Project.
9. When conditions warrant, such as unfavorable weather (rain event), the Engineer may require more frequent intervals for this work.

161.3.06 Quality Acceptance

Before Final Acceptance of the Work, clean drainage structures within the project limits, both existing and newly constructed, and ensure that they are functioning properly. Costs to accomplish this work are incidental and shall be included in the overall bid for the Contract.

161.3.07 Contractor Warranty and Maintenance

Maintain the erosion control features installed to:

- Contain erosion within the limits of the right-of-way
- Control storm water discharges from disturbed areas

Effectively install and maintain the erosion control features. Ensure these features contain the erosion and sediment within the limits of the rights of way and control the discharges of storm-water from disturbed areas to meet all local, state, and federal requirements on water quality.

161.4 Measurement

Control of soil erosion and sedimentation is not measured separately for payment.

161.4.01 Limits

General Provisions 101 through 150.

161.5 Payment

When no pay item is shown in the Contract, the requirements of this Specification and the Erosion Control Plan shall be in full effect. The cost of complying with these requirements will not be paid for separately, but shall be included in the overall bid submitted with the exception of inspections performed by qualified personnel which will be included in Section 167.

When listed as a pay item in the Contract, payment will be made at the unit price bid for each particular item.

No payment will be made for erosion control outside the Right-of-Way or construction easements except as provided for by the Plans.

161.5.01 Enforcement and Adjustments

A. Failure to Provide a WECS

If a designated WECS is not maintained cease activities except traffic control and erosion control work. Monies that are due or that may become due also may be withheld according to the Specifications

B. Failure to Comply with Specifications

If the Contractor repeatedly fails to comply with any of the requirements of this Specification, all activities should cease immediately except traffic control and erosion control related work.

Monies that are currently due or that may become due shall be withheld according to the specifications. In addition, nonrefundable monies shall be deducted from the contract as shown in the Schedule of Deductions table below. These deductions are in addition to any actions taken in the above subsections. Deductions assessed for uncorrected deficiencies shall continue until all corrections are completed to the satisfaction of the Engineer.

Failure of the WECS or alternate to perform the duties specified in the Contract, or whose performance, has resulted in a citation being received from a State or Federal Regulatory Agency, e.g. the Georgia Environmental Protection Division, should result in one or more of the following;

Suspension of the WECS' certification for a period of not less than 30 days

Removal of the Contractor's project superintendent in accordance with [Subsections 105.05](#) and [108.05](#) for a period not less than 14 days

Department wide revocation of the WECS certification for a period of 12 months

Removal of the Contractor's project superintendent in accordance with [Subsections 105.05](#) and [108.05](#)

D. Receipt of a Consent Order or Notice of Violation, etc

Regulatory enforcement actions will be resolved including the minimum following steps;

The Department will perform an internal review of the alleged violations

The Department will then meet with the Contractor to review and further determine responsibilities for the alleged violations

The Department will then arrange to collectively meet with the regulatory agencies to negotiate resolutions and/or settlements.

The Department does not waive any rights of the Contractor to resolve such matters however, in the event that regulatory agency communication is addressed jointly to the Department and to the contractor, the Department reserves the right to coordinate all communications, e.g., written correspondence, and to schedule jointly attended meetings with Regulatory agencies such that timely and accurate responses are known to the Department.

Such Orders or Notices may result in the assessment of Deductions from the table below for each day the condition remains non-compliant following an agreed remedy.

Monetary penalties for which the contractor is obligated for as a result of regulatory enforcement may be withheld from future monies due the contractor.

Schedule of Deductions for Each Calendar Day of Erosion Control Deficiencies Initial Occurrence* Original Total Contract Amount		
From More Than	To and Including	Daily Charge
0	\$100,000	\$750
\$100,000	\$1,000,000	\$1125
\$1,000,000	\$5,000,000	\$2000
\$5,000,000	\$15,000,000	\$3000
\$15,000,000	-	\$5000

*Continued non-compliance with the requirements of this specification may result in the doubling of the above tabulated Daily Charge.

Upon written request from the Contractor, the Engineer may allow, limited activities to concurrently proceed once significant portions of the corrective work have been completed. This authorization may be similarly rescinded if in the opinion of the Engineer corrective work is not being diligently pursued.

November 2, 2007
December 14, 2007
Revision Date: May 12, 2008
August 22, 2008
Revised: March 18, 2013

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

Section 171—Silt Fence

Delete Section 171 and substitute the following:

171.1 General Description

This work includes furnishing, installing, and removing a water permeable filter fabric fence to remove suspended particles from drainage water.

171.1.01 Definitions

General Provisions 101 through 150.

171.1.02 Related References

A. Standard Specifications

Section 163—Miscellaneous Erosion Control Items

Section 700—Grassing

Section 862—Wood Posts and Bracing

Section 881—Fabrics

Section 894—Fencing

B. Referenced Documents

ASTM D 3786

ASTM D 4355

ASTM D 4632

ASTM D 4751

GDT 87

QPL 36

171.1.03 Submittals

General Provisions 101 through 150.

171.2 Materials

Materials shall meet the requirements of the following Specifications:

Material	Section
Filter Fabrics	<u>881</u>
Fencing	<u>894</u>

Conditions during Project construction will affect the quantity of the silt fence to be installed.

The Engineer may increase, decrease, or eliminate the quantity at his or her direction. Variations in quantity are not changes in details of construction or in the character of the work.

For Type A, B, and C fences, use fabric as specified in Subsection 881.2.07, "Silt Fence Filter Fabric."

171.2.01 Delivery, Storage, and Handling

During shipment and storage, wrap the fabric in a heavy-duty covering protecting the cloth from sunlight, mud, dust, dirt, and debris. Do not expose the fabric to temperatures greater than 140 °F (60 °C).

When installed, the Engineer will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

171.3 Construction Requirements

171.3.01 Personnel

General Provisions 101 through 150.

171.3.02 Equipment

General Provisions 101 through 150.

171.3.03 Preparation

General Provisions 101 through 150.

171.3.04 Fabrication

General Provisions 101 through 150.

171.3.05 Construction

Install the silt fence according to this Specification, as shown on the Plans, or as directed by the Engineer

A. Install Silt Fence

1. Install silt fence by either of the following methods:
 - a. **Excavated Trench Method**
Excavate a trench 4 to 6 in (100 to 150 mm) deep using equipment such as a trenching machine or motor grader. If equipment cannot be operated on the site, excavate the trench by hand.
 - b. **Soil Slicing Method**
Create a mechanical slice in the soil 8 to 12 in (200 to 300 mm) deep to receive the silt fence. Ensure the width of the slice is not more than 3 in (75 mm). Mechanically insert the silt fence fabric into the slice in a simultaneous operation with the slicing ensuring consistent depth and placement.
2. Install the first post at the center of the low point (if applicable). Space the remaining posts a maximum of 6 ft (1.8 m) apart for Types A and B fence and 4 ft (1.2 m) apart for Type C fence.
3. Bury the posts at least 18 in (450 mm) into the ground. If this depth cannot be attained, secure the posts enough to prevent the fence from overturning from sediment loading.
4. Attach the filter fabric to the post using wire, cord, staples, nails, pockets, or other acceptable means.
 - a. **Staples and Nails (Wood Posts):** Evenly space staples or nails with at least five per post for Type A fence and four per post for Type B fence.
 - b. **Pockets:** If using pockets and they are not closed at the top, attach the fabric to a wood post using at least one additional staple or nail, or to a steel post using wire. Ensure the additional attachment is within the top 6 in (150 mm) of the fabric.
 - c. Install the filter fabric so 6 to 8 in (150 to 200 mm) of fabric is left at the bottom to be buried. Provide a minimum overlap of 18 in (450 mm) at all splice joints.
 - d. For Type C fence:
 - 1) **Woven Wire Supported**
 - **Steel Post:** Use wire to attach the fabric to the top of the woven wire support fence at the midpoint between posts. Also, use wire to attach the fabric to the post.
 - 2) **Polypropylene Mesh Supported**

- Wood Post: Use at least six staples per post. Use two staples in a crisscross or parallel pattern to secure the top portion of the fence. Evenly space the remaining staples down the post.
 - Steel Post: Use wire to attach the fabric and polypropylene mesh to the post.
5. Install the fabric in the trench so 4 to 6 in (100 to 150 mm) of fabric is against the side of the trench with 2 to 4 in (50 to 100 mm) of fabric across the bottom in the upstream direction.
 6. Backfill and compact the trench to ensure flow cannot pass under the barrier. When the slice method is used, compact the soil disturbed by the slice on the upstream side of the silt fence first, and then compact the downstream side.
 7. When installing a silt fence across a waterway producing significant runoff, place a settling basin in front of the fence to handle the sediment load, if required. Construct a suitable sump hole or storage area according to Section 163.

B. Remove the Silt Fence

1. Keep all silt fence in place unless or until the Engineer directs it to be removed. A removed silt fence may be used at other locations if the Engineer approves of its condition.
2. After removing the silt fence, dress the area to natural ground, grass and mulch the area according to Section 700.
3. The silt fence shall remain until the Project is accepted or until the fence is removed. Also, remove and dispose of the silt accumulations at the silt fence.
4. Remove and replace any deteriorated filter fabric reducing the effectiveness of the silt fence.
5. Repair or replace any undermined silt fence at no additional cost to the Department.

171.3.06 Quality Acceptance

Approved silt fence is listed in QPL 36. Approved fabrics must consistently exceed the minimum requirements of this Specification as verified by the Office of Materials and Research. The Office of Materials and Research will remove fabric failing to meet the minimum requirements of this specification from the QPL until the products' acceptability has been reestablished to the Department's satisfaction.

At the time of installation, the Engineer will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

171.3.07 Contractor Warranty

The silt fence shall remain until the Project is accepted or until the fence is removed. Also, remove and dispose of the silt accumulations at the silt fence.

Remove and replace any deteriorated filter fabric that reduces the effectiveness of the silt fence.

Repair or replace any undermined silt fence at no additional cost to the Department.

171.4 Measurement

The quantity of silt fence to be paid for is the actual number of linear feet (meters) of silt fence, measured in place from end post to end post of each separate installation. The silt fence must be complete and accepted.

171.4.01 Limits

General Provisions 101 through 150.

171.5 Payment

Silt fence Type A, B, or C measured as defined in Subsection 171.4. "Measurement." is paid for at the Contract Unit Price bid per linear foot (meter).

Payment is full compensation for the following:

- Furnishing materials
- Erecting the fence
- Dressing and grassing, when required
- Removing the fence, when required

Payment for this Item is made as follows:

- Seventy-five percent of the Contract Price bid per linear foot (meter) is paid when each fence is complete in place.
- Twenty-five percent is paid at removal or acceptance.

If the silt fence must be repaired or removed, as the result of neglect or damage, perform the work at no additional cost to the Department.

Payment will be made under:

Item No. 171	Silt fence, type__	Per linear foot (meter)
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171.5.01 Adjustments

General Provisions 101 through 150.

Office of Design Policy and Support

**DEPARTMENT OF
TRANSPORTATION STATE OF
GEORGIA
SUPPLEMENTAL SPECIFICATION**

**Section 107 – Legal Regulations and Responsibility to the
Public**

Delete Section 107 and Substitute the following:

107.01 Laws to Be Observed

The Contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, codes, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on The Work, or which in any way affect the conduct of The Work. The Contractor shall at all times observe and comply with all such laws, ordinances, codes, regulations, orders, decrees, and permits; and shall protect and indemnify the Department and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, code, regulation, order, decrees, and permits, whether by himself, his employees, subcontractors, or agents.

107.02 Permits and Licenses

The Contractor shall procure all permits and licenses, pay all charges, taxes, and fees, and give all notices necessary and incidental to the due and lawful prosecution of The Work.

107.03 Patented Devices

If the Contractor employs any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the Surety shall indemnify and save harmless the Department from any and all claims for infringement by reason of the use of any such patented design, device, material, or process, or any trademark or copyright, and shall indemnify the Department for any costs, expenses, and damages which it may be obliged to pay by reason of any infringement, at any time during the prosecution or after the completion of The Work.

107.04 Restoration of Surfaces Opened By Permit

The right to construct or reconstruct any utility service in the highway or street and to grant permits for the same at any time, is expressly reserved by the Department for the proper authorities of the municipality or county in which The Work is done and the Contractor shall not be entitled to any damages either for the digging up of the street or highway, or for any delay occasioned thereby.

Any individual, firm, or corporation wishing to make an opening in the street or highway must secure a permit from the Department. The Contractor shall allow parties bearing such permits, and only those parties, to make openings in the street or highway. When ordered by the Engineer, the Contractor shall make in an acceptable manner all necessary repairs due to such openings and such necessary work will be paid for as Extra Work, or as provided in the Specifications, and will be subject to the same conditions as original work performed.

107.05 Federal-Aid Provisions

When the United States Government pays all or any part of the cost of a project, the Federal laws and the rules and regulations made pursuant to such laws must be observed by the Contractor, and The Work shall be subject to the inspection of the appropriate Federal agency. Such inspection shall in no sense make the Federal Government a party to this Contract and will in no way interfere with the rights of either party hereunder.

107.06 Sanitary Provisions

The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements of the State Department of Health and other authorities having jurisdiction, and shall permit no public nuisance.

107.07 Public Convenience and Safety

The Contractor shall at all times so conduct The Work as to assure the least possible obstruction of traffic. The safety and convenience of the general public and the residents along the highway and the protection of persons and property shall be provided for by the Contractor as specified under Subsection 104.05, Subsection 107.09, Section 150, the Project Plans, and Special Provisions.

Traffic whose origin and destination is within the limits of the Project shall be provided ingress and egress at all times unless otherwise specified in the Plans or Special Provisions. The ingress and egress includes entrance and exit via driveways at the various properties, and access to the intersecting roads and streets. The Contractor shall maintain sufficient personnel and equipment on the project at all times, particularly during inclement weather, to ensure that ingress and egress are provided when and where needed.

Two-way traffic shall be maintained at all times unless otherwise specified or approved. The Contractor shall not stop traffic without permission granted by the Engineer.

All equipment used on The Work shall come equipped with factory-installed mufflers, or manufacturer's recommended equivalent, in good condition. These mufflers shall be maintained in good condition throughout the construction period.

107.08 Railroad-Highway Provisions

All work to be performed by the Contractor on a railroad company's right-of-way or property shall be done in a manner satisfactory to the chief engineer of the railroad company, or his authorized representative, and shall be performed at such times and in such manner as not to unnecessarily interfere with the movement of trains or traffic upon the track of the railroad company. The Contractor shall use all reasonable care and precaution in order to avoid accidents, damage, or unnecessary delay or interference with the railroad company's trains or other property, or property of tenants of railroad company.

The Contractor shall notify the railroad company and obtain its approval before commencing work on the railroad company's right-of-way or property.

The Contractor shall determine what measures are required by the railroad company to protect its operations and right-of-way or property during construction. Such protection may include the use of a flagger or flaggers provided by the railroad company. The Contractor shall be responsible for ensuring that the required protection is provided and shall pay the railroad company directly for any and all such services which may be required to accomplish the construction unless otherwise specified.

Any temporary grade crossings or other means needed during construction by the Contractor for transporting materials of any nature and/or equipment across the railroad tracks will be the responsibility of the Contractor to handle directly with the railroad company and bear all costs incidental to such crossings including flagging services provided by the railroad company.

A "Special Provisions for the Protection of Railroad Interests" may be included in the proposal to stipulate insurance and other requirements of the railroad company.

107.09 Barricades and Danger, Warning, and Detour Signs

The Contractor shall furnish, install, and maintain all necessary and required barricades, signs, and other traffic control devices in accordance with these Specifications, Project Plans, Special Provisions, and the MUTCD, and take all necessary precautions for the protection of the work and safety of the public.

Unless otherwise specified, all traffic control devices furnished by the Contractor shall remain the property of the Contractor.

107.10 Forest Protection

In carrying out work within or adjacent to State or National Forests, or any other forests, parks, or other public or private lands, the Contractor shall obtain necessary permits and comply with all of the regulations of the appropriate authorities having jurisdiction over such forest, park, or lands. The Contractor shall keep the areas in an orderly condition, dispose of all refuse, obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cesspools, septic tanks, and other structures in accordance with the requirements of the appropriate authority.

The Contractor shall take all reasonable precautions to prevent and suppress forest fires and shall require his employees and subcontractors, both independently and at the request of forest officials, to do all reasonably within their power to prevent and suppress and to assist in preventing and suppressing forest fires; to notify a forest official at the earliest possible moment of the location and extent of any fire seen by them; and to extinguish or aid in extinguishing nearby fires.

107.11 Construction Over or Adjacent to Navigable Waters

A. Navigation to Be Protected

Since navigable waterways are under the jurisdiction of the United States Coast Guard and/or the United States Army Corps of Engineers, all work done in, over, on or adjacent to such waters shall comply with their requirements. Free navigation shall not be impeded, and navigable depths shall be maintained.

The Contractor shall comply with permits issued by the United States Coast Guard and/or the United States Army Corps of Engineers, and the Contractor shall obtain and comply with other permits in accordance with the requirements of Subsection 107.02

Special Provisions for environmental protection may be included in the proposal to stipulate environmental commitments and other requirements.

B. Obstructions to be Removed

When the construction has progressed enough to permit removal, all falsework, piling and other obstructions shall be removed to the satisfaction of the Federal agency having jurisdiction. In all cases such clearing must be done thoroughly before The Work will be accepted by the Department.

107.12 Use of Explosives

When the use of explosives is necessary for the prosecution of The Work, the Contractor shall exercise the utmost care not to endanger life or property, and shall obey all State, Federal and other Governmental regulations applying to transportation, storage, use, and control of such explosives. The Contractor shall be completely responsible for any and all damage resulting from the transportation, storage, use, and control of explosives in the prosecution of The Work by the Contractor, the Contractor's agents, or employees; and shall hold the Department harmless from all claims of damages resulting in any manner therefrom.

The Contractor shall notify each public utility owner having structures or other installations, above or below ground, near the site of The Work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the utility owners to take such steps as they may deem necessary to protect their property from injury. Such notice shall not relieve the Contractor of responsibility for all damages resulting from his blasting operations.

All explosives shall be stored securely in compliance with all laws and ordinances, and all such storage places shall be clearly marked DANGEROUS EXPLOSIVES. Explosives and detonators shall be stored in separate storage

facilities in separate areas. Where no laws or ordinances apply, locked storage shall be provided satisfactory to the Engineer, never closer than 1,000 ft (300 m) from any travel-road, building, or camping area.

In all cases where the transport, storage, or use of explosives is undertaken, such activities shall be controlled and directed by fully qualified representatives of the Contractor.

Whenever electric detonators are used, all radio transmitters shall be turned off within a radius of 500 ft (150 m). No blasting supplies shall be transported in vehicles with two-way radio unless the transmitter is turned off, or extra shielding precautions are taken. Appropriate signs shall be placed so as to give ample warning to anyone driving a vehicle equipped with two-way radio. Electrical detonators will not be used within 500 ft (150 m) of a railroad.

Submit a blasting plan to the Engineer a minimum of five working days prior to use of explosives that provides details of the proposed blasting plan, including, but not limited to, the type and amount of explosives, the shot sequence, the description of and distance to the closest inhabitable structure, and other information as requested by the Engineer. Do not begin blasting until the blasting plan has been reviewed and approved in writing by the Engineer. Such approval does not relieve the contractor of the responsibility for the adequate and safe performance of the blasting.

107.13 Protection and Restoration of Property and Landscape

A. General Provisions

The Contractor shall be responsible for the preservation of all public and private property, crops, fish ponds, trees, monuments, highway signs and markers, fences, grassed and sodded areas, etc. along and adjacent to the highway, and shall use every precaution necessary to prevent damage or injury thereto, unless the removal, alteration, or destruction of such property is provided for under the Contract. The Contractor shall use suitable precaution to prevent damage to all underground structures, whether shown on the Plans or not, and shall protect carefully from disturbance or damage, all land monuments and property marks until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed. The Contractor shall not willfully or maliciously injure or destroy trees or shrubs, and he shall not remove or cut them without proper authority.

The Contractor shall be responsible for all sheet piling, shoring, underpinning, etc., as may be required for the protection of abutting property, nearby buildings, streets, and the like.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of The Work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing The Work, or at any time due to defective work or materials, and said responsibility will not be released until the Project shall have been completed and accepted.

When the Contractor's excavating operations encounter remains of prehistoric people's dwelling sites or artifacts of historical or archeological significance, the operations shall be temporarily discontinued. The Engineer will contact archeological authorities and the Office of Environment and Location to determine the disposition thereof. When directed by the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and shall remove them for delivery to the custody of the proper authorities. Such excavation will be considered and paid for as Extra Work.

When the Contractor's normal operations are delayed by such stoppage or extra work, an appropriate time extension will be granted.

The Contractor shall plan, coordinate, and prosecute the work so that disruption to personal property and business is held to a practical minimum.

No resident or business shall be denied vehicular access to their property for any length of time other than as determined by the Engineer is absolutely necessary. Where two or more existing driveways are present for a business, only one existing driveway shall be closed at any time. All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of each drainage structure or section of curb and gutter, sidewalk, or driveway shall be accomplished as soon as adequate strength is obtained. Finishing, dressing, and grassing shall be accomplished immediately thereafter as a continuous operation within each area being constructed with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

Handwork, including raking and smoothing, shall be required to ensure that roots, sticks, rocks, and other debris are removed in order to provide a neat and pleasing appearance. Grassing, when in season, shall immediately follow in order to establish permanent cover at the earliest date. If grassing is not in season, proper erosion control shall be installed and maintained.

The work described above shall be in addition to that required by Subsection 104.07, "Final Cleaning Up" and Subsection 105.16, "Final Inspection and Acceptance".

B. Erosion and Siltation Control

The Contractor shall take all necessary measures throughout the life of the Project to control erosion and silting of rivers, streams, and impoundments (lakes, reservoirs, etc.). Construction of drainage facilities as well as performance of other Contract work which will contribute to the control of erosion and siltation shall be carried out in conjunction with clearing and grubbing, and earthwork operations as stipulated in Section 161.

C. Pollution

The Contractor shall exercise every reasonable precaution throughout the life of the Contract to prevent pollution of rivers, streams or impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage and other harmful waste shall not be discharged into or alongside rivers, streams, and impoundments, or into natural or manmade channels leading thereto. The Contractor shall also comply with the applicable regulations of other State and Federal departments and to all governmental statutes relating to the prevention and abatement of pollution.

D. Insect Control Regulations

The Plant Pest Control Division of the U.S. Department of Agriculture and the Georgia State Department of Agriculture restrict the movement of certain items from areas infested with Japanese Beetles or Imported Fire Ants so as to prevent the spread of these pests to non-infested areas. Where insect infested areas are shown on the Plans, Contractors will control their operations in such a manner as to comply fully with the requirements of Section 155.

E. Reclamation of Material Pits and Waste Disposal Areas

Whenever or wherever the Contractor obtains material from a source or wastes material on an area other than within the Right-of-Way, regardless of the fashion, manner or circumstances for which the source or area is obtained, it shall be reclaimed in accordance with the requirements of Section 160.

F. Mailboxes

The property owner shall have the responsibility for removing and relocating the mailbox to an area outside construction limits.

The Engineer will mark a point for the relocation of the box. The stake should be set so that the location of the box will be convenient to both the mail carrier and the patron, yet not interfering with the proposed work. It may be necessary for the Engineer to confer with the Post Office serving the area.

The Contractor shall notify each affected owner, in writing, that their mailbox is in conflict with the proposed construction, that they have ten days to relocate the box and that, after the expiration of the 10 days' notice, if the owner has not relocated the box, it shall be removed by the Contractor and laid upon the owner's property, clear of the Right-of-Way.

Any cost to the Contractor for removing the mailboxes as stated above shall be included in the price bid for other items.

G. Failure to Comply

Failure of the Contractor to comply with any of the above provisions or to install erosion prevention items included in the Contract at the time specified, will be evidence of omission and neglect, and the Contractor will be liable for damages as outlined in Subsection 107.13.H below. Furthermore, the Engineer shall withhold payment on all Contract Items until such time as the Contractor complies in full with all of the aforesaid provisions.

H. Payment for Damages

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work, or in consequence of the nonexecution thereof by the Contractor, the Contractor shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding or otherwise restoring as may be directed, or shall make good such damage or injury in an acceptable manner.

I. Compensation

All costs pertaining to any requirement contained herein shall be included in the overall Bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

107.14 Load Restrictions

It is hereby agreed between the Department and the Contractor that in the performance of The Work under the Contract, the following load restrictions and stipulations shall be in full force and effect during the life of the Contract:

A. Parties Affected

The load restrictions and stipulations contained herein shall be applicable to the equipment of the Contractor; each agent or subcontractor employed by the Contractor; and each person or persons, firm, partnership, corporation or any combination thereof, hauling materials, supplies or equipment to or on the Project, by or for the Contractor.

B. Within Project Limits

No hauling equipment which is loaded beyond those limits provided by State Law shall be permitted on any portion of the new or existing pavement structure except that such loads will be permitted on nonstabilized bases and subbases prior to placing roadway paving subject to the provisions of Subsection 107.17.

Axle loads and gross weight limits will be evaluated in accordance with current Georgia Law.

All damage caused by any equipment to any permanent installation or portion of The Work shall be promptly repaired by the Contractor at his expense. When it becomes necessary to cross existing pavement with excessive loads, the Contractor shall provide and remove, at his own expense, proper cushioning by means of earth blanket or otherwise as directed.

C. Outside Project Limits

All equipment users included in Subsection 107.14.A, above, operating equipment on roads outside the Project limits shall be governed by the following regulations:

1. No vehicle shall carry any load in excess of that specified by Georgia Law.
2. On County System roads the maximum total gross weight shall not exceed 56,000 lbs. (25,400 kg) unless a vehicle is making a pickup or delivery on such roads.
3. For a specific individual trip the above weight limitations may be exceeded provided a special permit is obtained from the Department for each such movement. A special permit will not relieve the Contractor of liability for damage that may result from such a movement. Refer to O.C.G.A §32-6-26 Weight of Vehicle and Load, SB54 (2011) for compliance with weight limitations and exceptions.
4. Authorized personnel of the Department of Public Safety shall be permitted to weigh each truck hauling material to the Project whenever the Department so desires. The owner of each truck shall instruct his operators to cooperate with and assist the truck weighers in every way possible.
5. A Certified Public Weigher operating under the provisions of Standard Operating Procedure 15 shall not dispatch any vehicle loaded with material to be incorporated into the Project when the gross vehicle weight exceeds the limit established by law.
6. Ready Mix Concrete trucks shall comply with load restrictions as specified in Laboratory Standard Operating Procedure 10, "Quality Assurance for Ready-Mixed Concrete Plants in Georgia."

D. Responsibilities

It will be the responsibility of the Contractor to advise his personnel, and all equipment users included in Subsection 107.14.A, as to the load restrictions and stipulations contained herein.

E. Excess Loads and Violations

If multiple violations assignable to a given Certified Public Weigher are occurring, that Certified Public Weigher may be suspended from weighing materials dispatched to Department of Transportation projects.

107.15 Responsibility for Damage Claims

The Contractor shall indemnify and save harmless the Department, its officers and employees, from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the said Contractor; or on account of or in consequence of any neglect in safe-guarding The Work; or through use of unacceptable materials in constructing The Work; or because of any act of omission, neglect or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the Workmen's Compensation Act, or any other law, ordinance, order, or decree; and so much of the money due the said Contractor under and by virtue of his Contract as may be considered necessary by the Department for such purpose may be withheld for the use of the State; or, in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Department; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

107.16 Opening Sections of Project to Traffic

Whenever any bridge or section of roadway is in acceptable condition for travel, the Engineer may direct that it be opened to traffic, whether or not the opening was originally provided for, and such opening shall not be held to be in any way an acceptance of the bridge or roadway, or any part thereof, or as a waiver of any of the provisions of the Contract. Necessary repairs or renewals made on any section of the roadway or bridge thus opened to traffic under instructions from the Engineer, due to defective material or work, or to any cause other than ordinary wear and tear, pending completion and acceptance of the roadway, bridge, or other work, shall be done by the Contractor, without additional compensation. Also, the Contractor shall not receive additional compensation for completing the Work except as specified in Subsection 104.03.

If the Contractor is dilatory in completing shoulders, drainage structures, or other features of work, the Engineer may so notify him in writing and establish therein a reasonable period of time in which the Work should be completed. If the Contractor is dilatory, or fails to make a reasonable effort toward completion in this period of time, the Engineer may then order all or a portion of the Project opened to traffic. On such sections which are so ordered to be opened, the Contractor shall conduct the remainder of his construction operations so as to cause the least obstruction to traffic and shall not receive any added compensation due to the added cost of the Work by reason of opening such section to traffic.

On any section opened to traffic under any of the above conditions, whether stated in the Special Provisions or opened by necessity of Contractor's operations, or unforeseen necessity, any damage to the highway not attributable to traffic which might occur on such section (except slides) shall be repaired by the Contractor at his expense. The removal of slides shall be done by the Contractor on a basis agreed to prior to the removal of such slides.

107.17 Contractor's Responsibility for the Work

From the first day the Contractor begins work, or from the date Contract Time commences, whichever occurs first, until written final acceptance of the project by the Engineer, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of The Work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of The Work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except that the Department may, in its discretion, reimburse the Contractor for the repair of damage to The Work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, of the

public enemy or of governmental authorities. The Contractor's responsibility for damages and injuries is defined in Subsection 104.05.A.

In case of suspension of work from any cause whatsoever, the Contractor shall be responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Project, provide for normal drainage and shall erect any necessary temporary structures, signs, or other facilities at his expense.

107.18 Acquisition of Right-of-Way

Rights of Way for the project will be obtained by the Department, in coordination with local governments and others. However, the Contractor's access to the portions of the right-of-way may be restricted. Where such restrictions are known in advance to the Department they will be listed in the bid proposal. Delays to the progress of the Work may be encountered because of restricted access to portions of the right-of-way. When such delays occur, whether caused by restrictions listed in the bid proposal or restrictions that develop after the Contract is signed, the parties agree in executing the Contract that such delays do not constitute breach of the Contract. Delays in availability of right-of-way beyond those listed in the bid proposal, or that develop after the Contract has been signed, that impact the controlling Item or Items of the Work will not be charged against the Contract Time. Additional compensation for such delays shall not be paid, except as provided in Subsection 105.13, "Claims for Adjustments and Disputes," or Subsection 109.09, "Termination Clause." In the event the Department is unable to acquire right-of-way needed for the project, resulting in delay to or termination of the project, such situation will also be controlled by this Section, and will not constitute a breach of the Contract by the Department.

107.19 Personal Liability of Public Officials

In carrying out any of the provisions of the Contract or in exercising any power or authority granted to the Board, Commissioner, Chief Engineer, their agents and employees, by the Contract, there shall be no liability, either personally or as officials or representatives of the Department, it being understood that in all such matters they act solely as agents and representatives of the Department.

107.20 No Waiver of Legal Rights

Upon completion of The Work, the Department will expeditiously make final inspection and notify the Contractor of acceptance. Such final acceptance, however, shall not preclude or estop the Department from correcting any measurement, estimate, or certificate made before or after completion of The Work, nor shall the Department be precluded or estopped from recovering from the Contractor or his Surety, or both, such over-payment as it may sustain, or by failure on the part of the Contractor to fulfill his obligations under the Contract. A waiver on the part of the Department of any breach of any part of the Contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the Contract, shall be liable to the Department for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Department's rights under any warranty or guaranty.

107.21 Contractor's Responsibility for Utility Property and Services

A. Overhead or Underground Utility Facilities

At points where the Contractor's operations are adjacent to or conflict with overhead or underground utility facilities, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

B. Utility Facility Owners

The names of known utility owners and the location of known utility facilities will be shown on the Plans or in the Special Provisions, and the Contractor shall give 24-hour notice to such utility owners before commencing work adjacent to said utility facilities which may result in damage thereto. Contractor shall further notify utility owners of any changes in his work schedules affecting required action by the utility owners to protect or adjust their facilities. Notice to the utility companies by the Department of the Award of Contract, under Subsection 105.06, shall not be deemed to satisfy the notice required by this paragraph.

C. Cooperation with Facility Owners

The Contractor shall cooperate with the owners of any underground or overhead utility facilities in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

D. Interruption of Services

In the event of interruption to water or other utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the said authority in the restoration of service. If utility service is interrupted, repair work shall be continuous until the service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

E. Facilities Supported on Bridges

If the utility facilities are to be supported on bridges, the following provisions shall apply:

1. The Plans will show the location of the facility and the auxiliary items necessary to support the facility.
2. The Contractor who constructs the bridge shall install anchor bolts, thimbles, inserts, or other auxiliary items that are attached to the bridge as a part of the support for the utility facility. The Utility owner, at his or her expense, shall furnish these auxiliary items, unless the Contract indicates that these items are to be furnished by the Contractor as a part of the bridge.
3. The Agency constructing the utility facility shall install hanger rods, pipe rolls, and other attachments necessary for the support of the utility facility as indicated on the Plans. The Utility owner, at his expense, shall furnish these attachments unless otherwise specified. This work shall also include:
 - a. Caulking the openings around the utility where it passes through endwalls to prevent the passage of undesirable materials.
 - b. Painting the exposed portions of utility supports unless such supports are corrosion resistant. Painting shall be done in accordance with the applicable portions of Section 535, unless otherwise specified.
4. The sequence of bridge construction work may be set forth in the Plans and/or the Special Provisions and will show at what stage of the Work a utility owner will be allowed to make the utility installation. Further, all or any portion of The Work under Subsection 107.21.E.3 may be included in the bridge Contract by the Plans and/or the Special Provisions.
5. Any damage to the bridge structure caused by the utility installation shall be repaired to the satisfaction of the Engineer at the expense of the agency installing the utility facility.

F. Clearances

The Plans provide for at least minimum clearance of utilities as required by the National Electrical Safety Code, U.S. Department of Commerce, National Bureau of Standards. Any additional clearance the Contractor may desire or require in performing The Work shall be arranged by the Contractor with the utility owner. The Department will pay no extra compensation for such additional clearances.

G. Delays

Delays and interruptions to the controlling Item or Items of The Work caused by the adjustment or repair of water, gas, or other utility appurtenances and property will be considered for an extension of Contract Time as provided in Subsection 108.07 unless such delays are due to the negligence of the Contractor.

H. Compensation

There will be no direct compensation for complying with the above. Any additional cost to the Contractor for the above services, interruptions, or special procedures, shall be included in the over-all Bid submitted.

107.22 Hazardous and/or Toxic Waste

When the Contractor's operations encounter or expose any abnormal condition which may indicate the presence of a hazardous and/or toxic waste, such operations shall be discontinued in the vicinity of the abnormal condition and the

Engineer shall be notified immediately. The presence of barrels, discolored earth, metal, wood, or visible fumes, abnormal odors, excessively hot earth, smoke, or anything else which appears abnormal may be indicators of hazardous and/or toxic wastes and shall be treated with extraordinary caution as they are evidence of abnormal conditions.

The Contractor's operations shall not resume until so directed by the Engineer.

Disposition of the hazardous and/or toxic waste will be made in accordance with the requirements and regulations of the Department of Human Resources and the Department of Natural Resources. Where the Contractor performs work necessary to dispose of hazardous and/or toxic waste, payment will be made at the unit prices for pay items included in the contract which are applicable to such work or, where the contract does not include such pay items, payment will be as provided in Subsection 109.05, "Extra Work."

107.23 Environmental Considerations

A. Construction

Erosion control measures shall be installed, to the greatest practical extent, prior to clearing and grubbing. Particular care shall be exercised along stream buffers, wetlands, open waters and other sensitive areas to ensure that these areas are not adversely affected.

Construction equipment shall not cross streams, rivers, or other waterways except at temporary stream crossing structures shown on the plans or as allowed by permit.

Construction activities within wetland areas are prohibited except for those within the construction limits as shown on the

Plans and as specified in Subsection 107.23.E.

All sediment control devices (except sediment basins) installed on a project shall, as a minimum, be cleaned of sediment when one half the capacity, by height, depth or volume, has been reached. Sediment basins shall be cleaned of sediment when one-third the capacity by volume has been reached.

B. Bridge Construction Over Waterways

Construction waste or debris, from bridge construction or demolition, shall be prevented from being allowed to fall or be placed into wetlands, streams, rivers or lakes.

Excavation, dewatering, and cleaning of cofferdams shall be performed in such a manner as to prevent siltation. Pumping from cofferdams to a settling basin or a containment unit will be required if deemed necessary by the Engineer.

Operations required within rivers or streams, i.e. jetting or spudding, shall be performed within silt containment areas, cofferdams, silt fence, sediment barriers or other devices to minimize migration of silt off the project.

C. Environmental Clearance of Local Material or Disposal Sites

Specific written environmental approval from the Engineer will be required for any local material or disposal sites not included in the Plans. No work shall be started at any potential local material or waste site not shown on the plans prior to receiving said environmental approval from the Engineer. Local material sites are defined as borrow pits, common borrow, base, embankment, sand clay base, topsoil base, soil cement base, granular embankment, asphalt sand, maintenance pits, or stockpiled borrow sources. Disposals sites, as defined in Standard Specification 201.3.05.E.3, may be defined as excess material, common fill, or inert waste.

The Contractor may obtain environmental approval on a site with one of two methods: 1) GDOT provided environmental surveys or 2) environmental surveys obtained by the Contractor at no cost to the Department. The Contractor must choose one method for review and approvals, which will apply to all sites required for a given project, and submit an Environmental Review Notification indicating their chosen method.

1. If the Contractor chooses to obtain their own environmental surveys, they shall be conducted by a consultant(s) prequalified to work with the Department in the following area classes: 1.06(b) – History; 1.06(e) – Ecology; and 1.06(f) – Archaeology. Background research and field methods shall be conducted in accordance with the Office of Environmental Services Environmental Procedures Manual, with documentation in an Environmental Survey Results Memorandum (template available from the Office of Environmental Services).
2. If the Contractor requests that GDOT conduct require environmental surveys, an Environmental Survey Request shall be submitted for each site (template available from the Office of Environmental Services).

Upon receipt of an Environmental Survey Request, the Office of Environmental Services shall provide environmental approval or denial within thirty (30) business days. Upon receipt of an Environmental Survey Results Memorandum, the Office of Environmental Services shall provide environmental approval or denial within ten (10) business days. The Department will not accept requests for review of sites before a Notice to Proceed is issued. Incomplete Survey Requests, surveys that are not conducted by a GDOT prequalified consultant, or surveys that do not meet the required level of field effort or documentation, will be denied by GDOT OES and may require resubmittal.

The Engineer will inform the Contractor in writing as to the approval or denial of environmental clearance. Approvals may be provided upon condition that an Environmentally Sensitive Area (ESA) be designated within or adjacent to the site prior to use. All ESA stipulations shall be adhered to in accordance with Standard Specification 107.23.F. If a site is denied, the Contractor may, at no expense to the Department, seek to obtain permits or pursue other remedies that might otherwise render the site(s) acceptable, if available. Any and all changes to proposed sites or their associated haul roads that are not included within the original Environmental Survey Request or Environmental Survey Results Memorandum, including expansion, utilization for purposes other than those indicated in the original submittal, etc. must be submitted for further environmental review and approval prior to use.

Sites included in the Plans have environmental clearance and shall be used only for the purpose(s) specified in the Plans or other contract documents. Should the Contractor wish to expand or utilize said sites for any purpose other than that provided for in the Plans or other contract documents, specific written environmental clearance as noted above shall be obtained.

D. Control of Pollutants

Pollutants or potentially hazardous materials, such as fuels, lubricants, lead paint, chemicals or batteries, shall be transported, stored, and used in a manner to prevent leakage or spillage into the environment. The Contractor shall also be responsible for proper and legal disposal of all such materials.

Equipment, especially concrete or asphalt trucks, shall not be washed or cleaned-out on the Project except in areas where unused product contaminants can be prevented from entering waterways.

E. Temporary Work in Wetlands Outside of the Construction Limits within the Right-of-Way and Easement Areas

Temporary work in wetlands (that are not delineated with orange barrier fence) will be subject to the following requirements:

1. Temporary work in wetlands shall be accomplished by using temporary structures, timber, concrete, soil with geotextile fabric, or other suitable matting. The area shall not be grubbed.
2. Soil matting shall be protected from erosion in accordance with the Specifications.
3. Whenever temporary work is required in Saltwater Marsh Wetlands, all temporary structures and/or matting shall be removed in their entirety prior to Final Acceptance of the Project. Matted and compressed soils shall be backfilled to their original ground elevation with material meeting the requirements of Section 212 – Granular Embankment.

4. Whenever temporary work is required in Freshwater Wetlands, all temporary structures and/or matting (exclusive of soil matting to be retained in the final roadway section) shall be removed in their entirety prior to Final Acceptance of the Project.
Once the temporary materials have been removed, the area shall be covered by Excelsior or Straw blankets according to Section 713 of the Specifications. The grassing and ground preparation referenced in Subsection 713.3.03, "Preparation", will not be applicable to this Work.
5. The Engineer shall be notified so that a field inspection may be conducted to certify that the temporary materials were properly removed and that the area was properly restored. The Contractor shall be responsible for any corrective action required to complete this Work.
6. There will be no separate measurement or payment for this Work. The cost associated with this work shall be included in the overall Bid submitted.

F. Environmentally Sensitive Areas

Some archaeological sites, historic sites, wetlands, streams, stream and pond buffers, open waters and protected animal and plant species habitat within the existing/required Right-of-Way and easement areas may be designated as ENVIRONMENTALLY SENSITIVE AREAS (ESAs). These areas are shown on the applicable Plan sheets and labeled "ESA" (e.g. ESA – Historical Boundary, ESA – Wetland Boundary). The Department may require that some ESAs or portions thereof be delineated with orange barrier fence. The Contractor shall install, maintain, and replace as necessary orange barrier fence at ESAs as delineated in the Plan sheets.

The Contractor shall not enter, disturb, or perform any construction related activities, other than those shown on the approved plan sheets within areas designated as ESAs including ESAs or portions thereof not delineated with orange barrier fence. This includes but is not limited to the following construction activities: clearing and grubbing; borrowing; wasting; grading; filling; staging/stockpiling; vehicular use and parking; sediment basin placement; trailer placement; and equipment cleaning and storage. Also, all archaeological sites, historic sites, wetlands, streams, stream and pond buffers, open waters, and protected animal and plant species habitat that extend beyond the limits of existing/required Right-of- Way and easement areas shall be considered ESAs and the Contractor shall not perform any construction related activities (such as those listed above) within these areas or make agreements with property owners to occupy these areas for construction related activities (such as those listed above). The Contractor shall make all construction employees aware of the location(s) of each ESA and the requirement to not enter or otherwise disturb these areas.

If the Contractor is found to have entered an ESA, either within or outside the project area, for any purpose not specifically shown on the approved plan sheets, the Department may, at its discretion, issue a stop work order for all activities on the project except erosion control and traffic control until such time as all equipment and other items are removed and the ESA is restored to its original condition.

However, should damage to an ESA occur as a result of the Contractor's action in violation of this section, and notwithstanding any subsequent correction by the Contractor, the Contractor shall be liable for any cost arising from such action, including but not limited to, the cost of repair, remediation of any fines, or mitigation fees assessed against the Department by another government entity.

G. Protection of Migratory Birds and Bats

The following conditions are intended as a minimum to protect migratory birds during construction activities.

1. Project personnel shall be advised about the potential presence and appearance of federally protected migratory birds, including the barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), and eastern phoebe (*Sayornis phoebe*), and that there are civil and criminal penalties for harassing, harming, pursuing, hunting, shooting, wounding, killing, capturing, or collecting these species in violation of the Migratory Bird Treaty Act of 1918. The law protects adults, fledglings, nestlings, eggs, and active nests. All bats are protected under Georgia state law (Official Code of Georgia § 27-1-28), with some species protected under the federal Endangered Species Act of 1973. Pictures and habitat

information shall be posted in a conspicuous location in the Project field office until such time that construction has been completed and time charges have stopped.

2. The demolition of existing bridge(s) and box culvert(s) and the extension or removal of existing box culvert(s) shall take place outside of the breeding and nesting season of phoebes, swallows and other migratory birds, which begins April 1 and extends through August 31, unless exclusionary barriers are put in place to prevent birds from nesting. For bridges, exclusionary barriers may be made of plastic, canvas or other materials proposed by the Contractor and approved by the State Environmental Administrator prior to installation. For box culverts, exclusionary barriers may be overlapping strips of flexible plastic (also called "PVC Strip Doors" or "Strip Curtains") or an alternate material proposed by the Contractor and approved by the State Environmental Administrator prior to installation. Exclusionary barriers must be installed on the bridge(s) and/or box culvert(s) prior to March 1 or after August 31, but in no time in between this period. Exclusionary barriers are not a guaranteed method of preventing migratory birds from nesting beneath bridges and work schedules shall take into account the possibility that barriers will not be successful. If exclusionary barriers are to be used, these steps shall be followed:
 - a. The Project ecologist shall be notified by phone (404) 631-1100 of the decision to install exclusionary barriers and the date of the proposed installation prior to the installation of any exclusionary devices.
 - b. The structure(s) shall be checked for nests prior to the placement of exclusionary barriers. If nests are present, they shall be inspected to ensure that eggs or birds are not present. If the nests are found to be occupied, construction activities associated with the bridge shall be postponed until after August 31 when the breeding season is complete.
 - c. For any box culvert(s) being replaced, exclusionary barriers shall be installed on both the inlet and outlet openings. For any box culvert(s) being extended, exclusionary barriers shall be placed on the opening(s) (inlet and/or outlet) where work is taking place. For bridge(s) being removed, barriers shall be installed along the full length of the bridge(s). In all cases, barriers shall be installed prior to March 1 and left in place until August 31 or until the culvert removal, culvert extension, or bridge demolition is complete. If the exclusionary barriers fail to prevent nesting (i.e., birds are able to bypass barriers and build nests), construction activities associated with the bridge shall be postponed until after August 31.
 - d. During construction activities, exclusionary barriers shall be inspected daily for holes or other defects that impair its ability to exclude migratory birds from nesting beneath the bridge. Any holes or defects shall be repaired immediately.
 - e. Entanglement and/or entrapment of barn swallows, cliff swallows, and eastern phoebes in exclusionary netting constitutes harm to migratory birds. Any entanglement and/or entrapment of migratory birds shall be reported immediately to the Project Engineer, who in turn will notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101.
3. Migratory birds may nest in other structures or natural features that will be impacted by construction activities. If active nests containing eggs are encountered within the footprint of construction activities, the finding shall be reported immediately to the Project Engineer, who in turn shall notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101. All activity within 50 feet of active nests shall cease pending consultation by the Department with the U. S. Fish and Wildlife Service and the lead Federal Agency.
4. When working on bridges and culverts, sightings of bat species shall be reported immediately to the Project Engineer who in turn will notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101. All construction activity on the structure shall cease pending consultation by the Department with the U. S. Fish and Wildlife Service

and/or the Georgia Department of Natural Resources and/or the lead Federal Agency. The Department will inform the Contractor of any changes to the project.

5. In the event any incident occurs that causes harm or injury to migratory birds during construction activities, the incident shall be reported immediately to the Project Engineer who in turn shall notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101. All activity shall cease pending consultation by the Department with the U. S. Fish and Wildlife Service and the lead Federal Agency.
6. Within 30 days of the completion of construction and the stopping of time charges, a report shall be provided to the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services, 600 West Peachtree Street NW, Atlanta, Georgia 30308. GDOT in turn will provide copies of the report to the U.S. Fish and Wildlife Service, the Georgia Department of Natural Resources Wildlife Resources Division, and the lead Federal Agency. The following information will be included in the report:
 - a. Contractor name and address.
 - b. Name and title of report preparer.
 - c. GDOT Project Identification (PI) number.
 - d. County(s) in which project is located.
 - e. Project description.
 - f. Construction start and end dates.
 - g. Date GDOT was notified of intent to install barrier(s) per # 107.23G.2.a.
 - h. Number and type(s) of structures on which exclusion barriers were installed.
 - i. Type(s) of exclusion material used on each structure.
 - j. Start and end date(s) of installation of exclusionary barrier on each structure.
 - k. Start and end date(s) of removal of exclusionary barrier from each structure.
 - l. Photographs of each structure before and after exclusionary barrier installation.
 - m. Statement regarding whether the exclusionary barrier was effective in deterring bird use of the structure during construction.
 - n. Description of any incidents causing harm or injury to migratory birds during construction. This should include incidents that were reported as required under 107.23G.5.
 - o. Description of any sightings of bat species when working on bridges and culverts. This should include incidents that were reported as required under 107.23G.4.
7. All costs pertaining to any requirement contained herein shall be included in the overall bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

107.24 Closing of Roadways without On-Site Detours

When existing roadways are to be closed to through traffic and on-site detours are not provided, the Contractor shall submit a written notice to the Engineer for approval 14 days prior to the closure of the existing roadways.

After receiving approval from the Engineer for the closure, the Contractor shall install signs at each closure site, in accordance with the MUTCD, to inform the traveling public of the proposed closure, including the date of closure. The sign shall be placed 5 days prior to the closure, at the direction of the Engineer.

Prior to the closure, the Area Engineer will inform local government officials and agencies, local news media, and the DOT Public Information Office of the proposed closure of the roadways.

107.25 Disruption to Residential and Commercial Property

The Contractor shall plan, coordinate, and prosecute the work such that disruption to personal property and business is held to a practical minimum.

All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of each drainage structure or section of curb and gutter, sidewalk, or driveway shall be accomplished as soon as adequate strength is obtained. Finishing, dressing and grassing shall be accomplished immediately thereafter as a continuous operation within each area being constructed with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

Handwork, including raking and smoothing, shall be required to ensure that roots, sticks, rocks, and other debris is removed in order to provide a neat and pleasing appearance. Grassing, when in season, shall immediately follow in order to establish permanent cover at the earliest date. If grassing is not in season, proper erosion control shall be installed and maintained.

The work described herein shall be in addition to that required by Subsection 104.07 "Final Cleaning Up" and Subsection 105.16 "Final Inspection and Acceptance."

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SUPPLEMENTAL SPECIFICATION

Section 163—Miscellaneous Erosion Control Items

Delete Section 163 and substitute the following:

163.1 General Description

This work includes constructing and removing:

- Silt control gates
- Temporary erosion control slope drains shown on the Plans or as directed
- Temporary sediment basins
- Sediment barriers and check dams
- Rock filter dams
- Stone filter berms
- Stone filter rings
- Temporary sediment traps
- Other temporary erosion control structures shown on the Plans or directed by the Engineer

This work also includes applying mulch (e.g., straw, hay, erosion control compost), and temporary grass.

163.1.01 Related References

A. Standard Specifications

Section 109—Measurement and Payment

Section 161—Control of Soil Erosion and Sedimentation

Section 171—Temporary Silt Fence

Section 500—Concrete Structures

Section 603—Riprap

Section 700—Grassing

Section 711—Turf Reinforcement Matting

Section 716—Erosion Control Mats (Slopes)

Section 720 – Triangular Silt Barrier

Section 800—Coarse Aggregate

Section 801—Fine Aggregate

Section 822—Emulsified Asphalt

Section 860—Lumber and Timber

Section 863—Preservative Treatment of Timber Products

Section 881—Fabrics

Section 890—Seed and Sod

Section 893—Miscellaneous Planting Materials

B. Referenced Documents

AASHTO M252

AASHTO M294

163.1.02 Submittals

Provide written documentation to the Engineer as to the average weight of the bales of mulch.

163.2 Materials

Provide materials shown on the Plans, such as pipe, spillways, wood baffles, and other accessories including an anti-seep collar, when necessary. The materials shall remain the Contractor's property after removal, unless otherwise shown on the Plans.

Materials may be new or used; however, the Engineer shall approve previously used materials before use.

Materials shall meet the requirements of the following Specifications:

Material	Section
Mulch	<u>893.2.02</u>
Temporary Silt Fence	<u>171</u>
Concrete Aprons and Footings shall be Class A	<u>500</u>
Riprap	<u>603</u>
Temporary Grass	<u>700</u>
Triangular Silt Barrier	<u>720</u>
Lumber and Timber	<u>860.2.01</u>
Preservative Treatment of Timber Products	<u>863.1</u>
Corrugated Polyethylene Temporary Slope Drain Pipe	AASHTO M252 or M294

163.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

163.3 Construction Requirements

163.3.01 Personnel

General Provisions 101 through 150.

163.3.02 Equipment

General Provisions 101 through 150.

163.3.03 Preparation

General Provisions 101 through 150.

163.3.04 Fabrication

General Provisions 101 through 150.

163.3.05 Construction

A. Silt Control Gates

If silt control gates are required or are directed by the Engineer, follow these guidelines to construct them:

1. Clear and grade only that portion of the roadway within the affected drainage area where the drainage structure will be constructed.
2. Construct or install the drainage structure and backfill as required for stability.
3. Install the silt control gate at the inlet of the structure. Use the type indicated on the Plans.
4. Vary the height of the gate as required or as shown on the Plans.

5. Finish grading the roadway in the affected drainage area. Grass and mulch slopes and ditches that will not be paved. Construct the ditch paving required in the affected area.
6. Keep the gate in place until the work in the affected drainage area is complete and the erodible area is stabilized.
7. Remove the Type 1 silt gate assembly by sawing off the wood posts flush with the concrete apron. Leave the concrete apron between the gate and the structure inlet in place. The gate shall remain the property of the Contractor.

B. Temporary Slope Drains

If temporary slope drains are required, conduct the roadway grading operation according to Section 161 and follow these guidelines:

1. Place temporary pipe slope drains with inlets and velocity dissipaters (straw bales, silt fence, or aprons) according to the Plans.
2. Securely anchor the inlet into the slope to provide a watertight connection to the earth berm. Ensure that all connections in the pipe are leak proof.
3. Place temporary slope drains at a spacing of 350 ft (105 m) maximum on a 0% to 2% grade and at a spacing of 200 ft (60m) maximum on steeper grades, or more frequently as directed by the Engineer. Keep the slope drains in place until the permanent grass has grown enough to control erosion.
4. Remove the slope drains and grass the disturbed area with permanent grass. However, the temporary slope drains may remain in place to help establish permanent grass if approved by the Engineer.

C. Temporary Sediment Basins

Construct temporary sediment basins according to the Plans at the required locations, or as modified by the Engineer.

1. Construct the unit complete as shown, including:
 - Grading
 - Drainage
 - Riprap
 - Spillways
 - Anti-seep collar
 - Temporary mulching and grassing on internal and external slopes
 - Accessories to complete the basin
2. When the sediment basin is no longer needed, remove and dispose of the remaining sediment.
3. Remove the sediment basin. Grade to drain and restore the area to blend with the adjacent landscape.
4. Mulch and permanently grass the disturbed areas according to Section 700.

D. Sediment Barriers

Construct sediment barriers according to the Plan details.

The following items may be used for sediment barriers

1. Type A Silt Fence.
2. Type C Silt Fence.
3. Rectangular, mechanically produced and standard-sized baled wheat straw.
4. Triangular Silt Barrier.
5. Synthetic Fiber: Use synthetic fiber bales of circular cross section at least 18 in (450 mm) in diameter. Use synthetic bales of 3 ft or 6 ft (0.9 m or 1.8 m) in length that are capable of being linked together to form a continuous roll of the desired total length. Use bales that are enclosed in a geotextile fabric and that contain a pre-made stake hole for anchoring.
6. Coir: Use coir fiber bales of circular cross section at least 16" (400mm) in diameter. Use coir bales of 10 ft, 15 ft, or 20 ft (3 m, 4.5 m, or 6 m) in length. Use coir baled with coir twine netting with 2 in X 2 in (50 mm X 50 mm) openings. Use coir bales with a dry density of at least 7 lb/ft³ (112 kg/m³). Anchor in place with 2 in X 4 in (50 mm X 100 mm) wooden wedges with a 6 in (150 mm) nail at the top. Place wedges no more than 36 in (900 mm) apart.
7. Excelsior: Use curled aspen excelsior fiber with barbed edges in circular bales of at least 18 in (450 mm) in diameter and nominally 10 ft (3 m) in length. Use excelsior baled with polyester netting with 1 in X 1 in (25 mm by 25 mm) triangular openings. Use excelsior bales with a dry density of at least 1.4 lb/ft³ (22 kg/m³). Anchor in place with 1 in (25 mm) diameter wooden stakes driven through the netting at intervals of no more than 2 ft (600 mm).

8. **Compost Filter Sock:** Use general use compost (see Subsection 893.2.02.A.5.b) in circular bales at least 18 in diameter. Use compost baled with photo-degradable plastic mesh 3 mils thick with a maximum 0.25 in X 0.25 in (6 mm X 6 mm) openings. Anchor in place with 1 in (25 mm) diameter wooden stakes driven through the netting at intervals of no more than 2 ft (600 mm). The sock shall be dispersed on site when no longer required, as determined by the Engineer. Do not use Compost Filter Socks in areas where the use of fertilizer is restricted.
9. **Compost Filter Berm:** Use erosion control compost (see Subsection 893.2.02) to construct a noncompacted 1.5 ft to 2 ft (450 mm to 600 mm) high trapezoidal berm which is approximately 2 ft to 3 ft (600 mm to 1 m) wide at the top and minimum 4 ft (1.2 m) wide at the base. Do not use Compost Filter Berms in areas where the use of fertilizer is restricted.

The construction of the compost filter berm includes the following:

- a. Keeping the berm in a functional condition.
- b. Installing additional berm material when necessary.
- c. Removing the berm when no longer required, as determined by the Engineer. At the Engineer's discretion, berm material may be left to decompose naturally, or distributed over the adjacent area.

E. Other Temporary Structures

When special conditions occur during the design stage, the Plans may show other temporary structures for erosion control with required materials and construction methods.

F. Temporary Grass

Use a quick-growing species of temporary grass such as rye grass, millet, or a cereal grass suitable to the area and season.

Use temporary grass in the following situations:

- When required by the Specifications or directed by the Engineer to control erosion where permanent grassing cannot be planted.
- To protect an area for longer than mulch is expected to last (60 calendar days), plant temporary grass as follows:
 1. Use seeds that conform to Subsection 890.2.01, "Seed." Perform seeding according to Section 700; except use the minimum ground preparation necessary to provide a seed bed if further grading is required.
 2. Prepare areas that require no further grading according to Subsection 700.3.05.A, "Ground Preparation." Omit the lime unless the area will be planted with permanent grass without further grading. In this case, apply the lime according to Section 700.
 3. Apply mixed grade fertilizer at 400 lbs/acre (450 kg/ha). Omit the nitrogen. Mulch (with straw or hay) temporary grass according to Section 700. (Erosion control compost Mulch will not be allowed with grassing.)
 4. Before planting permanent grass, thoroughly plow and prepare areas where temporary grass has been planted according to Subsection 700.3.05.A, "Ground Preparation".
 5. Apply Polyacrylamide (PAM) to all areas that receive temporary grassing.
 6. Apply PAM (powder) before grassing or PAM (emulsion) to the hydroseeding operation.
 7. Apply PAM according to manufacturer specifications.
 8. Use only anionic PAM.

For projects that consist of shoulder reconstruction and/or shoulder widening, refer to Section 161.3.05H for Wood Fiber Blanket requirements.

G. Mulch

When staged construction or other conditions prevent completing a roadway section continuously, apply mulch (straw or hay or erosion control compost) to control erosion. Mulch may be used without temporary grassing for 60 calendar days or less. Areas stabilized with only mulch (straw/hay) shall be planted with temporary grass after 60 calendar days.

Apply mulch as follows:

1. **Mulch (Hay or Straw) - Without Grass Seed**
 - a. Uniformly spread the mulch over the designated areas from 2 in to 4 in (50 mm to 100 mm) thick.
 - b. After spreading the mulch, walk in the mulch by using a tracked vehicle (preferred method), empty sheep foot roller, light disking, or other means that preserves the finished cross section of the prepared areas. The Engineer will approve of the method.

- c. Place temporary mulch on slopes as steep as 2:1 by using a tracked vehicle to imbed the mulch into the slope.
 - d. When grassing operations begin, leave the mulch in place and plow the mulch into the soil during seed bed preparation. The mulch will become beneficial plant food for the newly planted grass.
2. Erosion control compost - Without Grass Seed
- a. Uniformly spread the mulch (erosion control compost) over the designated areas 2 in (50 mm) thick.
 - b. When rolling is necessary, or directed by the Engineer, use a light corrugated drum roller.
 - c. When grassing operations begin, leave the mulch in place and plow the mulch into the soil during seed bed preparation. The mulch will become beneficial plant food for the newly planted grass.
 - d. Plant temporary grass on area stabilized with mulch (erosion control compost) after 60 calendar days.
 - e. Do not use Erosion Control Compost in areas where the use of fertilizer is restricted.

H. Miscellaneous Erosion Control Items Not Shown on the Plans

When conditions develop during construction that were unforeseen in the design stage, the Engineer may direct the Contractor to construct temporary devices such as but not limited to:

- Bulkheads
- Sump holes
- Half round pipe for use as ditch liners
- U-V resistant plastic sheets to cover critical cut slopes

The Engineer and the Contractor will determine the placement to ensure erosion control in the affected area.

I. Diversion Channels

When constructing a culvert or other drainage structure in a live stream that requires diverting a stream, construct a diversion channel.

J. Check Dams

Check dams are constructed of the following materials;

- Stone plain riprap according to Section 603 (Place woven plastic filter fabric on ditch section before placing riprap.)
- Sand bags as in Section 603 without Portland cement
- Baled wheat straw
- Compost filter socks
- Fabric (Type C silt fence)

Check dams shall be constructed according to plan details and shall remain in place until the permanent ditch protection is in place or being installed and the removal is approved by the Engineer.

K. Construction Exits

Locate construction exits at any point where vehicles will be leaving the project onto a public roadway. Install construction exits at the locations shown in the plans and in accordance with plan details.

L. Retrofits

Add the retrofit device to the permanent outlet structure as shown on the Plan details.

When all land disturbing activities that would contribute sediment-laden runoff to the basin are complete, clean the basin of sediment and stabilize the basin area with vegetation.

When the basin is stabilized, remove the retrofit device from the permanent outlet structure of the detention pond.

M. Inlet Sediment Traps

Inlet sediment traps consist of a temporary device placed around a storm drain inlet to trap sediment. An excavated area adjacent to the sediment trap will provide additional sediment storage.

Inlet sediment traps may be constructed of Type C silt fence, plastic frame and filter, hay bales, baffle box, or other filtering materials approved by the Engineer. Construct inlet sediment traps according to the appropriate specification for the material selected for the trap. Place inlet sediment traps as shown on the Plans or as directed by the Engineer.

N. Rock Filter Dams

Construct rock filter dams of the material selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction detail(s) and Standard Specification Section 603.

Rock filter dams shall remain in place until the permanent ditch protection is in place or is being installed and their removal is approved by the Engineer.

O. Stone Filter Berms

Construct stone filter berms of the material selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction detail(s) and Standard Specification Section 603.

Stone filter berms shall remain in place until the permanent slope protection is in place or is being installed and their removal is approved by the Engineer.

P. Stone Filter Rings

Construct stone filter rings of the material selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction detail(s) and Standard Specification Section 603.

A stone filter ring shall remain in place until final stabilization of the area which drains toward it is achieved and its removal is approved by the Engineer.

Q. Temporary Sediment Traps

Construct temporary sediment traps of the material selected as shown in the approved erosion and sediment control plan. Construct and place this item in accordance with the approved erosion control construction detail(s) and Standard Specification Section 603.

A temporary sediment trap shall remain in place until final stabilization of the area which drains toward it is achieved and its removal is approved by the Engineer.

163.3.06 Quality Acceptance

General Provisions 101 through 150.

163.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

163.4 Measurement

A. Silt Control Gates

Silt control gates are measured for payment by the entire structure constructed at each location complete in place and accepted. Silt control gates constructed at the inlet of multiple lines of drainage structures are measured for payment as a single unit.

B. Temporary Slope Drains

Temporary slope drains are measured for payment by the linear foot (meter) of pipe placed. When required, the inlet spillway and outlet apron and/or other dissipation devices are incidental and not measured separately.

C. Temporary Sediment Basins

Temporary sediment basins are measured for payment by the entire structure complete, including construction, maintenance, and removal. Temporary grassing for sediment basins is measured separately for payment. Measurement also includes:

- Earthwork
- Drainage
- Spillways
- Baffles
- Riprap
- Final cleaning to remove the basin

D. Sediment Barriers

Sediment barriers are measured by the linear foot (meter).

E. Other Temporary Structures

Other temporary structures are not measured for payment. Costs for the entire structure complete, including materials, construction (including earthwork), and removal is included in the price bid for the drainage structure or for other Contract items.

F. Temporary Grass

Temporary grass is measured for payment by the acre (hectare). Lime, when required, is measured by the ton (megagram). Mulch and fertilizer are measured separately for payment.

G. Mulch

Mulch (straw or hay, or erosion control compost) is measured for payment by the ton (megagram).

H. Miscellaneous Erosion Control Items Not Shown on the Plans

These items are not measured for payment. The cost for construction, materials, and removal is included in the price bid for other contract items.

I. Diversion Channels

Diversion channels are not measured for payment. The cost for the entire structure complete, including materials, construction (including earthwork), and removal is included in the price bid for the drainage structure or for other contract items.

J. Check Dams

Stone, sand bags, baled wheat straw, and compost filter sock check dams are measured per each, which includes all work necessary to construct the check dam including woven plastic filter fabric placed beneath stone check dams. Fabric check dams are measured per linear foot.

K. Construction Exits

Construction exits are measured per each which will include all work necessary to construct the exit including the required geotextile fabric placed beneath the aggregate.

L. Retrofits

Retrofit will be measured for payment per each. The construction of the detention pond and permanent outlet structure will be measured separately under the appropriate items.

M. Inlet Sediment Traps

Inlet sediment traps, regardless of the material selected, are measured per each which includes all work necessary to construct the trap including any incidentals and providing the excavated area for sediment storage.

N. Rock Filter Dams

Rock filter dams are measured for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

O. Stone Filter Berms

Stone filter berms are measured for payment per linear foot (meter) required. This includes the entire structure at each location and all the work necessary for construction.

P. Stone Filter Rings

Stone filter rings are measured for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

Q. Temporary Sediment Traps

Temporary sediment traps are measured for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

163.4.01 Limits

General Provisions 101 through 150.

163.5 Payment

A. Silt Control Gates

The specified silt control gates are paid for at the Contract Unit Price per each. Payment is full compensation for:

- Furnishing the material and labor
- Constructing the concrete apron as shown on the Plans
- Excavating and backfilling to place the apron
- Removing the gate

B. Temporary Slope Drains

Temporary slope drains are paid for by the linear foot (meter). Payment is full compensation for materials, construction, removal (if required), inlet spillways, velocity dissipaters, and outlet aprons.

When temporary drain inlets and pipe slope drains are removed, they remain the Contractor's property and may be reused or removed from the Project as the Contractor desires. Reused pipe or inlets are paid for the same as new pipe or inlets.

C. Temporary Sediment Basins

Temporary sediment basins, measured according to Subsection 163.4.C "Measurement," are paid for by the unit, per each, for the type specified on the Plans. Price and payment are full compensation for work and supervision to construct, and remove the sediment basin, including final clean-up.

D. Sediment Barriers

Sediment barriers are paid by the linear foot (meter). Price and payment are full compensation for work and supervision to construct, and remove the sediment barrier, including final clean-up.

E. Other Temporary Structures

Other temporary structures are not measured for payment. Costs for the entire structure complete, including materials, construction (including earthwork), and removal is included in the price bid for the drainage structure or for other Contract items.

F. Temporary Grass

Temporary grass is paid for by the acre (hectare). Payment is full compensation for all equipment, labor, ground preparation, materials, wood fiber mulch, polyacrylamide, and other incidentals. Lime (when required) is paid for by the ton (megagram). Mulch and fertilizer are paid for separately.

G. Mulch

Mulch is paid for by the ton. Payment is full compensation for all materials, labor, maintenance, equipment and other incidentals.

The weight for payment of straw or hay mulch will be the product of the number of bales used and the average weight per bale as determined on certified scales provided by the contractor or state certified scales. Provide written documentation to the Engineer stating the average weight of the bales.

The weight of erosion control compost mulch will be determined by weighing each loaded vehicle on the required motor truck scale as the material is hauled to the roadway, or by using recorded weights if a digital recording device is used. The contractor may propose other methods of providing the weight of the mulch to Engineer for approval.

H. Miscellaneous Erosion Control Items Not Shown on the Plans

These items are not paid for separately. They are included in the price bid for other contract items.

I. Diversion Channel

Diversion channels are not paid for separately. They are included in the price bid for other contract items.

J. Check Dams

Payment is full compensation for all materials, construction, and removal. Stone plain riprap, sand bag, baled wheat straw, or compost filter socks check dams are paid for per each. The required woven filter fabric required under each stone check dams is included in the bid price. Fabric check dams are paid for per linear foot.

K. Construction Exits

Construction exits are paid for per each. Payment is full compensation for all materials including the required geotextile, construction, and removal.

L. Retrofits

This item is paid for at the Contract Unit Price per each. Payment is full compensation for all work, supervision, materials (including the stone filter), labor and equipment necessary to construct and remove the retrofit device from an existing or proposed detention pond outlet structure.

M. Inlet Sediment Traps

Inlet sediment traps are paid for per each. Payment is full compensation for all materials, construction, and removal.

N. Rock Filter Dams

Rock filter dams are paid for per each. Payment is full compensation for all materials, construction, and removal for each. Clean reused stone Type 3 riprap and #57 stone are paid for on the same basis as new items. Plastic woven filter fabric is required under rock filter dams and is included in the price bid for each.

O. Stone Filter Berms

Stone filter berms are paid for per linear foot (meter). Payment is full compensation for all materials, construction, and removal for each. Clean reused stone Type 3 riprap and #57 stone are paid for on the same basis as new items. Plastic woven filter fabric is required under rock filter berms and is included in the price bid for linear foot (meter).

P. Stone Filter Rings

Stone filter rings are paid for per each. Payment is full compensation for all materials, construction, and removal for each. Clean reused stone Type 3 riprap and #57 stone are paid for on the same basis as new items. Plastic woven filter fabric is required under stone filter rings and is included in the price bid for each.

Q. Temporary Sediment Traps

Temporary sediment traps are paid for payment per each required. This includes the entire structure at each location and all the work necessary for construction.

The items in this section (except temporary grass and mulch) are made as partial payments as follows:

- When the item is installed and put into operation the Contractor will be paid 75 percent of the Contract price.
- When the Engineer instructs the Contractor that the item is no longer required and is to remain in place or is removed, whichever applies, the remaining 25 percent will be paid.

Temporary devices may be left in place at the Engineer's discretion at no change in cost. Payment for temporary grass will be made based on the number of acres (hectares) grassed. Mulch will be based on the number of tons (megagrams) used.

Payment is made under:

Item No. 163	Construct and remove silt control gates	Per each
Item No. 163	Construct and remove temporary pipe slope drains	Per linear foot (meter)
Item No. 163	Construct and remove temporary sediment barriers	Per linear foot (meter)
Item No. 163	Construct and remove sediment basins	Per each
Item No. 163	Construct and remove check dams except fabric dams	Per each
Item No. 163	Construct and remove fabric check dams	Per linear foot (meter)
Item No. 163	Construct and remove construction exits	Per each
Item No. 163	Construct and remove retrofits	Per each
Item No. 163	Construct and remove rock filter dams	Per each
Item No. 163	Construct and remove stone filter berms	Per linear foot (meter)
Item No. 163	Construct and remove stone filter rings	Per each
Item No. 163	Construct and remove inlet sediment traps	Per each
Item No. 163	Construct and remove temporary sediment traps	Per each
Item No. 163	Temporary grass	Per acre (hectare)
Item No. 163	Mulch	Per ton (megagram)

163.5.01 Adjustments

General Provisions 101 through 150.

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SUPPLEMENTAL SPECIFICATION

**Section 165—Maintenance of Temporary Erosion and Sedimentation
Control Devices**

Delete Section 165 and substitute the following:

165.1 General Description

This work consists of providing maintenance on temporary erosion and sediment control devices, including but not limited to the following:

- Silt control gates
- Temporary erosion control slope drains shown on the Plans or as directed
- Temporary sediment basins
- Silt control gates
- Check dams
- Sediment barriers
- Rock filter dams
- Stone filter berms
- Stone filter rings
- Temporary sediment traps

It also consists of removing sediment that has accumulated at the temporary erosion and sedimentation control devices.

165.1.01 Definitions

General Provisions 101 through 150.

165.1.02 Related References

A. Standard Specifications

General Provisions 101 through 150.

B. Referenced Documents

General Provisions 101 through 150.

165.1.03 Submittals

General Provisions 101 through 150

165.2 Materials

General Provisions 101 through 150.

165.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

165.3 Construction Requirements

165.3.01 Personnel

General Provisions 101 through 150.

165.3.02 Equipment

General Provisions 101 through 150.

165.3.03 Preparation

General Provisions 101 through 150.

165.3.04 Fabrication

General Provisions 101 through 150.

165.3.05 Construction

As a minimum, clean sediment from all temporary erosion control devices (except temporary sediment basins) installed on the project when one-half the capacity by volume, as measured by depth, has been reached. Clean the sediment from all temporary sediment basins installed on a project when one-third the capacity of the storage volume has been filled.

Handle excavated sediment from any erosion or sediment control device in one of the following ways:

- Remove sediment from the immediate area and immediately stabilize it to prevent the material from refilling any erosion or sediment control device.
- Place and mix it in the roadway embankment or waste it in an area approved by the Engineer.

Repair or replace at no cost to the Department any erosion or sediment control device that is not functioning properly or is damaged due to negligence or abuse.

A. Temporary Silt Fence

Maintenance of temporary silt fence consists of furnishing all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0 % filled). Also included is the removal of sediment accumulations ("filtercake") on the fabric by tapping the fabric on the downstream side.

B. Silt Control Gates

Maintenance of temporary silt control gates consists of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). When applicable, this item will include the removal of sediment accumulations on the fabric by tapping the fabric on the downstream side.

C. Check Dams (all types)

Maintenance of temporary erosion control check dams shall consist of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). This item also includes the removal of any material deposited in sump holes. When applicable, this item will include the removal of sediment accumulations on the fabric by tapping the fabric on the downstream side, or from the baled straw by similar means.

D. Silt Retention Barriers

Maintenance of temporary silt retention barriers consists of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled).

E. Temporary Sediment Basins

Maintenance of temporary sediment basins consists of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original bottom of the basin. This also includes removing

accumulated sediment from the rock filter and restoring the rock filter to its original specified condition and any work necessary to restore all other components to the pre-maintenance conditions.

F. Sediment Barriers

Maintenance of sediment barriers consists of furnishing all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0 % filled). Also included is the removal of sediment accumulations on the barriers by tapping.

G. Triangular Silt Barriers

Maintenance of triangular silt barriers consists of all labor, tools, materials, equipment and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled).

H. Retrofits

Maintenance of the retrofits device consists of all labor, tools, materials, equipment and necessary incidentals to remove and properly dispose of accumulated sediment in the permanent detention pond being utilized as a temporary sediment basin. This item also includes any maintenance that is required to ensure the retrofit device is maintained per Plan details and any maintenance of the stone filter to maintain its filtering ability, including cleaning and replacement.

I. Construction Exits

Maintenance of the construction exits consists of all labor, tools, materials, equipment and incidentals, including additional stone and geotextile fabric as required to prevent the tracking or flow of soil onto public roadways. This includes scarifying existing stone, cleaning existing stone, or placement of additional stone.

Cleaning of the construction exit by scraping and/or brooming only will not be measured for payment.

J. Inlet Sediment Traps

Maintenance of inlet sediment traps consists of all labor, tools, materials, equipment, and necessary incidentals to remove and properly dispose of accumulated sediment in the trap and/or the excavated area adjacent to the trap. It also includes any maintenance that is required to remove sediment accumulations ("filtercake") from the material selected to construct the inlet sediment trap.

K. Rock Filter Dams

Maintenance of rock filter dams consists of all labor, tools, materials, equipment, and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). This item also includes the removal of any material deposited in sump holes.

L. Stone Filter Berms

Maintenance of stone filter berms consists of all labor, tools, materials, equipment, and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). This item also includes the removal of any material deposited in sump holes.

M. Stone Filter Rings

Maintenance of stone filter rings consists of all labor, tools, materials, equipment, and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). This item also includes the removal of any material deposited in sump holes.

N. Temporary Sediment Traps

Maintenance of temporary sediment traps consists of all labor, tools, materials, equipment, and necessary incidentals to remove and dispose of accumulated sediment down to the original ground line (0% filled). This item also includes the removal of any material deposited in sump holes.

165.3.06 Quality Acceptance

General Provisions 101 through 150.

165.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

165.4 Measurement

A. Temporary Silt Fence

Maintenance of temporary silt fence, Type A or C, is the actual linear feet (meter) of silt fence measured in place where sediment is removed.

B. Silt Control Gates

Maintenance of temporary silt control gates, Type I, II, or III, as specified on the Plans is measured as a single unit.

C. Check Dams (All Types)

Maintenance of temporary erosion control check dams as specified on the Plans is the actual linear feet (meter) of baled straw, or rip rap, measured in place, where sediment is removed.

D. Silt Retention Barriers

Maintenance of temporary silt retention barrier as specified on the Plans is measured by the linear foot (meter) where sediment is removed.

E. Temporary Sediment Basins

Maintenance of temporary sediment basins as specified on the Plans is measured as a single unit.

F. Sediment Barriers

Maintenance of sediment barriers is the actual linear feet (meter) measured in place where sediment is removed.

G. Triangular Silt Barriers

Maintenance of triangular silt barrier as specified on the plans is measured by the linear foot (meter) where sediment is removed.

H. Retrofits

Maintenance of retrofit devices at the location specified on the Plans is measured per each.

I. Construction Exits

Maintenance of construction exits at the location specified on the Plans, or as directed by the Engineer is measured per each.

J. Inlet Sediment Traps

Maintenance of inlet sediment traps at the location specified on the Plans, or as added by the Engineer is measured per each.

K. Rock Filter Dams

Maintenance of rock filter dams as specified on the plans is measured as a single unit.

L. Stone Filter Berms

Maintenance of stone filter berms as specified on the plans is measured per linear foot (meter).

M. Stone Filter Rings

Maintenance of stone filter rings as specified on the plans is measured as a single unit.

N. Temporary Sediment Traps

Maintenance of temporary sediment traps as specified on the plans is measured as a single unit.

165.4.01 Limits

General Provisions 101 through 150.

165.5 Payment

A. Temporary Silt Fence

Maintenance of temporary silt fence, Type A or C, is paid for at the contract unit price bid per linear foot (meter).

B. Silt Control Gates

Maintenance of temporary silt control gates, Type I, II, or III, as specified on the Plans is paid for at the contract unit price bid per each.

C. Check Dams

Maintenance of check dams as specified on the Plans is paid for at the contract unit price bid per linear foot (meter).

D. Silt Retention Barriers

Maintenance of temporary silt retention barriers as specified on the Plans is paid for at the contract unit price bid per linear foot (meter).

E. Temporary Sediment Basins

Maintenance of temporary sediment basins as specified on the Plans is paid for at the contract unit price bid per each.

F. Sediment Barriers

Maintenance of sediment barriers as specified on the Plans is paid for at the contract unit price bid per linear foot (meter).

G. Triangular Silt Barriers

Maintenance of triangular silt barriers as specified on the Plans is paid for at the contract unit price bid per linear foot (meter).

H. Retrofits

Maintenance of the retrofit devices at the location specified on the Plans is paid for at the contract unit price bid per each.

I. Construction Exits

Maintenance of the construction exits at the location specified on the Plans or as added by the Engineer is paid for at the contract unit price per each.

J. Inlet Sediment Traps

Maintenance of the inlet sediment traps at the location specified on the Plans or at the location specified by the Engineer is paid for at the contract unit price per each.

K. Rock Filter Dams

Maintenance of rock filter dams as specified on the Plans is paid for at the contract unit price bid per each.

L. Stone Filter Berms

Maintenance of stone filter berms as specified on the Plans is paid for at the contract unit price bid per linear foot (meter).

M. Stone Filter Rings

Maintenance of stone filter rings as specified on the Plans is paid for at the contract unit price bid per each.

N. Temporary Sediment Traps

Maintenance of temporary sediment traps as specified on the Plans is paid for at the contract unit price bid per each.

Payment will be made under:

Item No. 165	Maintenance of temporary silt fence	per linear foot (meter)
Item No. 165	Maintenance of silt control gates	per each
Item No. 165	Maintenance of check dams	per linear foot (meter)
Item No. 165	Maintenance of silt retention barriers	per foot (meter)
Item No. 165	Maintenance of temporary sediment basins	per each
Item No. 165	Maintenance of sediment barriers	per linear foot (meter)
Item No. 165	Maintenance of triangular silt barriers	per linear foot (meter)
Item No. 165	Maintenance of retrofits	per each
Item No. 165	Maintenance of construction exits	per each
Item No. 165	Maintenance of inlet sediment traps	per each
Item No. 165	Maintenance of rock filter dams	per each
Item No. 165	Maintenance of stone filter berms	per linear foot (meter)
Item No. 165	Maintenance of rock filter dams	per each
Item No. 165	Maintenance of temporary sediment traps	per each

165.5.01 Adjustments

General Provisions 101 through 150.

Date: August 26, 2002
First Use Date 2001 Specifications: November 1, 2002
Revised: January 16, 2003
Revised: August 1, 2003
Revised: February 1, 2004
Revised: October 15, 2005
Revised: July 15, 2008
Revised: March 18, 2013
Revised: October 22, 2013
Revised: May 2, 2014
Revised: September 2, 2014

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SUPPLEMENTAL SPECIFICATION
Section 167—Water Quality Monitoring**

Delete 167 and substitute the following:

167.1 General Description

This Specification establishes the Contractor's responsibility to meet the requirements of the National Pollutant Discharge Elimination System (NPDES) Infrastructure Permit No. GAR 100002 as it pertains to Part IV. Erosion, Sedimentation and Pollution Control Plan. In the case of differing requirements between this specification and the Permit, whichever is the more stringent requirement shall be adhered to.

167.1.01 Definitions

Certified Personnel— certified personnel are defined as persons who have successfully completed the appropriate certification course approved by the Georgia Soil and Water Conservation Commission. For Department projects the certified person must also have successfully completed the Department's WECS certification course.

Water Quality Sampling – as used within this specification, the term “monitoring” shall be inclusive of the acts of detecting, noting, discerning, observing, etc. for the purpose of gauging compliance with the NPDES General Permit GAR100002.

Qualifying Rainfall Sampling Event—as used within this specification, means that which is defined in the 2013 NPDES General Permit GAR1000002, Part IV.D.6.d(3).

167.1.02 Related References

A. Standard Specifications

[Section 161—Control of Soil Erosion and Sedimentation](#)

B. Referenced Documents

NPDES Infrastructure Permit No. GAR100002

GDOT WECS Seminar

EPD Rule Chapter 391-3-7

GSWCC Certification Level IA Course

OCCA 12-7-1

167.1.03 Submittals

General Provisions 101 through 150

167.2 Materials

General Provisions 101 through 150.

167.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

167.3 Construction Requirements

167.3.01 Personnel

Use GSWCC level IA certified and WECS certified personnel to perform all monitoring, sampling, inspections, and rainfall data collection.

Use the Contractor-designated WECS or select a prequalified consultant from the Qualified Consultant List (QCL) to perform water quality monitoring, sampling, inspections, and rainfall data collection.

The Contractor is responsible for having a copy of the GAR100002 Permit onsite at all times.

167.3.02 Equipment

Provide equipment necessary to complete the Work or as directed.

167.3.03 Preparation

General Provisions 101 through 150.

167.3.04 Fabrication

General Provisions 101 through 150.

167.3.05 Construction

A. General

Perform inspections, rainfall data collection, testing of samples, and reporting the test results on the project according to the requirements in Part IV of the NPDES Infrastructure Permit and this Specification. Take samples manually or use automatic samplers, according to the GAR100002 Permit GAR100002. Note that GAR100002 requires the use of manual sampling or rising stage sampling for qualifying events that occur after the first instance of the automatic sampler not being activated during a qualifying event. Analyze all samples according to the Permit, regardless of the method used to collect the samples. If samples are analyzed in the field using portable turbidimeters, the monitoring results shall state they are being used and a digital readout of NTUs is what is provided. Submit bench sheets, work sheets, etc., when using portable turbidimeters. There are no exceptions to this requirement. Perform required inspections and submit all reports required by this Specification within the time frames specified. Failure to perform the inspections within the time specified will result in the cessation of all construction activities with the exception of traffic control and erosion control. Failure to submit the required reports within the times specified will result in non-refundable deductions as specified in [Subsection 161.5.01.B](#).

B. Water Quality Inspections

The Department will provide one copy of the required inspection forms for use and duplication. Inspection forms may change during the contract to reflect regulatory agency needs or the need of the Department. Any costs associated with the change of inspection forms shall be considered incidental. Alternate formats of the provided forms may be created, used and submitted by the Contractor provided the required content and/or data fields and verbatim certification statements from the Department's current forms are included.

The Engineer shall inspect the installation and condition of each erosion control device required by the erosion control plan within seven days after initial installation. This inspection is performed for each stage of construction when new devices are installed. The WECS shall ensure all installation deficiencies reported by the Engineer are corrected within two business days.

Ensure the inspections of the areas listed below are conducted by certified personnel and at the frequencies listed. Document all inspections on the appropriate form provided by the Department.

1. Daily (when any work is occurring):

Conduct inspections on the following areas daily:

- a. Petroleum product storage, usage, and handling areas for spills or leaks from vehicles or equipment
- b. All locations where vehicles enter/exit the site for evidence of off-site sediment tracking

Continue these inspections until a Notice of Termination (NOT) is submitted, and use the daily inspection forms.

2. Weekly and after Rainfall Events:

Conduct inspections on these areas every seven calendar days and within twenty-four hours after the end of a rainfall event that is 0.5 in (13 mm) or greater (unless such storm ends after 5:00 PM on any Friday or 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 not permanently stabilized
- b. Material storage areas that are exposed to precipitation
- c. Structural control measures, Best Management Practices (BMPs) to ensure they are operating correctly
- d. Water quality sampling locations and equipment
- e. Discharge locations or points, e.g., outfalls and drainage structures that are accessible to determine if erosion control measures are effective in preventing significant impacts to receiving waters

Continue these inspections until all temporary BMPs are removed and a NOT is submitted and use the EC-1 Form.

3. Monthly:

Once per month, inspect all areas of the site that have undergone ~~where~~ final stabilization or have established a crop of annual vegetation and a seeding of target perennials appropriate for the region ~~has been completed~~. Look for evidence of sediments or pollutants entering the drainage system and or receiving waters. Inspect all permanent erosion control devices remaining in place to verify the maintenance status and that the devices are functioning properly. Inspect discharge locations or points, e.g. outfalls, drainage structures, that are accessible to determine if erosion control measures are effective in preventing significant impacts to receiving waters.

Continue these inspections until the Notice of Termination is submitted and use the monthly inspection form.

C. Water Quality Sampling

When the sampling location is a receiving water, the upstream and downstream samples are taken for comparison of NTU values. When the sampling location is an outfall, a single sample is taken to be analyzed for its absolute NTU value.

D. Reports

1. Inspection Reports:

Summarize the results of inspections noted above in writing on the appropriate Daily, Weekly, Monthly, or EC-1 form provided by the Department and includes the following information:

- Date(s) of inspection
- Name of certified personnel performing inspection
- Construction phase
- Status of devices
- Observations
- Action taken in accordance with Part IV.D.4.a.(5) of the GAR100002 Permit
- Signature of personnel performing the inspection
- Any instance of non-compliance

When the report does not identify any non-compliance instances, the inspection report shall contain a statement that the best management practices are in compliance with the Erosion, Sedimentation, and Pollution Control Plan. (See the EC-1 form.)

The reports shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction project that has been phased has undergone final stabilization and a Notice of Termination is submitted to the Georgia Department of Natural Resources Environmental Protection Division (GAEPD). Such reports shall be readily available by the 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. The inspection form certification sheet shall be signed by the project WECS and the inspector performing inspections on behalf of the WECS (if not the same person). Submit all inspection reports to the Engineer within twenty-four hours of the inspection. The Engineer will review the submitted reports to determine their accuracy. The Engineer will notify the certified personnel of any additional items that should be added to the inspection report.

Correct any items listed in the inspection report requiring routine maintenance within seventy-two (72) hours of notification or immediately during perimeter BMP failure emergencies. Deficiencies that interfere with traffic flow, safety, or downstream turbidity are to be corrected as soon as practical but in case later than seven (7) calendar days following the inspection.

Assume responsibility for all costs associated with additional sampling as specified in Part IV.D.6.d.3.(c) of the NPDES GAR100002 Permit if either of these conditions arise:

- BMPs shown in the Plans are not properly installed and maintained, or
- BMPs designed by the Contractor are not properly designed, installed and maintained.

2. Sampling Reports

- a. All sampling shall be performed in accordance with the requirements of the GAR100002 Permit for the locations identified in the ESPCP approved by the Department.

b. Report Requirements

Include in all reports, the following certification statement, signed by the WECS or consultant providing sampling on the project:

“I certify under penalty of law that this report and all attachments were prepared under my direct supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

When a rainfall event requires a sample to be taken, submit a report of the sampling results to the Engineer within seven working days of the date the sample was obtained. Include the following information in each report:

- 1) Date and time of sampling
- 2) Name of certified person(s) who performed the sampling and analyses.
- 3) Date the analyses were performed
- 4) Time the analyses were initiated
- 54) Rainfall amount on the sampling date (sampling date only)
- 65) NTU of each sample & analytical method
- 76) Location where each sample was taken (station number and left or right offset)
- 87) Identification of whether a sample is a receiving-water sample or an outfall sample
- 98) Project number and county
- 109) References and written procedures, whenever available, for the analytical techniques or methods used: whether the samples were taken by automatic sampler, rising-stage sampler, or manually (grab sample)
- 11) The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results
- 120) A clear note if a sample exceeds 1000 NTUs by writing “exceeds 1000 NTUs” prominently upon the report.

b. Report Requirements with No Qualifying Rainfall Events

In the event a qualifying rainfall event does not produce a discharge to sample, or sampling is “impossible”, as defined in the GAR1000002 Permit, a written justification must be included in the report as required at Part IV.D.4.a.(6) of the GAR100002 Permit.

c. Sampling Results

Provide sampling results to the Project Engineer within 48 hours of the samples being analyzed. This notification may be verbal or written. This notification does not replace the requirement to submit the formal summary to the Engineer within 7 working days of the samples being collected. The Engineer will ensure submission of the sampling report to GAEPD by the 15th of the month following the sampling results as per the GAR100002 Permit. The WECS will be held accountable for delayed delivery to the Department which results in late submissions to EPD resulting in enforcement actions.

3. Rainfall Data Reports:

Record the measurement of rainfall once each twenty-four hour period, except for non-working Saturdays, non-working Sundays and non-working Federal Holidays until a Notice of Termination is submitted. Project rain gauges and those used to trigger the automatic samplers are to be emptied after every rainfall event. This will prevent a cumulative effect and prevent automatic samplers from taking

samples even though the rainfall event is not a qualifying event. The daily rainfall data supplied by the WECS to the Engineer will be the official rainfall data for the project.

167.3.06 Quality Acceptance

General Provisions 101 through 150.

167.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

167.4 Measurement

Water Quality Inspections in accordance with the inspection and reports sub-sections will be measured for payment by the month up to the time the Contract Time expires. Required inspections and reports after Contract Time has expired will not be measured for payment unless a time extension is granted.

Water Quality Sampling is measured per each. "Each" means each qualifying rainfall sampling event, not each sampled site.

167.4.01 Limits

General Provisions 101 through 150. Submit the monitoring summary report to the Engineer within 7 working days

167.5 Payment

Payment for Water Quality Inspections and Water Quality Sampling will be made as follows:

Water Quality Inspections will be paid at the Contract Price per month. This is full compensation for performing the requirements of the inspection section of the NPDES Permit and this Specification, any and all necessary incidentals, and providing results of inspections to the Engineer, within the time frame required by the NPDES Infrastructure Permit, and this Specification.

Water Quality Monitoring and Sampling per each qualifying rainfall sampling event is full compensation for meeting the requirements of the monitoring sections of the NPDES Permit and this Specification, obtaining samples, analyzing samples, any and all necessary incidentals, and providing results of turbidity tests to the Engineer, within the time frame required by the NPDES Infrastructure Permit, and this Specification. This item is based on the rainfall events requiring sampling as described in Part IV.D. 6 of the Permit. The Department will not pay for samples taken and analyzed for rainfall events that are not qualifying events as compared to the daily rainfall data supplied by the WECS.

Payment will be made under:

Item No. 167	Water quality inspections	Per month
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Water Quality Monitoring and Sampling will be paid per each qualifying rainfall sampling event.

Payment will be made under:

Item No. 167	Water quality monitoring and sampling	Per each
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167.5.01 Adjustments

Corps Of Engineers

COE AUTHORITY IN GEORGIA

- 7.5 million acres of Wetlands
- 25,000 miles of waterways
- Sound conservation and engineering practices to prevent and minimize erosion and resultant sedimentation from land disturbing activities.

Corps of Engineers (COE)

- May issue cease and desist orders to shut down projects.
- May withdraw the existing permit.
- May impose civil fines of \$10,000 per day for every day a project is in violation of the permit.
- May impose criminal fines of up to \$50,000 per day of violations, imprisonment and/or injunctive relief including restoration of the area to its original condition.

CORPS OF ENGINEERS

- COE IS RESPONSIBLE FOR NATIONWIDE PERMITS
- COE ISSUES INDIVIDUAL PERMITS FOR SPECIFIC PROJECTS

Section 404/10 Permit

The Contractor must abide by the conditions of the permits as well as insure that adequate silt and erosion control measures are installed and maintained to protect waterways and/or wetlands.

The construction activities are subject to periodic inspections and monitoring by the Corps of Engineers.

- IF YOUR PROJECT HAS AN INDIVIDUAL PERMIT, YOU WILL RECEIVE A COE PLACARD. THIS PLACARD **MUST** BE POSTED AT THE FIELD OFFICE.



This notice of authorization must be
conspicuously displayed at the site of work.

United States Army Corps of Engineers

20 05

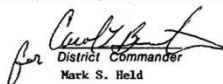
A permit to impact 25.4 acres of wetland & 201 linear feet of stream
at I-75 south of SR 300, north to Crisp/Dooley County line (HPP-NH-75-1(156))

has been issued to GA Dept. of Transportation on Nov 1 20 05

Address of Permittee 3993 Aviation Circle, Atlanta, GA 30336

Permit Number

200306730

for 
District Commander
Mark S. Held
Colonel, US Army

ENG FORM 4336, JUL 81 (33 CFR 320-3.30) EDITION OF JUL 70 MAY BE USED (Prepared: CECW-Q)
U.S. GPO: 1999-742-712

Special Conditions Examples

1. All BMP's shall be inspected on a daily basis.
2. No construction or bridge removal activities for the Ogeechee River bridge will occur during the sturgeon spawning season in this river, which is from December through March.
3. All disturbed areas shall be mulched on a daily basis.



DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
100 W. OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401-3640

AUGUST 12 2014

REPLY TO
ATTENTION OF:

Regulatory Division
SAS-2014-00251

Ms. Hiral Patel, P.E.
State Environmental Administrator
Georgia Department of Transportation
Office of Environmental Services
One Georgia Center, 16th Floor, 600 W. Peachtree Street, NW
Atlanta, Georgia 30308-3607

Dear Ms. Patel:

I refer to the Pre-Construction Notification submitted on April 1, 2014, requesting verification for use of Regional Permit (RP) No. 1 for impacts to 2.495 acre wetland (1.563 acre permanent and 0.932 acre temporary) and 872 linear feet (lf) of stream (340 lf permanent and 532 lf temporary) to facilitate the New Oconee Road and Bridge Construction Project (GDOT P.I. # 0000833). The project corridor is approximately 2.33 miles long, and would begin approximately at Mile Post (MP) 3.46 on County Road (CR) 454/Country Club Road and end approximately at MP 0.93 on CR 8/Ben Hall Lake Drive, north of Dublin, Laurens County, Georgia (Latitude 32.6110, Longitude -82.8945). This project has been assigned number SAS-2014-00251 and it is important that you refer to this number in all communication concerning this matter.

We have completed a Expanded preliminary Jurisdictional Determination (JD) for the site pursuant to our March 4, 2009, Public Notice entitled, "Characterization of Jurisdictional Determinations: Purpose, Application and Documentation Requirements as Defined by the Savannah District, US Army Corps of Engineers." I have enclosed a "JD Check Sheet," which summarizes the JD, delineation verification and appeals process.

The wetlands/other waters on the subject property may be waters of the United States within the jurisdiction of Section 404 of the Clean Water Act (33 United States Code (U.S.C.) 1344) and/or Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). The placement of dredged or fill material into any waterways and/or their adjacent wetlands or mechanized land clearing of those wetlands could require prior Department of the Army authorization pursuant to Section 404.

authority for this project would be limited to the permanent and temporary impacts associated with the construction and demolition of the bridge. I recommend you contact the USCG for information on permitting bridges. The USCG may be reached at the following address and telephone number: Commander, Seventh Coast Guard District, Brickell Plaza Federal Building, 909 SE First Avenue, Miami, Florida 33131-3050; telephone no. (305) 415-6800.

We have completed coordination with other federal and state agencies as described in the General Conditions of the RP, effective October 9, 2013. During our coordination procedure, no adverse comments regarding the proposed work were received.

As a result of our evaluation of your project, we have determined that the proposed activity is authorized under RP No. 96. Your use of this RP is valid only if:

a. The activity is conducted in accordance with the information submitted and meets the conditions applicable to RP No. 96.

b. Prior to the commencement of any work in jurisdictional waters of the United States for this activity, you will purchase 13.49 wetland mitigation credits from Little River mitigation bank. In the event no credits are available in the primary service of Hydrologic Unit Code 03060105, you will be approved to purchase credits from the following banks listed in the secondary service area: Goat Farm, Middle Oconee, Mulberry, and/or Rose Creek Mitigation Banks. You or the mitigation bank sponsor will provide this office with documentation of this purchase to U.S. Army Corps of Engineers before any work may commence. The notice should reference the Corps file number assigned to this project.

c. That prior to the authorized bridge construction and demolition, before and after side scan sonar surveys must be performed to cover the entire project area from the center of the navigation channel an appropriate distance shoreward to ensure that no debris is left in the waterway. These before and after surveys shall be provided to this office for review.

d. That prior to initiating the construction and removal of the existing SR 47 Bridge over Keg Creek, the permittee will provide a construction and demolition schedule to the Thurmond Lake Project Office for their approval before any demolition can commence. A 15 day notice will be submitted to the Thurmond Lake Project Office to allow a public notice for the proposed construction and demolition activities.

e. You shall install and maintain erosion and sediment control measures in upland areas of the project site, in accordance with the Georgia Erosion and Sedimentation Control Act of 1975, as amended, to minimize the introduction of sediment into and the erosion of streams, wetlands and other waters of the United States. This permit does not authorize installation of check-dams, weirs, riprap, bulkheads or other erosion control measures in streams, wetlands or other waters of the United States. Authorization would be required from the Corps prior to installing any erosion control measures in waters of the United States.

f. The permittee shall ensure that culverts installed in perennial streams, including replacement culverts, are constructed in accordance with the following conditions:

1) The width of the base flow culvert shall be approximately equal to the average width of the stream channel immediately above and below the culvert installation site. Culverts shall not permanently widen or constrict the channel, or reduce or increase stream depth. Multi-pipe culverts may not be used to pass base flows. Culverts shall be sized to maintain the existing bank-full cross-sectional area, and to accommodate bank-full stream flows.

2) The upstream and downstream invert of culverts (except bottomless culverts) shall be buried/embedded to a depth of twenty percent of the culvert height to allow natural substrate to colonize the structures bottom and encourage fish movement.

3) Culvert slope shall be consistent with average slope of the stream in the immediate vicinity of the culvert installation site, but shall not exceed 4 percent.

4) Culverts shall be sized to adequately accommodate anticipated storm events. Where floodplain is adjacent to the stream, an equalizer culvert(s) shall be installed at floodplain elevation to accommodate flood events exceeding bankfull. Sufficient equalizer culverts shall be installed to accommodate normal floodplain sheet flow. Culverts shall be installed in a manner that does not cause flooding of adjacent uplands, with the exception of floodplains, or the disruption of hydrology in aquatic areas located up and downstream of the culvert.

5) Unless specifically stated in this permit, installation of undersized culverts to attain storm water management or waste water treatment is not authorized.

g. A waiver from the above culvert specifications may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with these specifications would result in more adverse impacts to the aquatic environment or that such design is not practicable.

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SPECIAL PROVISION

**PROJECT: STP00-0000-00(546), COLQUITT COUNTY,
PI# 0000546**

Section 107 – Legal Regulations and Responsibility to the Public

Add the following to Subsection 107.23:


H. Protection of State Protected Species and Federally Threatened Species:

The following conditions are intended as a minimum to protect these species and their habitat during any activities that are in close proximity to the known location(s) of these species. The specific activities to which these conditions apply are culvert work on Streams 23, 23A, and 32.


1. All Project personnel employed on this Project shall be notified about the potential presence and appearance of the federally protected wood stork (*Mycteria americana*). All personnel shall be advised that there are civil and criminal penalties for harming, harassing, and killing this species, which is protected under the Endangered Species Act. Pictures and habitat information will be provided at the preconstruction conference and shall be posted in a conspicuous location in the Project field office until such time that Project construction has been completed and time charges have stopped.
2. All construction activities shall cease upon the sighting of a wood stork within 100 yards of the project area. The wood stork shall not be touched, moved, or harassed. Construction activities shall not resume until the wood stork has not been observed in the project area or within 100 yards of the project area for at least 30 minutes.
3. In the event of any incident that causes harm to the wood stork within the project corridor, the Contractor shall report the incident immediately to the Project Engineer who in turn will notify:
State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1440.

In addition, all activity shall cease pending consultation by the Department with the U. S. Fish and Wildlife Service and the lead Federal Agency.
4. Following project completion, a report summarizing any occurrences of or incidents with these species shall be submitted by the Contractor to the:
 - a. the Project Engineer;
 - b. State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services, 600 W. Peachtree St., 16th Floor, Atlanta, GA 30308.
5. All costs pertaining to any requirement contained herein shall be included in the overall bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.


Federally Endangered Animal on the Project



©NOAA Fisheries



©The Georgia Sea Turtle Center



Marine Sea Turtle

Description

- Adults average from 3 to 8 feet in length
- Have a bony shell and flippers
- Carapace (top shell) colors range from shades of green to reddish or dark brown
- Scales on the head and on flippers
- Loggerhead hatchlings are dull brown in color


Habitat

- Five of the seven sea turtles species in the world are found in waters off Georgia's coast (each of which are federally protected)
- The loggerhead sea turtle is the only species to nest regularly on Georgia shores
- The other four species found off the Georgia coast are the hawksbill, Kemp's ridley, green and leatherback sea turtles, that prefer tropical nesting sites but migrate through Georgia waters
- In Georgia, nesting occurs on the barrier islands

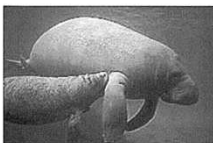
Behavior

- Mating is from late March to early June
- Female loggerheads return to the same beach as the previous year to lay their eggs
- Nesting on Georgia shores occurs from April to September with the peak in June and July
- Frequently come to the surface to breathe when active, but can remain underwater for several hours when resting

Federally Endangered Animal on the Project



©Georgia Department of Natural Resources



©U.S. Fish and Wildlife Service

**West Indian Manatee
(*Trichechus manatus*)**

Description

- large gray or brown aquatic animal
- adults average 10 feet in length

Habitat and Range

- found in shallow, slow moving rivers, estuaries, canals, and coastal areas
- migrate to warmer climes in the summer
- most frequently sighted in Georgia from April through October in Camden, Glynn, and McIntosh Counties


Behavior

- gentle and slow moving
- spend time eating, resting, or traveling
- feeds on aquatic vegetation

Protection

- Endangered Species Act of 1973
- Marine Mammal Protection Act of 1972

PROTECTED SPECIES ON THE PROJECT



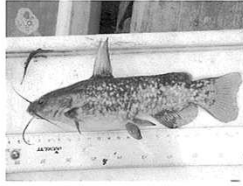
Apalachicola Floater Mussel (Anodonta heurdi) H. Lee (1973) Photo by John Hammond, GA DNR

**Apalachicola Floater Mussel
(*Anodonta heurdi*)**

Description and Habitat

- Freshwater mussel that reaches 4.5 inches in length
- Thin highly inflated shell
- Outside of shell (periostracum) is glossy, light green to light brown sometimes with fine rays
- Inside of shell (nacre) is typically white
- Preferred habitat is mud, sand, or detritus substratum in lakes, oxbows, sloughs, and backwaters

PROTECTED SPECIES ON THE PROJECT



Spotted Bullhead (*Ameiurus serracanthus*)

Maximum Length: 9 inches

Distinguishing Characteristics:

- Body is covered by many rounded light colored spots on a dark body
- Black blotch on base of dorsal fin
- Body and fins are suffused with yellow

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

SPECIAL PROVISION

SECTION 108- PROSECUTION AND PROGRESS

Project: STP-0603-00(787) Troup County
P.L. No. 0003787

Add the following:

108.08 Failure or Delay in Completing Work on Time

C. For this project, an overall completion date has been established. In addition, the following intermediate contract times have been established.

D. Special Conditions

Corps of Engineers Nationwide Permit

A separate intermediate completion date of February 15, 2008 is established for the construction of the permanent drainage pipes, culverts and the associated earthwork in all wetland sites listed below.

E. Drainage Structures

I-85 North Bound Exit Ramp Sta. 13+52.78; 5 ft. x 6 ft. box culvert

The minimum amount of fill material required to be placed over the pipes and culverts before February 15, 2008, shall be three (3) feet or to the top of the proposed subgrade, whichever is less. The earthwork in all wetland sites shall include the placement of required fill up to and including three (3) feet above the existing ground.

COE Permit Modifications

- Any deviation or change from the prescribed plan of construction activities as outlined in a COE permit requires approval by means of a permit modification.
- A permit modification must be made before starting the related work.

Please Remember:

To anticipate any changes in construction methodologies; the need for haul roads, causeways, work bridges, falsework in streams, or exceptions to time of year restrictions for instream work.

To submit any stream or wetland-related revisions to the Office of Environmental Services for a modification. This submittal should take place at least 12 weeks prior to the need to begin the modification-related work.

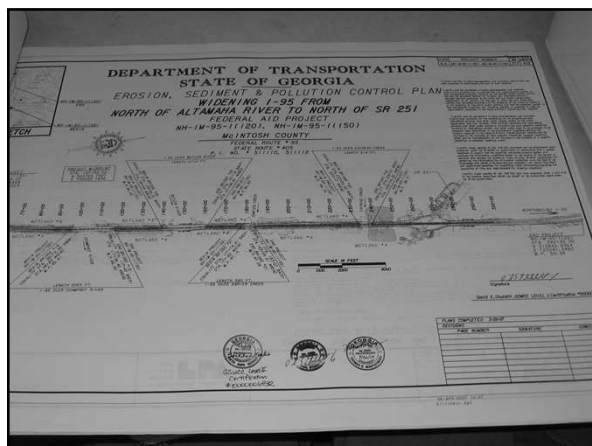


ESPCP

- WHAT IS AN ESPCP?
- WHO PREPARES AN ESPCP?
- HOW TO READ & REVIEW AN ESPCP
- WHY DOES GDOT REQUIRE AN ESPCP?
- WHEN TO REVISE AN ESPCP
- WHEN TO CONTACT THE DESIGNER OF THE ESPCP & WHY
- ESPCP CHECKLIST

WHAT IS AN ESPCP ?

- EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN
- GDOT PLAN FOR CONTROLLING EROSION & SEDIMENT THROUGHOUT THE VARIOUS STAGES OF THE PROJECT.



PROPER PLAN

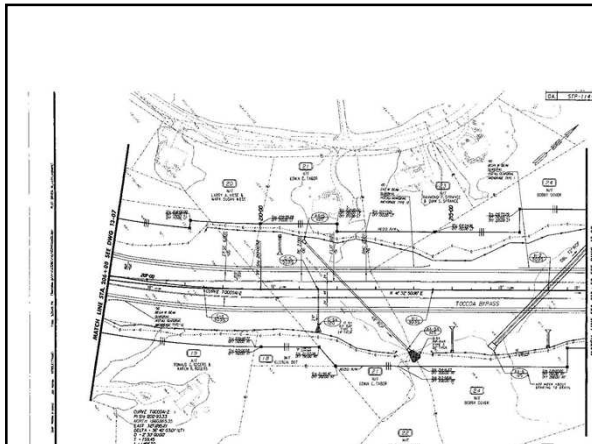
- EPD's definition of a proper plan – the key element to NPDES Permit compliance.

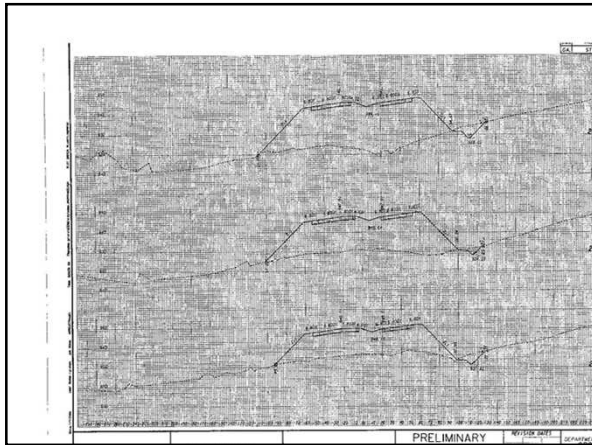
WHO PREPARES THE ESPCP ?

- ESPCP IS PREPARED BY GDOT and/or GDOT CONSULTANT DESIGN (unless project is Design Build)
- ESPCP IS PREPARED BY A LICENSED PROFESSIONAL

HOW TO READ AND REVIEW AN ESPCP

- BASIC KNOWLEDGE OF PLAN READING IS REQUIRED
- KNOW HOW TO IDENTIFY:
 1. LIMITS OF CONSTRUCTION
 2. CUT & FILL LIMITS
 3. RIGHT OF WAY & EASEMENTS
 4. ROADWAY CROSS SECTIONS





WHEN TO REVIEW THE ESPCP

- BEFORE THE PRECON
- REVIEW FOR ESA & STREAM BUFFERS
- REVIEW FOR SPECIAL CONDITIONS
- ENSURE ALL BMP'S HAVE A PAY ITEM

REVIEWING AN ESPCP

- JUST BECAUSE THE ESPCP DOES NOT SHOW BMP'S, DOESN'T MEAN THE AREA NEEDS NO PROTECTION
- REVIEW THESE AREAS AND ADD BMP'S AS NEEDED
- OR FORWARD TO THE DESIGNER FOR THEIR REVIEW

REVIEWING AN ESPCP

- LOOK FOR THINGS THAT DON'T LOOK CORRECT OR ARE OUT OF THE ORDINARY :
 1. VERY SMALL SEDIMENT BASINS
 2. SMALL QUANTITIES
 3. NO QUANTITIES
 4. MISSING PAY ITEMS

REVIEWING AN ESPCP

- BEGIN WITH THE COVER SHEET:
 1. LOOK FOR CERTIFICATION STATEMENTS
 2. LOOK FOR SIGNATURES
 3. LOOK FOR GSWCC LEVEL II CERTIFICATION NUMBER

CODE	DETAILS	DESCRIPTION	CODE	DETAILS	DESCRIPTION
1.00	Barriers and Fences	Barriers and fences shall be constructed and maintained in accordance with the following specifications: 1.00 Barriers and Fences shall be constructed and maintained in accordance with the following specifications: 1.00 Barriers and Fences shall be constructed and maintained in accordance with the following specifications:	2.00	Grading and Erosion Control	Grading and erosion control shall be constructed and maintained in accordance with the following specifications: 2.00 Grading and Erosion Control shall be constructed and maintained in accordance with the following specifications: 2.00 Grading and Erosion Control shall be constructed and maintained in accordance with the following specifications:
3.00	Drainage	Drainage shall be constructed and maintained in accordance with the following specifications: 3.00 Drainage shall be constructed and maintained in accordance with the following specifications: 3.00 Drainage shall be constructed and maintained in accordance with the following specifications:	4.00	Water Quality	Water quality shall be constructed and maintained in accordance with the following specifications: 4.00 Water Quality shall be constructed and maintained in accordance with the following specifications: 4.00 Water Quality shall be constructed and maintained in accordance with the following specifications:
5.00	Vegetation	Vegetation shall be constructed and maintained in accordance with the following specifications: 5.00 Vegetation shall be constructed and maintained in accordance with the following specifications: 5.00 Vegetation shall be constructed and maintained in accordance with the following specifications:	6.00	Other	Other shall be constructed and maintained in accordance with the following specifications: 6.00 Other shall be constructed and maintained in accordance with the following specifications: 6.00 Other shall be constructed and maintained in accordance with the following specifications:

REVIEWING AN ESPCP

- CMP GENERAL NOTES
 1. PROJECT SIZE & DISTURBED AREA
 2. REPRESENTATIVE SAMPLING
 3. SAMPLING REQUIREMENTS
 4. TESTING PROCEDURES

MONITORING GENERAL NOTES:

If it has been determined that the increase in turbidity of the specified locations will be representative of the increase in turbidity for all waters leaving the site, approved primary and alternate representative monitoring sites are identified in the table.

Primary or Alternate Site	Location (City and State)	Name of Receiving Water	Applicable construction stage for monitoring	Sampling Type (upstream or downstream of)	Drainage Area	Disturbance Area	Waters of Cold water Stream	Appendix B NTU value (verified Monitoring Only)	Alternate NTU increase (for Receiving Water)	Location Description
1										
2										

(According to the EPC, additional monitoring sites may be required depending on significant changes in hydrological conditions.)

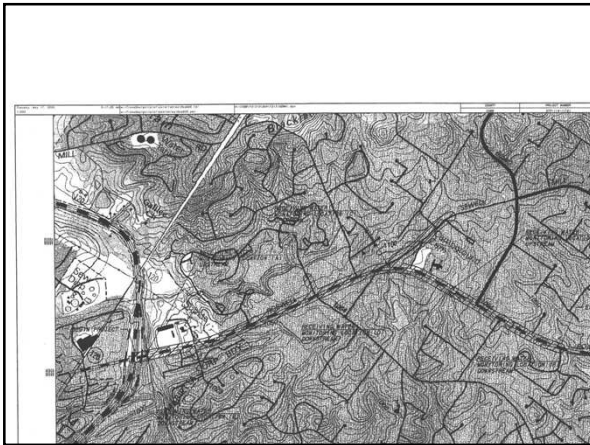
The primary site specified should be used as the initial sampling location. The alternate sampling sites may be used if additional sampling is required and/or if the primary sampling site is no longer located within the active phase of construction. A representative from the Department's Office of Environmental Compliance will be responsible for selecting additional alternate monitoring locations within the active phase of construction when the designated site is not within the active phase of construction.

MONITORING SAMPLING METHODS & PROCEDURES

See Special Provision 107 and other contract documents for Monitoring Sampling Methods and Procedures.

REVIEWING AN ESPCP

- SAMPLING LOCATION SHEET
 1. LOCATION OF RECEIVING WATERS
 2. LOCATION OF SAMPLING POINTS
 3. RECEIVING WATERS = UPSTREAM & DOWNSTREAM SAMPLES
 4. OUTFALL = ONE SAMPLE AT OUTFALL



REVIEWING AN ESPCP

- CONSTRUCTION DETAILS & STANDARDS
 1. EROSION CONTROL LEGEND
 2. SIZE OF BMP'S
 3. SPACING OF BMP'S
 4. MATERIALS OF BMP'S
 5. INSTALLATION METHODS OF BMP'S

WHY DOES GDOT REQUIRE AN ESPCP ?

- GDOT IS REQUIRED BY FEDERAL & STATE LAW TO :

PREPARE AN EROSION CONTROL
PLAN FOR EVERY PROJECT THAT
EXCEEDS 1 ACRE.

WHO IMPLEMENTS THE ESPCP ?

- THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE PLAN.
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING & MAINTAINING THE BMPs SHOWN ON THE PLAN.
- **THE WECS IS RESPONSIBLE FOR REPORTING THE CONDITION OF BMP'S LISTED ON THE PLAN.**

WHEN TO REVISE AN ESPCP

- MAKE REVISIONS TO THE ESPCP ANY TIME A BMP HAS BEEN ADDED OR DELETED
- REVISIONS FALL INTO 2 CATEGORIES:
 1. LICENSED PROFESSIONAL REVISIONS
 2. RED LINE REVISIONS

**LICENSED PROFESSIONAL
REVISIONS**

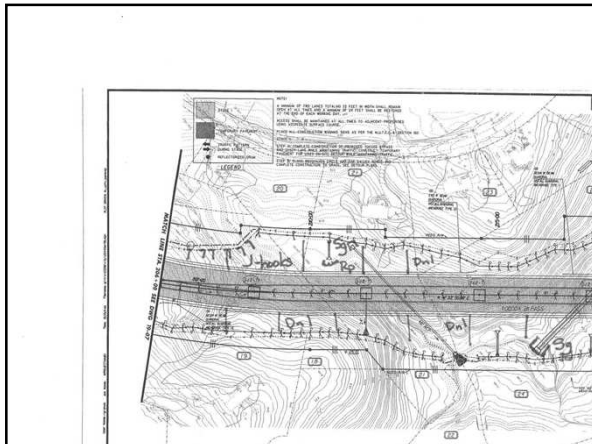
- THESE ARE REVISIONS TO THE ESPCP THAT HAVE AN EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT.
- THESE REVISIONS WILL BE PROVIDED BY THE DEPARTMENT
- AN ESPCP PLAN REVISION WILL BE ISSUED

RED LINE REVISIONS

- RED LINE REVISIONS ARE THE ADDITION OR DELETION OF ALL OTHER BMP'S:
- SILT FENCE, DITCH CHECKS, SLOPE MATS, CONSTRUCTION EXITS, ETC.
- THESE REVISIONS ARE TO BE ADDED TO THE ESPCP BY THE WECS

RED LINE REVISIONS

- SECTION 161.3: REQUIRES THE WECS TO MAINTAIN FOR THE PROJECT RECORD "AS-BUILT" ESPCP PLANS THAT DEPICT REPORTED ADDITIONS & DELETIONS
- THE WECS IS TO UTILIZE THE ESPCP IN THE GDOT OFFICE FOR RED LINE REVISIONS. THESE PLANS SHALL REMAIN IN THE DOT POSSESSION AT ALL TIMES.



RED LINE REVISIONS

- THE ESPCP IS TO BE REVISED/AMENDED AS CONDITIONS CHANGE AT THE SITE. THIS MAY REQUIRE DAILY RED LINE REVISIONS TO THE ESPCP.
- IN ACCORDANCE WITH SECTION 161.1.03.B.1, THE CONTRACTOR IS RESPONSIBLE FOR PLAN REVISIONS BY A LICENSED PROFESSIONAL IF THEY ALTER STAGE CONSTRUCTION

WHEN TO CONTACT THE ESPCP DESIGNER & WHY

- THE GDOT PROJECT ENGINEER WILL CONTACT THE DESIGN PROJECT MANAGER WHEN THERE IS A NEED TO REVISE/ALTER A BMP THAT HAS A HYDRAULIC COMPONENT: SEDIMENT BASIN, RIP RAP CHECK DAM, RIP RAP DITCHES, ROCK FILTER DAM, ETC

WHEN TO CONTACT THE ESPCP
DESIGNER & WHY

- THE GDOT PROJECT ENGINEER WILL CONTACT THE DESIGN PROJECT MANAGER IF THE INTENT OF THE ESPCP IS UNCLEAR FOR EITHER TEMPORARY OR PERMANENT BMP'S.
- **ASSISTANCE CAN BE PROVIDED BY THE EROSION-SEDIMENT CONTROL LIAISON FROM THE OFFICE OF CONSTRUCTION**

WHEN TO CONTACT THE ESPCP
DESIGNER & WHY

- THE GDOT PROJECT ENGINEER WILL CONTACT THE DESIGN PROJECT MANAGER IF THE BMP'S SHOWN ON THE PLAN DO NOT FIT OR CANNOT BE INSTALLED WITHIN THE RIGHT OF WAY OR EASEMENTS

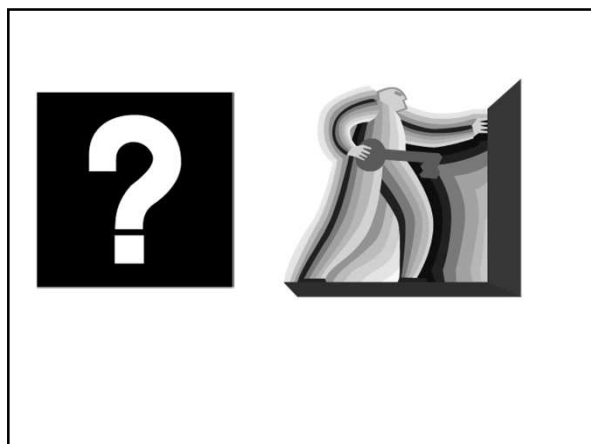
WHEN TO CONTACT THE ESPCP
DESIGNER & WHY

- THE GDOT PROJECT ENGINEER WILL CONTACT THE DESIGN PROJECT MANAGER WHEN A PROPERLY INSTALLED BMP REPEATEDLY FAILS TO PERFORM PROPERLY UNDER DESIGN STORM STANDARDS (24 HR- 25 YR EVENT)

ESPCP CHECKLIST

- THE ESPCP CHECKLIST IS USED BY REGULATORY AGENCIES TO ENSURE THE ESPCP CONTAINS ALL THE REQUIRED INFORMATION.
- Attached in WECS Manual is entire ESPCP Infrastructure Checklist, Appendix 1, and ESPCP Infrastructure Checklist Instructions

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST	
INFRASTRUCTURE CONSTRUCTION PROJECTS	
Project Name: _____	Address: _____
City/County: _____	Date on Plans: _____
Plan _____	Sheet _____
Page 1 of 1	
TO BE SHOWN ON ESPCP PLAN	
<input type="checkbox"/>	1 The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January of the year in which the land-disturbing activity was permitted. (The completed Checklist must be submitted with the ESPCP Plan or the Plan will not be reviewed).
<input type="checkbox"/>	2 Level II certification number issued by the Commission, signature and seal of the certified design professional. (Signature, seal and Level II number must be on each sheet pertaining to ESPCP Plan or the Plan will not be reviewed).
<input type="checkbox"/>	3 The name and phone number of the 24-hour local contact responsible for erosion, sedimentation and pollution controls.
<input type="checkbox"/>	4 Provide the name, address and phone number of primary permittee.
<input type="checkbox"/>	5 Note total and disturbed acreage of the project or phase under construction.
<input type="checkbox"/>	6 Provide the GPS locations of the beginning and end of the infrastructure project. Give the Latitude and Longitude in decimal degrees.
<input type="checkbox"/>	7 Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.
<input type="checkbox"/>	8 Description of the nature of construction activity.
<input type="checkbox"/>	9 Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phases, if necessary.
<input type="checkbox"/>	10 Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, etc. which may be affected.
<input type="checkbox"/>	11 Design professional's certification statement and signature that the site was visited prior to development of the ESPCP Plan as stated on page 15 of the permit.
<input type="checkbox"/>	12 Design professional's certification statement and signature that the permittee's ESPCP Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on page 15 of the permit.
<input type="checkbox"/>	13 Design professional certification statement and signature that the permittee's ESPCP Plan provides for representative sampling as stated on page 15 of the permit as applicable.
<input type="checkbox"/>	14 Clearly note the statement that "The design professional who prepared the ESPCP Plan is to inspect the installation of the initial sediment storage requirements, perimeter control BMPs, and sediment basins in accordance with part IV.A.5. within 7 days after installation."
<input type="checkbox"/>	15 Clearly note the statement that "non-erect activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wooded vegetation without first acquiring the necessary variances and permits."
<input type="checkbox"/>	16 Clearly note the statement that "Amendments/revisions to the ESPCP Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional."



ESPCP INDEX

- 1. WHAT IS AN ESPCP**
- 2. WHY DOES GDOT REQUIRE AN ESPCP**
- 3. WHO PREPARES THE ESPCP**
- 4. HOW TO READ AN ESPCP**
- 5. ESPCP CHECKLIST**
- 6. WHEN TO REVISE AN ESPCP**
- 7. WHEN TO CONTACT THE ESPCP DESIGNER & WHY**

WHAT IS AN ESPCP

ESPCP – Erosion, Sedimentation and Pollution Control Plan – the plan for the control of soil erosion and sedimentation resulting from a land disturbing activity. Land disturbing activities include but are not limited to clearing, grubbing, dredging, grading, excavating, transporting, and filling of land.

The ESPCP consists of the following:

Cover Sheet

General Note Sheet

Drainage Area Map

BMP Plan Sheets

Comprehensive Monitoring Program – General Note Sheet

Comprehensive Monitoring Program – Monitoring Location Sheet

Erosion Control Details and Standards

The ESPCP provides the type of BMP to install, the quantity, proper location and the proper stage of construction to install the BMP's.

WHY DOES GDOT REQUIRE AN ESPCP

GDOT is required by federal law and state law to prepare, implement and maintain an erosion control plan for every project.

The Georgia Erosion and Sediment Control Law states:

OCGA 12-7-7.1(b)(1) in addition to the requirements of code section 12-7-6, the Department of Transportation shall not contract for land disturbing activity on any construction or maintenance project that will disturb one or more contiguous acres of land until an erosion and sediment control plan for such project has been prepared and accepted pursuant to this code section.

The National Pollutant Discharge Elimination System Permit states:

NPDES GAR 100002, Part IV – an Erosion, Sedimentation and Pollution Control Plan (Plan) shall be designed, installed and maintained for the entire construction activity covered by this permit.

WHO PREPARES THE ESPCP

The Erosion, Sedimentation and Pollution Control Plan (ESPCP) for the construction of a project will be provided by the Department. The ESPCP will be prepared for the various stages of construction necessary to complete the project.

NPDES GAR 100002 PART IV, "The Erosion, Sedimentation and Pollution Control Plan must be prepared by a design professional as defined by this permit."

NPDES GAR 100002 PART I, "Design Professional means a professional licensed by the State of Georgia in the field of: engineering, architecture, landscape architecture, forestry, geology, or land surveying; or a person that is a Certified Professional in Erosion and Sediment Control (CPESC) with a current certification by EnviroCert International, Inc."

OCGA 12-7-7.1(b)(2), "through its own forces or by means of the acquisition of professional service pursuant to the provisions of Chapter 22 of Title 50, the DOT shall be responsible for the preparation of an erosion and sediment control plan for any construction or maintenance project."

The ESPCP (Plan) for GDOT projects is a requirement of state law and federal law. The NPDES permit indicates the plan must be prepared by a licensed professional. The State E&S Law requires GDOT to prepare the plan with its own designers or contract with consultants to prepare the plan.

SPECIAL PROVISION:

SECTION 161.1.03.B.1: Contractor's Plans Responsibility

If the contractor elects to alter the stage construction from that shown in the plans, it will be the responsibility of the contractor to have the plans revised by a Licensed Professional to reflect all changes in staging. This will also include any revisions to erosion and sedimentation control item quantities.

SECTION 161.1.03.B.2: Haul Roads, Borrow Pits, Excess Material Pits

The Contractor is responsible for amending the approved erosion and sedimentation control plans if they add a haul road, that is outside of the project roadway but within the right of way, or construct any borrow pits, or excess material pits inside the right of way. Prepare these plans for all stages of construction and include the appropriate items and quantities.

Submit these plans to the Engineer for review prior to land disturbing activities. These plans are to be prepared by a Licensed Professional.

If construction access roads, haul roads, borrow pits, excess material pits, etc., (inside the Right of Way) encroach within the 25 foot (7.6 m) buffer along the banks of all state waters or within the 50 ft. (15 m) buffer along the banks of any state waters classified as a “trout stream”, a stream buffer variance must be obtained by the Contractor prior to beginning any land disturbing activity in the stream buffer.

SECTION 161.1.03.B.3: Erosion Control for Borrow and Excess Material Pits Outside the Right-of-Way

Erosion control for borrow pits and excess material pits outside the right of way is the responsibility of the Contractor. All costs associated with complying with local, state, and federal laws and regulations is the responsibility of the Contractor. If borrow or excess material pits require coverage under the National Pollutant Discharge Elimination System permit (NPDES) the Contractor is to submit a copy of all documentation required by the NPDES permit to the Engineer.

SECTION 161.1.03.B.4: Culverts and Pipes

Prior to construction on new or existing culverts or pipes, the Contractors utilizing a Design Professional as defined in the current NPDES permit, shall submit the proposed methods of construction including the method of erosion and sediment control, to the Engineer for review. Proposed methods to include if streams are piped, pumped or diverted.

HOW TO READ & REVIEW AN ESPCP

Basic knowledge of construction plan reading is required. You must know how to identify the limits of construction, cut and fill limits, right of way, easements, and interpret roadway cross sections. These are the essential tools needed to properly read and review an ESPCP. You need to have the erosion control legend available to identify the BMP line codes.

WHEN TO REVIEW THE ESPCP

WECS and Project Engineer – review the ESPCP before the pre-construction conference. This will allow you to be familiar with areas (state water buffers, ESA, historical sites) that need attention during the clearing and grubbing phase. Ensure that all BMP's shown on the ESPCP have a pay item on the Detailed Estimate. If there are structural controls without a pay item, address this immediately.

Just because the ESPCP does not show any BMP's at a location this does not mean the area does not need protection. Review these areas and add controls as needed or forward this to the designer for their review.

Review the ESPCP for things that are out of the ordinary or that don't look correct. Such as very small sediment basins, small quantities, no quantities or missing items.

ESPCP COVER SHEET

Look for certification statements. Make sure the plan is signed by the licensed professional and they include their GSWCC Level II certification number. This applies to revised plans and plans provided by the contractor.

GENERAL NOTES

The ESPCP General Notes provide information on the following subjects:

Stabilization Measures (Mulch and Temporary Grass)

Maintenance of structural devices

Inspections

Petroleum Leaks and Spills

Sediment Basins

Stream Buffers

Spacing of J-Hooks

Some of the information on the General Note sheet will not be found elsewhere in the ESPCP or specifications.

PLAN SHEETS

The ESPCP plan sheets show the type of BMP's, quantity and the location of the control. ESPCP plan sheets are prepared for the various stages of the project.

The plan sheets utilize "Line Codes" to identify the different types of BMP's. In order to determine the appropriate BMP's for a particular location on the project you must:

- 1. Know the location (station number)**
- 2. Know the line code**
- 3. Know the stage of construction**

4. Review the proper plan sheet to determine which BMP's are required by the plan for that location and stage of construction.

Line Code – a graphical representation of a BMP, placed on the ESPCP plan sheets.

Line Code Examples:

Bf - Buffer Zone

Cd-Hb - Haybale Check Dam

Co - Construction Exit

Stage Construction – The various stages of construction required to complete the project are shown on the ESPCP. The BMP's that are necessary to control erosion and sedimentation for each stage are shown on the appropriate plan sheets.

Areas on the plans that show no BMP's are to be reviewed in the field and determine if the addition of BMP's is necessary.

ESPCP – GENERAL NOTES:

The ESPCP general notes provide information on the following subjects:

Project size and disturbed area

Representative Sampling

Sampling Requirements

Testing and Evaluating Water Samples:

The ESPCP General Notes will provide the information on the type of water sampling that is to be performed on your project. The notes will specify water sampling as receiving water sampling (in-stream) or outfall sampling.

Most DOT projects will utilize the method of Representative Sampling of receiving waters. Representative Sampling is defined as sampling the turbidity level of the water in one stream that crosses a project. That sample will represent the other streams that are within the project limits. Information on the ESPCP General Note sheet is to be used by the person performing the water quality sampling.

ESPCP –SAMPLING LOCATION SHEET

This sheet shows the location of receiving waters and the location of the water quality sampling points. For receiving water sampling the sheet will show a downstream and an upstream location. For outfall monitoring the sheet will show the outfalls to be monitored. Ensure that all sampling locations are within the project right of way. If the sampling locations are outside the right of way, contact the designer immediately. Information on the ESPCP General Note sheet is to be used by the person performing the water quality sampling.

CONSTRUCTION DETAILS AND STANDARDS

Graphical representations of BMP's that provide information such as:

Erosion Control Legend

Size - Dimensions

Spacing

Materials

Installation Methods



Purpose

ESPCP CHECKLIST

CHECKLIST

The ESPCP checklist that is used by regulatory agencies is attached for your use.

**EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
INFRASTRUCTURE CONSTRUCTION PROJECTS**

SWCD: _____

Project Name: _____ Address: _____

City/County: _____ Date on Plans: _____

Plan Page #	Included Y/N
----------------	-----------------

TO BE SHOWN ON ES&PC PLAN

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 1 The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January of the year in which the land-disturbing activity was permitted.
(The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed) |
| <input type="checkbox"/> | <input type="checkbox"/> | 2 Level II certification number issued by the Commission, signature and seal of the certified design professional.
(Signature, seal and Level II number must be on each sheet pertaining to ES&PC Plan or the Plan will not be reviewed) |
| <input type="checkbox"/> | <input type="checkbox"/> | 3 The name and phone number of the 24-hour local contact responsible for erosion, sedimentation and pollution controls. |
| <input type="checkbox"/> | <input type="checkbox"/> | 4 Provide the name, address and phone number of primary permittee. |
| <input type="checkbox"/> | <input type="checkbox"/> | 5 Note total and disturbed acreage of the project or phase under construction. |
| <input type="checkbox"/> | <input type="checkbox"/> | 6 Provide the GPS locations of the beginning and end of the Infrastructure project. Give the Latitude and Longitude in decimal degrees. |
| <input type="checkbox"/> | <input type="checkbox"/> | 7 Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions. |
| <input type="checkbox"/> | <input type="checkbox"/> | 8 Description of the nature of construction activity. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9 Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary. |
| <input type="checkbox"/> | <input type="checkbox"/> | 10 Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, etc. which may be affected. |
| <input type="checkbox"/> | <input type="checkbox"/> | 11 Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on page 15 of the permit. |
| <input type="checkbox"/> | <input type="checkbox"/> | 12 Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on page 15 of the permit.* |
| <input type="checkbox"/> | <input type="checkbox"/> | 13 Design professional certification statement and signature that the permittee's ES&PC Plan provides for representative sampling as stated on page 26 of permit as applicable.* |
| <input type="checkbox"/> | <input type="checkbox"/> | 14 Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements, perimeter control BMPs, and sediment basins in accordance with part IV.A.5. within 7 days after installation."* |
| <input type="checkbox"/> | <input type="checkbox"/> | 15 Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrested vegetation without first acquiring the necessary variances and permits." |
| <input type="checkbox"/> | <input type="checkbox"/> | 16 Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional."* |
| <input type="checkbox"/> | <input type="checkbox"/> | 17 Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a section 404 permit."* |
| <input type="checkbox"/> | <input type="checkbox"/> | 18 Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities." |

- ☐ ☐ 19 Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved Plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."
- ☐ ☐ 20 Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."
- ☐ ☐ 21 Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of an Impaired Stream Segment must comply with Part III. C. of the Permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment.*
- ☐ ☐ 22 If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in item 21 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan.*
- ☐ ☐ 23 BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited.*
- ☐ ☐ 24 Provide BMPs for the remediation of all petroleum spills and leaks.
- ☐ ☐ 25 Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed.*
- ☐ ☐ 26 Description of the practices that will be used to reduce the pollutants in storm water discharges.*
- ☐ ☐ 27 Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).
- ☐ ☐ 28 Provide complete requirements of inspections and record keeping by the primary permittee.*
- ☐ ☐ 29 Provide complete requirements of sampling frequency and reporting of sampling results.*
- ☐ ☐ 30 Provide complete details for retention of records as per Part IV.F. of the permit.*
- ☐ ☐ 31 Description of analytical methods to be used to collect and analyze the samples from each location.*
- ☐ ☐ 32 Appendix B rationale for NTU values at all outfall sampling points where applicable.*
- ☐ ☐ 33 Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged also provide a summary chart of the justification and analysis for the representative sampling as applicable.*
- ☐ ☐ 34 A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the plan may combine all of the BMPs into a single phase.*
- ☐ ☐ 35 Graphic scale and North arrow.
- ☐ ☐ 36 Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:
- | | |
|-------------------|-------------------------------------|
| Existing Contours | USGS 1": 2000' Topographical Sheets |
| Proposed Contours | 1" : 400' Centerline Profile |
- ☐ ☐ 37 Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs

as certified by a Design Professional (unless disapproved by EPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswcc.org.

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 38 Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to State waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact. |
| <input type="checkbox"/> | <input type="checkbox"/> | 39 Delineation of on-site wetlands and all State waters located on and within 200 feet of the project site. |
| <input type="checkbox"/> | <input type="checkbox"/> | 40 Delineation and acreage of contributing drainage basins on the project site. |
| <input type="checkbox"/> | <input type="checkbox"/> | 41 Delineate on-site drainage and off-site watersheds using USGS 1' :2000' topographical sheets. |
| <input type="checkbox"/> | <input type="checkbox"/> | 42 An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed. |
| <input type="checkbox"/> | <input type="checkbox"/> | 43 Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points. |
| <input type="checkbox"/> | <input type="checkbox"/> | 44 Soil series for the project site and their delineation. |
| <input type="checkbox"/> | <input type="checkbox"/> | 45 The limits of disturbance for each phase of construction. |
| <input type="checkbox"/> | <input type="checkbox"/> | 46 Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual must be included for structural BMPs and all calculations used by the design professional to obtain the required sediment storage when using equivalent controls. When discharging from sediment basins and impoundments, permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the plan. |
| <input type="checkbox"/> | <input type="checkbox"/> | 47 Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend. |
| <input type="checkbox"/> | <input type="checkbox"/> | 48 Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia. |
| <input type="checkbox"/> | <input type="checkbox"/> | 49 Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of year that seeding will take place and for the appropriate geographic region of Georgia. |

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

Effective January 1, 2015

APPENDIX 1

THE ES&PC PLAN MUST INCLUDE AT LEAST FOUR (4) OF THE FOLLOWING BMPS FOR THOSE AREAS OF THE SITE WHICH DISCHARGE TO A IMPAIRED STREAM SEGMENT AND FOR SITES WHICH EPD HAS APPROVED IN WRITING A REQUEST TO DISTURB 50 ACRES OR MORE AT ANY ONE TIME.

The four items chosen must be appropriate for the site conditions.

Plan Page #	Included Y/N	
<input type="checkbox"/>	<input type="checkbox"/>	a. During construction activities, double the width of the 25 foot undisturbed vegetated buffer along all State waters requiring a buffer and the 50 foot undisturbed vegetated buffer along all State waters classified as "trout streams" requiring a buffer. During construction activities, EPD will not grant variances to any such buffers that are increased in width.
<input type="checkbox"/>	<input type="checkbox"/>	b. Increase all temporary sediment basins and retrofitted storm water management basins to provide sediment storage of at least 3600 cubic feet (134 cubic yards) per acre drained.
<input type="checkbox"/>	<input type="checkbox"/>	c. Use baffles in all temporary sediment basins and retrofitted storm water management basins to at least double the conventional flow path length to the outlet structure.
<input type="checkbox"/>	<input type="checkbox"/>	d. A large sign (minimum 4 feet x 8 feet) must be on the site on the actual start date of construction visible from a public roadway identifying the construction site, the permittee(s), and the contact person(s) and telephone number(s) until a NOT has been submitted.
<input type="checkbox"/>	<input type="checkbox"/>	e. Use anionic polyacrylamide (PAM) and/or mulch to stabilize areas left disturbed for more than seven (7) calendar days in accordance with Part III. D.1. of the NPDES Permit.
<input type="checkbox"/>	<input type="checkbox"/>	f. Conduct turbidity sampling after every rain event of 0.5 inch or greater within any 24 hour period, recognizing the exceptions specified in Part IV.D.6.d. of the NPDES Permits.
<input type="checkbox"/>	<input type="checkbox"/>	g. Comply with the applicable end-of-pipe turbidity effluent limit, without the "BMP defense" as provided for in O.C.G.A. 12-7-6 (a)(1).
<input type="checkbox"/>	<input type="checkbox"/>	h. Reduce the total planned site disturbance to less than 50% impervious surfaces (excluding any State-mandated buffer areas from such calculations). All calculations must be included on the plan.
<input type="checkbox"/>	<input type="checkbox"/>	i. Limit the amount of disturbed area at any one time to no greater than 25 acres or 50% of the total planned is less. All calculations must be included on the plan.
<input type="checkbox"/>	<input type="checkbox"/>	j. Use "Dirt II" techniques available on the EPD website, www.gaepd.org (e.g., seep berms, sand filters, anionic PAM) to model and manage construction storm water runoff (including sheet flow). All calculations must be included on the Plan.
<input type="checkbox"/>	<input type="checkbox"/>	k. Add appropriate organic soil amendments (e.g., compost) and conduct pre- and post-construction soil sampling to a depth of six (6) inches to document improved levels of soil carbon after final stabilization of the construction site.
<input type="checkbox"/>	<input type="checkbox"/>	l. Use mulch filter berms, in addition to a silt fence, on the site perimeter wherever construction storm water (including sheet flow) may be discharged. Mulch filter berms cannot be placed in waterways or areas of concentrated flow.
<input type="checkbox"/>	<input type="checkbox"/>	m. Apply the appropriate Georgia Department of Transportation approved erosion control matting or blankets or bonded fiber matrix to all slopes steeper than 3:1. All graphical illustrations must be included on the Plan.
<input type="checkbox"/>	<input type="checkbox"/>	n. Use appropriate erosion control matting or blankets instead of concrete in all construction storm water ditches and storm drainages designed for a 25 year, 24 hour rainfall event.
<input type="checkbox"/>	<input type="checkbox"/>	o. Use anionic PAM under a passive dosing method (e.g., flocculant blocks) within construction storm water ditches and storm drainages that feed into temporary sediment basins and retrofitted management basins.
<input type="checkbox"/>	<input type="checkbox"/>	p. Install sod for a minimum 20 foot width (in lieu of seeding) after final grade has been achieved, along the site perimeter wherever storm water (including sheet flow) may be discharged.
<input type="checkbox"/>	<input type="checkbox"/>	q. Conduct soil tests to identify and to implement site-specific fertilizer needs.

- ☐ ☐ r. Certified personnel for primary permittees shall conduct inspections at least twice every seven (7) calendar days and within 24 hours of the end of the storm that is 0.5 inches rainfall or greater in accordance with Part IV.D.4.a.(3).(a) – (c); secondary permittees, Part IV.D.4.b.(3). (a) – (c); and tertiary permittees Part IV.D.4.c.(3).(a) – (c) .
- ☐ ☐ s. Apply the appropriate compost blankets (minimum depth 1.5 inches) to protect soil surfaces until vegetation is established during the final stabilization phase of the construction activity.
- ☐ ☐ t. Use alternative BMPs whose performance has been documented to be superior to conventional BMPs as certified by a Design Professional (unless disapproved by EPD or the State Soil and Water Conservation Commission). (If using this item please refer to the Alternative BMP guidance document found at www.gaswcc.georgia.gov)
- ☐ ☐ u. Limit the total planned site disturbance to less than 15% impervious surfaces (excluding any state mandated buffer areas from such calculations). All calculations must be included in the plan.

Effective January 1, 2015

**EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
INFRASTRUCTURE CONSTRUCTION PROJECTS**

SWCD: _____

Project Name: _____ **Address:** _____
City/County: _____ **Date on Plans:** _____

Plan Page #	Included Y/N
----------------	-----------------

TO BE SHOWN ON ES&PC PLAN

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 1 The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted.
(The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed) |
| <input type="checkbox"/> | <input type="checkbox"/> | 2 Level II certification number issued by the Commission, signature and seal of the certified design professional.
(Signature, seal and Level II number must be on each sheet pertaining to ES&PC Plan or the Plan will not be reviewed)
The Level II certification must be issued to the Design Professional whose signature and seal are on the Plan. |
| <input type="checkbox"/> | <input type="checkbox"/> | 3 The name and phone number of the 24-hour local contact responsible for erosion, sedimentation and pollution controls.
May be shown on ES&PC Plan sheets and/or ES&PC notes. |
| <input type="checkbox"/> | <input type="checkbox"/> | 4 Provide the name, address and phone number of primary permittee.
May be shown on cover sheet, ES&PC Plan or under ES&PC notes. |
| <input type="checkbox"/> | <input type="checkbox"/> | 5 Note total and disturbed acreage of the project or phase under construction.
Must be shown on ES&PC Plan or under ES&PC notes. |
| <input type="checkbox"/> | <input type="checkbox"/> | 6 Provide the GPS locations of the beginning and end of the Infrastructure project. Give the Latitude and Longitude in decimal degrees.
GPS locations of the begining and end of the infrastructure project must be shown on cover sheet and may also be shown on ES&PC Plan sheets and ES&PC notes. It must match the NOI. |
| <input type="checkbox"/> | <input type="checkbox"/> | 7 Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.
The initial Plan date should be shown on all pages. With each resubmittal, the revision date, and the entity requesting revisions should be shown on cover sheet and each sheet that has been revised. |
| <input type="checkbox"/> | <input type="checkbox"/> | 8 Description of the nature of construction activity.
Provide a description of the existing site and a description of the proposed project. These must be shown on ES&PC Plan or under ES&PC notes. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9 Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
Site location must be delineated showing surrounding area roads and highways. If the project is being done in phases, each individual phase must be delineated and labeled. This information is important for Plan Reviewers if a site visit is needed, or if the site needs to be located on another map. |
| <input type="checkbox"/> | <input type="checkbox"/> | 10 Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, etc. which may be affected.
The name of the initial receiving water(s) or if unnamed the first named blue line stream indicated on the appropriate USGS Topographic map, and when the discharge is through a municipal separate storm sewer system (MS4), the name of the local government operating the municipal separate storm sewer system and the name of the receiving water(s) which receives the discharge from the MS4, and the permittee's determination of whether the receiving water(s) supports warm water fisheries or is a trout stream. Describe any neighboring area which could be affected by the post-developed runoff from the site. |
| <input type="checkbox"/> | <input type="checkbox"/> | 11 Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on page 15 of the permit.
The following statement and the signature of the design professional must be shown on the ES&PC Plan or under ES&PC notes. "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." |
| <input type="checkbox"/> | <input type="checkbox"/> | 12 Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate |

and comprehensive system of BMPs and sampling to meet permit requirements as stated on page 15 of the permit.*
The following statement and the signature of the design professional must be shown on the ES&PC Plan or under ES&PC notes. "I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of Best Management Practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-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 100002."

- ☐ ☐ 13 Design professional certification statement and signature that the permittee's ES&PC Plan provides for representative sampling as stated on page 26 of permit as applicable.*

The following statement and the signature of the design professional must be shown on the ES&PC Plan or under ES&PC notes. "I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for the monitoring of: (a) all perennial and intermittent streams and other water bodies shown on the USGS topographic map and all other field verified perennial and intermittent streams and other water bodies, or (b) where any such specific identified perennial or intermittent stream and other water body is not proposed to be sampled, I have determined in my professional judgment, utilizing the factors required in the General NPDES Permit No. GAR 100002, that the increase in the turbidity of each specific identified sampled receiving water will be representative of the increase in the turbidity of a specific identified un-sampled receiving water."

- ☐ ☐ 14 Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements, perimeter control BMPs and sediment basins in accordance with part IV.A.5. within 7 days after installation.**

The Plan must include a statement indicating that the primary permittee must retain the design professional who prepared the Plan, or an alternative professional approved by EPD in writing, to inspect the installation of the initial sediment storage requirements and perimeter control BMPs within (7) days after installation. Alternatively, for linear infrastructure projects, the primary permittee must retain the design professional who prepared the Plan, or alternative design professional approved by EPD in writing to inspect (a) the installation of sediment storage requirements and perimeter control BMPs for the "initial segment" of the linear infrastructure project and (b) all sediment basins within the entire linear infrastructure project within (7) days after the installation. For the purposes of the specific requirements in Part IV.A.5., the disturbed acreage of the "initial segment" of a linear infrastructure project must be equal to or greater than 10% of the total estimated disturbed acreage for the linear infrastructure project but not less than one(1) acre. The design professional shall determine if these BMPs have been installed and are being maintained as designed. The design professional shall report the results of the inspection to the primary permittee within (7) days and the permittee must correct all deficiencies within (2) business days of receipt of the inspection report from the design professional unless weather related site conditions are such that additional time is required.

- ☐ ☐ 15 Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrosted vegetation without first acquiring the necessary variances and permits."
See Part IV. EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN (I) and (II) on pages 15,16 & 17 of the permit and show under ES&PC notes.

- ☐ ☐ 16 Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional.**

See part IV. C. on page 19 of the permit. This can be clarified in a narrative and shown under ES&PC notes. Revisions or amendments should be submitted to the Local Issuing Authority for review.

- ☐ ☐ 17 Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a section 404 permit.**

The Plan must include a description of how waste materials, including waste building materials, construction and demolition debris, concrete washout, excavated sediment, etc., will be properly disposed of. Any disposal of solid waste to waters of the State is prohibited unless authorized by a Section 404 permit.

- ☐ ☐ 18 Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and

sediment control measures and practices prior to land disturbing activities."

Must be shown on ES&PC Plan or under ES&PC notes.

- ☐ ☐ 19 Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."

Must be shown on ES&PC Plan or under ES&PC notes.

- ☐ ☐ 20 Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."

Must be shown on ES&PC Plan or under ES&PC notes.

- ☐ ☐ 21 Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of an Biota Impaired Stream Segment must comply with Part III. C. of the Permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment.*

If any storm water associated with construction activities discharges into an Impaired Stream Segment that has been listed for the criteria violated, "Bio F" (Impaired Fish Community) and/or "Bio M" (Impaired Macroinvertebrate Community), within Category 4a, 4b or 5, and the potential cause is either "NP" (nonpoint source) or "UR" (urban runoff), the ES&PC Plan must include at least four (4) of the BMPs listed in Part III.C.2. (a) - (t) of the Permit. The Impaired Stream Segment(s) should be delineated on the ES&PC Plan. Georgia's most current and subsequent "305(b)/303(d) List Documents (Final)" can be viewed on the GAEPD website. www.gaepd.org/Documents/305b.html

- ☐ ☐ 22 If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in item 21 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan.*

List of TMDL Implementation Plans can be viewed on the GAEPD website, www.gaepd.org. The TMDL Implementation Plan for sediment should be delineated on the ES&PC Plan.

- ☐ ☐ 23 BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited.*

When the project allows the concrete washdown of tools, concrete mixer chutes, hoppers and rear of the vehicles on the project site, delineate the location of the area provided for washing and provide detail of BMPs that will be used. If the project does not allow the concrete washdown on the project site, note that on the Plan.

- ☐ ☐ 24 Provide BMPs for the remediation of all petroleum spills and leaks.

The Plan must provide BMPs and guidance for the prevention of spills and leaks of petroleum products from any areas where such products are stored or used as well as guidance for the proper remediation of any spills and leaks that do occur. This information can be in the form of a separate Spill Prevention/Spill Response document so long as that information accompanies the Plan.

- ☐ ☐ 25 Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed.*

The Plan must contain a description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed. These may include storm water detention and retention structures, use of vegetated swales and natural depressions for flow attenuation or a combination of these practices (sequential systems). The Plan must also include a technical explanation of the basis used to select these practices where flows will exceed pre-development levels. The Plan must indicate that velocity dissipation devices will be placed at discharge locations and along the length of any outflow channel in order to provide a non-erosive flow so that the natural physical and biological characteristics and functions of the water course are maintained and protected. The installation of these devices may be subject to Section 404 of the Federal Clean Water Act.

Note: The permittee is only responsible for the installation and maintenance of storm water management devices prior to final stabilization of the site and not the operation and maintenance of such structures after construction activities have been completed.

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

The Plan must identify all potential sources of storm water pollution expected to be present on the site and provide a narrative explaining how the pollutants will be minimized in the storm water discharges.

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

Activity schedule must be site specific. The narrative description and timeline for each phase of construction may be shown on ES&PC Plan sheet or under ES&PC notes.

- ☐ ☐ 28 Provide complete requirements of inspections and record keeping by the primary permittee.*

The Plan must include all of the inspections and record keeping requirements of the primary permittee as stated in Part IV.D.4.a. on page 23 of the Permit. The complete inspection and record keeping requirements shall be shown on the Plan under ES&PS notes.

- ☐ ☐ 29 Provide complete requirements of sampling frequency and reporting of sampling results.*

See page 26 Sampling Frequency and page 25 section E. Reporting in the permit. Complete sampling frequency and reporting requirements are to be shown on the Plan under ES&PC notes.

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

See page 28 section F. Retention of Records in the permit. Complete details of retention of records are to be shown on the Plan under ES&PC notes.

- ☐ ☐ 31 Description of analytical methods to be used to collect and analyze the samples from each location.*

This narrative must be shown on the Plan under ES&PC notes and shall include quality control/assurance procedures and precise sampling methodology for each sampling location.

- ☐ ☐ 32 Appendix B rationale for NTU values at all outfall sampling points where applicable.*

When the permittee has determined that some or all outfalls will be monitored, a rationale must be shown on the Plan under ES&PC notes which includes 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).

- ☐ ☐ 33 Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged.*

The Plan shall include 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 locations of the site or the common development. The map must include (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 the mandatory field verification, into which the storm water is discharged and (b) the receiving water and/or outfall sampling locations. When the permittee has chosen to use a USGS topographic map and the receiving water(s) is not shown on the USGS topographic map, the location of the receiving water(s) must be hand-drawn on the USGS topographic map from where the storm water(s) enters the receiving water(s) to the point where the receiving water(s) combines with the first blue line stream shown on the USGS topographic map.

- ☐ ☐ 34 A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the plan may combine all of the BMPs into a single phase.*

The Plan must be shown in a minimum of three phases with each phase shown on a separate sheet. Initial phase of the Plan must include the required 67 cy per acre sediment storage, construction exit, tree-save fence if applicable and any other BMPs necessary to prevent sediment from leaving the site such as silt fence, inlet protection on existing storm drain structures, diversions, check dams, temporary ground cover, etc. Limits of disturbance for the initial phase are to be only the areas needed to install initial BMPs. The intermediate phase should show rough grading and utility construction. BMPs should include initial inlet protection, additional silt fence as needed, any revised sediment storage needed as drainage basins are altered, outlet protection, retrofit if applicable, matting with temporary or permanent vegetation as needed,

temporary down drains, filter rings, etc. Final phase of Plan should show finished grade, curbing and paving if applicable, building construction if applicable, etc. BMPs should include permanent vegetation, appropriate inlet protection, etc. For construction sites where there will be no mass grading and the initial perimeter control BMPs, intermediate grading and drainage BMPs, and the final BMPs are the same, the Plan may combine all of the BMPs into a single phase Plan. The Plan will include appropriate staging and access requirements for construction equipment.

35 Graphic scale and North arrow.

The graphic scale and North arrow must be clearly shown on all phases of the ES&PC Plan sheets.

36 Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:

Existing Contours	USGS 1": 2000' Topographical Sheets
Proposed Contours	1" : 400' Centerline Profile

The initial, intermediate, and final phase sheets of the Plan must show the proposed grade in bold contour lines with the above intervals overlaying the original contour lines. Elevations of both the existing and proposed contour lines must be shown.

37 Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by EPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswcc.org.

Please refer to the Alternative BMP Guidance Document found at www.gaswcc.georgia.gov

38 Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to State waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.

The State Law of Georgia mandates these minimum undisturbed buffers, but the Local Issuing Authorities are allowed to require more stringent buffers of State waters. The minimum undisturbed buffers required by the State and all other buffers of State waters required by the issuing authority must be delineated. Any undisturbed buffer area that is impacted by the project site must be noted on the Plan.

39 Delineation of on-site wetlands and all State waters located on and within 200 feet of the project site.

ALL STATE WATERS LOCATED ON AND WITHIN 200 FEET OF THE PROJECT SITE MUST BE DELINEATED ON ALL PHASES OF THE PLAN. When a project is located in a jurisdiction with a certified Local Issuing Authority and the LIA must make a determination of State waters that are not delineated on the plan, the Plan review could be delayed for beyond the full forty-five day review time allowed to the LIA, or the full thirty-five day review time allowed to the District if the District is reviewing the plan. For all projects in a jurisdiction where there is no certified Local Issuing Authority regulating that project, EPD is responsible for State waters determinations and there is no time limits for reviewing the Plan.

ALL WETLANDS LOCATED WITHIN THE PROJECT SITE ONLY MUST BE DELINEATED.

If the Local Issuing Authority requires an undisturbed buffer of wetlands, delineate required buffer.

40 Delineation and acreage of contributing drainage basins on the project site.

All existing drainage basins on the project site and their acreage must be delineated on the existing conditions and/or on the initial phase of the plan. As the basins are altered or new ones created during intermediate and final phases, the new basins and their acreage must be delineated throughout each phase of the Plan.

41 Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions.*

Hydrology study and drainage maps should be separate from the Plan. Maps should include each individual basin draining to, through and from the project site, with each one delineated, labeled and showing its total acreage.

42 An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.

The Plan must provide both pre- and post-construction estimates of the runoff coefficient or peak discharge flow for the site. This can be in the form of a hydrologic study so long as that study is made a part of the Plan and accompanies the Plan. A complete hydrologic study is not a required element of the Plan, only the pre and post-construction estimates of the run-off coefficient or peak discharge flow for the site.

43 Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion.

Identify/Delineate all storm water discharge points.

The storm-drain pipe and weir velocities must show the flow characteristics of the pipe at full flow, including pipe diameter, flow rate (cfs), velocity (fps), and tailwater conditions. This information should be shown in a chart shown on storm-drain profile sheet, ES&PC intermediate phase sheet or on the ES&PC detail sheet that shows outlet protection.

The dimensions of the apron must include length (La), width at the headwall (W1), down-stream width (W2), average stone diameter (d50), and stone depth (D) designed in accordance with Figures 6-24.1 and 6-24.2 in the Manual. These should be shown in a chart on ES&PC intermediate and/or final phase sheet or ES&PC detail sheet with outlet protection. velocity dissipation devices shall be placed at all discharge locations and along the length of any outfall channel for the purpose of providing a non-erosive velocity flow from the structure to a water course so that the natural physical and biological functions and characteristics are maintained and protected.

☐ ☐ 44 Soil series for the project site and their delineation.

Soil series delineations are required for the Plan review and can be found on the NRCS web site. The highest level of soil survey required for the project site, such as a level three or level four survey for projects that will be using septic systems, must be delineated on the Plan. The soil series delineation should be shown on the existing site Plan or the initial phase Plan. A chart listing the soils located on the project should be shown on the sheet with their delineation.

☐ ☐ 45 The limits of disturbance for each phase of construction.

The limits of disturbance for the initial phase should delineate only the area required to be disturbed for the installation of perimeter control and initial sediment storage. The intermediate phase should delineate the entire area to be disturbed for that phase, such as grading, drainage, utilities installed, etc. The final phase should delineate any additional areas to be disturbed such as individual lots, etc.

☐ ☐ 46 Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the Plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual must be included for structural BMPs and all calculations used by the design professional to obtain the required sediment storage when using equivalent controls. When discharging from sediment basins and impoundments, permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the plan.

For each common drainage location, a temporary (or permanent) sediment basin (Sd3, Rt, or excavated Sd2) providing at least 67 cubic yards of storage per acre drained, or equivalent control measures, shall be provided until final stabilization of the site. The 67 cubic yards of storage per acre does not apply to flows from off-site areas and flows from on-site areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin. Sediment basins may not be appropriate for some common drainage locations and a written justification explaining the decision not to use sediment basins must be included in the Plan. Worksheets from the Manual must be completed and shown on the Plan or attached to the Plan for each temporary sediment basin designed for the project. All cross sections and details required per the Manual for Sd3's must be shown on the ES&PC detail section of the Plan. Completed worksheets from the Manual must be shown on the Plan for each retrofit and excavated inlet sediment trap. When the design professional chooses to use equivalent controls the calculations used to obtain the required 67 cubic yards per acre drained must be included on the Plan. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the Plan.

☐ ☐ 47 Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.

BMPs for all phases of the Plan must be consistent with and no less stringent than the Manual and shown using uniform coding symbols from the Manual. The uniform coding symbols legend from the Manual must be included and may be shown on detail sheet or any of the ES&PC Plan sheets.

☐ ☐ 48 Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.

The erosion and sediment control detail sheet must show a detailed drawing for each structural BMP shown on the Plan.

All BMPs and details shown must, at a minimum, meet the guidelines given in the Manual. Note that a worksheet is provided in the Manual for most structural BMPs that must be included on the ES&PC Plan or detail sheet.

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- 49 Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of year that seeding will take place and for the appropriate geographic region of Georgia.

Must be shown on ES&PC Plan, on the ES&PC detail sheet or under ES&PC notes.

*If using this checklist for a project that is less than 1 acre and not part of a common development

but within 200 ft of a perennial stream the * checklist items would be N//

Effective January 1, 2015

WHEN TO REVISE AN ESPCP

Make revisions to the ESPCP any time a BMP has been added or deleted.

Revisions to an ESPCP fall into two categories.

LICENSED PROFESSIONAL REVISIONS:

Those revisions (additions or deletions) that have a significant effect on BMP's with a hydraulic component, i.e., those BMP's where the design is based upon rainfall intensity, duration, (i.e., sediment basins) and return frequency of storms or on the potential for the discharge of pollutants to the waters of Georgia and which has not otherwise been addressed in the plan. These revisions to the plan must be certified by a design professional. These revisions will be provided by the Department. An ESPCP plan revision will be provided.

RED LINE REVISIONS:

Those revisions (additions or deletions) that are on all other BMP's, (i.e., additional silt fence, ditch checks, slope mats, construction exits, etc.). These types of revisions are to be added to the current ESPCP by drawing the addition on the plan sheets in red. These revisions do not require a certification by a design professional. **These revisions are to be performed by the WECS.**

Section 161.3.01.A.6: requires the WECS to maintain and submit for the project record, "As-built" erosion and sedimentation control plans that graphically depict reported additions and deletions of BMP's.



The WECS shall utilize the ESPCP in the Departments office for adding and/or deleting BMP's (red line revisions). These plans shall remain in the possession of the Department at all times.

The ESPCP is to be revised/amended as conditions change at the site. This could require daily red line revisions to the plans.

WHEN TO CONTACT THE ESPCP DESIGNER & WHY

Contact the ESPCP designer any time it is determined there is the need for a revision to the ESPCP for a BMP that has a hydraulic component.

Those revisions (additions or deletions) that have a significant effect on BMP's with a hydraulic component, i.e., those BMP's where the design is based upon rainfall intensity, duration, (i.e., sediment basins) and return frequency of storms or on the potential for the discharge of pollutants to the waters of Georgia and which has not otherwise been addressed in the plan.

These revisions to the plan must be certified by a design professional. These revisions will be provided by the Department. An ESPCP plan revision will be provided.

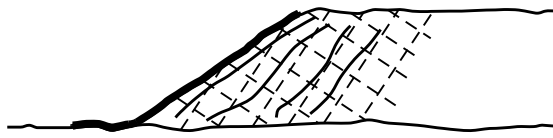
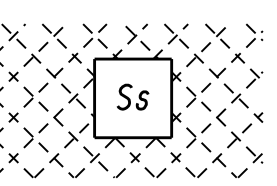
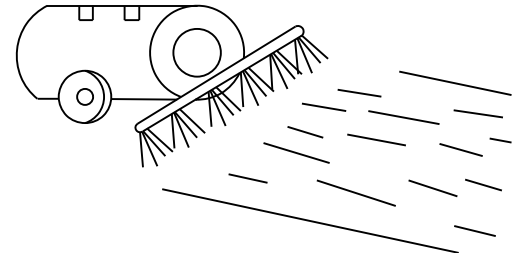
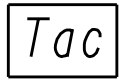
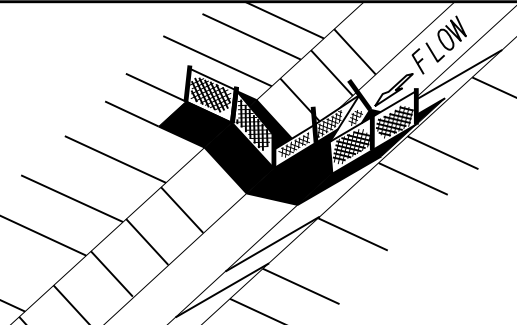

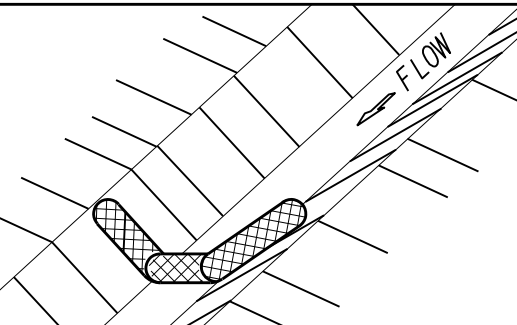

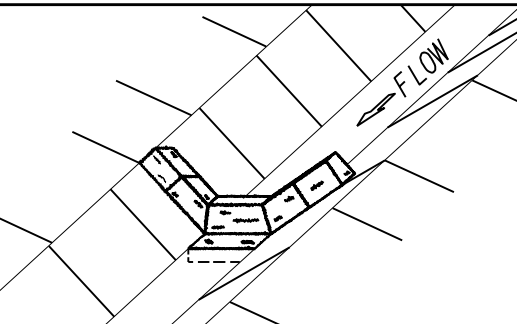
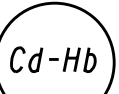
Contact the designer if the intent of the plan is unclear for either temporary or permanent devices.

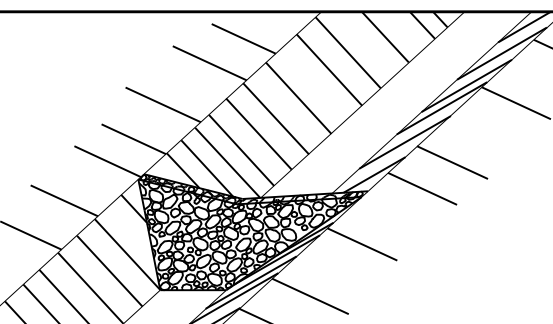

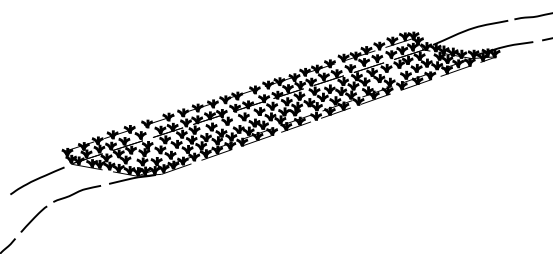

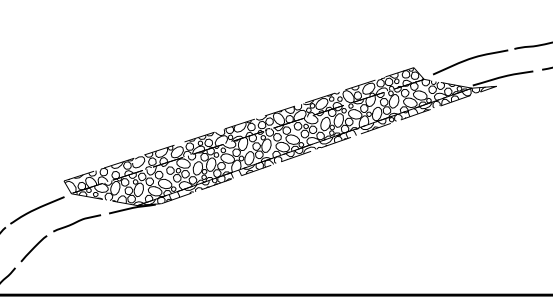

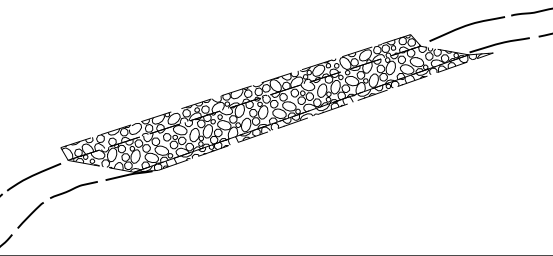

Contact the designer if the devices shown on the ESPCP do not fit within the right of way, easements or project limits and cannot be installed as shown on the ESPCP.

Erosion Control

Legends

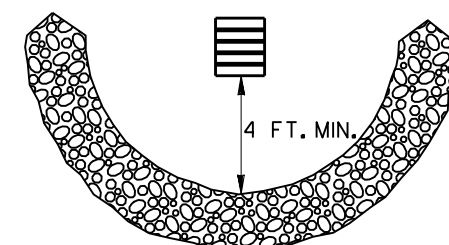
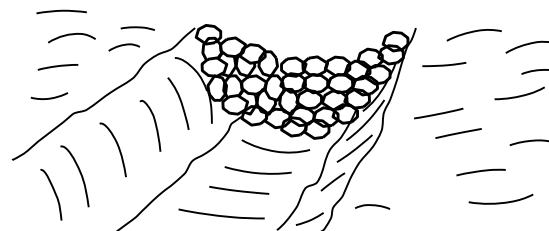

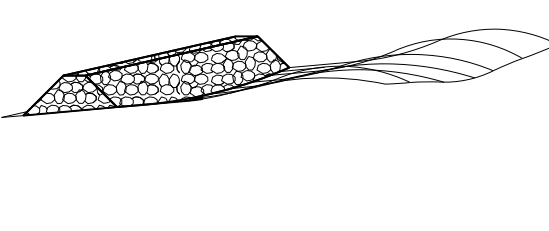

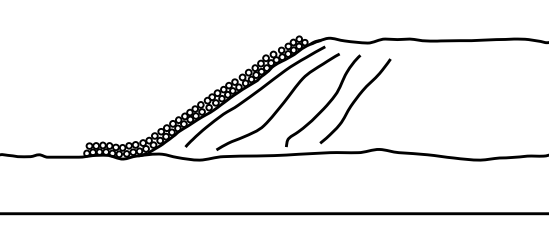
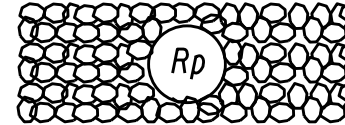
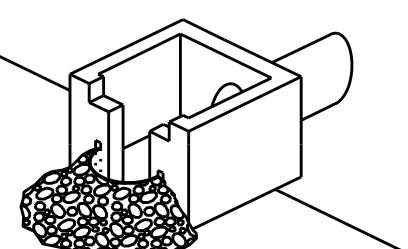
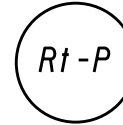
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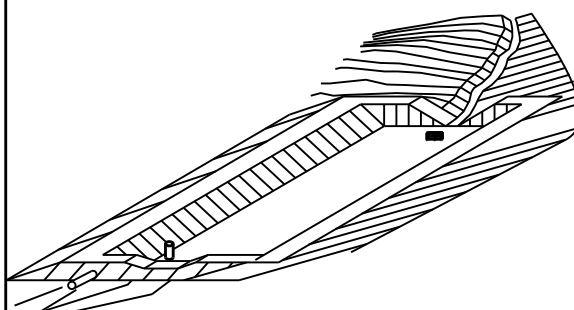
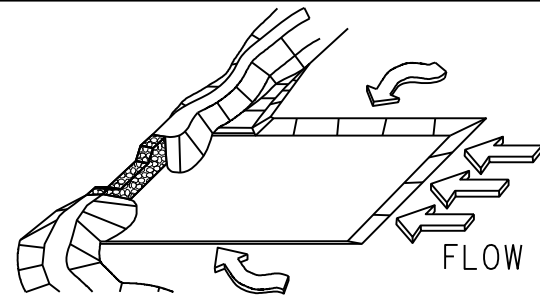
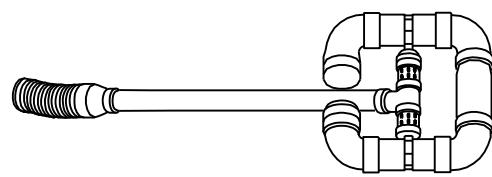
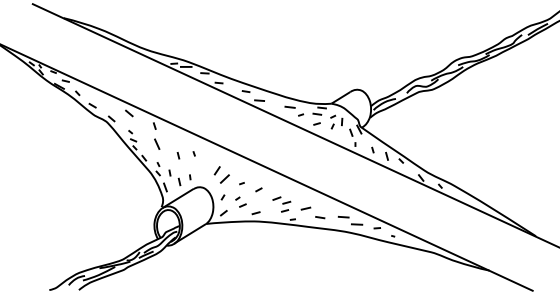
CODE	PRACTICE STD OR DETAIL SPEC. SECT.	DETAIL	DESCRIPTION
Ss	SLOPE STABILIZATION CONSTRUCTION DETAIL D-35 SECTION 716		SLOPE STABILIZATION (EROSION CONTROL MATTING) IS A PROTECTIVE COVERING USED TO PREVENT EROSION AND ESTABLISH TEMPORARY OR PERMANENT VEGETATION ON STEEP SLOPES, SHORE LINES, OR CHANNELS. SLOPE STABILIZATION MAY BE A ROLLED EROSION CONTROL PRODUCT (RECP) OR A HYDRAULIC EROSION CONTROL PRODUCT (HECP). SLOPE STABILIZATION SHALL BE USED ON ALL CUT OR FILL SLOPES OF 2.5:1 OR STEEPER AND WITHIN 50 FEET OF ALL CROSS DRAINS AND CULVERTS. NOTE: ONLY COCONUT FIBER BLANKET OR WOOD FIBER BLANKET SHALL BE USED AS SLOPE STABILIZATION WITHIN BUFFERED AREAS.
		PATTERN 	
Tac	TACKIFIERS SECTION 163, 700, 895		TACKIFIERS HYDRATE IN WATER AND READILY BLEND WITH OTHER SLURRY MATERIALS AND ARE USED TO TIE-DOWN FOR SOIL, COMPOST, SEED, STRAW, HAY OR MULCH. TACKIFIERS REQUIREMENTS, SUCH AS ANIONIC POLYACRYLAMIDES (PAM) ARE ADDRESSED BY STANDARD SPECIFICATIONS AND ARE NOT TYPICALLY SHOWN ON THE PLANS. PAM IS TYPICALLY USED BY THE CONTRACTOR FOR TEMPORARY OR PERMANENT GRASSING. REFER TO THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR CRITERIA.
		SYMBOL  POLYACRYLAMIDE	
Cd-F	FABRIC CHECK DAM CONSTRUCTION DETAIL D-24D SECTION 171		A CHECK DAM COMPOSED OF SYNTHETIC FIBER FABRIC, WIRE REINFORCED, POST, OVERFLOW WEIR, AND TURF REINFORCEMENT MATTING (TRM) SPLASHPAD PLACED IN DITCHES IN A SPECIAL CONFIGURATION WHICH CONTROLS ENERGY DISSIPATION AND FILTRATION OF STORM WATER. SEE CONSTRUCTION DETAIL D-24D FOR ADDITIONAL INFORMATION AND SPACING REQUIREMENTS. THIS ITEM IS SUITABLE FOR USE IN ROADSIDE DITCHES THAT ARE PART OF INFRASTRUCTURE CONSTRUCTION PROJECTS AND WITHIN THE CLEAR ZONE. IF THIS ITEM IS USED IN AN AREA WITH FLOWS GREATER THAN 2.0-CFS OR WITHOUT A SEDIMENT BASIN, A MINIMUM OF ONE ROCK FILTER DAM SHALL BE USED AT THE DOWNSTREAM DISCHARGE POINT.
		SYMBOL 	
Cd-Fs	COMPOST FILTER SOCK CHECK DAM CONSTRUCTION DETAIL D-52 SECTION 163		A COMPOST FILTER SOCK CHECK DAM IS COMPOSED OF A PHOTODEGRADABLE OR BIODEGRADABLE KNITTED MESH MATERIAL CONTAINING A WEED FREE FILLER MATERIAL DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER. THEY SHALL BE PROPERLY STAKED FOR DITCH APPLICATIONS. REFER TO THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR MATERIAL SPECIFICATIONS. IF THIS ITEM IS USED IN AN AREA WITH FLOWS GREATER THAN 2.0-CFS OR WITHOUT A SEDIMENT BASIN, A MINIMUM OF ONE ROCK FILTER DAM SHALL BE USED AT THE DOWNSTREAM DISCHARGE POINT.
		SYMBOL 	
Cd-Hb	BALED STRAW CHECK DAM CONSTRUCTION DETAIL D-52 SECTION 163		A BALE STRAW CHECK DAM IS COMPOSED OF BALES PREFERABLY BOUND WITH WIRE OR NYLON INSTEAD OF TWINE. BALES SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHTLY ABUTTING ADJACENT BALES. THE DOWNSTREAM ROW OF BALES SHALL BE PLACED IN A TRENCH TO ALLOW THE TOP OF THE BALE'S LONG, WIDE SIDE TO BE LEVEL WITH THE GROUND AS A NON-ERODIBLE SPLASH PAD. PROPER STAKING IS ALSO REQUIRED FOR DITCH APPLICATIONS. IF THIS ITEM IS USED IN AN AREA WITH FLOWS GREATER THAN 2.0-CFS OR WITHOUT A SEDIMENT BASIN, A MINIMUM OF ONE ROCK FILTER DAM SHALL BE USED AT THE DOWNSTREAM DISCHARGE POINT.
		SYMBOL 	

CODE	PRACTICE STD OR DETAIL SPEC. SECT.	DETAIL	DESCRIPTION
Cd-S	STONE CHECK DAM OR SANDBAG CHECK DAM GA. STD 1031 SECTION 163, 603		STONE CHECK DAMS ARE CONSTRUCTED OF TYPE-3 RIP-RAP WITH GEOTEXTILE UNDERLINER. STONE CHECK DAMS ARE PREFERRED IN ROADWAY DITCHES OUTSIDE THE CLEAR ZONE. CONSIDERATION SHOULD BE GIVEN TO USING OTHER APPROPRIATE CHECK DAMS AND/OR BMPs WITHIN THE CLEAR ZONE. SANDBAG CHECK DAMS ARE RECOMMENDED IN CONCRETE LINED CHANNELS FOR TEMPORARY VELOCITY CONTROL ONLY. ENSURE DISCHARGE POINT IS PROPERLY STABILIZED AND INCLUDE APPROPRIATE BMPs FOR SEDIMENT STORAGE UPSTREAM AND/OR DOWNSTREAM OF CONCRETE LINED CHANNELS. IF THIS ITEM IS USED IN AN AREA WITH FLOWS GREATER THAN 2.0-CFS OR WITHOUT A SEDIMENT BASIN, A MINIMUM OF ONE ROCK FILTER DAM SHALL BE USED AT THE DOWNSTREAM DISCHARGE POINT.
		SYMBOL 	
Ch-1	VEGETATED CHANNEL STABILIZATION SECTION 700		A NEW OR EXISTING CHANNEL MAY BE LINED WITH PERMANENT VEGETATION ONLY FOR VELOCITIES UP TO 5.0 fps. THIS MEASURE SHALL BE DESIGNED IN ACCORDANCE WITH THE GDOT CHANNEL LINING DESIGN PROGRAM. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED. TYPICALLY NOT SHOWN IN PLANS.
		LINE CODE 	
Ch-2R1	CHANNEL STABILIZATION RIP-RAP, TYPE 1 CONSTRUCTION DETAIL D-49 SECTION 603		THIS ITEM CONSISTS OF LINING A CHANNEL WITH TYPE 1 RIP-RAP 24" THICK (UNLESS SPECIFIED OTHERWISE) PLACED ON TOP OF A GEOTEXTILE UNDERLINER. THE RIP-RAP SHALL PROTECT THE CHANNEL FLOWING TO A DEPTH "Dp" RECOMMENDED BY THE GDOT CHANNEL LINING PROGRAM. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED. "Dp" SHALL BE IDENTIFIED IN A TABLE LOCATED ON THE SUMMARY OF QUANTITIES SHEETS AND IN THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
		LINE CODE 	
Ch-2R3	CHANNEL STABILIZATION RIP-RAP, TYPE 3 CONSTRUCTION DETAIL D-49 SECTION 603		THIS ITEM CONSISTS OF LINING A CHANNEL WITH TYPE 3 RIP-RAP 24" THICK (UNLESS SPECIFIED OTHERWISE) PLACED ON TOP OF A GEOTEXTILE UNDERLINER. THE RIP-RAP SHALL PROTECT THE CHANNEL FLOWING TO A DEPTH "Dp" RECOMMENDED BY THE GDOT CHANNEL LINING PROGRAM. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED. "Dp" SHALL BE IDENTIFIED IN A TABLE LOCATED ON THE SUMMARY OF QUANTITIES SHEETS AND IN THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
		LINE CODE 	

NOTE:

- DO NOT USE EROSION CONTROL ITEMS IN A FLOWING STREAM OR IN A TIDAL AREA BELOW HIGH TIDE.
- FOR ADDITIONAL INFORMATION ON THE DESIGN AND APPLICATION OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs), REFER TO THE LATEST EDITION OF THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION'S, "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA".

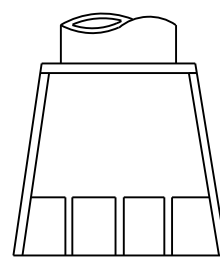
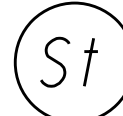
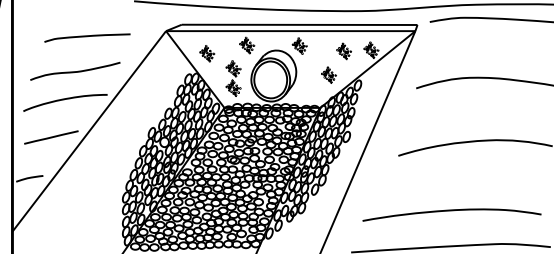
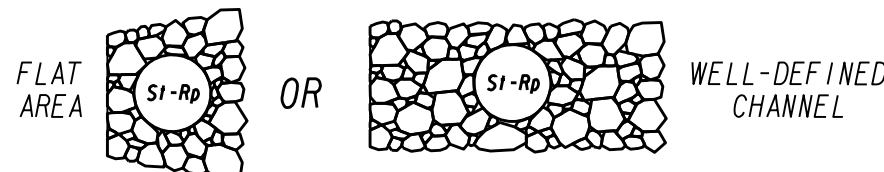
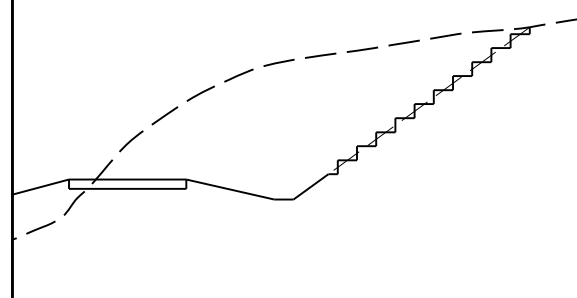
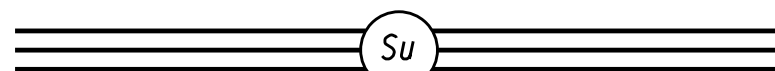
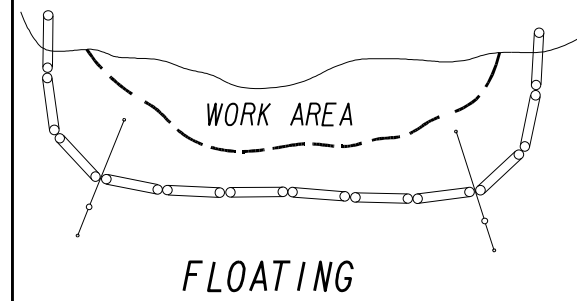
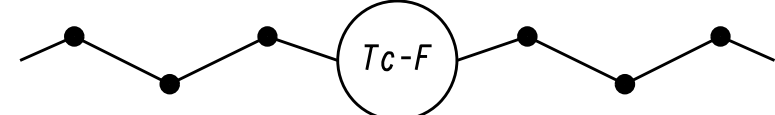
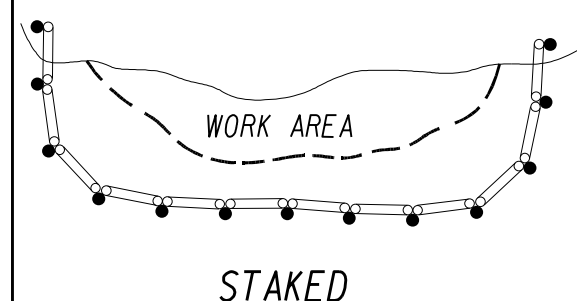
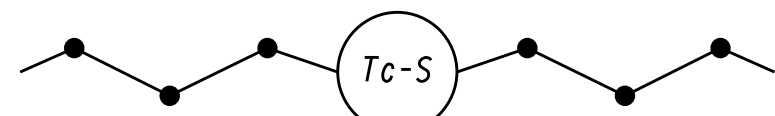
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	CODE	PRACTICE STD OR DETAIL SPEC. SECT.	DETAIL	DESCRIPTION			
		Fr	FILTER RING CONSTRUCTION DETAIL D-46 SECTION 163		A TEMPORARY STONE BARRIER CONSTRUCTED AT DRAINAGE STRUCTURE INLETS AND POST-CONSTRUCTION POND OUTLETS. IT REDUCES RUNOFF VELOCITY AND HELPS PREVENT SEDIMENT FROM LEAVING SITE PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA. REFER TO THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR ADDITIONAL INFORMATION ON USAGE.		
	SYMBOL		Fr				
	Rd	ROCK FILTER DAM CONSTRUCTION DETAIL D-43 SECTION 163,603		ROCK FILTER DAMS ARE CONSTRUCTED OF TYPE 3 STONE RIP-RAP FACED WITH *57 STONE ON THE UPSTREAM SIDE. THEY ARE PLACED ACROSS DRAINAGEWAYS WHICH DRAIN 50 ACRES OR LESS. GEOTEXTILE UNDERLINER SHALL BE USED WHEN PLACING ROCK FILTER DAMS. THE DAM SHOULD NOT BE HIGHER THAN THE CHANNEL BANKS. ROCK FILTER DAMS SHOULD BE USED IN DITCHES PRIOR TO DISCHARGING INTO STREAMS, WETLANDS, OPEN-WATERS, OR OTHER ESAs.			
		SYMBOL					
	Rd-B	STONE FILTER BERM CONSTRUCTION DETAIL D-50 SECTION 163,603		STONE FILTER BERMS ARE CONSTRUCTED SIMILAR TO ROCK FILTER DAMS FOR A LINEAR APPLICATION. THEY ARE CONSTRUCTED OF TYPE-3 STONE RIP-RAP FACED WITH *57 STONE ON THE UPSTREAM SIDE. GEOTEXTILE UNDERLINER SHALL BE USED WHEN PLACING STONE FILTER BERMS. STONE FILTER BERMS ARE IDEAL ALONG THE PERIMETER FOR SHEET FLOW AND/OR SHALLOW CONCENTRATED FLOW TO A COMMON LOW AREA WHERE PERIMETER SILT FENCE ALONE MAY BE INSUFFICIENT, THERE IS NO WELL-DEFINED CHANNEL FOR A STANDARD ROCK FILTER DAM, AND/OR CONSTRUCTING A ROCK OUTLET TEMPORARY SEDIMENT TRAP IS NOT APPLICABLE.			
		LINE CODE					
	Rp	RIP-RAP SECTION 603		RIP-RAP IS A FLEXIBLE PERMANENT BLANKET FOR PROTECTION OF FILL SLOPES AND BRIDGE END ROLLS. RIP-RAP TYPE-1 SHOULD BE PLACED ON TOP OF A GEOTEXTILE UNDERLINER AT A MINIMUM 24" THICKNESS OR AS INDICATED ON THE PLANS. RIP-RAP MAY ALSO BE USED AT DRAINAGE STRUCTURE OUTLETS WITHIN THE RIGHT-OF-WAY. HOWEVER, APPROPRIATE OUTLET PROTECTION SHOULD BE PROVIDED AT OUTFALLS. REFER TO STORM DRAIN OUTLET PROTECTION FOR ADDITIONAL INFORMATION ON USING RIP-RAP AT OUTFALLS.			
		PATTERN					
	Rt-P	RETROFITTING PERFORATED HALF-ROUND PIPE CONSTRUCTION DETAIL D-44 SECTION 163		A PERFORATED HALF-ROUND PIPE WITH STONE FILTER PLACED IN FRONT OF A PERMANENT STORMWATER DETENTION POND OUTLET STRUCTURE TO SERVE AS A TEMPORARY SEDIMENT FILTER. SHOULD BE USED ONLY IN DETENTION PONDS WITH LESS THAN 30 ACRES TOTAL DRAINAGE AREA. SHALL ONLY BE USED IN DETENTION BASINS LARGE ENOUGH TO STORE 67 CUBIC YARDS OF SEDIMENT PER ACRE OF DISTURBED AREA. REFER TO THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR DESIGN CRITERIA.			
		SYMBOL					

CODE	PRACTICE STD OR DETAIL SPEC. SECT.	DETAIL	DESCRIPTION
Sd3	TEMPORARY SEDIMENT BASIN CONSTRUCTION DETAIL D-22A, D-22B SECTION 163		A BASIN CREATED BY EXCAVATING AN AREA, DAMMING CONCENTRATED FLOW, OR A COMBINATION OF BOTH. THE BASIN IS DESIGNED TO STORE 67 CUBIC YARDS OF SEDIMENT PER ACRE OF DRAINAGE AREA. THE DRAINAGE AREA SHOULD NOT EXCEED 150 ACRES. BASINS TYPICALLY CONSISTS OF A DAM, PRINCIPAL SPILLWAY, AND AN EMERGENCY SPILLWAY. A FLOATING SURFACE SKIMMER SHALL BE REQUIRED AS PART OF THE PRINCIPAL SPILLWAY UNLESS INFEASIBLE. SUFFICIENT RIGHT-OF-WAY OR EASEMENT IS NEEDED FOR BASIN CONSTRUCTION AND MAINTENANCE ACCESS.
	SYMBOL Sd3		SEDIMENT BASINS SHALL BE CONSIDERED ON ALL PROJECTS, BUT MAY NOT BE PRACTICAL. BASINS SHOULD BE LOCATED TO MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES AND UTILITIES. REFER TO THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR DESIGN CRITERIA.
Sd4-C	ROCK OUTLET TEMPORARY SEDIMENT TRAP CONSTRUCTION DETAIL D-53 SECTION 163		TEMPORARY POND WITH ROCK OUTLET DESIGNED TO STORE 67 CUBIC YARDS OF SEDIMENT PER DRAINAGE AREA. DRAINAGE AREA SHALL NOT EXCEED 5 ACRES. DISTINGUISHED FROM TEMPORARY SEDIMENT BASIN BY LACK OF PRINCIPAL SPILLWAY. MAXIMUM POND DEPTH FROM BOTTOM OF POND TO EMERGENCY SPILLWAY IS 4 FEET.
	SYMBOL Sd4-C		A TEMPORARY SEDIMENT BASIN SHALL BE EVALUATED PRIOR TO CONSIDERING A TEMPORARY SEDIMENT TRAP. A TEMPORARY SEDIMENT TRAP IS IDEAL FOR SMALL AREAS WITH NO UNUSUAL DRAINAGE FEATURES AND EFFECTIVE AGAINST COARSE SEDIMENT, BUT NOT AGAINST SILT OR CLAY PARTICLES THAT REMAIN SUSPENDED. REFER TO THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR DESIGN CRITERIA.
Sk	FLOATING SURFACE SKIMMER CONSTRUCTION DETAIL D-22A, D-22B SECTION 163		A BUOYANT DEVICE THAT DRAINS WATER FROM THE SURFACE OF A TEMPORARY SEDIMENT BASIN AT A CONTROLLED FLOW RATE. THE INLET/ORIFICE SIZE IS DESIGNED TO DRAIN THE BASIN WITHIN 24 - 48 HOURS. THE SKIMMER INFORMATION SHALL BE PROVIDED IN CONJUNCTION WITH THE SEDIMENT BASIN INFORMATION IN PLANS. IF A SKIMMER IS INFEASIBLE, THE DESIGNER SHALL PROVIDE A WRITTEN JUSTIFICATION IN THE PLANS.
	SYMBOL Sk		SKIMMERS ARE ATTACHED TO A RISER WITHOUT PERFORATIONS AND ACTS AS THE PRIMARY SPILLWAY. THE SKIMMER BMP SYMBOL SHALL BE SHOWN IN CONJUNCTION WITH THE TEMPORARY SEDIMENT BASIN BMP SYMBOL WHEN APPLICABLE. REFER TO THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR ADDITIONAL INFORMATION.
Sr	TEMPORARY STREAM CROSSING SECTION 107		A TEMPORARY STRUCTURE INSTALLED ACROSS A FLOWING STREAM OR WATERCOURSE FOR USE BY CONSTRUCTION EQUIPMENT. THIS BMP PROVIDES A MEANS TO CROSS STREAMS OR WATERCOURSES WITHOUT MOVING SEDIMENT INTO STREAMS, DAMAGING THE STREAM BED OR CHANNEL, OR CAUSING FLOODING. THIS BMP SHOULD NOT BE USED ON STREAMS WITH DRAINAGE AREAS GREATER THAN ONE SQUARE MILE, UNLESS SPECIFICALLY DESIGNED TO ACCOMMODATE THE ADDITIONAL DRAINAGE AREA BY THE DESIGN PROFESSIONAL. A CERTIFICATION STATEMENT AND SIGNATURE SHALL ACCOMPANY THE DESIGN.
	SYMBOL Sr		THIS BMP SHALL BE DESIGNED ACCORDING TO THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA". FOR CONTRACTOR'S USE ONLY!

1. DO NOT USE EROSION CONTROL ITEMS IN A FLOWING STREAM OR IN A TIDAL AREA BELOW HIGH TIDE.
2. FOR ADDITIONAL INFORMATION ON THE DESIGN AND APPLICATION OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs), REFER TO THE LATEST EDITION OF THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION'S, "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA".

NO SCALE

REVISION DATES			EROSION CONTROL LEGEND UNIFORM CODE SHEET SHEET 6 OF 7		
CHECKED:	D. EAGLETON	DATE:	01/01/16	DRAWING No.	
BACKCHECKED:		DATE:		52-006	
CORRECTED:		DATE:			
VERIFIED:		DATE:			

CODE	PRACTICE STD OR DETAIL SPEC. SECT.	DETAIL	DESCRIPTION
St	STORM DRAIN OUTLET PROTECTION GA. STD. 1125 & 2332		A PIPE OR BOX CULVERT OUTLET HEADWALL WITH AN APRON AND DISSIPATOR BLOCKS IS USED TO REDUCE VELOCITY AT THE OUTLET OF A PIPE PRIOR TO ENTERING AN EXISTING STREAM OR PUBLICLY MAINTAINED DRAINAGE SYSTEM. IT IS USED ON THE OUTLET OF ALL BOX CULVERTS AND ON 48" AND LARGER PIPES. MAY BE USED ON INLET FOR FLOWING STREAMS. USE ON SMALL PIPES WHEN OUTLET VELOCITY OF THE 25-YEAR STORM IS 12 fps AND GREATER.
	SYMBOL 		
St-Rp	STORM DRAIN OUTLET PROTECTION (RIP-RAP) CONSTRUCTION DETAIL D-55 SECTION 603		RIP-RAP OUTLET PROTECTION IS USED TO REDUCE VELOCITY AT THE OUTLET OF A PIPE, CHANNEL, OR STRUCTURE PRIOR TO ENTERING AN EXISTING STREAM OR PUBLICLY MAINTAINED DRAINAGE SYSTEM. THE MINIMUM DESIGN OF RIP-RAP OUTLET PROTECTION SHALL BE THE 25-YEAR STORM PEAK FLOW, BUT LARGER STORMS ARE RECOMMENDED. TYPE-1 RIP-RAP AT A DEPTH OF 36" AND PLACED ON FILTER FABRIC IS PREFERRED FOR ALL d50 < /+ 1.2 FEET. TYPE-3 RIP-RAP AT A DEPTH OF 18" AND PLACED ON FILTER FABRIC MAY BE USED FOR d50 < /+ 0.7 FEET. REFER TO THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR REQUIRED DESIGN DIMENSIONS AND OTHER INFORMATION TO BE INCLUDED IN THE PLANS.
	PATTERN 		
Su	SURFACE ROUGHENING SERRATED SLOPES CONSTRUCTION DETAIL S-7 SECTION 205		PROVIDING A ROUGH SOIL SURFACE WITH HORIZONTAL DEPRESSIONS, BY OPERATING A CLEATED DOZER ON THE SLOPE IN A VERTICAL DIRECTION. CREATING SERRATED SLOPES IN THE GRADING PROCESS TO CONSTRUCT BENCHES WILL REDUCE RUNOFF VELOCITY AND INCREASE INFILTRATION OF WATER. IN MOST CASES THIS BMP IS NOT REQUIRED TO BE SHOWN ON THE PLANS, BUT REQUIRED TO BE COMPLETED BY THE CONTRACTOR UNDER ALL PROJECTS. IF SERRATED SLOPES ARE SPECIFIED BY THE SOIL SURVEY, THEN THIS BMP SHALL BE SHOWN ON THE PLANS WHERE SERRATED SLOPES ARE TO BE USED.
	LINE CODE 		
Tc-F	TURBIDITY CURTAIN FLOATING CONSTRUCTION DETAIL D-51 SECTION 170		A FLOATING TURBIDITY CURTAIN IS USED TO PREVENT SEDIMENT FROM MOVING IN WATER BY ALLOWING IT TO DROP OUT OF SUSPENSION AND REMAIN WITHIN THE CONSTRUCTION AREA. IT IS TYPICALLY USED WHERE CONSTRUCTION IS REQUIRED IN A LARGE BODY OF WATER SUCH AS LAKES AND RIVERS. IT SHOULD BE USED AS DIRECTED BY THE ENGINEER. THIS BMP IS ONLY TO BE USED WHEN PERMITTED FILL IS BEING PLACED INTO A STATE WATER, OR AS A SUPPLEMENT TO ADEQUATELY PLACED PERIMETER BMPs. IT MAY ALSO BE REFERRED TO AS A FLOATING BOOM, SILT BARRIER, OR SILT CURTAIN.
	LINE CODE 		
Tc-S	TURBIDITY CURTAIN STAKED CONSTRUCTION DETAIL D-51 SECTION 170		A STAKED TURBIDITY CURTAIN IS USED TO PREVENT SEDIMENT FROM MOVING IN WATER BY ALLOWING IT TO DROP OUT OF SUSPENSION AND REMAIN WITHIN THE CONSTRUCTION AREA. IT IS TYPICALLY USED IN SHALLOW INUNDATED AREAS. IT MAY BE USED TO PROTECT A SMALL STREAM BEING REALIGNED OR RESTORED. IN THIS CASE, CURTAIN SHOULD EXTEND TO BOTTOM OF STREAMBED. THE HEIGHT SHOULD BE LIMITED TO 5 FEET UNLESS DIRECTED AND EXTEND 2 FEET ABOVE NORMAL WATER ELEVATION. IT SHOULD BE USED AS DIRECTED BY THE ENGINEER. THIS BMP IS ONLY TO BE USED WHEN PERMITTED FILL IS BEING PLACED INTO A STATE WATER, OR AS A SUPPLEMENT TO ADEQUATELY PLACED PERIMETER BMPs. IT MAY BE REFERRED TO AS A SILT BARRIER OR SILT CURTAIN.
	LINE CODE 		

CODE	PRACTICE STD OR DETAIL SPEC. SECT.	DETAIL	DESCRIPTION

NOTE:

1. DO NOT USE EROSION CONTROL ITEMS IN A FLOWING STREAM OR IN A TIDAL AREA BELOW HIGH TIDE.

2. FOR ADDITIONAL INFORMATION ON THE DESIGN AND APPLICATION OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs), REFER TO THE LATEST EDITION OF THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION'S, "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA".

UTILITIES

- WHAT IS UTILITY WORK
- WHY ARE UTILITIES BEING DISCUSSED
- WHAT IS THE ROLE OF THE WECS WITH UTILITY WORK
- WHO PREPARES THE ESPCP FOR UTILITY WORK

UTILITIES

- WHEN TO CONTACT THE DISTRICT UTILITY OFFICE
- HOW TO INSPECT UTILITY WORK
- WHAT TO DO TO AVOID UTILITY RELATED E&S PROBLEMS

WHAT IS UTILITY WORK

- PAY ITEM WORK: THIS IS UTILITY WORK THAT IS INCLUDED IN THE PAY TIMES IN THE CONTRACT. THIS WORK WILL BE PERFORMED BY THE GDOT CONTRACTOR.
- BY UTILITY COMPANY: THIS UTILITY WORK WILL BE PERFORMED BY THE OWNER OF THE UTILITY FACILITY.

WHY ARE UTILITIES BEING DISCUSSED

- UTILITY RELOCATION & INSTALLATION WORK IS COVERED BY THE SAME ENVIRONMENTAL REGULATIONS THAT COVER ROADWAY CONSTRUCTION.
- THE STATE LAW AND NPDES PERMIT COVER UTILITY WORK.

ROLE OF THE WECS

- PAY ITEM WORK: ENSURE THE WORK IS PERFORMED WITH PROPER BMP'S IN ACCORDANCE WITH THE PLAN.
- BY UTILITY COMPANY: THE UTILITY OWNER IS RESPONSIBLE FOR BMP'S.

WHO PREPARES THE ESPCP FOR UTILITIES

- **PAY ITEM WORK:** THE ESPCP IS PREPARED BY GDOT AND INCLUDES PROPER BMP'S.
- **BY UTILITY COMPANY:** THE ESPCP IS THE RESPONSIBILITY OF THE UTILITY OWNER.

WHEN TO CONTACT THE DISTRICT UTILITY OFFICE

- IF THE UTILITY CONTRACTOR DOES NOT INSTALL BMP'S THE PROJECT MANAGER SHOULD AT THIS TIME CONTACT THE DISTRICT UTILITY REPRESENTATIVE.
- THESE ITEMS SHOULD BE DISCUSSED AT ROUTINE UTILITY MEETINGS.

HOW TO INSPECT UTILITY WORK

- PAY ITEM WORK: THE BMP'S ASSOCIATED WITH UTILITY WORK ARE TO BE INSPECTED BY THE WECS ONCE PER WEEK AND AFTER 1/2 INCH RAINFALL.
- BY UTILITY COMPANY: WECS REVIEW THE AREAS AND ENSURE PROPER BMP'S ARE BEING USED.

WHY ARE UTILITIES ALLOWED IN STATE WATER BUFFERS

- STREAM CROSSINGS FOR WATER & SEWER LINES HAVE AN EXEMPTION IN THE STATE LAW. THIS WORK DOES NOT REQUIRE A STATE WATER BUFFER VARIANCE.
- THIS WORK MUST ADHERE TO ALL OTHER SECTIONS OF THE LAW AND NPDES PERMIT.

**WHY ARE UTILITIES ALLOWED
IN STATE WATER BUFFERS**

- THEY MUST INSTALL & MAINTAIN PROPER EROSION & SEDIMENT BMPS.
- **IF UTILITY IS PAY ITEM WORK, CORPS OF ENGINEERS PERMITS MAY BE REQUIRED IF STATE WATERS ARE TO BE OPEN CUT. VERIFY BY ON GREEN SHEET, PROJECT PLANS, ETC**

**WHY ARE UTILITIES ALLOWED
IN STATE WATER BUFFERS**

- To submit any stream or wetland-related revisions to the Office of Environmental Services for a modification. This submittal should take place at least 12 weeks prior to the need to begin the modification-related work.

**AVOIDING UTILITY E&S
RELATED PROBLEMS**

- DISCUSS E&S AT THE PRECON WITH UTILITY REPS.
- ADDRESS ANY CONCERNS AT UTILITY MEETINGS.
- ENSURE ALL BUFFERS ARE MARKED PRIOR TO CLEARING.

BY UTILITY COMPANY

- DOCUMENT BMP'S INSTALLED AND THEIR CONDITION BEFORE UTILITY WORK BEGINS.
- REVIEW AREAS PERIODICALLY FOR E&S RELATED PROBLEMS.



E&SC FOR UTILITIES INDEX

- 1. WHAT IS UTILITY WORK**
- 2. WHY ARE UTILITIES BEING DISCUSSED**
- 3. WHAT IS THE ROLE OF THE WECS WITH UTILITIES & E&SC CONTROL**
- 4. WHO PREPARES THE ESPCP FOR UTILITIES**
- 5. WHEN TO CONTACT THE DISTRICT UTILITIES OFFICE**
- 6. HOW IS THE WECS TO INSPECT UTILITY WORK**
- 7. WHY ARE UTILITIES ALLOWED IN BUFFERS**
- 8. WHAT TO DO TO AVOID UTILITY RELATED E&SC PROBLEMS**

Georgia Department Of Transportation
WORKSITE EROSION CONTROL MANUAL



WHAT IS UTILITY WORK

Utility work is divided into two categories: Pay Item Work and Work by Utility Companies.

Pay Item Work: this is utility work that is included in the pay items in the contract. This work is performed by the GDOT contractor.

Work by Utility Company: this utility work will be performed by the owner or sub-contractor of the utility facility. This work is not included in the contract.

WHY ARE UTILITIES BEING DISCUSSED

Utility relocation and installation work is covered by the same environmental regulations and laws that cover roadway construction.

The state erosion control law and the NPDES permit cover utility work.

WHAT IS THE ROLE OF THE WECS WITH UTILITIES AND E&SC WORK

When payment for utility relocation work is being made to the prime contractor, referred to as “pay item work” the WECS has the responsibility to ensure the work is performed with the proper BMPs as detailed in the plans and specifications.

When utility work is not being paid for under the contract, the utility owner is responsible for meeting all requirements of the State Erosion and Sedimentation Law and the NPDES Permit.

WHO PREPARES THE ESPCP FOR UTILITIES

For non- pay item utility work:

It is the responsibility of the utility owner to develop and submit their *own* ESPCP, NOI and NOT to EPD.

For pay item utility work:

If the utility work is included in the pay items, GDOT's ESPCP addresses the work and includes the necessary BMPs.

If for example the utility pay item work is relocating or installing a water, sewer, or similar line, across a creek, it should be accomplished by boring under the creek, or submitting a diversion plan to the engineer for review of content prior to beginning any work in the stream. This is similar to Special Provision Section 161.1.03.B.4, that requires submittal of the method of constructing a box culvert, including methods of erosion and sediment control.

WHEN TO CONTACT THE DISTRICT UTILITIES OFFICE

If the WECS has identified that non-pay item work is jeopardizing overall project compliance, they should advise both the Utility contractor and the Project Manager.

If the WECS does not see the utility contractor making adequate progress to address their concerns, the Project Manager should contact the District Utilities Office. The details of the WECS' concerns should be shared with the District Utilities Engineer along with a request that they assist in resolving the matter.

HOW TO INSPECT UTILITY WORK

If the utility work is not pay item work:

The WECS may scale back their involvement to a limited or oversight role. The *site* is under the contractor's supervision; therefore the WECS should communicate concerns for poor BMPs that may lead to stream impacts and obvious issues of non compliance directly to the utility contractor and GDOT'S Project Manager.

When the utility work is “pay item work”:

The WECS has the responsibility to ensure the work is performed in accordance with the ESPCP and specifications, just as all other pay item work.

WHY ARE UTILITIES ALLOWED IN THE BUFFERS

The following exemptions exist for utility work at state water buffers;

Stream crossings for water and sewer lines that occur within 25 degrees from a line perpendicular to the stream and cause a width of disturbance less than fifty feet (50') and install and maintain adequate erosion control measures do not require a buffer variance.

This is provided for in the NPDES permit, state erosion control law section O.C.G.A. 12-7-6.

Extremely important to understand is that COE (Corps of Engineer) permits may be necessary, or PCN (pre construction notification) may be required by the COE if streams are to be open cut.

WHAT TO DO TO AVOID UTILITY RELATED E&SC PROBLEMS

The responsibilities for BMPs associated with utility work shall be discussed at the preconstruction conference before dismissing Utility company representatives.

During any onsite meetings regarding utility relocation, the WECS, Project Superintendent and Project Manager shall discuss any observations/concerns they may have with the work or coordination.

All state water buffers that are to be maintained shall be marked before clearing begins, especially if the utility contractor will be doing their own clearing.

For non pay item work:

The WECS should caution the Superintendent of the problems occurring onsite such that the utility work is suspended by the Contractor until conditions improve.

It may also be necessary when rain is imminent for the WECS to initiate repairs/installation of BMPs and to recoup any expenses incurred afterward.

Many contractors provide detailed conditions by which utility contractors are allowed to work within their project at the preconstruction conference.

STATE WATER BUFFER

- WHAT IS A STATE WATER BUFFER ?
- WHO DETERMINES STATE WATER BUFFER ?
- WHERE ARE STATE WATER BUFFERS ?
- WHEN ARE STATE WATER BUFFERS DETERMINED ?

STATE WATER BUFFER

- WHY ARE STATE WATER BUFFERS IMPORTANT ?
- HOW ARE STATE WATER BUFFERS DELINEATED ?

STATE WATER BUFFER

A BUFFER IS THE AREA OF LAND IMMEDIATELY ADJACENT TO THE BANKS OF STATE WATERS IN ITS NATURAL STATE OF VEGETATION, WHICH FACILITATES THE PROTECTION OF WATER QUANTITY AND AQUATIC HABITAT.











STATE WATER BUFFER

- STATE WATER BUFFERS ARE SHOWN IN THE ESPCP AND ARE LISTED IN THE STATE WATER ENCROACHMENT TABLE IN THE ESPCP GENERAL NOTES.
- BUFFERS ARE IDENTIFIED BY ECOLOGISTS/BIOLOGISTS WORKING FOR GDOT.

Step 7 The determination should be documented in writing.

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[illegible]

STATE WATER BUFFER

FUNCTIONS OF STATE WATER BUFFERS:

- FILTER SEDIMENT & INFILTRATE RUNOFF
- ARE USEFUL IN COOLING RIVERS & PROVIDING FOOD FOR WILDLIFE
- STABILIZE STREAMBANKS

STATE WATER BUFFER

- STATE WATER BUFFERS WHERE NO WORK OR DISTURBANCE IS ALLOWED ARE DELINEATED WITH ORANGE BARRIER FENCE.
- REFER TO LINE CODES
Bf, ESA, & ORANGE BARRIER FENCE ON THE EROSION CONTROL LEGEND.











Bf—BUFFER ZONE

INSTALLATION

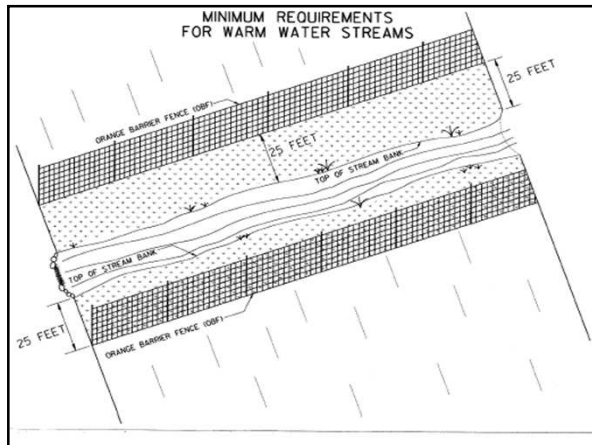
- PROTECT BUFFERS DURING CONSTRUCTION. INSTALL 2 ROWS OF TYPE C SILT FENCE OR 1 ROW OF TYPE C BACKED UP WITH HAYBALES OUTSIDE THE BUFFER LIMITS AS DEPICTED ON THE ESPCP

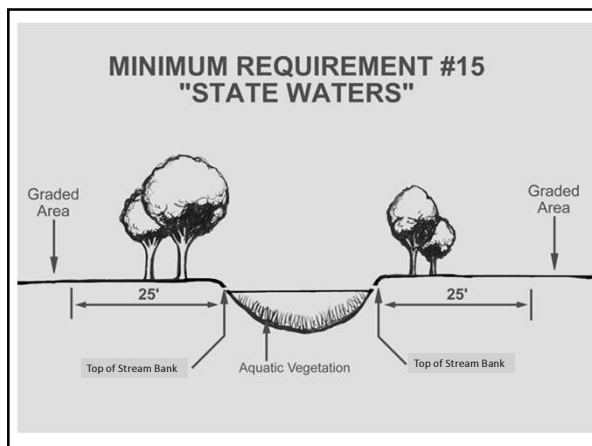
Bf—BUFFER ZONE

EXEMPTIONS:

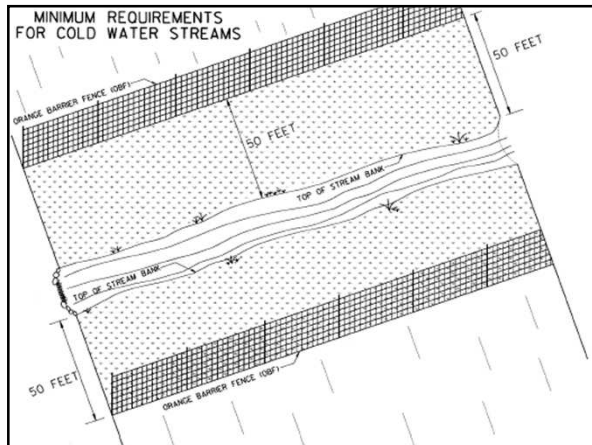
- **DRAINAGE STRUCTURES** THAT MUST BE CONSTRUCTED IN THE 25 FOOT BUFFERS OF STATE WATERS NOT CLASSIFIED AS A TROUT STREAM
- **ROADWAY DRAINAGE STRUCTURES** THAT MUST BE CONSTRUCTED WITHIN THE 25 FOOT BUFFER AREA OF ANY STATE WATERS OR THE 50 FOOT BUFFER OF ANY TROUT STREAM

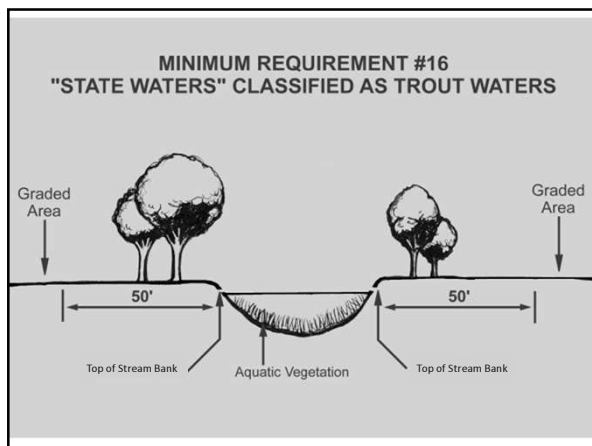








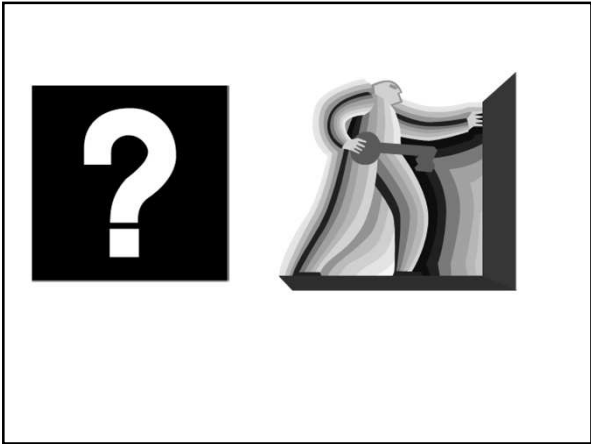








CODE	PRACTICE STD : SPC : SECTION	DETAIL	DESCRIPTION
Bf	BUFFER ZONE		A STRIP OF UNDISTURBED ORIGINAL VEGETATION, ENHANCED OR RESTORED EXISTING VEGETATION, OR THE RE-ESTABLISHMENT OF VEGETATION SURROUNDING AN AREA OF DISTURBANCE OR BORROWING STREAMS, PONDS, WETLANDS, LAKES, AND COASTAL WATERS. THE BOUNDARIES OF THESE AREAS ARE BE DELINEATED BY ORANGE BARRIER FENCE.
ESa	ENVIRONMENTALLY SENSITIVE AREA		ENVIRONMENTALLY SENSITIVE AREA (ESa) CONTAINS RESOURCES THAT ARE ENVIRONMENTALLY, CULTURALLY, OR HISTORICALLY SENSITIVE. ESa AREAS INCLUDE, BUT ARE NOT LIMITED TO, STATE WATER BUFFERS, ARCHAEOLOGICAL SITES, HISTORIC SITES, AND PROTECTED ANIMAL AND PLANT SPECIES HABITATS. IF WORK IS AUTHORIZED IN THIS AREA, THE WORK MUST BE PERFORMED IN ACCORDANCE WITH SECTION 107 AND ANY OTHER APPLICABLE SPECIAL PROVISIONS AND APPLICABLE PLAN NOTES.
	ORANGE BARRIER FENCE		ORANGE BARRIER FENCE DELINEATES ESa AREAS WHERE THE CONTRACTOR SHALL NOT CLEAN, GRUB, PLACE CONSTRUCTION MATERIALS OR EQUIPMENT WITHIN THIS AREA.



STATE WATER BUFFER

WHAT IS A STATE WATER BUFFER?

WHO DETERMINES STATE WATER BUFFERS?

WHERE ARE STATE WATER BUFFERS?

WHY ARE STATE WATER BUFFERS IMPORTANT?

HOW ARE STATE WATER BUFFERS DELINEATED?

WHEN ARE STATE WATER BUFFERS DETERMINED?

WHAT IS A STATE WATER BUFFER?

A State Water Buffer is the area of land adjacent to the banks of state waters in its natural state of vegetation, which facilitates the protection of water quality and aquatic habitat.

A state water is defined as, any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and other bodies of surface or subsurface water natural or artificial, lying within or forming a part of the boundaries of the state.

By leaving a vegetative buffer along the water, a natural filtration of sediment and other pollutants, protects the resource. The tree canopy that remains also serves to regulate and cool the water by shading the resource.

Field Guide for Determining The Presence of State Waters That Require a Buffer



**Georgia Department of Natural Resources
Environmental Protection Division
Watershed Protection Branch
NonPoint Source Program**

This guidance is based on the Georgia Erosion and Sedimentation Control Rules (Rules), 391-3-7, promulgated under the Georgia Erosion and Sedimentation Act (Act), O.C.G.A. 12-7.

The Act defines State Waters as "any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells and other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the State, which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation."

This guidance only addresses the identification of rivers, streams, creeks and branches that require a buffer. The State-mandated buffer requirements apply to all State Waters that require a buffer (i.e., have wrested vegetation by normal stream flow).

The definition of Normal Stream Flow that is used in this document is found in the definition of Stream Bank in the Rules, and only applies to non-trout streams. Streams that have Normal Stream Flow as defined in the Rules have characteristics that are not normally associated with ephemeral streams.

STEPS FOR DETERMINING THE PRESENCE OF STATE WATERS AND BUFFER REQUIREMENTS ON A SITE

Please note that this guidance is primarily written to assist local issuing authorities with their determinations of State Waters and buffer requirements. However, it is also a tool for plan preparers and environmental consultants to use in the preparation of accurate Erosion, Sedimentation and Pollution Control Plans.

- Step 1 Review the topography of the Erosion, Sedimentation and Pollution Control Plan for natural or artificial features that may indicate the presence of State Waters.
- Step 2 Walk the site in order to identify State Waters as defined.
- Step 3 Begin the inspection at one end of the potential State Waters and walk the entire length of the State Waters until it exits the property.
- Step 4 Examine the drainage feature using this field guide to determine whether the feature is perennial, intermittent or ephemeral. If the drainage feature is determined to be perennial or intermittent, then a State-mandated buffer exists. If the drainage feature appears to be ephemeral then go to Step 5 to make a final determination. If the identified feature is a salt marsh, then Georgia Department of Natural Resources (DNR), Coastal Resources Division should be contacted for the delineation of the DNR jurisdictional line (point from which the buffer is measured).
- Step 5 If base flows are present during the site inspection, the stream is either perennial or intermittent and will require a buffer. If the site is visited during a dry phase and base flows are not evident, the drainage may be ephemeral or intermittent. If there is no flowing water within 24 hours of a rain event, then the drainage feature is probably ephemeral. **NOTE:** Ephemeral non-trout streams do not require buffers so great care should be exercised when conducting field investigations for ephemeral and intermittent stream determinations. In such conditions inspections must be accomplished by professionals trained or otherwise familiar with methods used to determine whether the stream is in a season when base flows may not be observable, or if the stream is ephemeral and simply flows in direct response to precipitation. The ephemeral stream guidance should be used to make the final determination as to whether the stream is ephemeral.
- Step 6 If there is still a question about base flow after Step 5 is completed, then the "North Carolina Division of Water Quality Stream Identification Method, Version 3.0" (or most current version) should be used to verify whether or not base flow is present.
- Step 7 The determination should be documented in writing.

Georgia Department Of Transportation

WORKSITE EROSION CONTROL MANUAL



- a. "Base Flow" means the discharge that enters a stream channel mainly from groundwater, but also from lakes during periods when no precipitation occurs.
- b. "Buffer" means the area of land immediately adjacent to the banks of State Waters in its natural state of vegetation, which facilitates, when properly vegetated, the protection of water quality and aquatic habitat (O.C.G.A. 12-7-3(2)).
- c. "Ephemeral Stream" means a stream that typically has no well-defined channel, and which flows only in direct response to precipitation with runoff.
- d. "Intermittent Stream" means a stream that flows in a well-defined channel during wet seasons of the year but not for the entire year.
- e. "Land Disturbing Activity" means any activity which may result in soil erosion and the movement of sediments into State Waters or onto lands within the State, including but not limited to grubbing, dredging, grading, excavating, transporting, and filling of land, but not including those practices to the extent described in O.C.G.A. 12-7-17 (O.C.G.A. 12-7-3(9)).
- f. "Normal Stream Flow" for non-trout waters only, means any stream flow that consists solely of base flow or consists of both base flow and direct runoff during any period of the year. Base flow results from groundwater that enters the stream channel through the soil. This includes spring flows into streams. Direct runoff is the water entering stream channels promptly after rainfalls or snow melts (Rule 391-3-7-.01(w)).
- g. "Perennial Stream" means a stream that flows in a well-defined channel throughout most of the year under normal climatic conditions.
- h. "State Waters" include any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and other bodies of surface or subsurface water, natural and artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation, except as may be defined in O.C.G.A. 12-7-17(8) (O.C.G.A. 12-7-3(16)).
- i. "Stream Bank" means the confining cut of a stream channel and is usually identified as the point where the normal stream flow has wrested the vegetation (Rule 391-3-7-.01(w)).
- j. "Typical/Average Year" means a year in which the observed base flow and rainfall quantity is approximately equal to the long-term average.
- k. "Wrested Vegetation" means movement of water that removes soil, debris and vegetation, creating a clear demarcation between water flow and vegetative growth.

Please note the following:

- The definition of Normal Stream Flow that appears in this guidance applies only to non-trout streams. Ephemeral trout streams are not exempt from buffer requirements, but may be eligible for the General Stream Buffer Variance in 391-3-7-.05(9) of the Erosion and Sedimentation Control Rules. Refer to the Georgia Water Quality Control Rules (391-3-6-.03) for a listing of trout streams.
- Buffer requirements are included in the General NPDES Permit for Storm Water Discharges from Construction Activities.
- Contact DNR, Coastal Resources Division for guidance involving any land disturbing activity in marshland areas.
- State Waters may also be classified as Waters of the U.S., and may require a U.S. Army Corps of Engineers Section 404 permit.



North Georgia Perennial



Piedmont Perennial



Coastal Perennial

All perennial streams flow throughout the year in a normal climatic year. Site inspections should result in visually discernible stream flows as evidence of base flow contribution between rain events, even in low flow conditions. After confirming perennial flow regimes, the presence of one or more of the following characteristics indicates that the drainage feature is a perennial stream:

1. Base flow that maintains stream flow throughout the year under normal circumstances.
2. Well-developed stream banks and channels include riffles/pools.
3. A channel that is almost always sinuous (winding, snake-like, etc.). The degree of sinuosity is specific to physiographic regions. For example, in geographic regions that have mountainous terrain, or in the coastal plain where many streams have been channelized, the channels are less sinuous.
4. Evidence of fluctuating high water marks (flood prone width) and/or sediment stained leaves, bare ground, and/or drift lines.
5. Evidence of soil and debris movement (scouring) in the stream channel. Leaf litter is usually transient or temporary in the flow channel.
6. Wetland or hydrophytic vegetation is usually associated with the stream channel. However, perennial streams with deeply incised or "down-cut" channels will usually have wetland vegetation present along the banks or flood-prone zone. Examples include sedges, rushes, mosses, ferns, and the riparian grasses, shrubs and other woody species.
7. Stream bank soils with hydric conditions, including dominant black/gray colors evident in the exposed stream bank profiles at or above the low flow conditions.
8. Exposure of rock or gravel or sand in a continuous or nearly continuous low lying channel.

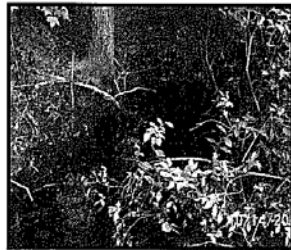
Georgia Department Of Transportation WORKSITE EROSION CONTROL MANUAL



North Georgia Intermittent



Piedmont Intermittent



Coastal Intermittent



North Georgia Ephemeral



Piedmont Ephemeral



Coastal Ephemeral

After confirming whether base flows are seasonally present, one or more of the following characteristics indicates that the drainage feature is an **intermittent stream**:

1. Well-developed stream bank and defined channel. Riffles/pools channel morphology is evident.
2. Evidence of fluctuating high water marks (flood prone width) and/or sediment deposits, sediment stained leaves, bare ground and/or drift lines.
3. Evidence of soil and debris movement (scouring) in the stream channel. Leaf litter is usually transient or temporary in the flow channel.
4. Wetland or hydrophytic vegetation is usually associated with the stream channel or flow area. Intermittent streams with deeply incised or "down-cut" channel will usually have wetland vegetation present along the banks or flood prone zone. Examples include sedges, rushes, mosses, ferns, and the riparian grasses, shrubs and other woody species.
5. Exposure of rock or gravel or sand in a continuous or nearly continuous low lying channel.
6. In the coastal plain, the soils may be sandy with veins of black.
7. Presence of crayfish burrows or chimneys.
8. The presence of aquatic insects (in any life phase) or fish. (For help identifying insects as aquatic, use the GA Adopt-A-Stream Aquatic Macroinvertebrate Field Guide, www.georgiaadoptastream.com)
9. Presence of buttressed trees.

The most reliable method for differentiating between intermittent and ephemeral stream types during drier conditions requires investigation of the stream bank (i.e., from the stream bed to the top of the bank).

Intermittent stream banks typically are dominated by soils with hydric indicators, such as: visually confirmed oxidized rhizospheres in the stream bank, matrix of gray or black soils, reducing conditions present and confirmed by a redox meter, or the stream banks otherwise include indicators of hydric soils as determined by the most current list of *Regional Indicators of Soil Saturation* as produced by the National Technical Committee for Hydric Soils.

Ephemeral streams usually have poor channel development and lack groundwater-induced base flows that normally result in hydric soils dominating the banks of intermittent and perennial streams.

Georgia Department Of Transportation WORKSITE EROSION CONTROL MANUAL



EPHEMERAL STREAM CHARACTERISTICS

The prerequisite for a drainage feature to be classified as ephemeral is there must be no evidence of base flows in the stream bank (see methods discussed in intermittent stream characteristics).

After meeting the prerequisite above, the presence of one or more of the following characteristics indicates that the drainage feature is an **ephemeral stream**:

1. Poorly developed stream banks.
2. Absence of riffles/pools.
3. A flow area that is almost always straight and either "flattens" out at the bottom of the slope or grades into intermittent or perennial streams.
4. Fluctuating high water marks (flood prone width) and/or sediment transport are usually absent.
5. Evidence of leaf litter and/or small debris jams in the flow areas.
6. Usually sparse or no wetland (hydrophytic) vegetation present.
7. Side slope soils with characteristics typical of the surrounding landscape. Soil texture usually more loamy than the surrounding upslope landscape and usually has a clay subsurface.

NOTES

- This guidance does not change or modify any requirements in the Erosion and Sedimentation Act of 1975 O.C.G.A. 12-7 or DNR Rules on Buffer Variance Procedures and Criteria 391-3-7-05, as amended.
- Copies of the Georgia Erosion and Sedimentation Act (O.C.G.A. 12-7), the Erosion and Sedimentation Control Rules (391-3-7) and the Water Quality Control Rules (391-3-6) can be found at www.gaepd.org.



Braided Channels



Buffers for braided channels such as those pictured above are measured from the point where vegetation is wrested from the outside channel of the braided system.

Concrete Channel



Concrete channels are examples of drainage features that usually do not require a buffer due to lack of "wrested vegetation."

Contact Information:

Georgia Department of Natural Resources
Environmental Protection Division
Watershed Protection Branch
NonPoint Source Program
4220 International Parkway, Suite 101
Atlanta, GA 30354

Telephone: (404) 675-6240
FAX: (404) 675-6245
www.gaepd.org



This publication was funded by the Georgia Department of Transportation as recommended by the State Construction Office as portion of a settlement offer to a Consent Order issued for the encroachment upon a State Water Buffer at a cost of \$1.02 per field guide. The Department of Transportation further encourages its contractors, partners and customers alike to support the Federal Clean Water Act and it's components leading to the preservation of our State's natural resources.

WHO DETERMINES STATE WATER BUFFERS?

State Water Buffers are shown in the ESPCP. Buffers are listed in the State Water Encroachment table in the ESPCP General Notes.

Buffers are identified by ecologists and/or biologists working for the Department.

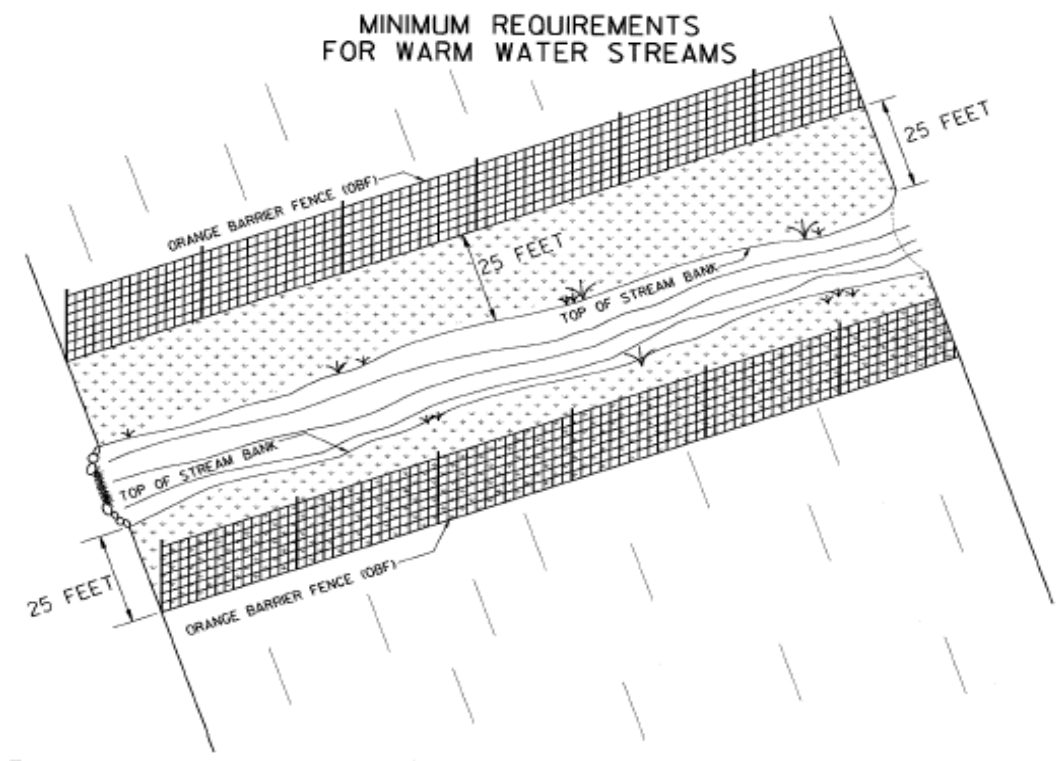
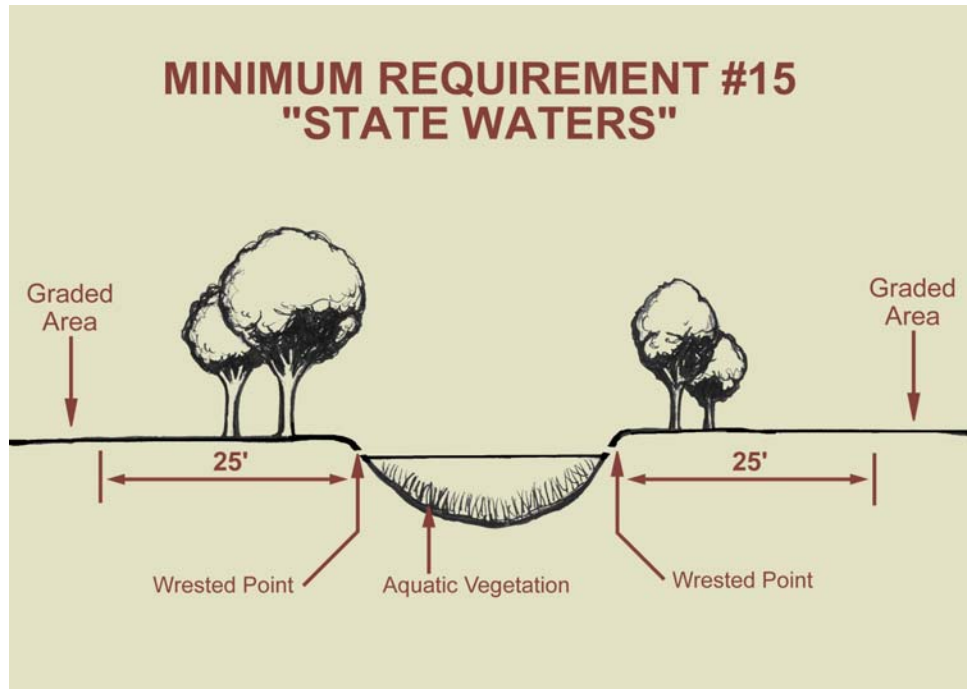
For areas that appear to be state waters and are not identified on the ESPCP, notify the project engineer who will contact the Office of Environmental Services. This is to be done prior to working in the area.

WHERE ARE STATE WATER BUFFERS?

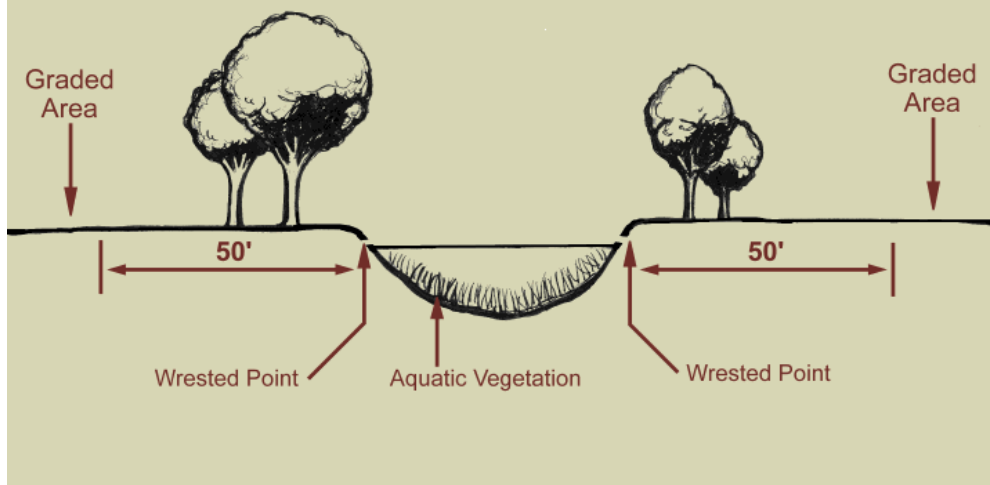
State Water Buffers are located adjacent to any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, springs, wells, etc.

WARM WATER BUFFER = 25 FEET FROM TOP OF BANK

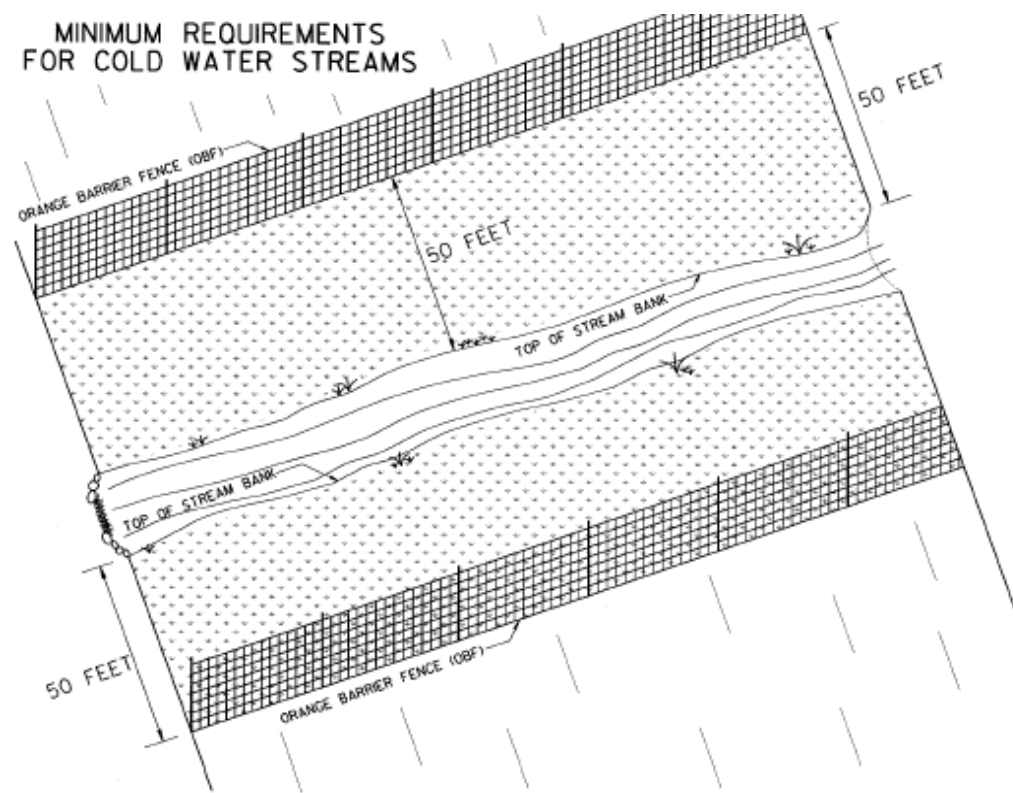
COLD WATER BUFFER = 50 FEET FROM TOP OF BANK



**MINIMUM REQUIREMENT #16
"STATE WATERS" CLASSIFIED AS TROUT WATERS**



**MINIMUM REQUIREMENTS
FOR COLD WATER STREAMS**



WHY ARE STATE WATER BUFFERS IMPORTANT?

The importance of the buffer is that it protects the water from discharges of sediment and other pollutants. Such pollutants otherwise reduce the quality of the water and habitat and lessens the quantity of water storage in a drainage basin, all of which has a high cost correct.

Think of a State Water buffer as a filter. Similar to a coffee filter keeping the grounds and some of the oils out of a cup of coffee, a buffer can trap and filter more than just silt.

Leaving a vegetative buffer in place during construction is an economical way to filter storm water runoff pollutants. Buffers have been reported to trap as much as 90% of all runoff pollutants that otherwise would reach the water. A canopy of tree limbs provides shade to streams that regulates the stream temperature.

HOW ARE STATE WATER BUFFERS DELINEATED?

State water buffers where no work access is allowed are delineated with orange barrier fence.

The delineation of the buffer with an acceptable temporary means is to take place prior to clearing or in conjunction with clearing, until the orange barrier fence can be placed at the specified location.

WHEN ARE STATE WATER BUFFERS DETERMINED?

A State Water Buffer can be determined at any time.

Once the concept of a project is approved formal design begins. A component of designing a project is to identify all of its “resources”, such as historic sites, archeological sites, wetlands, endangered species, waters of the State and waters of the U.S., etc.

Because of the time it takes to bring a project along to the “final” set of plans, there can be changes in what is determined to be State water, or drainage pattern changes due to development. GDOT does its best to identify all State Waters requiring buffers and include them in the final plans. This does not however relieve the WECS and Project Manager from needing to review the site for additional surface water that could need a buffer.

INSPECTIONS

- WHAT IS AN INSPECTION?
- WHY DOES GDOT REQUIRE INSPECTIONS?
- WHO PERFORMS INSPECTIONS?
- WHERE ARE INSPECTIONS PERFORMED?

INSPECTIONS

- WHEN TO PERFORM INSPECTIONS
- HOW TO PERFORM INSPECTIONS
- HOW TO REVIEW AN EC-1 REPORT
- HOW TO REVIEW AN INSPECTION REPORT
- WHAT REPORTS GO TO EPD?
- WHAT REPORTS GO TO DOT?

WHAT IS AN INSPECTION ?

- THE REVIEW OR COMPARISON OF BMP'S AGAINST THE ESTABLISHED STANDARDS AND DETAILS

WHY DOES GDOT REQUIRE INSPECTIONS ?

- PART IV.D.4 OF THE NPDES PERMIT REQUIRES DAILY, WEEKLY, AFTER RAINFALL EVENTS AND MONTHLY INSPECTIONS.
- THESE INSPECTIONS ARE TO BE DOCUMENTED ON THE APPROPRIATE DOT FORM .

WHO PERFORMS INSPECTIONS?

- **INSPECTIONS ARE PERFORMED BY THE WECS OR CERTIFIED PERSONNEL THAT HAVE A CURRENT GSWCC LEVEL IA CARD AND A DOT WECS CARD.**



WHERE ARE INSPECTIONS PERFORMED?

- INSPECTIONS ARE PERFORMED ON THE PROJECT



WHEN TO PERFORM INSPECTIONS

- INSPECTIONS ARE TO BE CONDUCTED AT THE FOLLOWING FREQUENCIES:
 - DAILY
 - WEEKLY
 - AFTER RAINFALL > 0.5 INCHES
 - MONTHLY

DAILY INSPECTIONS

- ALL LOCATIONS WHERE VEHICLES ENTER & EXIT THE SITE.
- LOCATIONS WHERE PETROLEUM PRODUCTS ARE STORED, USED & HANDLED. SEE GENERAL NOTES IN ESPCP AND NPDES PERMIT FOR PROPER ON SITE CONTAINMENT.
- RECORD RAINFALL AT THE ACTIVE PHASE OF THE SITE.

GDOT DAILY INSPECTION REPORT (rev 2016)	
<small>ENGINEER- GDOT REPRESENTATIVE</small>	<small>WECS or INSPECTOR- CONTRACTOR</small>
PROJECT NO.: _____	DATE OF INSPECTION: _____
COUNTY: _____	
Co CONSTRUCTION EXIT 1. TRACKING MATERIAL ONTO ROADWAY? _____ 2. STORM CONSOLIDATED? _____ 3. MAINTENANCE REQUIRED: (Specify) _____ 4. LOCATION OF EXITS: _____ _____	
PETROLEUM PRODUCTS STORAGE/TRANSFER 1. SPILLS/LEAKS OF PETROLEUM PRODUCTS FROM VEHICLES? _____ 2. SPILLS/LEAKS OF PETROLEUM PRODUCTS FROM EQUIPMENT? _____ 3. SPILLS/LEAKS OF PETROLEUM PRODUCTS FROM STORAGE TANKS? _____ 4. IF THE ANSWER TO 1, 2 OR 3 WAS YES, DESCRIBE HOW THE SPILL/LEAK WAS HANDLED: _____ _____	
DAILY RAINFALL: _____	
CONTRACTOR WECS/CERTIFIED INSPECTOR SIGNATURE: _____ WECS/INSPECTORS WECS CARD NUMBER: _____ WECS/INSPECTORS GSWCC LEVEL 1A CARD: _____ EMPLOYED BY: _____	
"I certify under penalty of law that this report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."	
If there are no incidents of non-compliance, contractors certified inspector initials the statement below.	





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-
-
-



HOW TO PERFORM AN INSPECTION

- REVIEW THE ESPCP AND DETERMINE WHICH BMP'S ARE REQUIRED FOR THE PROPER STAGE OF CONSTRUCTION.
- RECONCILE THE EC-1 REPORT WITH THE ESPCP TO ENSURE THE CORRECT BMP'S ARE AT THE CORRECT LOCATIONS.

HOW TO PERFORM AN INSPECTION

- ANY BMP'S THAT ARE SHOWN ON THE ESPCP AND ARE NOT LISTED ON THE EC-1 REPORT MUST BE EXPLAINED.
- TAKE A COPY OF THE ESPCP & EC-1 REPORT DURING THE FIELD INSPECTION OF BMP'S.

HOW TO PERFORM AN INSPECTION

- LIST STATION NUMBERS IN A CHRONOLOGICAL ORDER AND BEGIN AT THE SAME POINT FOR EVERY INSPECTION
- THIS WILL INITIATE A ROUTINE AND PREVENT OVERLOOKING BMP'S DURING THE INSPECTION.

HOW TO PERFORM AN INSPECTION

- EVERY TEMPORARY BMP IS TO BE INSPECTED AT LEAST ONCE PER WEEK.
- RAINFALL GREATER THAN 0.5 INCHES REQUIRES ALL BMPs TO BE INSPECTED WITHIN 24 HOURS.
- THE INSPECTION IS NOT COMPLETE UNTIL THE REPORT HAS BEEN SIGNED BY THE WECS AND SUBMITTED TO THE ENGINEER.

HOW TO PERFORM AN INSPECTION

- THE INSPECTION SHOULD ANSWER THE FOLLOWING QUESTIONS:
 1. ARE ALL BMP'S REQUIRED BY THE ESPCP IN PLACE?
 2. ARE THEY FUNCTIONING PROPERLY?
 3. ARE THEY IN NEED OF MAINTENANCE? (REPAIR OR SEDIMENT REMOVAL)

HOW TO PERFORM AN INSPECTION

4. WAS SEDIMENT REMOVAL PERFORMED CORRECTLY?
5. WAS FILTERCAKE REMOVED?
6. HAVE ANY BMP'S BEEN ADDED, OR DO ANY NEED TO BE ADDED?



HOW TO PERFORM AN INSPECTION

7. HAVE ANY BMP'S BEEN REMOVED, OR DO ANY NEED TO BE REMOVED?
8. HAS THE WECS MADE RED LINE CHANGES TO THE ESPCP?
9. HAVE NEW BMP'S BEEN ADDED TO THE EC-1 REPORT?

HOW TO PERFORM AN
INSPECTION

- 10. DOES THE EC-1 REPORT
ACCURATELY REFLECT THE BMP'S
THAT ARE IN PLACE ON THE
PROJECT?**
- 11. DOES THE EC-1 REPORT
ACCURATELY STATE THE
CONDITION OF BMPs & PERCENT
THE BMPs ARE FILLED WITH
SEDIMENT?**

HOW TO PERFORM AN
INSPECTION

- 95 % of EPD inspections are complaint driven.

HOW TO REVIEW A DAILY
INSPECTION REPORT

- DAILY:
 1. ENSURE ALL CONSTRUCTION EXITS ARE LISTED ON THE FORM
 2. ENSURE ALL FUEL TRANSFER & STORAGE LOCATIONS ARE LISTED ON THE FORM
 3. ENSURE FORM IS PROPERLY SIGNED

HOW TO REVIEW A EC-1 INSPECTION REPORT

- WEEKLY & AFTER RAINFALL:
- 1. ENSURE ALL ITEMS ARE ON THE EC-1 FORM
- 2. ENSURE THE FORM IS PROPERLY SIGNED

HOW TO REVIEW AN EC-1 REPORT

- **ENGINEERS RESPONSIBILITY:**
- BEGIN WITH THE PROJECT NUMBER & REPORT NUMBER.
- ENSURE THESE NUMBERS ARE CORRECT.
- ENSURE THE REPORT NUMBER IS CONSECUTIVE.
- REVIEW THE DATE THE INSPECTION WAS PERFORMED.

HOW TO REVIEW AN EC-1 REPORT

- VERIFY IF THE INSPECTION IS A REGULAR WEEKLY OR IF THE INSPECTION IS A RESULT OF A RAINFALL EVENT (> 1/2 INCH)
- VERIFY THAT LINE CODES ARE IN ACCORDANCE WITH THE EROSION CONTROL PLAN SHEETS.

HOW TO REVIEW AN EC-1 REPORT

- CHECK THE LOCATION OF BMP'S ON THE EC-1 REPORT AGAINST THE ESPCP. THESE SHOULD MATCH THE RED LINE PLANS.
- IF THEY DO NOT MATCH, HAVE THE WECS CORRECT THIS IMMEDIATELY.

EROSION CONTROL CHECK LIST						SHEET 1 OF 1
Project No.: EDS-559(11) Date of Inspection: 10-31-06 Regular Inspection: <input checked="" type="checkbox"/> <input type="checkbox"/> Report No.: 18 To be completed by WECS, reviewed by DOT Engineer, and entered in project records. Post Storm Event Inspection: <input type="checkbox"/>						
LINE CODE	LOCATION	DATE OF INSTALL	% FILLED	MAINTENANCE REQUIRED	ADDRESS BMP'S	COMMENTS WECS/DOT ENGINEER
Sd-C	STA 65+15 RT	8-11-06	25	none		
Co	STA 50+00 RT	6-15-06		Remove mud & add stone		Needs maintenance
Sd-A	STA 52+20 RT	8-28-06	70	Remove sediment		
Sg	STA 53+00	8-31-06	0	none		
SdJ	STA 60+65 RT	6-15-06	45	Remove sediment		Grass slopes inside basin
DsI	STA 40+13 LT	9-10-06		none		
Sd-A	STA 44+00 LT	6-15-06	0		rem	Top of cut slope not needed
Sm	STA 40+13					Install on fill slope
Temp Grass	STA 50+00 to STA 55+00 RT					Temp Grass this area
Mulch	STA 65+50 to 70+00 LT			Re apply mulch		Mulch not thick enough

Estimated amount of total disturbed acreage (or hectares) 16 not temporarily or permanently stabilized.

HOW TO REVIEW AN EC-1 REPORT

- CHECK THE DATE OF INSTALLATION AGAINST THE BMP INSTALLATION REPORT.
- IN THE FIELD; SPOT CHECK THE % FILLED COLUMN. MAKE NOTE OF ANY DISCREPANCIES.

HOW TO REVIEW AN EC-1 REPORT

- IN THE FIELD; SPOT CHECK THE MAINTENANCE REQUIRED COLUMN. THIS INCLUDES ANY REPAIR TO DAMAGED BMP'S AS WELL AS FILTERCAKE & SEDIMENT REMOVAL.
- ADD ANY REQUIRED MAINTENANCE AT THIS TIME



HOW TO REVIEW AN EC-1 REPORT

- SPOT CHECK THE ADD/REM BMP COLUMN.
- LOOK FOR BMP'S THAT ARE NEW AND NOT ON THE EC-1.
- LOOK FOR BMP'S ON THE EC-1 THAT NEED TO BE REMOVED.

HOW TO REVIEW AN EC-1 REPORT

- REVIEW THE COMMENTS COLUMN AND MAKE ANY NECESSARY COMMENTS TO THE FORM (Next report should **not** have comments for items previously resolved/addressed)
- ADD INITIALS TO THE COMMENTS TO IDENTIFY THE PERSON MAKING THE COMMENT

HOW TO REVIEW AN EC-1 REPORT

- NOTE THE DATE ITEMS WERE CORRECTED, REPAIRED OR MAINTAINED
- REVIEW THE CERTIFICATION SHEET FOR CARD NUMBERS, EXPIRATION DATES AND SIGNATURES

EC-1 INSPECTION REPORT

(rev 2016)

ENGINEER= GDOT REPRESENTATIVE

WECS or CERTIFIED INSPECTOR= CONTRACTOR

DATE OF INSPECTION: _____

INSPECTOR WECS CARD NUMBER: _____ EXPIRATION DATE: _____

INSPECTOR GSWCC LEVEL 1A CARD NO.: _____ EXPIRATION DATE: _____

EMPLOYED BY: _____

CERTIFIED INSPECTOR SIGNATURE: _____

WECS SIGNATURE:

"I certify under penalty of law that this report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If there are no incidents of non-compliance, initial the statement below.

"I certify the site is in compliance with the Erosion, Sedimentation, and Pollution Control Plan and the NPDES Permit."

Provide the current project phase/stage (if applicable): _____

DEPARTMENT USE ONLY

DATE RECEIVED BY ENGINEER: _____ ENGINEERS INITIALS: _____

DATE REVIEWED: _____ ENGINEERS INITIALS: _____

HOW TO REVIEW A MONTHLY INSPECTION REPORT

- MONTHLY:
 1. ENSURE THE APPROPRIATE ITEMS HAVE BEEN INSPECTED
 2. ENSURE ALL ITEMS LISTED ON THE FORM HAVE BEEN ADDRESSED
 3. ENSURE THE FORM HAS BEEN PROPERLY SIGNED

WHAT REPORTS GO TO EPD ?

- **WATER QUALITY SAMPLING REPORTS ARE THE ONLY REPORTS REQUIRED TO BE SENT TO EPD.**
- THIS REPORT IS TO BE FORWARDED TO EPD BY THE AREA ENGINEER VIA CERTIFIED MAIL.

WHAT REPORTS GO TO DOT ?

- DAILY, WEEKLY, AFTER ONE-HALF INCH RAINFALL AND MONTHLY INSPECTION REPORTS ARE TO BE SUBMITTED TO THE ENGINEER.
- SUBMIT THE REPORTS OF THE INSPECTIONS TO THE ENGINEER WITHIN 24 HOURS.

WHAT IS A BMP INSTALLATION INSPECTION

- THE INSPECTION OF BMP'S TO DETERMINE IF THE BMP IS INSTALLED ACCORDING TO THE ESPCP AND THE GDOT STANDARDS & DETAILS.
- **THIS INSPECTION MUST BE PERFORMED BY THE DOT PROJECT ENGINEER OR DOT REPRESENTATIVE (CEI).**

WHY PERFORM A BMP INSTALLATION INSPECTION

- THE PERMIT REQUIRES THAT ALL BMP'S BE INSPECTED WITHIN SEVEN (7) DAYS OF THEIR INSTALLATION.
- **THIS INSPECTION IS TO BE PERFORMED BY THE DOT PROJECT ENGINEER OR DOT REPRESENTATIVE (CEI).**

WHEN TO PERFORM INSPECTIONS

- THIS INSPECTION IS PERFORMED WITHIN 7 DAYS OF THE INSTALLATION OF ALL BMP'S.
- **THIS INSPECTION IS TO BE PERFORMED BY THE DOT PROJECT ENGINEER OR DOT REPRESENTATIVE (CEI).**

HOW TO PERFORM THE BMP INSTALLATION INSPECTION

- UTILIZE THE BMP INSPECTION FORMS PROVIDED BY THE DEPARTMENT.
- FILL OUT THE APPROPRIATE BMP FORM FOR EACH DIFFERENT BMP.
- PROVIDE A COPY OF THE INSPECTION FORM TO THE CONTRACTOR IF CORRECTIONS ARE NEEDED.
- KEEP A COPY OF THE FORM IN THE PROJECT RECORDS.

WHEN TO REPORT THE RESULTS OF THE INSPECTION

- ANY DEFICIENCIES IN INSTALLATION OF BMP'S IS TO BE REPORTED BY THE DOT PROJECT ENGINEER TO THE WECS WITHIN 7 DAYS OF THE INSPECTION.

WHEN TO MAKE CORRECTIONS

- THE WECS HAS 2 BUSINESS DAYS TO MAKE CORRECTIONS TO BMPS THAT ARE LISTED AS "NOT PROPERLY INSTALLED OR MAINTAINED".

Cd-S Stone or Sand Bag Check Dam

Refer to Standard 1031, WECS Manual, Plans, Specifications 163 & 603

BMP Installation Report

- Project No. & County: _____
1. Per Plan Location? ☐ Yes ☐ No
- If not, explain: _____
2. Height of Check Dam: _____
3. Size of Stone: _____
4. Filter Fabric in place? ☐ Yes ☐ No
5. Height of Dam in center: _____
6. Installed Per Details? ☐ Yes ☐ No
7. Spacing between Dams: _____
8. Are side slopes protected? ☐ Yes ☐ No
9. If this location is not on the plan, have the WECS add this item to the plan by redline.
When complete check this box: ☐
10. Does this item meet all requirements for payment? ☐ Yes ☐ No
11. Location (Sta. to Sta., LT or RT): _____

Additional information: _____

CERTIFICATION SHEET BMP INSTALLATION REPORT

PROJECT No.: _____

COUNTY : _____

DATE OF INSPECTION: _____

INSPECTOR SIGNATURE: _____

WECS CARD NO. : _____
(include expiration date)

GSWCC LEVEL IA CARD NO.: _____
(include expiration date)

EMPLOYED BY: _____

WECS SIGNATURE: _____

DATE RECEIVED BY WECS: _____

DEADLINE TO CORRECT: _____

RE-INSPECT DATE: _____

ALL ITEMS FOUND NOT PROPERLY INSTALLED AND/OR MAINTAINED SHALL BE CORRECTED WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF A COPY OF THIS REPORT. DEFICIENT ITEMS SHALL BE RE-INSPECTED BY THE ENGINEER WITHIN TWENTY FOUR (24) HOURS OF THE TIME OF CORRECTION.



E&S INSPECTION INDEX

- 1. WHEN TO PERFORM INSPECTIONS**
- 2. HOW TO PERFORM AN INSPECTION**
- 3. HOW TO REVIEW THE EC-1**
- 4. WHAT REPORTS GO TO EPD**
- 5. WHAT REPORTS GO TO DOT**
- 6. HOW TO REVIEW AN INSPECTION REPORT**

WHEN TO PERFORM INSPECTIONS

REF: Section 167.3.05.

Inspections are to be conducted by the WECS or certified personnel on the areas and at the frequencies listed below.

Daily:

- All locations where vehicles enter and exit the site.

- Petroleum product storage, usage, and handling locations.

- Record rainfall at the active phase of the site.

Weekly & After Rainfall of one-half inch or greater:

- Disturbed areas not permanently stabilized.

- Material storage areas.

- All structural control measures (BMP's).

- Water quality sampling locations and equipment.

Monthly:

- All areas that have undergone final stabilization.

- All permanent erosion control devices.

- Any temporary devices that remain in place.

HOW TO PERFORM AN INSPECTION

REF: Special Provision Section 161

Review the ESPCP and determine which BMP's are required to be in place according to the proper stage of construction of the project.

Make sure the EC-1 report contains all items listed on the ESPCP (including red line additions) and those that items are in place on the project. Those items that are shown on the ESPCP and are not listed on the EC-1 report must be explained as to why they have not been installed.

Take a copy of the EC-1 report with you during the field inspection of BMP's. It is recommended to perform the inspection from the same starting point of the project for every inspection. This will initiate a routine and will prevent overlooking BMP's during the inspection.

Every control that is in place is to be inspected at least once per week.

The inspection should answer the following questions:

Are all BMP's required by the ESPCP in place?

Are they functioning properly?

Are they in need of maintenance? (repair or sediment removal)

Was sediment removal performed properly?

Was filtercake removed?

Have any BMP's been added, or do any need to be added?

Have any BMP's been removed, or do any need to be removed?

Remember to RED LINE any changes to the ESPCP.

Remember to add any new BMP's to the EC-1 report, and remove any that are not in place.

Does the EC-1 report accurately reflect the BMP's that are in place on the project?

Does the EC-1 report accurately reflect the condition and percent filled with sediment of the BMP's on the project?

Log the condition and any needed repairs, maintenance or sediment removal on the EC-1. The inspection is not complete until the EC-1 form is signed by the WECS and submitted to the Engineer for review.

HOW TO REVIEW AN EC-1 REPORT

Begin with the project number and report number. Ensure the project number is correct. Ensure the report number is consecutive.

Date of Inspection: date the field inspection was performed

Verify if the inspection is a regular weekly inspection or if the inspection is the result of a rainfall event (equal to or greater than one-half inch).

Verify that line codes are in accordance with the erosion control legend (ECL).

Check the location of the BMP's on the EC-1 report against the ESPCP. They should match the plan or the red line mark-ups on the plan. If they do not match, this must be corrected immediately.

Check the date of installation against the BMP installation report.

In the field, spot check the % FILLED column. This is a subjective item, but there should not be great discrepancies between the amount on the EC-1 report and the field spot check. Make note of any discrepancies.

In the field, spot check the maintenance required column. This will include repair to any damaged BMP as well as removal of sediment and filtercake. Maintenance or repair of any item that is not listed on the EC-1 report by the WECS is to be added at this time.

In the field, spot check the ADD/REM BMP's column. Any new items that have been added or are recommended to be added must be noted. Any existing items that should be removed are to be noted in this column.

Review the comments column and make any pertinent comments on the condition of BMP's. The person entering the comments is to place their initials with the comment. This will identify if the comment was entered by the inspector, the WECS or the Engineer.

In the field, review the items that were listed as needing repair or maintenance. Note the date these items were repaired or maintained.

A rough calculation is to be performed to determine the amount of total disturbed acreage on the project that is not temporarily or permanently stabilized.

Review the certification sheet for card numbers and expiration dates, and proper signatures.

WHAT REPORTS GO TO EPD

REF: Section 167.3.05.D.

Water quality sampling reports are the only reports required to be sent to the EPD. This report is to be forwarded to the EPD by Area Engineer via certified mail.

The results of the water quality sampling is to be submitted to the Engineer within seven (7) working days of the date the sample was obtained. If this report is not submitted by the next calendar day after the seven (7) calendar days, stop all work immediately with the exception of traffic control and erosion control and continue with the work stoppage until the report is submitted.

The format for the report is provided in Section 167.3.05.D.2.

WHAT REPORTS GO TO DOT

REF: Section 167.3.05.B

The results of the daily, weekly after one-half inch of rainfall and monthly inspections are to be submitted to the Engineer.

These results are to be submitted on the appropriate form. These reports are to be submitted to the Engineer within twenty four (24) hours of the inspection.

Refer to the individual report section for the appropriate forms for each type of inspection.

HOW TO REVIEW AN INSPECTION REPORT

This section will be divided into the various types of reports.

DAILY:

Ensure that all construction exits are listed on the inspection form.

Ensure that all fuel transfer and storage locations are listed on the inspection form.

Review the form to ensure all items have been addressed and the form has been properly signed.

WEEKLY & AFTER ONE-HALF INCH RAINFALL:

These items are to be listed on the EC-1 report. Refer to the section “How to review an EC-1 Report”.

MONTHLY:

Ensure the appropriate items have been inspected. Ensure that all items listed on the form have been addressed.

TIPS FOR FILLING OUT THE EC-1 FORM

Begin submitting EC-1 forms when clearing operations begin and continue until a Notice of Termination has been submitted.

The EC-1 form can be computer generated as long as it contains the same information and is in the same visual format as GDOT's current version.

Use station numbers and structure numbers when applicable for BMP's.

Any BMP that is installed on the project is to be listed on the EC-1 form and shall remain on the form until it is removed.

Write the location such that someone not familiar with the project can use the form to inspect erosion and sediment control on the project.

Initial any comments so that reviewers can determine ownership of the comments.

Enter the date the corrective action or maintenance is performed.

Don't forget that temporary grass, mulch and permanent grass are all BMP's and are to be listed on the form.

Make sure the form is signed.

Be sure to designate which type of inspection is being performed: regular, or post ½ inch rain event.

Water Quality Monitoring Report Checklist

- 1) Was a certified personnel (Level 1A, WECS Certification, QCL) used to perform monitoring, sampling, inspection and rainfall data collection?**
- 2) Was the sample taken manually or with the use of automatic samplers?**
- 3) If the samplers were analyzed in the field using portable turbidimeters, did the monitoring results state that they are being used and a digital readout of NTU's is what is provided?**
- 4) Were bench sheets, work sheets, etc. submitted when us a portable turbidimeters?**
- 5) Were weekly and rainfall EC-1 inspections reporting checks on the water quality monitoring locations and equipment?**
- 6) If required, was additional sampling performed as specified in Part IV.D.6.d.3.(c) of the NPDES permit if either the BMP's shown in the plans were not properly installed and maintained or BMP's designed by the contractor were not properly designed, installed and maintained?**
- 7) Was the required certification statement shown on the monitoring reports and signed by the WECS or consultant providing monitoring on the project?**
- 8) Was the monitoring report on the monitoring results submitted to the Engineer within seven working days of the date the sample was obtained?**

9) Did the report include the following information:

- a. Date of sampling**
- b. Rainfall amount on sample date (sample date only)**
- c. NTU of sample and analysis method**
- d. Location where the sample was taken (station number, etc.)**
- e. Receiving water or outfall sample. Not identified but did show upstream and downstream.**
- f. Project number and county**
- g. Whether the sample was taken by automatic sampler or manually (grab sample)**

10) Were the monitoring test results submitted to the Engineer within 48 hours of the sample being analyzed (either verbally or written)?

11) Was the time shown when the sample was taken?

12) Was the time shown when the analysis was initiated?

13) Was the name of the person taking the sample shown?

14) Was the name of the person performing the analysis shown?

15) Were the EC-1 reports submitted to the Engineer within 24 hours of the inspection?

16) Was second sample taken 90 days after the first sample or after all mass grading operation?

- 17) Were summary of monitoring results submitted to EPD by the 15th day of the month following the reporting period? Yes, were they sent by certified mail?**
- 18) Were samples taken for each subsequent rain event until turbidity standard were attained?**
- 19) Was corrective action to BMP's not properly designed, installed and maintained performed in two business days?**
- 20) Was the turbidity test conducted no later than 48 hours after the time the sample was taken?**
- 21) Were Samples taken within 45 minutes of the rainfall event but no later than 12 hours after the rainfall event?**
- 22) Were results exceeding 1000 NTU's shown on the report as "exceeds 1000 NTU's?"**

E & S MAINTENANCE

- WHAT IS E&S MAINTENANCE?
- WHO PERFORMS E&S MAINTENANCE?
- WHEN IS E&S MAINTENANCE REQUIRED?
- WHY DOES GDOT REQUIRE E&S MAINT.?
- HOW TO REPORT E&S MAINTENANCE.
- HOW TO PAY FOR E&S MAINTENANCE.
- RESULTS OF NON-PERFORMANCE OF MAINT.

WHAT IS E&S MAINTENANCE ?

1. REMOVAL OF ACCUMULATED SEDIMENT FROM BARRIERS & SEDIMENT BMP'S
2. REPLACEMENT OR REPAIR OF WORN OR DAMAGED BMP'S
3. REMOVAL OF FILTERCAKE FROM BMP'S

SECTION 165.3.05.A

- Silt Fence Maintenance: Also included is the removal of sediment accumulations (filtercake) on the fabric by tapping the fabric on the downstream side.

WHAT IS E&S MAINTENANCE ?

- PROPER DISPOSAL, HANDLING AND/OR STABILIZATION OF REMOVED MATERIAL



WHY DOES GDOT REQUIRE E&S MAINTENANCE ?

- THE STATE E&S LAW AND THE NPDES PERMIT REQUIRE ALL BMP'S TO BE PROPERLY DESIGNED, INSTALLED & MAINTAINED.
- IN ORDER TO REMAIN IN COMPLIANCE WITH THE LAWS, BMP'S MUST BE MAINTAINED.

WHO PERFORMS E&S MAINTENANCE ?

- THE CONTRACTOR OR SUB-CONTRACTOR IS REQUIRED TO PERFORM MAINTENANCE AT THE APPROPRIATE TIMES
- GDOT MAY HANDLE EMERGENCIES WITHOUT NOTIFYING THE CONTRACTOR
- GDOT WILL RECOVER COSTS FOR EMERGENCY WORK FROM THE CONTRACTOR

WHEN IS E&S MAINTENANCE REQUIRED ?

- AS A MINIMUM, REMOVE THE SEDIMENT FROM ALL BMP'S (EXCEPT SEDIMENT BASINS) WHEN ONE-HALF THE CAPACITY HAS BEEN REACHED BY HEIGHT, DEPTH OR VOLUME
- THIS ALSO INCLUDES THE REMOVAL OF SEDIMENT ACCUMULATIONS ON THE FABRIC (FILTERCAKE)







**WHEN IS E&S MAINTENANCE
REQUIRED ?**

- REMOVE THE SEDIMENT FROM TEMPORARY SEDIMENT BASINS WHEN ONE THIRD THE CAPACITY OF THE STORAGE VOLUME HAS BEEN FILLED





**WHEN IS E&S MAINTENANCE
REQUIRED ?**

- ENSURE THAT MAINTENANCE & REPAIR OF BMP'S IS PERFORMED WITHIN 72 HOURS OF REPORTING
- OR IMMEDIATELY IF IT WILL INTERFERE WITH TRAFFIC FLOW, SAFETY OR DOWNSTREAM TURBIDITY.

HOW TO REPORT E&S MAINTENANCE

- ALL BMP'S ARE TO BE INSPECTED PER THE SCHEDULE IN THE "INSPECTIONS" SECTION.
- INSPECTIONS ARE TO BE REPORTED ON THE APPROPRIATE FORM.

HOW TO REPORT E&S MAINTENANCE

- PROVIDE THE COMPLETED INSPECTION FORMS TO THE ENGINEER EITHER DAILY, WEEKLY OR MONTHLY

HOW TO REPORT E&S MAINTENANCE

- WEEKLY INSPECTIONS INSPECTIONS ARE TO BE REPORTED ON DOT FORM EC-1.
- THE WECS COMPLETES THE EC-1 FORM AND PROVIDES IT TO THE ENGINEER.
- THESE REPORTS ARE TO BE PROVIDED TO THE ENGINEER WITHIN 24 HOURS OF THE INSPECTION.

HOW TO REPORT E&S MAINTENANCE

- THESE REPORTS MUST INCLUDE THE FOLLOWING INFORMATION:

1. TYPE OF INSPECTION
2. DATE OF INSPECTION
3. NAME OF INSPECTOR
4. STATUS OF BMP'S
5. OBSERVATIONS

HOW TO REPORT E&S MAINTENANCE

6. ACTION TAKEN
7. SIGNATURE OF INSPECTOR
8. BMPs THAT NEED REPAIR OR MAINTENANCE

HOW TO PAY FOR E&S MAINTENANCE

- ALL BMP'S ARE PAID FOR ON A UNIT COST BASIS.
- ITEMS THAT NEED REPAIR OR MAINTENANCE AS A RESULT OF NEGLIGENCE OR ABUSE WILL NOT BE PAID FOR.







**RESULTS OF NON-
PERFORMANCE OF
MAINTENANCE**

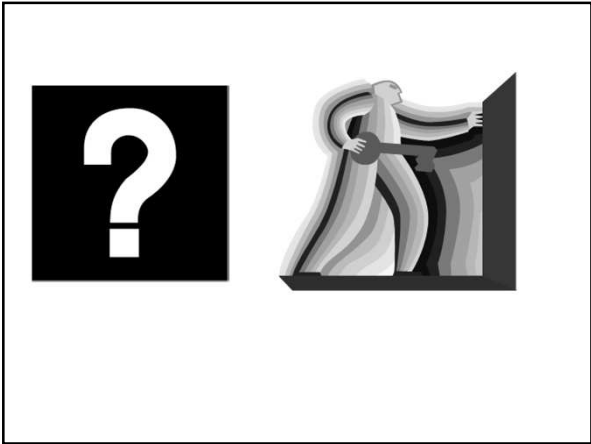
- FAILURE TO COMPLY WITH THESE REQUIREMENTS WILL RESULT IN THE SUSPENSION OF ALL WORK EXCEPT TRAFFIC CONTROL & EROSION CONTROL

**RESULTS OF NON-
PERFORMANCE OF
MAINTENANCE**

- WITHHOLD MONEY DUE
- BEGIN NON-REFUNDABLE DEDUCTIONS
- DOUBLE NON-REFUNDABLE DEDUCTIONS

Schedule of Deductions for Each Calendar Day of Erosion Control Deficiencies
Initial Occurrence
Original Total Contract Amount

From More Than	To and Including	Daily Charge
0	\$100,000	\$750
\$100,000	\$1,000,000	\$1125
\$1,000,000	\$5,000,000	\$2000
\$5,000,000	\$15,000,000	\$3000
\$15,000,000	-	\$5000



E & S CONTROL MAINTENANCE INDEX

- 1. WHAT IS E & S CONTROL
MAINTENANCE**
- 2. WHO PERFORMS E & S CONTROL
MAINTENANCE**
- 3. WHEN IS E & S CONTROL
MAINTENANCE REQUIRED**
- 4. WHY DOES GDOT REQUIRE E & S
CONTROL MAINTENANCE**
- 5. HOW TO REPORT E & S CONTROL
MAINTENANCE**
- 6. HOW TO PAY FOR E & S CONTROL
MAINTENANCE**
- 7. RESULTS OF NON PERFORMANCE
E & S CONTROL MAINTENANCE**

WHAT IS E&S CONTROL MAINTENANCE

REF: Section 165:

Erosion and sediment control maintenance consists of the removal of accumulated sediment from BMPs to ensure they continue to perform as designed. Maintenance of BMPs is the result of regular inspections, that determine which BMPs both temporary and permanent, require repair, cleaning or replacing.

Erosion and Sediment Control Maintenance consists of, but is not limited to the following items:

1. Removal of sediment from barriers and sedimentation BMPs.
2. Replacement or repair of worn or damaged structural BMPs.
3. Removal of filter cake from structural BMPs.
4. Evaluation of performance of permanent BMPs.
5. Proper disposal/handling or stabilization of removed material.

WHO PERFORMS E&S CONTROL MAINTENANCE

REF: Section 165.3

The contractor or sub-contractor is required to perform maintenance at the appropriate thresholds and intervals as noted in the contract. GDOT may elect to direct maintenance to be performed but the determination should be made as a result of field inspections made by the WECS, or WECS Alternate or certified person.

The Department may handle emergencies without notifying the Contractor. The Department will recover costs for emergency maintenance work according to Section 105.15: "Failure to Maintain Roadway or Structures".

WHEN IS E&S CONTROL MAINTENANCE REQUIRED

REF: Section 165.3, Section 161.2, Section 161.3.07

As a minimum, remove the sediment from all BMPs (temporary or permanent) when one half (1/2) the capacity has been reached by height, depth or volume (with the exception of sediment basins). This also includes the removal of sediment accumulations on the fabric. The accumulation of sediment on Geotextile fabric is commonly referred to as “filtercake”.

Remove the sediment from temporary sediment basins when one third (1/3) the capacity of the storage volume has been filled.

Ensure that maintenance and repair of BMPs is performed within seventy two (72) hours or immediately if it interferes with traffic flow, safety or downstream turbidity.

WHY DOES GDOT REQUIRE E&S CONTROL MAINTENANCE

REF: OCGA 12-7, NPDES GAR 100002, SECTION 165.

The State law and NPDES Permit require all BMPs to be properly designed, installed and maintained. In order to remain in compliance with the Law and the Permit BMPs must be maintained.

Maintenance is the key to BMP efficiency. The best designed and the best installed BMPs are only as good as they are maintained. If they receive no maintenance or poor maintenance, they will fail.

BMPs that are not maintained have the potential to cause siltation outside the right of way, the impairment of state waters, and interfere with traffic flow and safety.

HOW TO REPORT E&S CONTROL MAINTENANCE

REF: Section 161.1, Section 167.3.05.D,

All BMPs are to be inspected as per the schedule in the “Inspections” section of this manual. All inspections are to be reported on the appropriate inspection form. These forms are to be provided to the Engineer. Weekly inspections and inspections that are a result of a rainfall event are to be reported on form DOT EC-1. The EC-1 form is to be provided to the Engineer.

The “Inspections”, section of this manual contains instructions on filling out the forms and the routing process of the forms.

These reports must include the following information:

- 1. Type of inspection.**
- 2. Date of inspection.**
- 3. Name of person performing the inspection.**
- 4. Status of BMPs.**
- 5. Observations.**
- 6. Action taken.**
- 7. Signature of person performing the inspection.**
- 8. Any incidents of non-compliance.**
- 9. This report is to be submitted to the Engineer within twenty four (24) hours of the inspection.**

HOW TO PAY FOR E&S CONTROL MAINTENANCE

REF: Section 165.5 All BMPs are paid for on a unit cost basis. The following is a list of the items and corresponding pay units:

<u>ITEM</u>	<u>PAY UNIT</u>
Temporary Silt Fence	Foot/Meter
Silt Control Gates	Each
Checkdams	Foot/Meter
Silt Retention Barrier	Foot/Meter
Sediment Basin	Each
Baled Straw	Foot/Meter
Triangular Silt Barrier	Foot/Meter
Retrofit	Each
Construction Exit	Each
Inlet Sediment Trap	Each
Rock Filter Dams	Each
Stone Filter Berms	Foot/Meter
Stone Filter Rings	Each

Items that need repair or maintenance that are a result of negligence or abuse will not be paid for.

RESULTS OF NON PERFORMANCE OF E&S CONTROL MAINTENANCE

REF: Section 161.5

Failure to comply with the requirements of erosion and sediment control maintenance special provisions will result in the suspension of all work with the exception of erosion control and traffic control.

Monies that are currently due or that may become due shall be withheld according to the specifications. In addition, non-refundable monies shall be deducted from the contract as shown in the Schedule of Deductions table in Section 161.5. B.

Deductions assessed for uncorrected deficiencies shall continue until all corrections are completed to the satisfaction of the Engineer. Receipt of a Consent Order or Notice of Violation, etc. from any regulatory agency will also result in the assessment of non-refundable deductions.

Schedule of Deductions for Each Calendar Day of Erosion Control Deficiencies		
*Initial Occurrence		
Original Total Contract Amount		
From More Than	To and Including	Daily Charge
0	\$100,000	*\$750
\$100,000	\$1,000,000	*\$1125
\$1,000,000	\$5,000,000	*\$2000
\$5,000,000	\$15,000,000	*\$3000
\$15,000,000	-	*\$5000

Georgia Department Of Transportation
WORKSITE EROSION CONTROL MANUAL



GRASSING

- WHAT IS GRASSING?
- HOW IS PERMANENT GRASSING PERFORMED?
- HOW IS TEMPORARY GRASSING PERFORMED?
- GRASSING INSPECTION GUIDE

WHAT IS GRASSING ?

- GRASSING IS A VEGETATIVE GROUND COVER
- GRASSING CAN BE TEMPORARY OR PERMANENT
- GRASSING IS THE MOST EFFECTIVE AND LEAST COSTLY BMP AVAILABLE

GRASSING

- GRASSING (TEMP OR PERM) IS TO BE APPLIED ON A WEEKLY BASIS
- IT IS EXTREMELY IMPORTANT TO OBTAIN A GROUND COVER, EITHER MULCH OR GRASS

GRASSING

- AN UNPROTECTED CUT OR FILL SLOPE SHOULD NEVER EXTEND BEYOND THE REACH OF THE CONTRACTOR'S GRASSING EQUIPMENT

PERMANENT GRASSING

- A VEGETATIVE GROUND COVER PLANTED AFTER ALL LAND DISTURBING ACTIVITIES ARE COMPLETE IN ANY AREA

STEPS OF PERM. GRASS

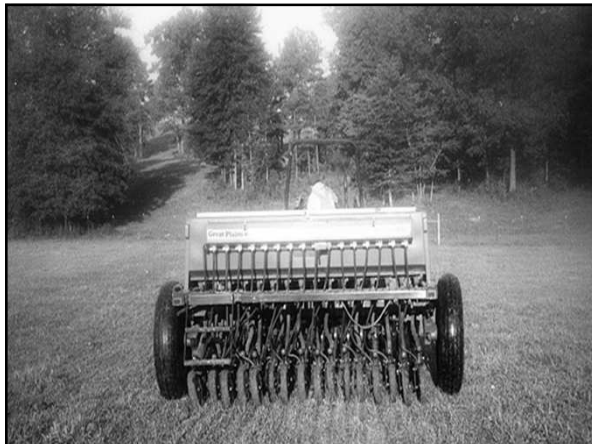
1. FULL GROUND PREPARATION
2. SEED INSTALLATION
3. POLYACRYLAMIDE (PAM)
4. LIME APPLICATION
5. FERTILIZER APPLICATION
6. MULCH OR SLOPE MATS





PERM. GRASS

- PERMANENT GRASS MAY BE PLANTED USING THE NO-TILL METHOD. ENSURE THE EXISTING VEGETATION IS MOWED TO 3 INCHES IN HEIGHT OR LESS, THEN INSERT SEED BY THE NO-TILL METHOD.



(Temporary and Permanent Seed Types
for back slopes, fill slopes and areas which will not be subject
to frequent mowing, slopes steeper than 3:1)

Common Name	Botanical Name	Class/Type	Rate/Acre	Planting Zone	Planting Dates
Interstate Lespedeza	<i>Lespedeza sericea</i>	Permanent Grass	50(50)	1,2	March 1 – August 31
Weeping Lovegrass	<i>Eragrostis curvula</i>	Temporary Grass	10(11)		
Interstate Lespedeza	<i>Lespedeza sericea</i>	Permanent Grass	75(84)	1,2	September 1– February 28
Tall Fescue	<i>Festuca arundinacea</i>	Temporary Grass	50(50)		
Interstate Lespedeza	<i>Lespedeza sericea</i>	Permanent Grass	50(50)	3,4	April 1 – October 31
Weeping Love Grass	<i>Eragrostis curvula</i>	Temporary Grass	10(11)		
Interstate Lespedeza	<i>Lespedeza sericea</i>	Permanent Grass	50(50)	3,4	November 1 – March 31
Weeping Love Grass	<i>Eragrostis curvula</i>	Temporary Grass	10(11)		

PERMANENT GRASS

- THE KEYS TO EFFECTIVE GRASSING ARE GROUND PREPARATION AND THE PROPER AMOUNT OF SEED





PERMANENT GRASSING-700.2.C
AGRICULTURAL LIME & 700.2.D
FERTILIZER MIXED GRADE

- FERTILIZER ANALYSIS AND LIME RATES WILL BE BASED ON A LABORATORY SOIL TEST REPORTS.
- CONTRACTOR IS RESPONSIBLE FOR ENSURING TEST ARE PERFORMED BY APPROVED LABORATORY.
- PROVIDE A COPY OF TEST RESULTS TO THE ENGINEER.

HOW IS PERM. GRASSING PERFORMED ?

- REFER TO SECTION 700.3 FOR SEASONAL LIMITATIONS, PLANTING ZONES & SEED TABLES
- PROPERLY PREPARE THE SEED BED
- PLOW & PULVERIZE 4 TO 6 INCHES DEEP
- APPLY CORRECT QUANTITIES OF LIME AND FERTILIZER BASED ON SOIL ANALYSIS
- APPLY PAM ACCORDING TO SPECIFICATIONS

HOW IS PERM. GRASSING PERFORMED ?

- INNOCULATE LEGUMINOUS SEEDS
- INNOCULATED SEED MUST BE PROTECTED FROM THE SUN & PLANTED THE SAME DAY IT IS INNOCULATED
- APPLY MULCH OR SLOPE MATS WITHIN 24 HOURS

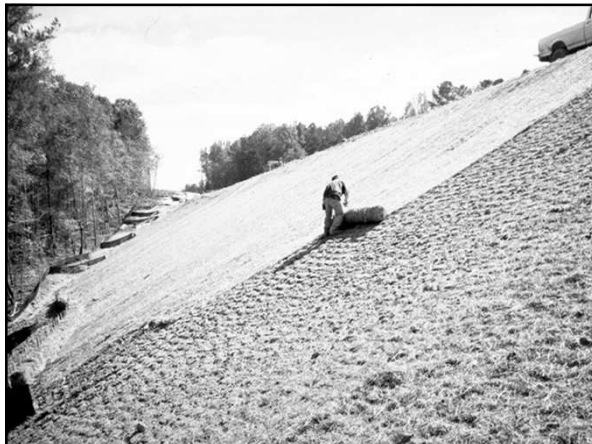
Mb—Erosion Control Mats

Description

- Protective covering (blanket) or soil stabilization mat used to establish permanent vegetation on slopes, and channels.

Purpose

- Reinforce turf
- Promote plant growth
- Reduce erosion



TEMPORARY GRASSING

- A VEGETATIVE GROUND COVER USED TO STABILIZE DISTURBED AREAS FOR A PERIOD OF TIME LONGER THAN 60 CALENDAR DAYS

Ds2—Temporary Grass

Definition

- A temporary vegetative cover with fast growing seedings for areas where it is not practical to plant permanent grass and the area must be protected for more than 60 days

Purpose

- Reduce runoff, erosion, and sedimentation
- Improves stability of slopes
- Improves aesthetics

Ds2—Temporary Grass

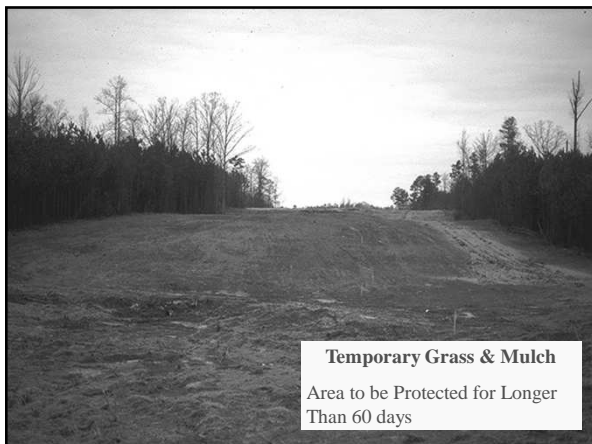
Installation

- Install all other BMPs first
- Apply temporary grass & mulch to disturbed areas weekly
- Use rye grass or millet (typical)
- Seed bed prep not necessary if soil is loose
- Lime only if area is to final grade
- Apply fertilizer at 400 lbs/acre
- Use Ag Dept certified seed
- Apply straw or hay mulch at the rate of 3/4 to 1 1/2 inches loose

Ds2—TEMPORARY GRASS

Maintenance

- Reseed areas where an adequate stand of grass fails to emerge or where a poor stand exists



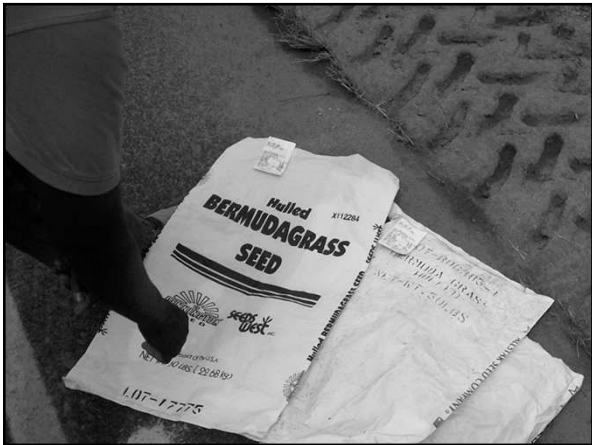




GRASS INSPECTION GUIDE

1. ENSURE PLANTINGS DONE IN THE PROPER SEASON
2. COLLECT THE INVOICES AND GRASS SEED TICKETS TO DOCUMENT THE SEED
3. ENSURE THE CORRECT NUMBER OF POUNDS OF SEED ARE USED

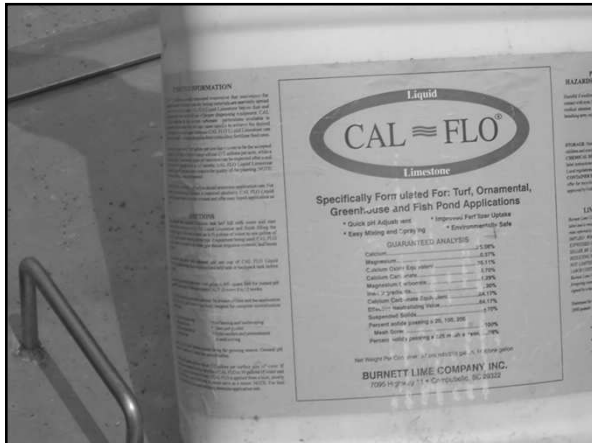




GRASS INSPECTION GUIDE

4. CONTRACTOR SHALL PROVIDE INVOICES FOR LIME & FERTILIZER. INSPECTOR USES THE INVOICES TO VERIFY THE GRADE & QUANTITY OF FERTILIZER AND LIME ARE WITHIN THE GUIDELINES OF THE SOIL ANALYSIS







GRASS INSPECTION GUIDE

5. ENSURE SEED BAGS ARE TAGGED
SHOWING SEED ANALYSIS WITHIN 9
MONTHS PRIOR TO PLANTING DATE
- DO NOT ACCEPT WET OR MOLDY SEED



MULCH (163.3.05.G)

- WHAT IS MULCH?
- WHEN IS MULCH APPLIED?
- WHY DOES GDOT REQUIRE MULCH?
- MULCH PAYMENT GUIDE?
- HOW IS MULCH APPLIED?
- MULCH INSPECTION GUIDE

WHAT IS MULCH ?

(163.3.05.G)

- MULCH IS THE USE OF STRAW, HAY OR COMPOST TO PROVIDE A PROTECTIVE GROUND COVER FOR SOILS IN AN AREA THAT HAS BEEN DISTURBED BY CONSTRUCTION
- MULCH MAY BE USED FOR 60 CALENDAR DAYS OR LESS

WHAT IS MULCH ?

- MULCH PROTECTS THE SOIL FROM THE IMPACT OF RAIN DROPS
- MULCH PREVENTS THE INITIAL MOVEMENT OF THE SOIL
- MULCH IS ONE OF THE MOST EFFECTIVE & LEAST COSTLY BMP'S

WHEN IS MULCH APPLIED

163.3.05.G:

- As a minimum, complete mulch and grassing on all cut and fill slopes on a weekly basis

**WHY DOES GDOT REQUIRE
MULCH?**

- THE USE OF MULCH IS REQUIRED BY THE STATE E&S LAW.

MULCH PAYMENT GUIDE

1. OBTAIN THE AVERAGE WEIGHT OF THE BALES.
2. COUNT THE NUMBER OF BALES USED.

HOW IS MULCH APPLIED ?

- MULCH CAN BE APPLIED VIA MECHANICAL MEANS WITH BLOWERS
- MULCH CAN BE APPLIED BY HAND







MULCH (Specification 163)
INSPECTION GUIDE

Installation

- Install all other BMPs first.
- Apply straw, hay or compost mulch to disturbed areas weekly.
- Apply at the rate of 2 to 4 inches loose.
- Imbed the mulch with a tracked vehicle, empty sheepsfoot roller, light discing or other means acceptable to the Engineer.

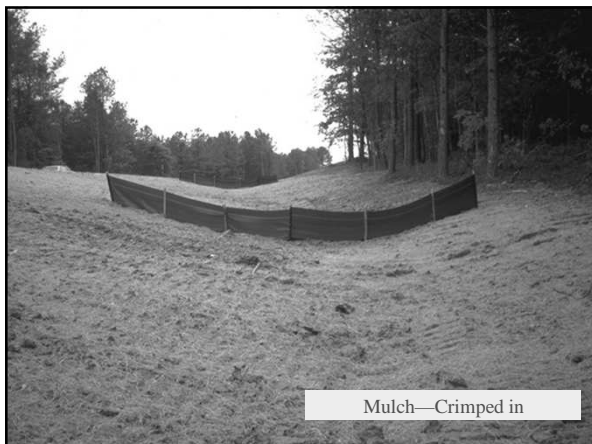
Maintenance

- Add mulch as needed to maintain depth.

Specification 163.3.05.G

- **163.3.05.G.1.b:** Mulch shall be walked in. The Engineer shall approve the method.

163.3.05.G.1.c: Mulch may be placed on 2:1 slopes. Use a track vehicle to imbed the mulch into the slope.





BONDED FIBER MATRIX

- BONDED FIBER MATRIX (BFM) ALSO KNOWN AS WOOD FIBER MULCH TYPE II
- THIS IS USED TO STABILIZE EARTH SHOULDERS ON RESURFACING PROJECTS



BONDED FIBER MATRIX

- APPLICATION OF THE CORRECT AMOUNT OF BFM IS CRITICAL
- IF THE BFM IS NOT APPLIED AT THE CORRECT RATE, IT WILL NOT FUNCTION AS DESIGNED





BONDED FIBER MATRIX

- APPLYING BFM IS NOT THE SAME AS APPLYING GRASS VIA THE HYDROSEEDING METHOD
- DO NOT APPLY BFM TO SATURATED SOILS OR DURING RAIN

BONDED FIBER MATRIX

- REFER TO THE CHARTS IN THE WORKBOOK FOR APPLICATION RATES
- REFER TO QPL LIST 62 FOR APPROVED MATERIALS

PRODUCT NAME	TANK SIZE	WIDTH	LENGTH
SOIL GUARD	1000 GAL.	2 FT.	3625 FT.
SOIL GUARD	1000 GAL.	4 FT.	1812 FT.
SOIL GUARD	1000 GAL.	6 FT.	1208 FT.
SOIL GUARD	1000 GAL.	8 FT.	906 FT.
SOIL GUARD	1500 GAL.	2 FT.	5440 FT.
SOIL GUARD	1500 GAL.	4 FT.	2720 FT.
SOIL GUARD	1500 GAL.	6 FT.	1812 FT.
SOIL GUARD	1500 GAL.	8 FT.	1360 FT.

HYDRO BLANKET	1000 GAL.	2 FT.	3625 FT.
HYDRO BLANKET	1000 GAL.	4 FT.	1812 FT.
HYDRO BLAN KET	1000 GAL.	6 FT.	1208FT.
HYDRO BLANKET	1000 GAL.	8 FT.	906 FT.
HYDRO BLANKET	1500 GAL.	2 FT.	5440 FT.
HYDRO BLANKET	1500 GAL.	4 FT.	2720 FT.
HYDRO BLANKET	1500 GAL.	6 FT.	1812 FT.
HYDRO BLANKET	1500 GAL.	8 FT.	1360 FT.

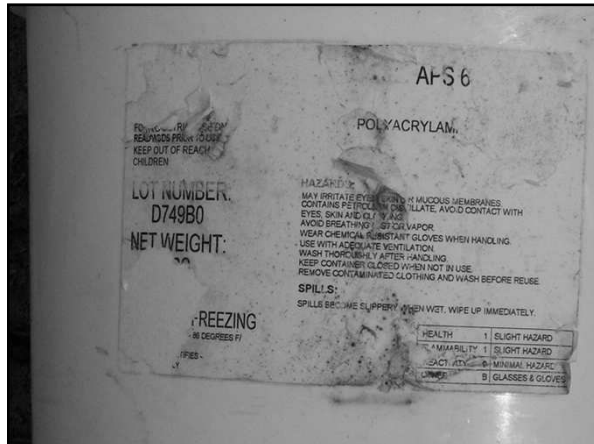
Description

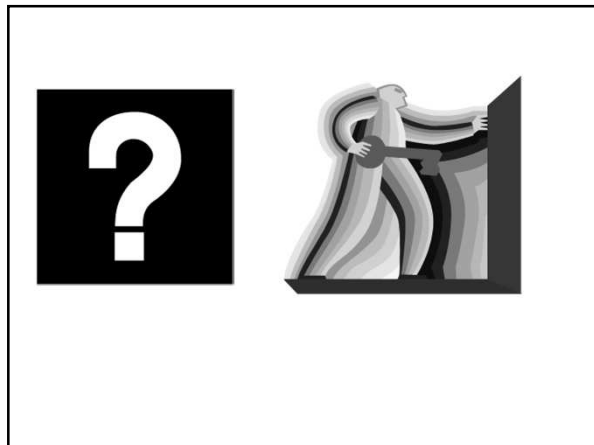
- ## Purpose

-
-
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-
-

Installation

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-





GRASSING & MULCH

1) WHAT IS GRASSING

2) WHAT IS MULCH

3) HOW IS GRASSING PERFORMED

4) HOW IS MULCHING PERFORMED

5) BONDED FIBER MATRIX

6) POLYACRYLAMIDE

WHAT IS GRASSING

REF: Section 163.3.05.F, Section 700

Grassing can be either temporary or permanent.

Temporary grassing consists of minimal ground preparation, seed installation, fertilizing and mulching to provide a vegetative cover. Temporary grassing consists of using a quick growing species of grass such as rye, millet, or a cereal grass suitable for the planting zone and season.

Temporary grass is a vegetative ground cover that is used to stabilize disturbed areas for a period of time longer than sixty (60) calendar days.

Permanent grassing consists of full ground preparation, seed installation, Polyacrylamide (PAM), liming, fertilizing, mulching and/or matting to provide a vegetative cover.

Permanent grassing is a vegetative ground cover that is to be planted after all land disturbing activity in that area is completed.

Both temporary grassing and permanent grassing require the appropriate seed in the appropriate season and at the appropriate application rates according to the seeding table provided in the specifications.

Permanent grassing may be planted using the no-till method. If the no-till method is used, ensure that temporary grass is less than three (3) inches in height (this may be achieved by mowing).

Grassing is the most effective and least costly erosion control device available.

The keys to effective grassing are ground preparation and the proper amount of seed.

WHAT IS MULCH

REF: Section 163

Mulch is the use of straw, hay, or compost to provide a protective cover for soils in an area that has been disturbed by construction.

Mulch protects the exposed soil from the impact of rain drops and prevents the initial movement of the soil.

Mulch is one of the most effective and least costly erosion control devices that can be used throughout a project, regardless of the stage of construction.

Mulch used by itself works as described above. Mulch may also be incorporated into temporary and permanent grassing.

HOW IS GRASSING PERFORMED

REF: Section 163; Section 700; Section 890; Section 893

GUIDELINES FOR PERMANENT GRASSING:

1. Refer to [Subsection 700.3.05, “Construction”](#) for seasonal limitations, planting zones, and seed tables.
2. Do not use tall fescue in South Georgia (Zones 3 and 4); it is not in the seeding table for that area. However, tall fescue is prominent in the northern part of Zone 3 and may be used.
3. Properly prepare the seed bed before performing permanent grassing. The topsoil in the seed beds should be plowed and pulverized approximately 4 to 6 in (100 mm to 150 mm) deep. The correct lime and fertilizer quantities should be applied and mixed based on soil analysis. See [Subsection 700.3, “Ground Preparation”](#) and [Subsection 700.2 “Materials”](#).
4. Inoculate each kind of leguminous seed separately with the appropriate commercial culture according to the manufacturer’s instructions. When using a hydroseeder, double the usual rate of inoculant specified.
5. **Protect innoculated seed from sun and plant it the same day it is inoculated. Ensure that all Contractors have read [Subsection 700.3, “Innoculation of Seed”](#).**

Inoculation provides specific bacteria that enable the plants to fix nitrogen. Nitrogen feeds the legumes and companion grasses that provide permanent vegetation.

Inoculation is important because highway construction uncovers sterile soils that are void of all plant nutrients, bacteria, and other organic matter.

Inoculants are specified in [Subsection 893, “Inoculants”](#).

6. As soon as practical, the Contractor shall bring graded areas to final line and grade. The Contractor shall perform the final dressing operations and the permanent grassing on a weekly basis.

NOTE: An unprotected cut or fill should never extend beyond the reach of the Contractor's grassing equipment.

7. Temporary grassing is intended for use when weekly permanent grassing cannot be accomplished or is not practical. See [Section 163](#).

GUIDELINES FOR TEMPORARY GRASSING:

Perform temporary grassing, or mulching on cut and fill slopes weekly (unless a shorter period is required by Subsection 107.23). When conditions warrant, the Engineer may require more frequent intervals.

Under no circumstances shall the grading (height of cut) exceed the height operating range of the grassing equipment. **It is extremely important to obtain a cover, whether it is mulch, temporary grass or permanent grass.**

When grading operations or other soil disturbing activities have stopped, perform grassing or erosion control as shown in the Plans, as shown in an approved Plan submitted by the Contractor, or as directed by the Engineer.

Use a quick growing species of temporary grass such as rye grass, millet, or a cereal grass suitable to the area and season.

Use temporary grass in the following situations:

- When required by the Specifications or directed by the Engineer to control erosion where permanent grassing cannot be planted.
- To protect an area for longer than mulch is expected to last (60 calendar days).

Plant temporary grass as follows:

1. Use seeds that conform to [Subsection 890.2, "Seed."](#) Perform seeding according to [Section 700](#); except use the minimum ground preparation necessary to provide a seed bed if further grading is required.
2. Prepare areas that require no further grading according to [Subsection 700.3, "Ground Preparation."](#) Omit the lime unless the area will be planted with permanent grass without further grading. In this case, apply the lime according to [Section 700](#).

3. Apply mixed grade fertilizer at 400 lbs/acre (450 kg/ha). Omit the nitrogen. Mulch (with straw or hay) temporary grass according to [Section 700](#). (Erosion control Compost Mulch will not be allowed with grassing.)
4. Before planting permanent grass, thoroughly plow and prepare areas where temporary grass has been planted according to [Subsection 700.3, "Ground Preparation"](#).
5. Apply Polyacrylamide (PAM) to all areas that receive temporary grassing.
6. Apply PAM (powder) before grassing or PAM (emulsion) to the hydroseeding operation.
7. Apply PAM according to manufacturer specifications.
8. Use only anionic PAM.

For projects that consist of shoulder reconstruction and/or shoulder widening refer to Section 161.3 for Wood Fiber Blanket Type II requirements.

INSPECTION GUIDELINES:

1. Ensure planting is done in season. The Inspector shall refer to the planting dates in [Subsection 700.3, "Construction"](#) to verify that the Contractor is planting in season.

The Contractor will not be paid for out-of-season permanent grassing unless it has been previously approved by the GDOT.

Temporary grassing requires the application of 400 lbs/acre (448kg/ha) of Fertilizer Mixed Grade. **The Inspector must collect the invoices and grass seed tickets to document material for the temporary grassing.**

2. Ensure the correct pounds (kilograms) of seed are used per acre (hectare). If inoculation of the seed is required, the Inspector should also verify that this has been done before planting.
3. Inspect the hopper. If a hydroseeder is being used to broadcast the seed, the Inspector should verify that the hopper has been charged with seed, mulch, tackifier, and fertilizer.

4. **Provide an invoice. When fertilizer or lime is used, the Contractor shall provide a numbered invoice (original or copy). The Inspector will use the invoice to verify grade and quantity of the fertilizer and lime.** On bulk loads, the inspector shall collect a Certified Public Weigher (CPW) ticket.
5. Get approval from the Engineer before sowing seed.
6. Ensure each bag of seed is tagged with an analysis tag showing the results of a test made within 9 months of planting.

Collect and check the tags to ensure that they show a lot number, a test date within 9 months, and that the seed quality meets the requirements in per Specification.

The Georgia Department of Agriculture and the laboratory will randomly sample seed.

7. Even though the Engineer approves the seed, you are still responsible to furnish and sow seed that meets these Specifications at the time of sowing.
8. If the Engineer requires, provide seed samples to the Engineer early enough before seeding to allow further testing before seeding.
9. The Department will reject wet, moldy, or otherwise damaged seed.

Seed Requirements

1. Use seed that meets the requirements of the Georgia Seed Laws and Rules and Regulations.
2. The germination, purity, and maximum weeds specified in the Georgia Seed Laws for all seeds used by DOT are:

Germination and hard seed minimum	70%
Purity minimum	90%
Weed seeds maximum	2%
Noxious seeds maximum	300 seeds per lb (660 seeds per kg), subject to the limitations in Specification 890 Table 1

Projects that consist of asphalt resurfacing, shoulder reconstruction and/or shoulder widening; schedule and perform the construction of the project to comply with the following:

After temporary and permanent erosion control devices are installed and the area permanently stabilized (temporary or permanent) and approved by the Engineer, the area may be released from the 1 acre (0.4 ha) limit.

The maximum of 1 acre (0.4 ha) of erodible earth applies to the entire project and to all combined operations, including borrow and excess material operations that are within the right of way, not 1 acre (0.4 ha) of exposed erodible earth for each operation.

NOTE: Never allow the surface area of erodible earth material exposed at one time to exceed 1 acre (0.4 ha).

1. Do not allow the disturbed exposed erodible area to exceed 1 acres (0.4 ha). This 1 acre (0.4 ha) limit includes all disturbed areas relating to the construction of the project including but not limited to slope and shoulder construction.
2. At the end of each working day, permanently stabilize all of the area disturbed by slope and shoulder reconstruction to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment. For purposes of this Specification, the end of the working day is defined as when the construction operations cease. For example, 6:00 a.m. is the end of the working day on a project that allows work only between 9:00 p.m. and 6:00 a.m.)
3. Stabilize the cut and fill slopes and shoulder with permanent or temporary grassing and a Wood Fiber Blanket ([Section 713](#), Type II). Mulching is not allowed. Borrow pits, soil disposal sites and haul roads will not require daily applications of wood fiber blanket. The application rate for the Wood Fiber Blanket on shoulder reconstruction is the rate specified for Shoulders. For shoulder reconstruction, the ground preparation requirements of [Subsection 700.3.05.A.1](#) are waived. Preparation consists of scarifying the existing shoulders 4 to 6 in (100 to 150 mm) deep and leaving the area in a smooth uniform condition free from stones, lumps, roots or other material.

4. If a sudden rain event occurs that would not allow the Contractor to apply the Type II Wood Fiber Blanket per [Section 713](#), install Wood Fiber Blanket Type I per [Section 713](#) if directed by the Engineer. Wood Fiber Blanket Type I application is for emergency use only.

Install temporary grass or permanent grass according to seasonal limitations and Specifications. When temporary grass is used, use the overseeding method ([Subsection 700.3.05.E.3](#)) when planting permanent grass.

3. Remove and dispose of all material excavated for the trench widening operation at an approved soil disposal site by the end of each working day. When shoulder reconstruction is required this material may be used to reconstruct the graded shoulder after all asphaltic concrete pavements has been placed.

4. Provide immediate permanent and/or temporary erosion control measures for borrow pits, soil disposal sites and haul roads to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment.

5. Place asphalt in the trench the same day as the excavation occurs. Place asphalt or concrete in driveways and side roads being re-graded the same day as the excavation occurs. Stabilize any disturbed or exposed soil that is not covered with asphalt with a Wood Fiber Blanket (and grass seed). Payment will be made for the Wood Fiber Blanket and grass seed only if the shoulder has been constructed to final dimensions and grade and no further grading will be required.

6. Do not allow the grading (height of cut or fill) to exceed the operating range of the grassing equipment.

7. When grading operations or other soil disturbing activities are suspended, regardless of the reason, promptly perform all necessary permanent stabilization and/or erosion control work.

8. Use temporary erosion control measures to:

- To correct conditions that develop during construction but were unforeseen during the design stage.

- To use as needed before installing permanent erosion control features.

- To temporarily control erosion that develops during normal construction practices but are not associated with permanent control features on the Project.

HOW IS MULCHING PERFORMED

Mulch

When stage construction or other conditions prevent completing a roadway section continuously, apply mulch (straw or hay or erosion control compost) to control erosion. Mulch may be used without temporary grassing for 60 calendar days or less. Areas stabilized with only mulch (straw/hay or compost) shall be planted with temporary grass after 60 calendar days. Adequate mulch is a must.

Apply mulch as follows:

1. Mulch (Hay or Straw)

- a. Uniformly spread the mulch over the designated areas from 2 in to 4 in (50 mm to 100 mm) thick.
- b. After spreading the mulch, walk in the mulch by using a tracked vehicle (preferred method), empty sheep foot roller, light disking, or other means that preserves the finished cross section of the prepared areas. The Engineer will approve of the method.
- c. Place temporary mulch on slopes as steep as 2:1 by using a tracked vehicle to imbed the mulch into the slope. Where specified, use bituminous treated mulch (straw or hay) according to [Subsection 700.3 "Mulch with Binder"](#).
- d. When grassing operations begin, leave the mulch in place and plow the mulch into the soil during seed bed preparation. The mulch will become beneficial plant food for the newly planted grass.

2. Apply Erosion Control Compost as follows:

- a. Uniformly spread the erosion control compost over the designated areas 2 in (50 mm) thick.
- b. When rolling is necessary, or directed by the Engineer, use a light corrugated drum roller.

- c. When grassing operations begin, leave the compost in place and plow into the soil during seed bed preparation. The compost will become beneficial plant food for the newly planted grass.
- d. Plant temporary grass on area stabilized with erosion control compost after 60 calendar days.
- e. Do not use erosion control compost in areas where the use of fertilizer is restricted.

BONDED FIBER MATRIX

REF: Section 713

Bonded Fiber Matrix (BFM) also known as Type II Wood Fiber Mulch. This product is used to stabilize earth shoulders on resurfacing projects and slopes steeper than 2.5:1 regardless of height.

The matrix is to be composed of long strand wood fibers or cellulosic based fibers held together by a bonding agent, which upon drying, becomes insoluble and non-dispersible.

This product should not be applied to saturated soils, or immediately before, during or after rainfall. The matrix should dry for twenty four (24) hours after installation.

Application of the correct amount of bonded fiber matrix is critical. If the matrix is not applied at the correct rate it will not function as designed.

It is important to understand this is not the same as applying grass via the hydroseeding method.

The placement of BFM satisfies the NPDES permit requirements of a permanent mulch or vegetative ground cover.

Refer to the attached chart for application rates.

Type II Wood Fiber Blanket – Bonded Fiber Matrix (BFM)

Attached is information on Wood Fiber Blanket Type II also known as bonded fiber matrix (BFM). This product is used to stabilize exposed soils. Currently it is being used to stabilize shoulder building operations in conjunction with resurfacing projects. The Specification required application rate of this product is 3000 pounds per acre. Attached is information for each of the different approved products and the expected coverage of application to meet the required application rate of 3000 pounds per acre.

Also included is a list of some of the manufacturers of the products.

Look at the thickness of the material and that the matrix shall have no holes greater than 1 mm in size.

If you can see the soil through the BFM after it has been applied it is not applied at the required rate. **This is not Hydroseeding.** This is the construction of an erosion control blanket on exposed soil. The BFM product may be mixed into the hydroseeder with the seed and fertilizer. However this method has the potential to place too much seed. It is recommended to perform this in two operations.

1. Hydroseed.
2. Apply BFM (See QPL-62 for Qualified Products)

The following information on the application rates of the various types of BFM products is provided for information only. The Department does not guarantee its accuracy.

WOOD FIBER BLANKET TYPE II

BONDED FIBER MATRIX SPREAD RATES

SHOULDER BUILDING PROJECTS

<u>PRODUCT NAME</u>	<u>TANK SIZE</u>	<u>WIDTH</u>	<u>LENGTH</u>
SOIL GUARD	1000 GAL.	2 FT.	3625 FT.
SOIL GUARD	1000 GAL.	4 FT.	1812 FT.
SOIL GUARD	1000 GAL.	6 FT.	1208 FT.
SOIL GUARD	1000 GAL.	8 FT.	906 FT.
SOIL GUARD	1500 GAL.	2 FT.	5440 FT.
SOIL GUARD	1500 GAL.	4 FT.	2720 FT.
SOIL GUARD	1500 GAL.	6 FT.	1812 FT.
SOIL GUARD	1500 GAL.	8 FT.	1360 FT.

HYDRO BLANKET	1000 GAL	2 FT.	3625 FT.
HYDRO BLANKET	1000 GAL	4 FT.	1812 FT.
HYDRO BLANKET	1000 GAL	6 FT.	1208 FT.
HYDRO BLANKET	1000 GAL	8 FT.	906 FT.



The data on the application rates of the various types of BFM products is provided for information only. The Department does not guarantee its accuracy.

PRODUCT NAME	TANK SIZE	WIDTH	LENGTH
HYDRO BLANKET	1500 GAL	2 FT.	5440 FT.
HYDRO BLANKET	1500 GAL	4 FT.	2720 FT.
HYDRO BLANKET	1500 GAL	6 FT.	1812 FT.
HYDRO BLANKET	1500 GAL	8 FT.	1360 FT.

ECOAEGIS BFM	1000 GAL.	2 FT.	2904 FT.
ECOAEGIS BFM	1000 GAL.	4 FT.	1452 FT.
ECOAEGIS BFM	1000 GAL.	6 FT.	968 FT.
ECOAEGIS BFM	1000 GAL.	8 FT.	726 FT.
ECOAEGIS BFM	1500 GAL.	2 FT.	4356 FT.
ECOAEGIS BFM	1500 GAL.	4 FT.	2178 FT.
ECOAEGIS BFM	1500 GAL.	6 FT.	1452 FT.
ECOAEGIS BFM	1500 GAL.	8 FT.	1089 FT.



The data on the application rates of the various types of BFM products is provided for information only. The Department does not guarantee its accuracy.

PRODUCT NAME	TANK SIZE	WIDTH	LENGTH
SPRAYMAT BFM	1000 GAL.	2 FT.	3625 FT.
SPRAYMAT BFM	1000 GAL.	4 FT.	1812 FT.
SPRAYMAT BFM	1000 GAL.	6 FT.	1208 FT.
SPRAYMAT BFM	1000 GAL.	8 FT.	906 FT.
SPRAYMAT BFM	1500 GAL.	2 FT.	5440 FT.
SPRAYMAT BFM	1500 GAL.	4 FT.	2720 FT.
SPRAYMAT BFM	1500 GAL.	6 FT.	1812 FT.
SPRAYMAT BFM	1500 GAL.	8 FT.	1360 FT.

FLEXTERRA	1000 GAL	2 FT.	2831 FT.
FLEXTERRA	1000 GAL	4 FT.	1415 FT.
FLEXTERRA	1000 GAL	6 FT.	708 FT.
FLEXTERRA	1000 GAL	8 FT.	354 FT.
FLEXTERRA	1500 GAL	2 FT.	4356 FT.
FLEXTERRA	1500 GAL	4 FT.	2178 FT.
FLEXTERRA	1500 GAL	6 FT.	1089 FT.
FLEXTERRA	1500 GAL	8 FT.	544 FT.

The data on the application rates of the various types of BFM products is provided for information only. The Department does not guarantee its accuracy.

PRODUCT NAME	TANK SIZE	WIDTH	LENGTH
TERRA MATRIX	1000 GAL	2 FT.	2831 FT.
TERRA MATRIX	1000 GAL	4 FT.	1415 FT.
TERRA MATRIX	1000 GAL	6 FT.	708 FT.
TERRA MATRIX	1000 GAL	8 FT.	354 FT.
TERRA MATRIX	1500 GAL	2 FT.	4356 FT.
TERRA MATRIX	1500 GAL	4 FT.	2178 FT.
TERRA MATRIX	1500 GAL	6 FT.	1089 FT.
TERRA MATRIX	1500 GAL	8 FT.	544 FT.

POLYACRYLAMIDE

REF: Section 700; Section 895

Polyacrylamide (PAM) is a chemical flocculant used to reduce erosion from construction sites.

The DOT requires PAM to be added to hydroseeding operations for temporary and permanent grassing.

Use only PAM products that are listed on QPL – 84.

Only anionic PAM is to be used.



Office of Materials and Testing Qualified Products List

Southern Environmental Conservation	017 / USA	Suite A, 902 Main Ave. Northport, AL 35476 www.southernenvironmental.net	205-292-5660 866-252-4486	SEC-S1 SEC-S2 C2	Straw blanket Straw blanket Coconut blanket	Slopes only Slopes only Waterways only	6/1/15 6/1/15 6/1/15	ERC071301 ERC071301 ERC071304
Verdyol Alabama, Inc.	008 / USA	P.O. Box 605 / 407 Miles Pkwy. Pell City, AL 35125-0605 www.erosion-mat.com	205-338-4411	Verdyol Ero-Mat Standard Verdyol Ero-Mat High Velocity Verdyol Excelsior Green EX-1 Verdyol Excelsior High Velocity	Straw blanket Straw blanket Excelsior blanket Excelsior blanket	Slopes only Slopes only Slopes only Waterways and Slopes	6/1/15 6/1/15 6/1/15 6/1/15	ERC071301 ERC071301 ERC071302 ERC071303
Western Excelsior Corporation	007 / USA	4609 E Boonville New Harmony Rd Evansville, IN 47725 www.westernexcelsior.com	866-540-9810 970-682-4594	EXCEL S-2 EXCEL SR-1 EXCEL SS-2 EXCEL SD-3	Excelsior Blanket Straw Blanket Straw Blanket Excelsior blanket	Waterways and Slopes Slopes only Slopes only Waterways and Slopes	6/1/15 6/1/15 6/1/15 6/1/15	ERC071301 ERC071302 ERC071303 ERC071301 ERC071302 ERC071303
Winters Excelsior Company, Inc.	009 / USA	P.O. Box 39 77 Holly Road McWilliams, AL 36753 www.WintersExcelsior.com	251-746-2173 800-248-7237	WinterStraw™ WinterStraw™HV WintersChoice™ WintersFiber™ WintersFiber™HV Winters Coir	Straw blanket Straw blanket Straw blanket Excelsior blanket Excelsior blanket Coconut blanket	Slopes only Slopes only Slopes only Slopes only Waterways and Slopes Waterways only	6/1/15 6/1/15 6/1/15 6/1/15 6/1/15 6/1/15	ERC071301 ERC071301 ERC071301 ERC071302 ERC071302 ERC071303 ERC071304
US Erosion Control Products	023/ USA	1034 Albany Ave. West Pearson, GA 31642 lbass tx@yahoo.com	912-948-5201	US - 1S US - 2S US - 1X US - 2X	Straw blanket Straw blanket Excelsior blanket Excelsior blanket	Slopes only Slopes Only Slopes only Waterways and Slopes	6/1/15 6/1/15 6/1/15 6/1/15	ERC071301 ERC071302 ERC071302 ERC071303

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OMR-Organic and Synthetic Material Fiber Blanket



Office of Materials and Testing Qualified Products List

Mid America Erosion Control Products, Inc.	021 / USA	3420 West Marble Hill Road Nabb, IN 47147 www.midamericaerosion.com	812-256-7850	MA-S1 MA-S2	Straw blanket Straw blanket	Slopes only Slopes only	6/1/15 6/1/15	ERCO71301 ERCO71301
Tensor Corp. /North American Green	006 / USA	5401 St. Wendel-Cynthiana Rd. Poseyville, IN 47633 www.nadgreen.com	812-867-6632 800-772-2040	S-75 S-150 C 125 HydraCM HydraGT (GeoSkin XT) HydraCX	Straw blanket Straw blanket Coconut blanket II Wood fiber blanket II Wood Fiber Blanket II Wood Fiber Blanket	Slopes only Slopes only Waterways only Slopes and Shoulders Slopes and Shoulders Slopes and Shoulders	6/1/15 6/1/15 6/1/15 6/1/15 6/1/15 6/1/15	ERCO71301 ERCO71301 ERCO71304 ERCO71306 ERCO71306 ERCO71306
Profile Products LLC	003 / USA	750 Lake Cook Road, Suite 440 Buffalo Grove, IL 60089 www.profileproducts.com	847-215-1144 800-366-1180	Futterra Green Futterra Natural Flexterra™ FGM Hydro-Blanket® M-BFM Terra-Matrix™ SM EcoAegis BFM EcoMatrix® EcoFibre plus Tackifier ProMatrix Eco Blend Wood Fiber	I Wood fiber blanket I Wood fiber blanket II Wood fiber blanket II Wood fiber blanket II Wood fiber blanket II Wood fiber blanket II Wood fiber blanket II Wood fiber blanket II Wood fiber blanket II Wood fiber blanket	Slopes and Shoulders Slopes and Shoulders Slopes and Shoulders Slopes and Shoulders Slopes and Shoulders Slopes only Slopes and Shoulders Slopes and Shoulders Slopes and Shoulders Slopes and Shoulders	6/1/15 6/1/15 6/1/15 6/1/15 6/1/15 6/1/15 6/1/15 6/1/15 6/1/15 6/1/15	ERCO71305 ERCO71305 ERCO71306 ERCO71306 ERCO71306 ERCO71306 ERCO71306 ERCO71306 ERCO71306 ERCO71306
Propex Operating Company, LLC	013 / USA	260 The Bluffs Austell, GA 30168 www.geotextile.com	770-941-1711 800-445-7732	Landlok SuperGro Landloc S-1 Landloc S-2	Synthetic fiber blanket Straw blanket Straw blanket	Slopes only Slopes only Slopes only	6/1/15 6/1/15 6/1/15	ERCO71306 ERCO71301 ERCO71301
Robex LLC	002 / USA	5830 Hwy. 161 Springfield, TN 37172 www.robexshield.com	615-382-3300 877-567-6239	Robex Shield RS-1 Robex Shield RS-2	Straw blanket Straw blanket	Slopes only Slopes only	6/1/15 6/1/15	ERCO71301 ERCO71301
Rolanka International, Inc.	014 / USA	155 Andrew Drive Stockbridge, GA 30281 www.rolanka.com	770-506-8211 800-760-3215	StrawMat 1 ExcelsiorMat 1 ExcelsiorMat 2	Straw blanket Excelsior blanket Excelsior blanket	Slopes only Slopes only Waterways and Slopes	6/1/15 6/1/15 6/1/15	ERCO71301 ERCO71302 ERCO71302 ERCO71303

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OMR-Organic and Synthetic Material Fiber Blanket



Office of Materials and Testing Qualified Products List

Source	Source # / Location	Address	Contact	Product	Type	Use on	Expiration Date	Material Code
Ero-Guard				ECS-1D	Straw	Slopes only	8/4/15	ERC071301
	010 / USA	P.O. 640 1800 Springhead Road Willacoochee, GA 31650 www.landmsupplyco.com	912-534-6071 800-948-7870	EG-1S EG-2S	Straw blanket Straw blanket	Slopes only Slopes only	6/1/15 6/1/15	ERC071301 ERC071301
Erosion Tech	019 / USA	105 Plant Camelia Road Juliette, GA 31046 www.erosiontech.usa.com	478-994-6009 866-894-Silt	ET-RS1 Single Net ET-RS2 Double Net ETC-100 ETX-2	Straw blanket Straw blanket Coconut Blanket Excelsior blanket	Slopes only Slopes only Waterways only Waterways and Slopes	6/1/15 6/1/15 6/1/15 6/1/15	ERC071301 ERC071301 ERC071304 ERC071302 ERC071303
	010 / USA	604 E. Mead Road Brawley, CA 92227 www.greenfix.com	760-344-6700 800-929-2184	CF072 B CF072 RR	Coconut blanket Coconut blanket	Waterways only Waterways only	6/1/15 6/1/15	ERC071304 ERC071304
	24/USA	510 O'Neal Lane Baton Rouge, LA 70819 www.greensolutions.us	225-2739600 800-848-4500	GREENSOLUTIONS SINGLE NET STRAW (SNS-1) GREENSOLUTIONS DOUBLE NET STRAW (DNS-2)	Straw Blanket Straw Blanket	Slopes Only Slopes Only	8/4/15 8/4/15	ERC071301 ERC071301
Mat Inc.	012 / USA	12402 Highway 2 Floodwood, MN 55736 www.soilguard.com	218-476-2033 888-477-3028	Soil Guard Bonded fiber matrix Flex Guard Spray Guard	II Wood fiber blanket II Wood fiber blanket II Wood fiber blanket	Slopes and Shoulders Slopes and Shoulders Slopes and Shoulders	6/1/15 6/1/15 6/1/15	ERC071306 ERC071306 ERC071306

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OMR-Organic and Synthetic Material Fiber Blanket



Office of Materials and Testing
Qualified Products List

Following is a list of **Organic & Synthetic Material Fiber Blankets** that have been evaluated by the Office of Materials and Testing that have proven their capability of meeting the requirements of Standard Specifications Section 713 and have satisfied all requirements of SOP-17, "Acceptance of Miscellaneous Construction Items."

Physical / Chemical Branch
15 Kennedy Dr.
Forest Park, GA 30297
Office Phone: 404-608-4810
Office Fax: 404-608-4752

QPL-62
Organic and Synthetic Material Fiber
Blanket

Note: All Trade Names are Registered Trademarks of the appropriate company.
Ending Source # is 020

Source	Source # / Location	Address	Contact	Product	Type	Use on	Expiration Date	Material Code
American Excelsior Company	001 / USA	850 Ave. H East P.O. Box 5067 Arlington, Texas 76011 www.curlex.com	715-236-5643 888-352-9582	AEC Premier Straw – single net	Straw blanket	Slopes only	6/1/15	ERC071301
				Curlex II Natural aspen	Excelsior blanket	Slopes only	6/1/15	ERC071302
				Curlex II QuickGRASS green	Excelsior blanket	Waterways Only	6/1/15	ERC071303
				Curlex III Natural aspen	Excelsior blanket	Waterways Only	6/1/15	ERC071302
				Curlex I QuickGRASS green	Excelsior blanket	Slopes Only	6/1/15	ERC071305
				Curlex Enforcer	I Wood fiber blanket	Slopes and Shoulders	6/1/15	ERC071302
				Curlex Net Free	Excelsior blanket	Slopes Only	6/1/15	ERC071306
Central Fiber Corporation	015 / USA	1525 Waynesburg Drive , SE Canton OH, 44707 www.centralfiber.com	3304522630 8006546117	Enviro Gold Wood Plus with Tackifier	II	Slopes & Shoulders	8/4/15	ERC071306
				Second Nature Wood Plus with Tackifier	II	Slopes & Shoulders	8/4/15	ERC071306
				Spraymatt Bonded Fiber Matrix	II Wood fiber blanket	Slopes & Shoulders	8/4/15	ERC071306
East Coast Erosion Blankets, LLC	018/ USA	443 Bricker Road Bernville, PA 19506 www.erosionblankets.com	610-488-8496 800-582-4005	ECS-1 single net	Straw blanket	Slopes only	8/4/15	ERC071301
				ECS-2 double net	Straw blanket	Slopes only	8/4/15	ERC071301
				ECSC-2 double net	Straw blanket	Slopes only	8/4/15	ERC071301
				ECX-1 single net	Excelsior blanket	Slopes only	8/4/15	ERC071301
				ECS-2D	Excelsior blanket	Waterways and Slopes	8/4/15	ERC071301
				ECC-3	Coconut blanket	Waterways and Slopes	8/4/15	ERC071301
				ECS-2D	Straw	Slopes only	8/4/15	ERC071301

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Anionic Polyacrylamide (PAM)

Physical / Chemical Branch
 15 Kennedy Dr.
 Forest Park, GA 30297
 Office Phone: 404-608-4810
 Office Fax: 404-608-4752

The following is a list of **Anionic Polyacrylamide (PAM)** for the use of sediment and erosion control at construction sites. These PAMs have been evaluated by the Office of Materials and Research and have proven their capability of meeting the requirements of Standard Specification Section 895 and have satisfied the requirements of SOP-17, "Acceptance of Miscellaneous Construction Items"

Note: All Trade Names are Registered Trademarks of the appropriate company.
 Ending Source # is 004

Source	Source # / Location	Address	Contact	Product	Form	Expiration Date	Material Code
Applied Polymer Systems	01/ USA	519 Industrial Drive Woodstock, GA 30189 www.silstop.com	678-494-5998	APS 600 Series APS 700 Series	Emulsion Powder	6/1/15 6/1/15	MISC00000 MISC00000
Ciba Specialty Chemicals, Inc.	02/ USA	2301 Wilroy Road Suffolk, VA 23434	757-538-3700	Soilfix IR Percol 710 Percol 790 DP10-0434 Soilfix LDP SioLoc-PAM	Powder Emulsion Emulsion Powder Emulsion Powder	6/1/15 6/1/15 6/1/15 6/1/15 6/1/15 6/1/15	MISC00000 MISC00000 MISC00000 MISC00000 MISC00000 MISC00000
Hercules Environmental, Inc.	04/ USA	6596 New Peachtree Road Doraville, GA 30340	770-303-0878	HydroPAM	Emulsion and Powder	6/1/15 6/1/15	MISC00000 MISC00000
Stockhausen, Inc.	03/ USA	2401 Doyle Street Greensboro, NC 27406	910-333-3500	TerraGuard Granular PAM	Powder	6/1/15	MISC00000
Hanes Geo Components	05 /USA	815 Buxton Street Winston Salem, NC 27101 www.hanesgeo.com	336-747-1640 336-747-1600				
Innovative Turf Solutions LLC	06/ USA	5132 Ballantree Ct. Cincinnati, OH 45238 www.innovativeturfsolutions.com	512-317-8311	EnviroPam EnviroPam L	Powder Liquid	9/29/15 9/29/15	MISC00000 MISC00000

QPL-84

Page 1 of 1

OMR - Anionic Polyacrylamide (PAM)

VIOLATIONS

SO WHAT IS A VIOLATION?

VIOLATIONS

NPDES DEFINES A VIOLATION AS, "THE FAILURE TO PROPERLY DESIGN, INSTALL OR MAINTAIN BMP'S IN ACCORDANCE WITH THE MANUAL FOR EROSION & SEDIMENT CONTROL IN GEORGIA".



VIOLATIONS

- THE PERMIT REQUIRES RECORDS TO BE KEPT. IF YOU FAIL TO KEEP THE RECORDS, YOU ARE NOT IN COMPLIANCE WITH THE PERMIT AND THEREFORE IT IS A VIOLATION.

FORM D.O.T. E.C.1
REVISED 10/00

SHEET ___ OF ___

EROSION CONTROL CHECK LIST

Project No.: BR-549 Report No.: 13 Date of Report: 11-15-2000

To be completed weekly by Contractor, checked by DOT Engineer, and entered in project records.

CONTROL DEVICE	LOCATION	DATE OF INSTALL	% FILLED	MAINTENANCE REQUIRED	COMMENTS WECS/DOT ENGINEER	DATE FIXED
Sg	STA 3+00 LT.	11-01-2000	10%	NONE		
Sg	STA 6+15 RT.	10-30-2000	80%	CLEAN OUT	Repair broken head on pipe	11-16-2000
Sd	STA 8+00 to 9+50 RT.	11-14-2000	20%	REPAIR BLOWOUT AT STA 8+00		11-16-2000
Sd	STA 10+00 LT.	11-15-2000	10%	NONE		
Rb	STA 18+00 to 24+00 RT.	11-14-2000	0%	NONE		
Dc	STA 7+50	10-30-2000	0%	NONE	Match bare areas	11-16-2000
Sb	STA 7+00	11-14-2000	10%	NONE	Add wood buffer	11-16-2000
Sb	STA 8+00	11-14-2000	10%	NONE	Add rip rap at pipe outlet	11-16-2000
Dn1	STA 32+00	11-14-2000	0%	NONE	Stake pipe on slope	11-16-2000
Sd3	STA 30+00	11-14-2000	10%	NONE		
Sd3	STA 33+00	11-14-2000	70%	CLEAN OUT	Grass previously seeded areas	11-16-2000
Temp Grass	STA 5+00 to STA 12+00	11-04-2000			Match eroded areas	
Temp Mshls	STA 30+00 to STA 37+00	11-04-2000				

* Sediment control devices should be cleaned out when 90% full or less.

Signature: _____ Erosion Control Supervisor Reviewed by: _____ Project Engineer

VIOLATIONS

- VIOLATIONS MUST BE DOCUMENTED WITHIN 7 DAYS OF THE LEARNING OF A VIOLATION
- VIOLATIONS MUST BE REPORTED TO EPD BY THE AREA ENGINEER WITHIN 14 DAYS OF LEARNING OF A VIOLATION

VIOLATIONS

- WHO CAN IDENTIFY A VIOLATION?
- ANYONE INVOLVED WITH THE PROJECT CAN IDENTIFY A VIOLATION OF THE PERMIT

VIOLATIONS

- The WECS should be encouraged to report BMP deficiencies and violations to the Project Engineer.
- It is recommended the WECS photo document deficiencies , violations and the repairs to these areas.



VIOLATIONS

- WHO REPORTS VIOLATIONS TO EPD?

- GDOT SUBMITS ALL CORRESPONDENCE TO EPD VIA CERTIFIED MAIL BY THE AREA ENGINEER.

MEMORANDUM OF AGREEMENT GaEPD and GDOT (3/12/12)

- GDOT shall ensure that sedimentation that has occurred in State Waters as a result of noncompliance has been properly removed and disposed of by using GSWCC certified personnel
- GDOT will provide a summary to the appropriate EPD District Office within 14 days of discovery of the violation as stated in Part III D.2 of the permit. Summary shall include:
 - Probable cause of the violation
 - An estimate of the amount of sediment removed
 - The sediment removal process utilized
 - How the material was either disposed of or stabilized within the site
 - Include signatory requirements of Part V.G.2 wherein the certification statement shall accompany each summary

Environmental Protection Division
Northeast District - Augusta Office
1885 Tobacco Road, Suite A
Augusta, Georgia 30906-8825

RE: Georgia DOT STP00-0176-01(005)
PI # 22140
Columbia County
Corrective Action Plan

Dear Mr. Darley:

On September 27, 2012 an Environmental Protection Division (EPD) representative met with GDOT representatives and Sunbelt Structures, Inc. to conduct an investigation in response to a self-report you received in your office on September 12, 2012. The report was in regards to a small deposit of sediment discovered in State Waters (Pond #4) at Station 434+00 LT on the above noted project.

On October 12, 2012 we received your General Storm Water NPDES Permit Evaluation Report with an attached summarization of comments and recommended corrective actions. On October 16, 2012, in response to your request we submitted a copy of the requested pond sediment survey and before and after photographs of the area of sediment impact.

On November 1, 2012, and on-site inspection of Pond # 4 at Station 434+00 LT revealed that the water level had receded and the sediment mentioned above was exposed. Both the Department and Sunbelt Structures, Inc. agreed that removing the sediment with shovels and buckets would be the least invasive approach of removal at this time. The property owner was presented with the plan for removal and a Right-of Entry was granted on November 2, 2012, allowing the contractor to proceed with the removal process. The contractor began implementing the action plan on November 5, 2012, by removing the material with shovels and loading it onto a pick-up truck using buckets. Field measurements showed that nearly 1/2 cubic yard (yd³) of sediment was

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Page 2

removed. The material was then disposed of on the project in a suitable area. Finally both the pond area and the disposal area were seeded and stabilized with mulch. Attached you will find photos documenting the area before and after removal.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If we can be of further assistance, please notify the office of the Area Engineer, 4260 Frontage Road, Augusta, Georgia 30909 at (706) 855-3466.

Sincerely,

Rodney Way
Area Engineer

RJW

Attachments



Georgia Department of Natural Resources
Environmental Protection Division • Northeast District
745 Gaines School Road • Athens • Georgia 30606
Phone: 706/369-6376 • Fax: 706/369-6388
Jason H. Turner, Director

March 10, 2015
Mr. Tony Voyles, Area 3 Engineer
Georgia Department of Transportation
P.O. Box 390
Carnesville, Ga. 30521

RE: Notice of Violation
HFD#5 Construction Permit GAB 100002
GDOT #EDS00-0545-00(020) PI #125110
SR 17 Roadway Improvements
Franklin and Stephens County

Dear Mr. Voyles:

On January 22, 26, 28, February 5, 6 and 9, 2015, representatives of the Environmental Protection Division (EPD) conducted complaint and routine inspections for compliance with the above Permit at the referenced site. During the inspections, EPD met with the on-site GDOT Construction Engineer, Natasha Davis, and documented numerous non-compliance issues including sediment impacts to State waters from inadequate design, installation and maintenance of best management practices (BMPs) to control erosion and sedimentation.

On January 22, EPD received a complaint regarding a sediment impact to Stream 6, located at Station 22+50 RT, Martin Road. EPD documented sediment loss migrated into Stream 6 occurred as a result of insufficient BMPs designed and installed at Stations 155+00-159+50 RT, SR 17. In addition, an underground plastic corrugated drainage pipe broke at Station 20+00 RT, Martin Rd., and allowed sediment to enter Stream 6. The pipe installation was believed to occur in spring that was uncovered however no Plan revisions were completed for this change in operation.

A rock voin was to be installed in Stream 6 at Stations 23+50-25+00 RT, Martin Rd., however no BMP design was available on site. EPD is reviewing if the construction of this BMP is covered under the variance received for Stream 6. Please provide any additional information you may have regarding this area.

Part III.D.2. and Part V.D.3. of the Permit addresses requirements of when BMPs should be implemented in different phases of construction. The approved EGPC Plan indicates the contractor is responsible for developing and maintaining the construction schedule onsite as well as EGPC Plan revisions if a change in construction occurs. EPD would like to discuss the contractor's responsibility and how it relates to the permit.

During the January 22 inspection, EPD also documented no BMP designs for construction activities at Stations 18+20-70 LT, Martin Rd. Sediment was observed in the road from the graded road shoulder and a construction entrance was being used without BMPs installed. Sedimentation from these areas is entering the above drainage ditch to Stream 6.

During the January 26 inspection, EPD documented insufficient BMPs were designed for construction activities conducted at St. 95+97+00 middle and RT/LT. Sediment has entered Stream 2 as a result of a lack of BMPs installed at St. 95+97+00 RT and middle construction areas. On January 28, 2015, EPD documented soil erosion and sedimentation offsite from St. 25+21+50 Price Rd. from insufficient design and implementation of BMPs to address

VIOLATIONS

- WHY REPORT VIOLATIONS?
- THE NPDES PERMIT IS A SELF POLICING PERMIT. THIS MEANS YOU TURN YOURSELF IN WHEN YOU HAVE A PERMIT VIOLATION.

VIOLATIONS

- WHY ARE LATE OR MISSING INSPECTION REPORTS CONSIDERED A VIOLATION?
- IT IS A REQUIREMENT OF THE NPDES PERMIT TO REPORT THE FINDINGS OF INSPECTIONS AND THERE ARE DEADLINES FOR THESE REPORTS.

COMPLIANCE ISSUES

- Poor Maintenance of BMP's
- BMP's not installed properly
- Grassing or Mulch not installed in a timely Manner
- Bmp's missing per ESPCP
- ESPCP not having the latest revisions
- EC-1 Reports incomplete/incorrect

ENFORCEMENT

- IF THE CONTRACTOR DOES NOT MAINTAIN A WECS OR COMPLY WITH SECTION 161:
- 1. CEASE ALL ACTIVITIES EXCEPT TRAFFIC CONTROL & EROSION CONTROL
- 2. MONIES THAT ARE DUE MAY BE WITHHELD

ENFORCEMENT

- 3. NON-REFUNDABLE DEDUCTIONS MAY BEGIN & CONTINUE UNTIL ALL CORRECTIONS ARE COMPLETED

ENFORCEMENT

- FAILURE OF THE WECS TO PERFORM THEIR DUTIES OR WHOSE PERFORMANCE RESULTS IN A CITATION FROM A STATE OR FEDERAL REGULATORY AGENCY INITIATES THE FOLLOWING ACTIONS:

ENFORCEMENT

1. SUSPENSION OF THE WECS CERTIFICATION FOR A PERIOD OF NOT LESS THAN 30 CALENDAR DAYS
2. REMOVAL OF THE CONTRACTOR'S SUPERINTENDENT FOR A PERIOD OF NOT LESS THAN 14 CALENDAR DAYS

ENFORCEMENT

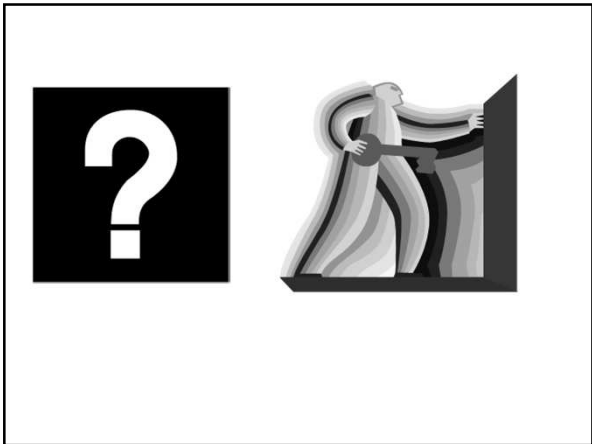
3. DEPARTMENT WIDE REVOCATION OF THE WECS CERTIFICATION FOR 12 MONTHS
4. REMOVAL OF THE CONTRACTOR'S SUPERINTENDENT

SITE CONDITIONS CHANGE FOR TWO REASONS:

- 1. A RESULT OF THE WORK
- 2. A RESULT OF THE WEATHER
- **YOU CONTROL ONE REASON AND SHOULD ALWAYS BE PREPARED FOR THE OTHER.**







VIOLATIONS & ENFORCEMENT

VIOLATIONS:

- 1. WHAT IS A VIOLATION**
- 2. WHO CAN IDENTIFY A VIOLATION**
- 3. WHO REPORTS VIOLATIONS TO EPD**
- 4. WHY REPORT VIOLATIONS**
- 5. WHY SUBMIT MISSING OR LATE
PAPERWORK AS A VIOLATION?**

ENFORCEMENT:

VIOLATIONS & ENFORCEMENT

REF: NPDES GAR100002 and Section 161

WHAT IS A VIOLATION?

The NPDES permit defines a violation as the failure to properly design, install or maintain BMPs in accordance with the State Soil and Water Conservation Commission's Manual for Erosion and Sediment Control in Georgia. The permit further adds under the "Duty to Comply" section; "Any permit noncompliance constitutes a violation of the Georgia Water Quality Act and is grounds for enforcement action..."

For example; the permit requires records be kept, so if you fail to keep them you are not in compliance with the permit, and therefore it is a violation to not keep records.

Some typical violations that we see are;

- Silt getting past BMPs where sediment ends up deposited in waters of the state

- Stream buffer encroachments,

- Fording of live streams

- Tracking mud out onto the roadway

- Allowing construction debris to fall into waters of the state

- Failing to maintain BMPs

- Failing to collect turbidity samples following a qualifying event

- Failing to perform or submit inspection paperwork continuously after final inspection thru NOT

NPDES violations are to be documented within 7 days of his/her knowledge of the violation and they must be summarized and submitted to the EPD, by the Area Engineer within 14 days of first being discovered.

WHO CAN IDENTIFY A VIOLATION?

Anyone involved with the project can identify a violation of the permit.

If the Project Engineer or the WECS are concerned if a violation exists, contact the ECB and let them assist in determining if a violation has occurred.

The WECS is encouraged to notify the Engineer of violations or potential violations.

WHO REPORTS VIOLATIONS TO EPD?

GDOT submits all correspondence to the EPD, regardless of the source, by sending a letter from the Area Engineer. **This letter should be sent via certified mail.**

WHY REPORT VIOLATIONS?

The NPDES permit is meant to be a “self policing” permit, meaning you report yourself. While “turning yourself in” can be hard to imagine, it is harder to imagine a project that never ever had a violation. Besides being required, imagine a lake siltation complaint from a property 3/4 mile downstream and how easy it would be to defend if the EPD was sent a report that read “... silt fence overwhelmed, small amount of sediment removed from the area directly behind the silt fence and area was stabilized with grass and mulch.” The violation you were hesitant to submit just became a tool for your defense.

WHY SUBMIT MISSING or LATE PAPERWORK AS A VIOLATION?

Besides having to, it again creates a record to defend. Imagine being under oath and being asked; “Did you remove only the reports that showed you silted up my client’s pond, or do you just lack the ability to perform your job? Now self reported violation establishes that, a) yes, that you failed to meet the permit deadlines or lost a report, and more importantly, b) that you accounted for it at that time it occurred thereby showing you are trying to comply with the permit requirements.

Violations received from the EPD, USCOE, EPA, etc. are referred to as “NOVs” or Notices of Violation. Just because the permit is self policing, it does not eliminate random inspection by a regulatory agency or agencies. Although commonly on site because of a complaint, the regulatory agencies are welcomed on our projects at all times.

Remember site conditions change for two reasons; as a result of the work and as a result of the weather. You control one reason and should always be prepared for the other.

Georgia Department Of Transportation WORKSITE EROSION CONTROL MANUAL



Keith Golden, P.E., Commissioner



GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

November 26, 2012

(Via Email and Certified Mail)
[\[mailto:Jeff.Darley@dnr.state.ga.us\]](mailto:Jeff.Darley@dnr.state.ga.us)

Mr. Jeff Darley, Program Manager
Georgia Department of Natural Resources
Environmental Protection Division
Northeast District – Augusta Office
1885 Tobacco Road, Suite A
Augusta, Georgia 30906-8825

RE: Georgia DOT STP00-0176-01(005)
PI # 22140
Columbia County
Corrective Action Plan

Dear Mr. Darley:

On September 27, 2012 an Environmental Protection Division (EPD) representative met with GDOT representatives and Sunbelt Structures, Inc. to conduct an investigation in response to a self-report you received in your office on September 12, 2012. The report was in regards to a small deposit of sediment discovered in State Waters (Pond #4) at Station 434+00 LT on the above noted project.

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Georgia Department Of Transportation WORKSITE EROSION CONTROL MANUAL



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Page 2

removed. The material was then disposed of on the project in a suitable area. Finally both the pond area and the disposal area were seeded and stabilized with mulch. Attached you will find photos documenting the area before and after removal.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If we can be of further assistance, please notify the office of the Area Engineer, 4260 Frontage Road, Augusta, Georgia 30909 at (706) 855-3466.

Sincerely,

Rodney Way
Area Engineer

RJW

Attachments

CC: Eugene Hopkins, Manager, Environmental Compliance Bureau
Ralph Daniell, Erosion Sediment Control Liaison
Bryan Gibbs, Construction Liaison Engineer
Edwin Thompson, Jr., District Construction Engineer
Corbett Reynolds, Assistant District Construction Engineer
Craig weatherly, Sunbelt Structures, Inc.
General File

Georgia Department of Natural Resources

West Central District, 2640 Shurling Drive, Macon, Georgia 31211

Noel Holcomb, Commissioner
Environmental Protection Division
Carol A. Couch, Ph.D., Director
(478) 751-6612
Fax: (478) 751-66

October 17, 2007

CERTIFIED MAIL

7005 0390 0002 8057 0419

Mr. Andy Lindsey
GDOT Area 2 Area Engineer
1557 E. Lamar Street
Americus, Georgia 31709

Re: Notice of Violation
GDOT EDS-19 (64) 01
Schley County

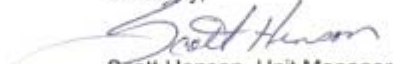
Dear Mr. Lindsey:

This letter will serve to confirm a follow up investigation of the above referenced site. The follow up investigation was conducted in response to a Notice of Violation (NOV) dated August 1, 2007 and a self-reporting letter dated September 6, 2007. The investigation revealed that BMPs listed in the NOV and the self-reporting letter had been installed. However, some of the BMPs have not been maintained and sediment has been released from the site resulting in the site being in violation of the state's General Permit. The investigation also revealed that some additional control measures had been installed but they are not "Green Book" approved. A copy of the completed inspection form is included for your records. Violations noted include:

- Failure to maintain two rows of Type C silt fence or one row of Type C silt fence backed by haybales at stations #311+00, 417+00, 440+00, and 484+00 per the design specifications contained in the "Manual for Erosion and Sedimentation Control in Georgia".
- Failure of a Sediment Basin at station 440+00, resulting in an excessive amount of sediment leaving the site. It is recommended that the Sd3 be redesigned to ensure that sediment is maintained on site.

To correct the discrepancy and avoid further enforcement action, the Division requests that you implement/install/maintain appropriate measures to control erosion and sedimentation resulting from your land disturbing project. A follow-up inspection will be conducted within five (5) days of your receipt of this letter. Should you have questions pertaining to this or any other matter, please feel free to contact Shea Groebner or me at (478) 751-6612.

Sincerely,



Scott Henson, Unit Manager
West Central District

Enclosure: NPDES Evaluation Report, September 26, 2007

Georgia Department Of Transportation WORKSITE EROSION CONTROL MANUAL



Georgia Department of Natural Resources

Environmental Protection Division
2 Martin Luther King Jr. Drive SE, Suite 1152 East Tower, Atlanta, Georgia 30334-9000
PHONE: (404) 656-4713 FAX: (404) 651-5778

General Storm Water NPDES Permit Evaluation Report

Project Name	GDOT EDS-19(64)01	Permittee Name	Georgia Dept. of Transportation	
Project Location	US Hwy 19	Permittee Address	No. 2 Capitol Square, Atlanta, GA	
Project City / County	Ellaville, Schley	Permittee Phone	229-931-2434	
Receiving Stream	Beaver Run Creek/Unnamed Tributary of Camp Creek	Latitude / Longitude	NA	NA
Project Status	<input checked="" type="checkbox"/> start <input type="checkbox"/> not start <input type="checkbox"/> inactive <input type="checkbox"/> complete		Permit Status	<input checked="" type="checkbox"/> active <input type="checkbox"/> terminated

Compliance

NOI	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no Submit Date: 09/05/2006	LIA	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Fee Paid	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no Submit Date: 10/31/2006	LIA Name	
Buffer Encroached	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	LIA Enforce	<input type="checkbox"/> yes <input type="checkbox"/> no
Significant Sediment Released	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Recommend Enforcement	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no

Observations

- 1. State Waters and Buffers:** (Are waters of the state impacted?)
Stations 311+00, 417+00, 440+00, and 484+00 were inspected during the site visit. Based on review of the site it was noted that stations 311+00, 417+00, and 440+00 are located at State Waters. Station 311+00 and 417+00 are portions of the project where roadway drainage structures (Pipe crossing and Box culvert) are going to be installed. At station 440+00 the state waters are located within approximately 500 feet from the right of way. Upon inspection of station 440+00 it was noted that due to a BMP failure (Sd3 dam breached) an ephemeral stream, located on the adjoining property, had been impacted with sediment.
- 2. Record Keeping** (Are records present and requirements met?)
The daily rainfall, weekly inspection log, and the inspection form from the August 26, 2007 qualifying rainfall event were inspected for the site and stations 417+00, 440+00, and 484+00.
- 3. Erosion Sedimentation & Pollution Control Plan Implementation** (Are BMPs adequate, installed, and maintained?)
Based on a review of stations 311+00, 417+00, 440+00, and 484+00 it was noted that BMPs needed to be maintained. Additional BMPs were installed that are not approved measures found in the "Green Book" at station 484+00.

Comments and Corrective Actions

Dewey Richardson, Marshall Rufo, Brandon Rufo, and I conducted a follow-up visit to the NOV sent on August 13, 2007 and a self-reporting violation letter received on September 10, 2007. Upon review of the site, it was found that the BMPs at stations 311+00, 417+00, 440+00, and 484+00 needed to be maintained. Station 484+00 incurred a significant BMP failure when a substantial rainfall event occurred on August 26, 2007. The failure occurred when an Sd3's dam breached. The dam breaching resulted in approximately 500 ft. of sediment to leave the site. The sediment did flow on to the adjoining property and into an ephemeral stream. A notice of violation will be issued outlining all of the violations that have occurred.

Documentation Record

Contacted: Name/Title	Address	Telephone
Andy Lindsey/Area Engineer	1557 E Lamar St. Americus, GA 31709	(229) 931-2434
Photos: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		
EPD Evaluation By		
Evaluation Date	Reviewed By	
September 26, 2007	 Review Date 10/17/07	

ENFORCEMENT

The Department has provided for a contractual means of enforcing the specifications that deal with erosion and sediment control. Within Special Provision 161 – Control of Erosion and Sedimentation under the Construction Requirements - Personnel section and at the Enforcement and Adjustments section you will find the details of GDOT's expectations and outcomes for non-compliance.

Enforcement of the specifications is necessary whenever the requirements of the specifications are failing to be met.

For example, failure to perform timely BMP maintenance is what typically generates enforcement by GDOT. This inaction is followed closely by failing to submit the required paperwork accordingly. The less common and more severe scenario is where the WECS or the contractor simply will not submit paperwork, install or maintain BMPs. This blatant disregard for the work and the specifications should result in the strictest enforcement action of stopping all work except traffic and erosion control, assessing non-refundable deductions and removing the WECS and Superintendent from the project.

GDOT may take progressive enforcement actions, however warnings may not always be a part of them.

As you now understand, the bulk of GDOT's erosion and sediment control specifications are built off of state and federal regulatory requirements that have their own enforcement mechanisms. GDOT anticipates willful compliance from its contractors when undertaking the implementation of ESPCPs, and will not jeopardize its programs by allowing poor or ineffectual; WECS performance and project superintendence.

Remember site conditions change for two reasons; as a result of the work and as a result of the weather. You control one reason and should always be prepared for the other.

Georgia Department Of Transportation WORKSITE EROSION CONTROL MANUAL



MEMORANDUM OF AGREEMENT
BETWEEN
THE GEORGIA DEPARTMENT OF TRANSPORTATION
AND THE GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

RECEIVED

MAR 12 2012

MOUNTAIN DISTRICT OFFICE
ENVIRONMENTAL PROTECTION DIV.

Whereas, in the interest of good government, the Georgia Department of Natural Resources and the Georgia Department of Transportation wish to work in cooperation to protect the environment and eliminate duplication of efforts; and,

Whereas, the Georgia Department of Natural Resources (GDNR) Environmental Protection Division (EPD) issues the GAR100002 permit regulating stormwater discharges associated with infrastructure construction activities has recognized the continuing efforts of the Georgia Department of Transportation (GDOT) to internally monitor its land disturbing activities; and,

Whereas, the GDOT has demonstrated it has the technical expertise on staff to identify and correct matters of non-compliance relevant to the GAR100002 permit; and

Whereas, the EPD has sought a commitment from GDOT to utilize its currently available inspection resources toward improving GAR100002 compliance; to include the verification of the removal of sediments deposited in State Waters,

NOW THEREFORE in accordance with the above intentions, the Georgia Department of Natural Resources Environmental Protection Division and the Georgia Department of Transportation agree to the following;

GDOT shall ensure that sedimentation that has occurred in State Waters as a result of non-compliance with GAR100002 has been properly removed and disposed of by using GSWCC certified personnel.

If during GDOT's inspection an ambiguity relevant to the need for sediment removal is encountered, GDOT is required to contact EPD for additional consultation and an agreed direction to pursue.

GDOT will provide a summary to the appropriate EPD District Office within 14 days of discovery of the violation as stated in Part III D.2 of the permit to include; the probable cause of the violation, an estimate of the amount of sediment removed, the sediment removal process utilized, and how the material was either disposed of or stabilized within the site, including the signatory requirements of GAR100002 at Part V.G.2 wherein the certification statement shall accompany each summary.

GDOT shall make every effort to expeditiously perform such reviews or inspections as necessary to make determinations, take actions and provide reporting consistent with the timeframes for identifying and-reporting violations contained within GAR100002.

Georgia Department Of Transportation WORKSITE EROSION CONTROL MANUAL



Memorandum of Agreement for:
Sediment removal verification by GDOT
Page 2 of 2

GDOT will only utilize properly credentialed Department staff in performing the above actions until such time that GDOT and EPD jointly agree other properly credentialed resources may be utilized. At such time this agreement shall be rewritten to reflect such development.

This MOA is effective immediately upon signature of both parties and will continue in effect until modified or revoked by agreement of both parties or revoked by either party alone upon 30 days written notice.

Keith Golden, P.E.
Commissioner
Georgia Department Transportation

Date 2-21-12

Jackson H. Turner,
Director
Environmental Protection Division
Georgia Department of Natural Resources

Date 4-2-2012



GEORGIA DEPARTMENT OF TRANSPORTATION

EROSION CONTROL INSPECTION FORMS

2016



CONSTRUCTION OFFICE

Marc Mastronardi, P.E., CPESC, CPSWQ, CISEC

GDOT DAILY INSPECTION REPORT

(rev 2016)

ENGINEER= GDOT REPRESENTATIVE

WECS or INSPECTOR= CONTRACTOR

PROJECT NO.: _____
COUNTY: _____

DATE OF INSPECTION: _____

Co CONSTRUCTION EXIT

1. TRACKING MATERIAL ONTO ROADWAY? _____
2. STONE CONSOLIDATED? _____
3. MAINTENANCE REQUIRED: (Specify) _____
4. LOCATION OF EXITS: _____

PETROLEUM PRODUCTS STORAGE/TRANSFER

1. SPILLS/LEAKS OF PETROLEUM PRODUCTS FROM VEHICLES? _____
2. SPILLS/LEAKS OF PETROLEUM PRODUCTS FROM EQUIPMENT? _____
3. SPILLS/LEAKS OF PETROLEUM PRODUCTS FROM STORAGE TANKS? _____
4. IF THE ANSWER TO 1, 2 OR 3 WAS YES, DESCRIBE HOW THE SPILL/LEAK WAS HANDLED: _____

DAILY RAINFALL: _____

CONTRACTOR WECS/CERTIFIED INSPECTOR SIGNATURE: _____

WECS/INSPECTORS WECS CARD NUMBER: _____

WECS/INSPECTORS GSWCC LEVEL 1A CARD: _____

EMPLOYED BY: _____

"I certify under penalty of law that this report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If there are no incidents of non-compliance, contractors certified inspector initials the statement below.

_____ I certify the site is in compliance with the Erosion, Sedimentation, and Pollution Control Plan and the NPDES Permit.

DEPARTMENT USE ONLY

ENGINEER INITIALS: _____

IF APPLICABLE:

DATE RETURNED TO WECS/CERTIFIED INSPECTOR: _____

DEADLINE TO CORRECT: _____

RE-INSPECTION DATE: _____ ENGINEER INITIALS: _____

GDOT DAILY INSPECTION REPORT

(rev 2016)

ENGINEER= GDOT REPRESENTATIVE

WECS or CERTIFIED INSPECTOR= CONTRACTOR

DAILY INSPECTION REPORT INSTRUCTIONS

As stated in the NPDES Permit, "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 handles for spills and leaks from vehicles and equipment and (b) all locations at the primary site where vehicle enter and exit the site for evidence of off-site sediment tracking. These inspections must be conducted until a Notice of Termination is submitted.

1. The WECS or certified inspector shall perform this inspection every day there is construction activities on this site.
2. The WECS or certified inspector shall provide this inspection form to the Engineer before the close of business every day.
3. The WECS or certified inspector shall ensure corrections/maintenance is performed within the time specified in the contract.

INSTRUCTIONS FOR THE DAILY INSPECTION FORM

1. The WECS or certified inspector will add the project number, county name and date of inspection.
2. The WECS or certified inspector will perform the inspection and fill out the inspection form. Any items that need maintenance or correction are to be noted on the form by the WECS or certified inspector performing the inspection.
3. The WECS or certified inspector shall fill in the daily rainfall item.
4. The WECS or certified inspector shall sign form; fill in WECS card number, Level IA card number, and employer name.
5. The WECS or certified inspector will initial certification statement if there are **NO INCIDENTS** of non-compliance on the Daily Inspection report. Leave blank if maintenance or correction items are noted.
6. The WECS or certified inspector will provide the original form to the Engineer for review.
7. The Engineer will initial Daily Inspection Report when received. The Engineer will review the inspection form and spot check the site(s) for conformity.
8. Any items that the Engineer determines to need maintenance or correction are to be noted on the form by the Engineer. The Engineer should fill out the date returned to WECS or certified inspector and the deadline to correct. The Engineer will provide a revised copy of the form with the items for correction to the WECS or certified inspector. The original inspection form is to be placed in the GDOT project files.
9. If maintenance or corrections was needed, the Engineer will re-inspect all items listed as needing maintenance or correction. This inspection will take place three (3) business days from the date the revised inspection form was provided to the WECS or certified inspector. Note on the form the date items were corrected. **If these items have not been corrected, stop all work immediately with the exception of Traffic Control and Erosion Control.**

GDOT MONTHLY INSPECTION REPORT

(rev 2016)

ENGINEER= GDOT REPRESENTATIVE

WECS or INSPECTOR= CONTRACTOR

PROJECT NO.: _____

DATE OF INSPECTION: _____

COUNTY: _____

ONCE PER MONTH, INSPECT AREAS THAT HAVE UNDERGONE FINAL STABILIZATION FOR THE FOLLOWING:

1. EVIDENCE OR POTENTIAL FOR POLLUTANTS TO ENTER THE DRAINAGE SYSTEM OR RECEIVING WATER? (If yes, note the station and deficiencies needing repairs) _____
2. ARE THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN IN THE E&S PLAN, OPERATING CORRECTLY? (e.g. velocity dissipators) _____
3. AT DISCHARGE LOCATIONS/POINTS ARE E&S CONTROLS EFFECTIVE IN PREVENTING IMPACTS TO RECEIVING WATERS? (If not, why? If this is not a maintenance problem, consult with the plan designer for assistance.) _____
4. ARE PERMANENTLY STABILIZED AREAS IN NEED OF MAINTENANCE OR RE-SEEDING? (If yes, list areas and work required.) _____

CONTRACTOR CERTIFIED INSPECTOR SIGNATURE: _____

INSPECTORS WECS CARD NUMBER: _____

INSPECTORS GSWCC LEVEL 1A CARD: _____

EMPLOYED BY: _____

WECS SIGNATURE: _____

"I certify under penalty of law that this report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If there are no incidents of non-compliance, contractors certified inspector initials the statement below.

"I certify the site is in compliance with the Erosion, Sedimentation, and Pollution Control Plan and the NPDES Permit."

DEPARTMENT USE ONLY

ENGINEERS INITIALS: _____ **DATE RECEIVED BY ENGINEER:** _____

IF APPLICABLE:

DATE RETURNED TO WECS: _____ **DEADLINE TO CORRECT:** _____

RE-INSPECTION DATE: _____ **ENGINEERS INITIALS:** _____

GDOT MONTHLY INSPECTION REPORT

(rev 2016)

ENGINEER= GDOT REPRESENTATIVE

WECS OR CERTIFIED INSPECTOR= CONTRACTOR

As stated in the NPDES Permit, “certified personnel shall inspect at least once per month during the term of the permit (until Notice of Termination is submitted to EPD) the areas of the site that have undergone final stabilization or established crop of annual vegetation and a seeding of target perennial appropriate to 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 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).

1. Areas of the site that have undergone final stabilization will be inspected once per month by the WECS or certified inspector.
2. The WECS will provide the original report of inspection to the Engineer within one (1) day of the date of the inspection.
3. The Engineer will review after three (3) business days to ensure corrections were made as required. Note corrections on the original inspection form including date fixed.

FILLING OUT THE INSPECTION FORM

1. The WECS should keep one blank copy of the form to use as a master copy.
2. The WECS or certified inspector will add the project number, county name and date of inspection.
3. The WECS or certified inspector will determine which BMPs are to be inspected by reviewing the EC-1 form and the E&S Plans.
4. The WECS or certified inspector will perform the inspection and fill out the form. Note any areas that need maintenance or repair.
5. The WECS or certified inspector shall fill in WECS card number/expiration date, Level 1A card number/ expiration date, employer name, and signature.
6. The WECS or certified inspector will initial certification statement if there are **NO INCIDENTS** of non-compliance on the Monthly Inspection report. Leave blank if maintenance, reseeding, or corrections are needed.
7. The WECS will sign and provide the original form to the Engineer for review
8. The Engineer will initial and date received.
9. The Engineer will review the inspection form and spot check the site for conformity. The Engineer is to review items listed as needing maintenance or correction. Any additional items that need maintenance or correction, as determined by the Engineer, are to be noted on the form by the Engineer.
10. A copy of the form with corrections is to be provided to the WECS. The Engineer should fill in date returned to WECS and the deadline to correct. The original inspection form is to be placed in the DOT project files.
11. The Engineer should fill out the re-inspection date and initial form once items are completed. Note on the form the date items were corrected. Place this report in the project files. **If these items have not been corrected, stop all work immediately except Traffic Control and Erosion Control.**

Project No.: _____ Report No.: _____ Date of Inspection: _____ Regular Inspection: _____ Post Storm Event Inspection: _____

LINE CODE	LOCATION	DATE OF INSTALL.	% FILLED	MAINTENANCE REQUIRED	ADDRESS BMP'S	COMMENTS WECs/DOT ENGINEER	DATE FIXED

Estimated amount of total disturbed acreage (or hectares) _____ not temporarily or permanently stabilized.

EC-1 INSPECTION REPORT

(rev 2016)

ENGINEER= GDOT REPRESENTATIVE

WECS or CERTIFIED INSPECTOR= CONTRACTOR

DATE OF INSPECTION: _____

INSPECTOR WECS CARD NUMBER: _____ EXPIRATION DATE: _____

INSPECTOR GSWCC LEVEL 1A CARD NO.: _____ EXPIRATION DATE: _____

EMPLOYED BY: _____

CERTIFIED INSPECTOR SIGNATURE: _____

WECS SIGNATURE: _____

"I certify under penalty of law that this report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If there are no incidents of non-compliance, initial the statement below.

_____ ***"I certify the site is in compliance with the Erosion, Sedimentation, and Pollution Control Plan and the NPDES Permit."***

Provide the current project phase/stage (if applicable): _____

DEPARTMENT USE ONLY

DATE RECEIVED BY ENGINEER: _____ ENGINEERS INITIALS: _____

DATE REVIEWED: _____ ENGINEERS INITIALS: _____

IF APPLICABLE:

DATE RETURNED TO WECS: _____ DEADLINE TO CORRECT: _____

EC-1 INSPECTION REPORT

(rev 2016)

DEFICIENT BMP RE-INSPECTION

PROJECT NUMBER: _____

COUNTY: _____

DATE REPORT RETURNED TO WECS: _____

DATE OF RE-INSPECTION: _____

HAVE DEFICIENT BMP'S BEEN CORRECTED? _____

SIGNATURE OF ENGINEER: _____

ACTION(S) TAKEN FOR UNCORRECTED BMP'S: _____

GDOT EC-1 REPORT

(rev 2016)

INSTRUCTIONS FOR THE EC-1 FORM

RESPONSIBILITIES OF THE WECS/CERTIFIED INSPECTOR

1. Begin with the project number and report number. Ensure the project number is correct. Ensure the report number is consecutive.
2. Date of Inspection: date the field inspection was performed.
3. Verify if the inspection is a regular weekly inspection or if the inspection is the result of a rainfall event (equal to or greater than one-half inch).
4. Verify that the line codes are in accordance with the erosion control legend (EC-L code sheet)
5. Check the location of the BMP's on the EC-1 report against the ESPCP. They should match the plan or the red line mark-ups on the plan. If they do not match, this must be corrected immediately.
6. The WECS or certified inspector should list all temporary BMP's that require inspection and maintenance on the EC-1 form. The WECS or certified inspector should complete the form in its entirety. (Any previous comments/dates that have been addressed should be removed at this time).
7. The WECS or the certified inspector can make any pertinent comments on the condition of the BMP's.
8. A rough calculation is to be performed to determine the amount of total disturbed acreage on the project that is not temporarily or permanently stabilized.
9. The certified inspector and the WECS shall complete the EC-1 certification sheets (date of inspection, WECS card Number/Expiration date, GSWCC Level 1A card number/expiration date, employed by and signatures).
10. The WECS or certified inspector will initial the certification statement if there are **NO INCIDENTS** of non-compliance on the EC-1 Report. Leave blank if maintenance or corrections are needed to BMP's. Provide current project phase/stage if applicable.
11. The WECS shall sign the EC-1 Form.
12. The WECS will provide the original form to the Engineer for review.
13. If the EC-1 is returned by the Engineer, correction shall be done within 72 hours. Any additional comments added by the WECS should be dated and initialed. **Any deficiencies that affect traffic control, safety, or downstream turbidity are to be corrected immediately.**

RESPONSIBILITIES OF THE ENGINEER

1. The Engineer will initial and date received.
2. The reviewing Engineer will date and initial form when review is complete. It is recommended that the Engineer will review the accuracy of EC-1 as soon as possible. Once EC-1 review is complete, the Engineer will date and initial form.
3. The Engineer will review the items that were listed as needing repairs or maintenance. In the field, spot check the % FILLED column. This is a subjective item, but there should **not** be great discrepancies between the amount on the EC-1 report and the field spot check. Make note of any discrepancies and initial.
4. While in the field, spot check the ADD/REM BMP's column. Any new items that have been added or are recommended to be added must be noted/ initialed. Any existing items that should be removed are to be noted/ initialed in this column
5. If the Engineer identifies deficiencies at the site, the Engineer should make comments and initial accordingly. (If there are a sufficient number of items that **DON'T** represent the submitted report, immediately return the report to the WECS as insufficient).
6. Review the certification sheet for the card numbers, expiration dates, employed by and proper signature(s).
7. After repairs or maintenance have been completed by the contractor, the Engineer will perform a re-inspection of those BMP's. When this re-inspection is complete, the Engineer will complete and attach the Deficient BMP Re-Inspection form.

CERTIFICATION SHEET - BMP INSTALLATION REPORT

(rev 2016)

ENGINEER= GDOT REPRESENTATIVE

WECS or CERTIFIED INSPECTOR= CONTRACTOR

PROJECT NUMBER: _____ COUNTY: _____

DATE OF INSPECTION: _____

ENGINEERS WECS CARD NUMBER: _____

EXPIRATION DATE: _____

ENGINEERS GSWCC LEVEL 1A CARD NO.: _____

EXPIRATION DATE: _____

ENGINEERS SIGNATURE: _____

"I certify under penalty of law that this report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

TO BE COMPLETED BY ENGINEER WHEN DEFICIENCIES NOTED

If APPLICABLE: ALL ITEMS FOUND NOT PROPERLY INSTALLED SHALL BE CORRECTED WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF A COPY OF THIS REPORT. DEFICIENT ITEMS SHALL BE RE-INSPECTED BY THE ENGINEER.

DATE RETURNED TO WECS or CERTIFIED INSPECTOR: _____

DEADLINE TO CORRECT: _____

TO BE SIGNED BELOW BY THE WECS or CERTIFIED INSPECTOR IF DEFICIENCIES ARE NOTED

WECS or CERTIFIED INSPECTOR SIGNATURE: _____

Employed By: _____

RE-CERTIFICATION SHEET - BMP INSTALLATION REPORT (rev 2016)

ENGINEER= GDOT REPRESENTATIVE

WECS or CERTIFIED INSPECTOR= CONTRACTOR

DEFICIENT BMP RE-INSPECTION

PROJECT NUMBER: _____ COUNTY: _____

DATE REPORT RETURNED TO WECS or CERTIFIED INSPECTOR: _____

DATE OF RE-INSPECTION: _____

HAVE DEFICIENT BMP'S BEEN CORRECTED? _____

SIGNATURE OF ENGINEER: _____

ACTION(S) TAKEN FOR UNCORRECTED BMP'S:

ATTACH TO ORIGINAL BMP INSPECTION SHEETS

GDOT BMP INSTALLATION INSPECTION REPORT

ENGINEER= GDOT REPRESENTATIVE

WECS OR CERTIFIED INSPECTOR= PRIME CONTRACTOR

As stated in the NPDES Permit, the design professional that prepare the plan or an approved alternate will inspect the installation of control measures (BMP's) within seven (7) days after the installation of the measures. This inspection is to determine if these BMP's have been installed and are being maintained as designed.

1. The Engineer will perform the inspection of newly installed BMP's with seven (7) days of the installation.
2. The Engineer will provide the WECS a copy of the report of the inspection within seven (7) days of the inspection, **if items need correction.**
3. Corrections shall be completed by the WECS within two (2) business days of receipt of the inspection form.
4. The Engineer will re-inspect after two (2) business days to ensure corrections were made as required.

FILLING OUT THE INSPECTION FORM

1. The Engineer should keep one blank copy of the entire form to use as a master copy.
2. The Engineer will add the project number and county name to the inspection sheet.
3. The Engineer will make copies of the appropriate pages of the form. **The Engineer will only fill out the pages for items that have been installed.**
4. The Engineer will determine which BMP's are to be inspected by reviewing the EC-1 form and the E&S plans.
5. The Engineer will perform the inspection and fill out the appropriate sheet(s).
6. The Engineer will enter the date the BMP was installed next to the location of the item. Use "additional information" area on each form as needed. **(Date of installation and station number should match EC-1).**
7. Note deficiencies or incorrectly installed BMP's in detail.
8. The Engineer will complete the report by filling out the certification sheet and signing the certification sheet.
9. The Engineer will attach the certification sheet to the BMP's forms and place in project files if no deficiencies are noted for that review. **(No letter is required to be sent to the contractor if there are no deficiencies for that review.)**
10. If deficiencies are noted, the Engineer will fill in the date returned to WECS/Certified Inspector and the deadline to correct. The Engineer will have the WECS or Certified Inspector sign the certification sheet. The Engineer shall send a cover letter and copy of the inspection form(s) that need correction to the Prime Contractor/WECS noting items that need correction/maintenance.
11. The Engineer will re-inspect the deficient BMP's after two (2) business days from the day the inspection form is provided to the WECS or Certified Inspector.
12. The Engineer will fill out and place the re-certification sheet with the original form(s) in the project files when all items are corrected.
13. **If the re-inspection reveals BMP's that have not been corrected or maintained as noted on the inspection form. STOP WORK IMMEDIATELY WITH THE EXCEPTION OF TRAFFIC CONTROL AND EROSION CONTROL. Begin non-refundable deductions and continue until all items have been corrected per the inspection report.**
14. When additional BMPs are installed and/or added to the project, the Engineer will repeat the process.

Russell R. McMurry, P.E., Commissioner



GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

Date

Contractor
Address

Re: Project Number BMP Installation Inspection

Dear Contractor or WECS

Attached is a copy of the GDOT BMP Installation Inspection.

Items that are noted as not properly installed or maintained are to be corrected within two (2) business days of receipt of this copy of the report.

Feel free to contact me if you have any questions.

Sincerely,

Project Engineer

Bf Buffer Zone

Refer to Plans and Erosion Control Legend

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

 If not, explain: _____

2. Added to E&S Plans? ☐ Yes ☐ No

3. Orange Barrier Fence installed? ☐ Yes ☐ No

4. Erosion protection installed? ☐ Yes ☐ No

5. Distance from stream to orange barrier fence: _____

6. Warm or cold water stream: _____

7. Buffer variance required? ☐ Yes ☐ No

8. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Cd-F Fabric Check Dam

Refer to Specification 171 and Detail D-24D

BMP Installation Report

Project No. & County: _____

1. Per Plan Location?

☐

Yes

☐

No

If not, explain: _____

2. Depth of Trench: _____

3. Is Fabric backfilled and compacted properly? ☐

Yes

☐

No

4. Is Diagonal Support Post installed? ☐

Yes

☐

No

☐

N/A

(Required when using Wood Post)

5. Does post spacing, size, fabric, and fabric support meet all requirements of 171? ☐

☐

Yes

☐

No

6. Height of Fabric above ground? _____

7. TRM Type-6 properly installed? ☐

Yes

☐

No

8. Is Weir constructed properly? ☐

Yes

☐

No

9. **Installed Per Details?** ☐

Yes

☐

No

10. Name of Fabric/Producer: _____

11. Fabric on QPL? ☐

☐

Yes

☐

No

12. Are Post on correct side of Fabric? ☐

☐

Yes

☐

No

13. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

14. Does this item meet all requirements for payment? ☐

Yes

☐

No

15. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Cd-Hb Hay Bale Check Dam

Refer to Specification 163 and Detail D-52

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Depth of Trench: _____

3. Number of stakes per bale: _____

4. Stake spacing: _____

5. Size of stakes: _____

6. Height of Haybale above ground: _____

7. **Installed Per Details?** ☐ Yes ☐ No

8. Proper spacing? ☐ Yes ☐ No

9. Any gaps or openings? ☐ Yes ☐ No

10. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

11. Does this item meet all requirements for payment? ☐ Yes ☐ No

12. Location (Sta. to Sta., LT or RT): _____

Additional Information: Ensure that support bales are properly installed on downstream side per detail.

Cd-S Stone or Sand Bag Check Dam

Refer to Specifications 163 & 603 and Standard 1031

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Height of Check Dam: _____

3. Size of Stone: _____

4. Filter Fabric in place? ☐ Yes ☐ No

5. Height of Dam in center: _____

6. **Installed Per Details?** ☐ Yes ☐ No

7. Spacing between Dams: _____

8. Are side slopes protected? ☐ Yes ☐ No

9. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

10. Does this item meet all requirements for payment? ☐ Yes ☐ No

11. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Ch-C Channel Concrete

Refer to Specification 441 and Detail D-9, D-10 & D-49

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Class of concrete: _____

3. Concrete thickness: _____

4. Outlet stabilization: _____

(Rip Rap, Concrete Velocity Dissipators, etc.)

5. Depth of Channel: _____

6. Velocity Dissipators required? ☐ Yes ☐ No

7. Weep holes required /Installed? ☐ Yes ☐ No

8. Air & Slump tested? ☐ Yes ☐ No

9. Area stabilized adjacent to concrete channel? ☐ Yes ☐ No

10. If this location is not on the plan, have the WECS add this item to the plan
by redline. When complete check this box: ☐

11. Does this item meet all requirements for payment? ☐ Yes ☐ No

12. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____
If velocity dissipation is not noted on plans contact
Designer or the Erosion Control Liaison for further guidance.

Ch-Rp Channel Rip Rap (Type 1 or 3)

Refer to Specification 603 and Detail D-49

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Size and type of Rip Rap: _____

3. Filter fabric installed properly: ☐ Yes ☐ No

4. Depth of Rip Rap: _____

5. Installed Per Details? ☐ Yes ☐ No

6. Distance from edge of pavement: _____

7. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

8. Does this item meet all requirements for payment? ☐ Yes ☐ No

9. Location (Sta. to Sta., LT or RT): _____

Additional Information: Ensure that Rip Rap height was achieved through proper excavation as shown on Detail D-49 and Specification 603

Ch-TRM Turf Reinforcing Mat (Type 1 thru 6)

Refer to Specification 711 and Detail D-35 QPL - 49 / QPL - 62

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Site prep done per Specifications? ☐ Yes ☐ No

3. Transverse & Longitudinal trenches cut? ☐ Yes ☐ No

4. Installed from downstream terminal progressing upstream?
☐ Yes ☐ No

5. Installed Per Details? ☐ Yes ☐ No

6. Was Matting overlapped slotted and staked per Detail & Specifications?
☐ Yes ☐ No

7. If this location is not on the plan, have the WECS add this item to the plan
by redline. When complete check this box: ☐

8. Does this item meet all requirements for payment? ☐ Yes ☐ No

9. Is matting on QPL? (QPL-49 or 62) ☐ Yes ☐ No

10. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Ch-V Channel Grass

Refer to Specification 700

BMP Installation Report

Project No. & County: _____

1. Type of Grass Seed: _____

2. Planting Zone: _____

3. Movable or Non-Movable: _____

4. Seed Bed Prepared? ☐ Yes ☐ No

5. Amount of Seed: _____

6. Is anchor depth is in accordance with Specifications? ☐ Yes ☐ No

7. Acres Planted: _____

8. Soil analysis performed by contractor? ☐ Yes ☐ No

9. Fertilizer, Pounds & Type: _____

10. Name of Fertilizer: _____

11. Name of Lime: _____

12. Amount of Lime: _____ (Per soil analysis)

13. Amount of Wood Fiber Mulch used: _____

14. Inoculated Seed added? ☐ Yes ☐ No

15. Was TRM used? ☐ Yes ☐ No

16. Was PAM used? (QPL-84) ☐ Yes ☐ No

17. If No Till was used was grass 3 Inches or less? ☐ Yes ☐ No

18. Does this item meet all requirements for payment? ☐ Yes ☐ No

19. Location (Sta. to Sta., LT or RT): _____

Additional Information: 50 Lbs / AC of Nitrogen after 2 IN of Growth

600 Lbs / AC Fertilizer Mixed Grade each spring after Initial Planting

Co Construction Exit

Refer to Specification 163, 800 and Detail D-41

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Size of pad: _____ (Lenth & Width)

3. Thickness of Pad: _____

4. **Installed Per Details?** ☐ Yes ☐ No

5. Size of Stone: _____

6. Geotextile Fabric in place? ☐ Yes ☐ No

7. Name of Fabric / Producer: _____

8. Fabric on QPL? ☐ Yes ☐ No

9. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

10. Does this item meet all requirements for payment? ☐ Yes ☐ No

11. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Dc Diversion Channel (Types A, B, or C)

Refer to Specification 163 and Detail D-38

(See Detail D-24B for Silt Fence Installation Guidance)

BMP Installation Report

Project No. & County: _____

1. Plan submitted per Location/Stage? ☐ Yes ☐ No

If not, explain: _____

2. Plan submitted by Certified Design Professional ? ☐ Yes ☐ No

(Attach a copy of the accepted plan)

3. Location (Sta. to Sta., LT or RT): _____

Additional Information: Silt fence is paid for as Contract unit price. A double
row of silt fence is a minimum requirement for acceptance of a diversion plan.

If any erosion related incidents occur, advise the Contractor to immediately
contact the Certified Design Professional for review and comment.

Di Diversion

Refer to Specifications 161 & 205 and Detail D-47

BMP Installation Report

Project No. & County: _____

1. Per Plan Location?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
-----------------------	--------------------------	-----	--------------------------	----

If not, explain: _____

2. Installed per plan Detail ?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
--------------------------------	--------------------------	-----	--------------------------	----

3. Plastic lining (if applicable) installed properly?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
---	--------------------------	-----	--------------------------	----

4. Name of lining producer: _____

5. Location (Sta. to Sta., LT or RT): _____

Additional Information: If polyethylene is used for lining, ensure proper mil thickness is being utilized and is regularly checked for degrading. If outfall diversion protection is needed for velocity dissipation contact design.

Dn1 Temporary Down Drain Structure - Flexible

Refer to Specification 163 and Detail D-19

BMP Installation Report

Project No. & County: _____

1. Per Plan Location?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
-----------------------	--------------------------	-----	--------------------------	----

If not, explain: _____

2. Size of pipe: _____				
------------------------	--	--	--	--

3. Downdrain staked properly?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
-------------------------------	--------------------------	-----	--------------------------	----

4. Stake spacing: _____

5. Type of outlet stabilization: _____

6. Installed on a Angle/Skew?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
-------------------------------	--------------------------	-----	--------------------------	----

7. Installed Per Details?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
----------------------------------	--------------------------	-----	--------------------------	----

8. Height and Width of Berm? _____

9. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

10. Does this item meet all requirements for payment?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
---	--------------------------	-----	--------------------------	----

11. Location (Sta. to Sta., LT or RT): _____

Additional Information: If this work is in conjunction with a Di (Diversion), see
Di Installation and Detail sheet.

Dn2-1 or Dn2-2 Permanent Down Drain Structure

Refer to Standard 9013 & 9017J and Detail D-26

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Type 1 or 2: _____

3. Size of pipe: _____

4. Type of outlet stabilization: _____

5. Installed Per Plan Details? ☐ Yes ☐ No

6. Does this item meet all requirements for payment? ☐ Yes ☐ No

7. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Dn2-A or Dn2-B Permanent Down Drain Structure Concrete

Refer to Specification 441 and Detail D-9

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Type A or B: _____ (Flume)

3. Type of outlet stabilization: _____

4. Installed Per Plan Details? ☐ Yes ☐ No

5. Does this item meet all requirements for payment? ☐ Yes ☐ No

6. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Ds1 Mulch

Refer to Specification 163 and WECS Manual

BMP Installation Report

Project No. & County: _____

1. Type of material _____

2. Thickness of material: _____

3. Tackifier or Crimp: _____

4. Weight of bales: _____

5. Area completely covered? ☐ Yes ☐ No

6. Does this item meet all requirements for payment? ☐ Yes ☐ No

7. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Ds2 Temporary Grass

Refer to Specification 163 and WECS Manual

BMP Installation Report

Project No. & County: _____

1. Type of grass seed: _____
2. Seed bed preparation: _____
3. Amount of seed: _____
4. Acres planted: _____
5. Thickness of mulch: _____
6. Tackifier or crimp: _____
7. Pounds / Type of fertilizer: _____
8. Name of fertilizer: _____

9. Lime required? ☐ Yes ☐ No

10. Was PAM used? (QPL 84) ☐ Yes ☐ No

11. In permanent grassing season? ☐ Yes ☐ No

If yes, explain why temporary was planted: _____

12. Does this item meet all requirements for payment? ☐ Yes ☐ No

13. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Ds3 Permanent Grass

Refer to Specification 700 and WECS Manual

BMP Installation Report

Project No. & County: _____

1. Type of grass seed: _____

2. Planting zone: _____

3. Mowable or non-mowable: _____

4. Seed bed prepared? ☐ Yes ☐ No

5. Was soil analysis obtained? ☐ Yes ☐ No

6. Amount of seed: _____

7. Acres planted: _____

8. Pounds / Type of fertilizer: _____

9. Name of fertilizer: _____

10. Was PAM used? ☐ Yes ☐ No (QPL 84)

11. Amount of lime: _____

12. Amount of wood fiber used: _____

13. Innoculation seed added? ☐ Yes ☐ No

14. Slope mats installed within 24 hrs of grassing? ☐ Yes ☐ No

15. If no till used, was grass 3 inches or less? ☐ Yes ☐ No

16. Does this item meet all requirements for payment? ☐ Yes ☐ No

17. Location (Sta. to Sta., LT or RT): _____

Additional Information: 50 LBS / AC of nitrogen after 2 inches of growth. 600
LBS / AC Fertilizer mixed grade each spring after initial planting. Ensure soil
analysis was obtained by the Contractor as required by section 700.2 of the
Standard Specifications.

Ds4 Sod

Refer to Specification 700 and WECS Manual

BMP Installation Report

Project No. & County: _____

1. Type and size of Sod: _____

2. Planting Zone: _____

3. Mowable or Non-Mowable _____

4. Ground prepared? ☐ Yes ☐ No

5. Square Yards Planted? _____

6. Was lime and fertilizer applied 24 hours prior to installation?
☐ Yes ☐ No

7. Name of Fertilizer: _____

8. Name of Lime: _____

9. Amount of Lime: _____

10. Are stakes needed per Specs? ☐ Yes ☐ No

11. Does this item meet all requirements for payment? ☐ Yes ☐ No

12. Location (Sta. to Sta., LT or RT): _____

Additional Information: Ensure soil sample was obtained by the Contractor as
Per 700.2 of the Specifications. Water as noted in the Specifications.

Fr Filter Ring

Refer to Specification 163 & 603 and Detail D-46

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Size and type of Rip Rap: _____

3. Filter fabric installed properly: ☐ Yes ☐ No

4. Height & Width of Rip Rap: _____

5. Distance from drainage structure (Radius): _____

6. Installed Per Details? ☐ Yes ☐ No

7. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

8. Does this item meet all requirements for payment? ☐ Yes ☐ No

9. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Mb Erosion Control Mats

Refer to Specification 716 and WECS Manual

BMP Installation Report

Project No. & County: _____

1. Type of Grass Seed: _____

2. If Matting is in conjunction with approved stream buffer variance, was proper type of approved matting used? ☐ Yes ☐ No ☐ NA

3. Size of Staples: _____

4. Stake/Staple Spacing: _____

5. Is anchor depth in accordance with Specifications? ☐ Yes ☐ No

6. Installed Per Details? ☐ Yes ☐ No

7. Ratio of slope: _____

8. Width of mat overlap: _____

9. Height of slope: _____

10. Grassed prior installation? ☐ Yes ☐ No

11. Name of Material / Producer: _____

12. Fabric on QPL? (QPL-62) ☐ Yes ☐ No

13. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check box ☐

14. Does this item meet all requirements for payment? ☐ Yes ☐ No

15. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Rd Rock Filter Dam

Refer to Specifications 163, 603 and Detail D-43

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Size and type of Rip Rap: _____

3. Filter fabric installed properly: ☐ Yes ☐ No

4. Width of Dam at Top: _____

5. Width of Dam at Bottom: _____

6. Height of Dam: _____ (Not to exceed the channel banks)

7. Height of Dam in center: _____ (Detail is 9 inches lower in center)

8. # 57 Stone placed on the face of Dam: ☐ Yes ☐ No

9. Installed Per Details? ☐ Yes ☐ No

10. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

11. Does this item meet all requirements for payment? ☐ Yes ☐ No

12. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Rp Rip Rap

Refer to Specification 603 and Bridge Plans/Details

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Size and type of Rip Rap: _____

3. Filter fabric installed properly: ☐ Yes ☐ No

4. Depth of Rip Rap: _____

5. Installed Per Details? ☐ Yes ☐ No

6. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

7. Does this item meet all requirements for payment? ☐ Yes ☐ No

8. Location (Sta. to Sta., LT or RT): _____

Additional Information: Refer to the Bridge Plans & Details for lenghts, dimensions, elevations, etc.

Rt-B Retrofitting (Slotted Boards)

Refer to Specification 163 and Detail D-45

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Size and type of stone: _____

3. Was pressure treated wood used? ☐ Yes ☐ No

4. Spacing on the slotted boards: _____

5. **Installed per plan Detail ?** ☐ Yes ☐ No

6. Permanent vegetation and matting applied immediately after construction?

☐ Yes ☐ No

7. Does this item meet all requirements for payment? ☐ Yes ☐ No

8. Location (Sta. to Sta., LT or RT): _____

Additional Information: Ensure permanent stabilization measures are
documented on the relevant BMP Installation Reports.

Rt-P Retrofitting (Curved Pipe)

Refer to Specification 163 and Detail D-44

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

2. Size and type of stone: _____

3. Stone depth: _____ (1 foot min.)

4. Installed per plan Detail ? ☐ Yes ☐ No

5. Permanent vegetation and matting applied immediately after construction?
☐ Yes ☐ No

6. Does this item meet all requirements for payment? ☐ Yes ☐ No

7. Location (Sta. to Sta., LT or RT): _____

Additional Information: Ensure permanent stabilization measures are
documented on the relevant BMP Installation Reports. Ensure height, width, rod
and holes are installed per details.

Rt-Sg Silt Control Gate (Type 1, 2, or 3)

Type:

Refer to Specification 163 and Detail D-20

BMP Installation Report

Project No. & County:

1. Per Plan Location? ☐ Yes ☐ No

If not, explain:

2. Entirely covers opening? ☐ Yes ☐ No

3. Proper size for structure? ☐ Yes ☐ No

4. Was treated wood used? ☐ Yes ☐ No

5. Size of Posts:

6. Height of Posts:

7. Size of Boards:

8. Height of gate in accordance with plan details? ☐ Yes ☐ No

9. Installed per Details? ☐ Yes ☐ No

10. Flowing stream? ☐ Yes ☐ No

Additional Information:

[illegible]

Sd1 J-Hook (Silt Fence Fabric)

Type: _____
(A, B or C)

Refer to Specification 171 and Detail D-24C

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. J-Hook Spacing: _____

3. Depth of trench: _____

4. Is fabric backfilled properly? ☐ Yes ☐ No

5. Post spacing: _____

6. Size of Posts: _____

(Wood Dimensions/lbs. per foot for metal per section 894 of the Spec's)

7. Length of lap or wrap: _____

8. Height of fabric above ground: _____

9. Height of wired fence: _____

10. Gauge of wire fence: _____

11. Size of grid of wire fence: _____

(Ensure fence support meets the requirements in section 894 of the Spec's)

12. Name of fabric / producer: _____

13. Fabric on QPL? (QPL-36) ☐ Yes ☐ No

14. Are post on correct side of fabric? ☐ Yes ☐ No

15. If this location is not on the plan, have the WECS add this item to the plan
by redline. When complete check this box: ☐

16. Does this item meet all requirements for payment?

17. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Sd1-A or Sd1-B Silt Fence (Type A or B)

Type: _____

Refer to Specification 171 and Details D-24A, D-24B and D-24C

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Depth of trench: _____

3. Is fabric backfilled properly? ☐ Yes ☐ No

4. Post spacing: _____

5. Size of Posts: _____

6. Length of lap or wrap: _____

7. Height of fabric above ground: _____

8. Name of fabric/producer: _____

9. Fabric on QPL? (QPL-36) ☐ Yes ☐ No

10. Are post on correct side of fabric? ☐ Yes ☐ No

11. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

12. Does this item meet all requirements for payment? ☐ Yes ☐ No

13. Location (Sta. to Sta., LT or RT): _____

Additional Information: If hay bales are used in lieu of Tp. B Silt Fence, ensure appropriate BMP Installation report is utilized.

Sd1-Bb Brush Barrier

Refer to Detail D-24B and WECS Manual

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Height of barrier: _____

3. Width of barrier: _____

4. Filter fabric required? ☐ Yes ☐ No

5. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

6. Location (Sta. to Sta., LT or RT): _____

THIS ITEM IS NOT MEASURED SEPARATELY FOR PAYMENT.

Additional Information: _____

Sd1-C Silt Fence (Type C)

Refer to Specification 171 and Details D-24A, D-24B, D-24C and D-24D

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Depth of trench: _____

3. Is fabric backfilled properly? ☐ Yes ☐ No

4. Post spacing: _____

5. Size of Posts: _____

(Wood Dimensions/lbs. per foot for metal per section 894 of the Spec's)

6. Length of lap or wrap: _____

7. Height of fabric above ground: _____

8. Height of wired fence: _____

9. Gauge of wire fence: _____

10. Size of grid of wire fence: _____

(Ensure fence support meets the requirements in section 894 of the Spec's)

11. Name of fabric / producer: _____

12. Fabric on QPL? (QPL-36) ☐ Yes ☐ No

13. Are post on correct side of fabric? ☐ Yes ☐ No

14. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

15. Does this item meet all requirements for payment? ☐ Yes ☐ No

16. Location (Sta. to Sta., LT or RT): _____

Additional Information: If a double row of fencing is used a minimal spacing of 36" is recommended.

Sd1-Hb Hay Bale Sediment Barrier

Refer to Specification 163 and WECS Manual

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Depth of trench: _____

3. Hay bale staked properly? ☐ Yes ☐ No

4. Stake spacing: _____

5. Size of stakes: _____

6. Height of hay bale above ground: _____

7. Installed per Details? ☐ Yes ☐ No

8. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

9. Does this item meet all requirements for payment? ☐ Yes ☐ No

10. Location (Sta. to Sta., LT or RT): _____

Additional Information: This BMP Installation Report is for linear measure. See appropriate BMP Installation Report for checkdams (Cd-Hb)

Sd2-B Baffle Box Inlet Sediment Trap

Refer to Specification 163 and Detail D-42

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Type of filter fabric: _____

3. Fabric trench depth: _____

4. Size of boards: _____

5. Spacing between boards: _____

6. Weeps holes installed? ☐ Yes ☐ No

7. Size of corner stakes: _____

8. Treated wood used? ☐ Yes ☐ No

9. Height of box above ground: _____

10. **Installed per Detail?** ☐ Yes ☐ No

11. Gravel backfill depth: _____

12. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

13. Does this item meet all requirements for payment? ☐ Yes ☐ No

14. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Sd2-Bg & Sd2-G Block and/or Gravel Drop Inlet Protection

Refer to Specification 163 and Detail D-42

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Height of trap: _____

3. Wire screen/fabric in place? ☐ Yes ☐ No

4. Size of blocks: _____

5. Size of rocks: _____

6. **Installed per Details?** ☐ Yes ☐ No

7. Gravel backfill depth: _____

8. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

9. Does this item meet all requirements for payment? ☐ Yes ☐ No

10. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Sd2-F Inlet Sediment Trap

Refer to Specification 163 and Detail D-24C

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Entirely covers opening? ☐ Yes ☐ No

3. Fabric attached securely? ☐ Yes ☐ No

4. Device backfilled? ☐ Yes ☐ No

5. Is sump installed per detail? ☐ Yes ☐ No

6. **Installed per Details?** ☐ Yes ☐ No

7. Cross bracing used? ☐ Yes ☐ No

(Only required if using wood post)

8. Post spacing: _____

9. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

10. Does this item meet all requirements for payment? ☐ Yes ☐ No

11. Location (Sta. to Sta., LT or RT): _____

Additional Information: **If plastic alternate sediment trap does not fully cover structure then fabric must be used.**

Sd3 Sediment Basin

Refer to Specification 163 and Detail D-22A or D-22B

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Size of Basin: _____

3. Size of principal spillway: _____

4. Is concrete anti-floatation block installed to proper thickness? ☐ Yes ☐ No

5. Is emergency spillway in natural ground? ☐ Yes ☐ No

6. Installed per Details? ☐ Yes ☐ No

7. Emergency spillway width: _____

8. Was basin stabilized immediately with grass and matting? ☐ Yes ☐ No

9. Pipe outlet stabilized? ☐ Yes ☐ No

10. Can run-off enter basin? ☐ Yes ☐ No

11. Is basin entrance stabilized? ☐ Yes ☐ No

12. Size of outlet pipe: _____

13. Depth of basin: _____

14. Is basin installed to plan detail and dimensions? ☐ Yes ☐ No

15. Is skimmer installed to detail D-22B (if applicable)? ☐ Yes ☐ No

16. Is skimmer stone pad properly installed (D-22B Only)? ☐ Yes ☐ No

17. What is PVC skimmer intake pipe length (D-22B Only)? _____

18. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

19. Does this item meet all requirements for payment? ☐ Yes ☐ No

20. Location (Sta. to Sta., LT or RT): _____

Additional Information: _____

Sr Stream Crossing (Sr-B or Sr-C)

Refer to Specification 107, 161 and WECS Manual

BMP Installation Report

Project No. & County: _____

1. Plan submitted by certified design professional? ☐ Yes ☐ No

2. Plan submitted per location/stage? ☐ Yes ☐ No

3. Installed per detail submitted by certified design professional? ☐ Yes ☐ No

4. **Installed per details?** ☐ Yes ☐ No

5. Width of crossing: _____

6. Length of crossing: _____

7. Verify size of pipes: _____

8. Crossing surface material: _____

9. Date installed: _____

10. Location (Sta. to Sta., LT or RT): _____

Additional Information: **Fording of live streams with construction equipment is not permitted.**

Rd-B Stone Filter Berm

Refer to Specification 163, 603 and Detail D-50

BMP Installation Report

Project No. & County: _____

1. Per Plan Location?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
If not, explain: _____				
2. Size and type of Rip Rap:	_____			
3. Woven filter and extended fabric installed properly:	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
4. Height and width of berm:	_____			
5. No. 57 stone placed on face?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
6. Installed Per Details?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
7. Does this item meet all requirements for payment?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
8. Location (Sta. to Sta., LT or RT):	_____			

Additional Information: _____

St-Rp Storm Drain Outlet Protection

Refer to Specification 603 and Detail D-55

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Size and type of Rip Rap: _____

3. Filter fabric installed properly: ☐ Yes ☐ No

4. Depth of Rip Rap: _____

5. Installed Per Details? ☐ Yes ☐ No

6. Distance from edge of pavement: _____

7. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

8. Does this item meet all requirements for payment? ☐ Yes ☐ No

9. Location (Sta. to Sta., LT or RT): _____

Additional Information: Ensure Rip Rap does not impeded the flow line.

This form can be used for outlet protection such as ditch paving, etc..

Ensure that Rip Rap height was achieved through proper excavation as shown on Details.

Tc-F Turbidity Curtain Floating

Refer to Specification 170 and Detail D-51

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Type of floatation device: _____

3. Barrier on R/W or Easement: _____

4. How is barrier anchored: _____

5. Is depth of fabric below water surface per Spec 170? ☐ Yes ☐ No

6. Fabric weighted at bottom? ☐ Yes ☐ No

7. Name of fabric/producer: _____

8. Fabric on QPL? ☐ Yes ☐ No

9. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

10. Does this item meet all requirements for payment? ☐ Yes ☐ No

11. Location (Sta. to Sta., LT or RT): _____

Additional Information: The ends of the silt curtain shall be securely anchored and keyed in order to enclose the area.

Tc-S Turbidity Curtain Staked

Refer to Specification 170 and Detail D-51

BMP Installation Report

Project No. & County: _____

1. Per Plan Location? ☐ Yes ☐ No

If not, explain: _____

2. Type of post: _____ (Wood or Steel)

3. Size of post: _____ (Dimensions or lbs. per foot)

4. Post spacing: _____

5. Does height of fabric meet the requirements in Spec 170? ☐ Yes ☐ No

6. Fabric weighted at bottom? ☐ Yes ☐ No

7. Name of fabric/producer: _____

8. Fabric on QPL? ☐ Yes ☐ No

9. If this location is not on the plan, have the WECS add this item to the plan by redline. When complete check this box: ☐

10. Does this item meet all requirements for payment? ☐ Yes ☐ No

11. Location (Sta. to Sta., LT or RT): _____

Additional Information: The ends of the silt curtain shall be securely anchored and keyed in order to enclose the area.

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BUFFER ZONE



Description:

An undisturbed or planted vegetative strip around a site or bordering a stream.

The minimum buffer for State Waters as required by State Law is 25 feet for warm water streams and 50 feet for trout streams from the wrested vegetation point.

Exemptions:

- Piping of trout waters with average annual flow of less than 25 gpm.
- Water line/sewer line crossing at 90 degrees or 25 degrees left or right with a maximum width of disturbance of 50 feet.
- Drainage structures that must be constructed in the 25 foot buffer of state waters not classified as trout streams.
- Roadway drainage structures that must be constructed within the 25 foot buffer area of any state waters or the 50 foot buffer of any trout stream.

Fences

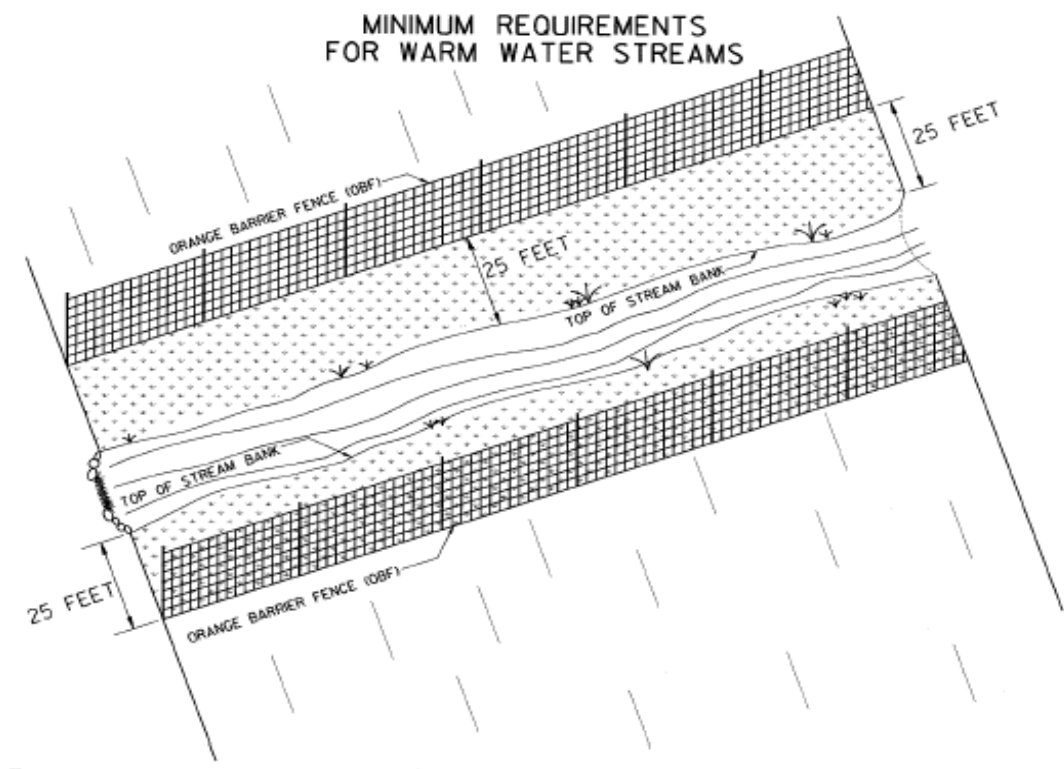
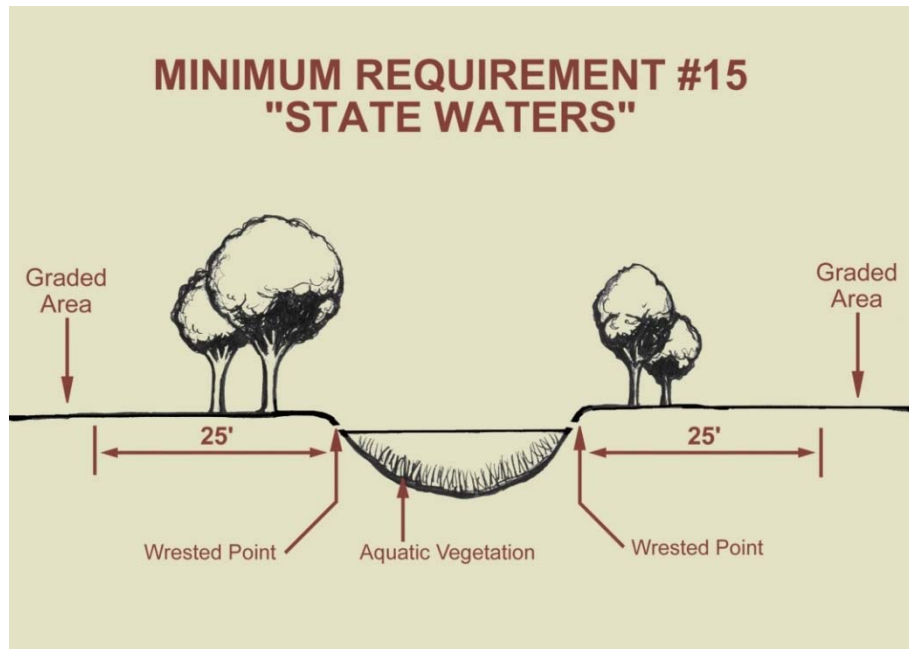
See the 2013 NPDES Permit pages 15-17 for all exemptions

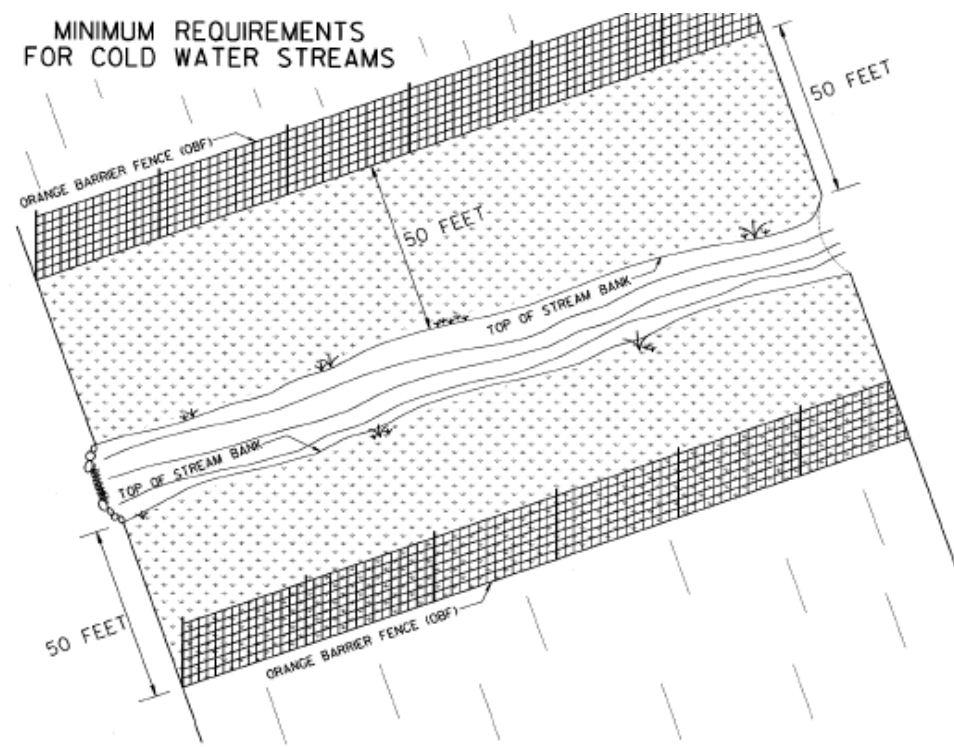
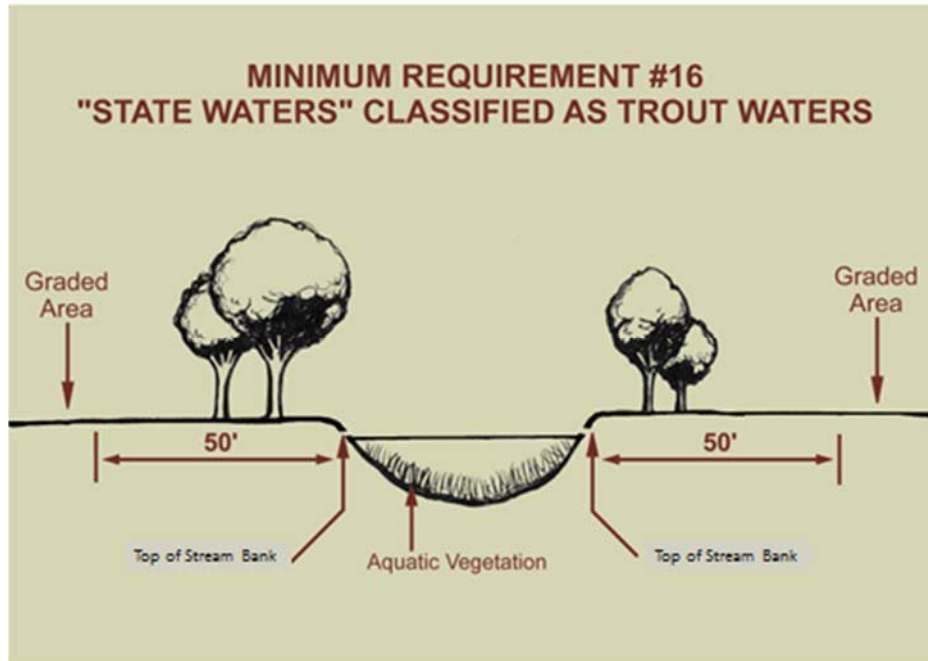
Purpose:

- Filter sediment, chemicals, and nutrients.
- Reduce runoff velocities and stabilize stream banks.
- Improve fish and wildlife habitat, improve aesthetics.
- Reduce construction noise and helps in flood protection.

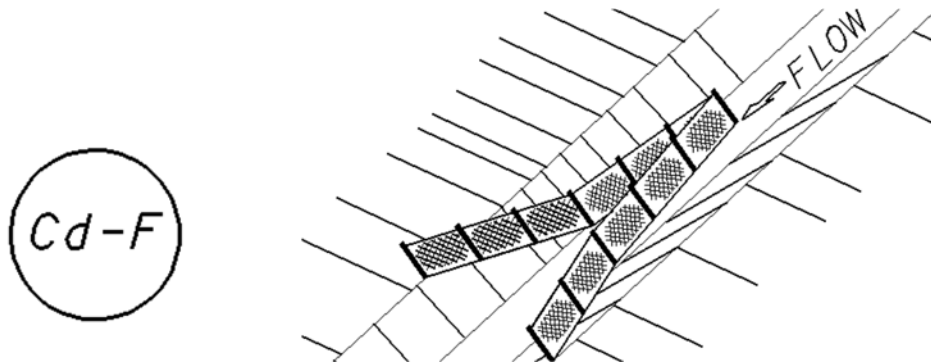
Tips:

- Protect buffer limits during construction. Install two rows of Type C silt fence per Detail 24-B.





FABRIC CHECK DAM



SECTION 171 and Construction Detail D24-D

A CHECK DAM COMPOSED OF SYNTHETIC FIBER FABRIC, WIRE REINFORCED, POST, AND BRACING PLACED IN DITCHES IN A SPECIAL CONFIGURATION WHICH CONTROLS ENERGY DISSIPATION AND FILTRATION OF STORM WATER. SEE CONSTRUCTION DETAIL D-24b FOR SPACING REQUIREMENT.

THIS ITEM IS SUITABLE FOR USE IN ROADSIDE DITCHES THAT ARE PART OF INFRASTRUCTURE CONSTRUCTION PROJECTS.

IF THIS ITEM IS USED IN AN AREA WITHOUT A SEDIMENT BASIN CONSIDERATION SHOULD BE GIVEN TO USING TWO OR MORE ROCK FILTER DAMS NEAR THE DISCHARGE POINT.

Purpose

Fabric Check Dams are used to reduce flow velocities, reduce erosion potential and allow suspended sediment to deposit.

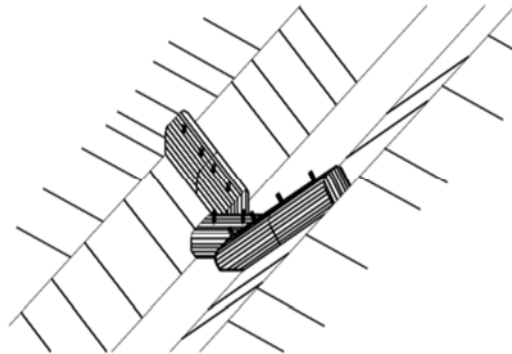
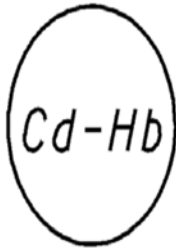
Construction

1. Fabric check dams may be used for flows up to 2.0 cfs.
2. **Fabric Check Dams shall not be placed with flowing State Waters.**
3. See Detail D-24D for installation recommendation
4. Temporary installation of TRM with fabric check dams shall be included in the linear cost of the fabric check dam. No additional payment will be made.

Maintenance

Inspect after rainfall to ensure proper functioning and repair as necessary. Remove and properly dispose of sediment when it has reached a depth of one-half the height of the fabric check dam.

HAY BALE CHECK DAM



Section 163

HAYBALE CHECK DAMS ARE RECOMMENDED FOR DRAINAGE AREA LESS THAN ONE ACRE.

Purpose

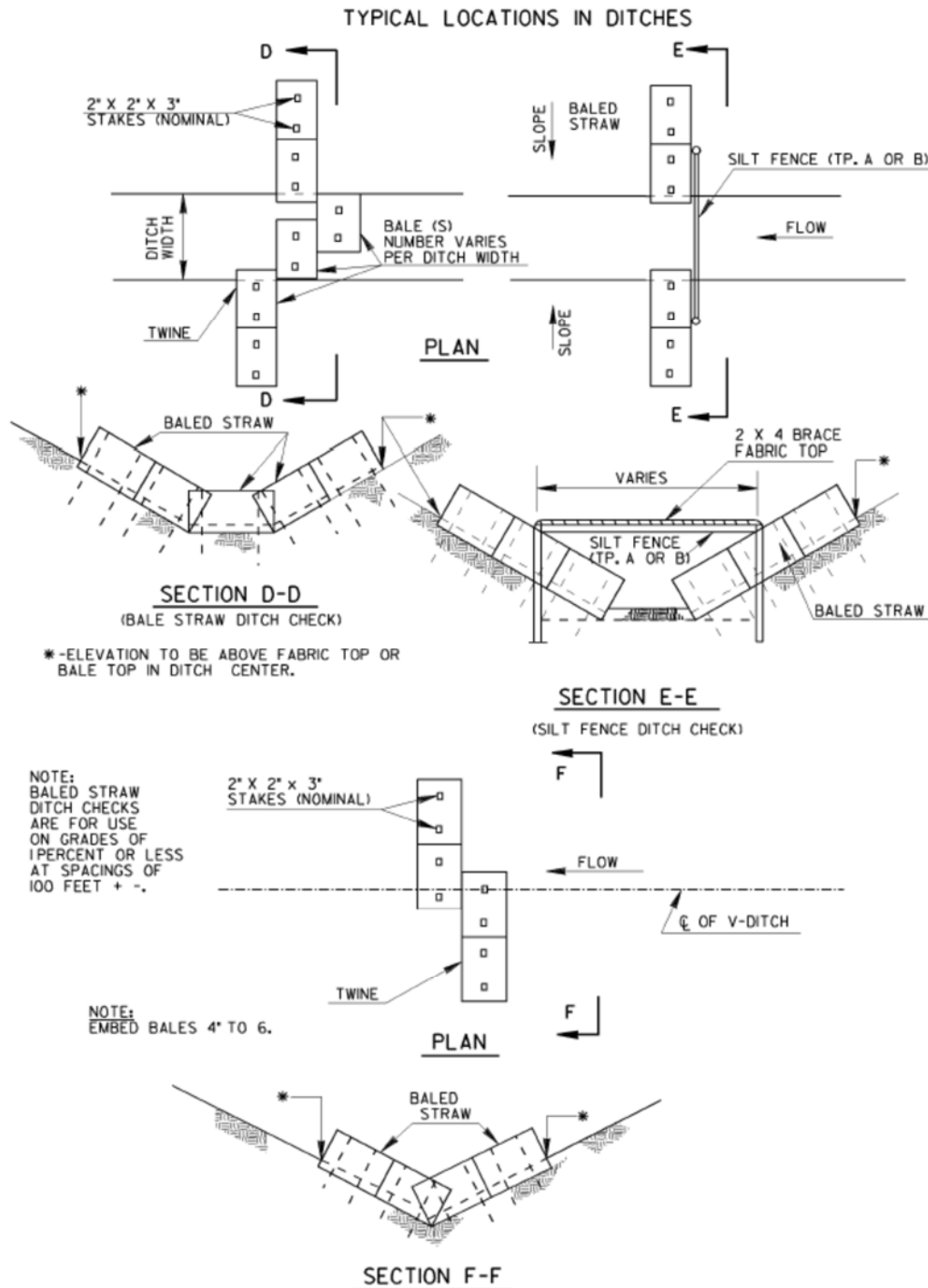
Hay bale check dams are used to reduce flow velocities, reduce erosion potential and allow suspended sediment to deposit.

Construction

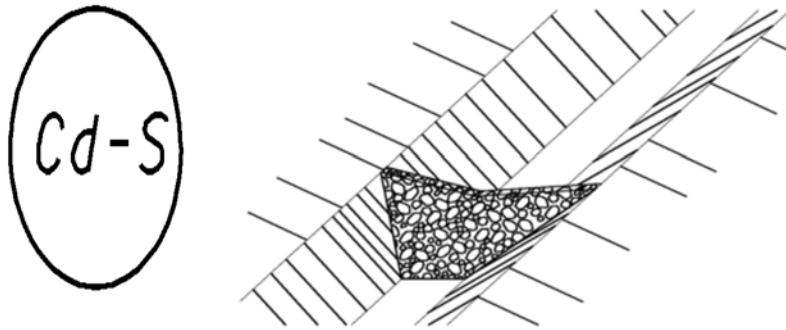
1. Materials include hay bales or excelsior logs.
2. Place downstream of minor drainage structures.
3. Do not place in live flowing streams.

Maintenance

Inspect after rainfall to ensure proper functioning and repair as necessary. Large flows can cause sediment accumulation, wash-outs or damage to the check dam. The overflow areas and toe of the check dam are especially susceptible to erosion. Remove and properly dispose of sediment when it has accumulated half way up the dam height.



STONE OR SAND BAG CHECK DAM



Section 163 and Standard 1031

STONE CHECK DAMS ARE USED IN ROADWAY DITCHES. GEOTEXTILE UNDERLINER SHALL BE USED WHEN PLACING STONE CHECK DAMS. CONTRACTOR MAY USE SANDBAG CHECK DAMS IN LIEU OF STONE CHECK DAMS.

SANDBAG CHECK DAMS MUST BE USED IN CONCRETE LINED CHANNELS.

Purpose

To minimize erosion by reducing the velocity of storm water in areas of concentrated flow.

Construction

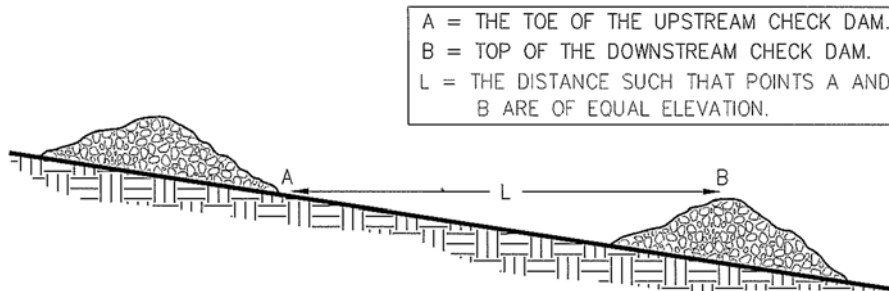
1. Refer to Section 603 for stone size. See Stone Plain Rip Rap.
2. Place a layer of filter fabric beneath the check dam.
3. The spacing of the check dams should be as specified in the plan or such that the elevation of the toe of the upstream check dam is equal to the elevation of the crest of the downstream check dam.
4. Do not place in live streams.
5. Sand bags may be substituted for rip rap.
6. Do not allow water to run around ends of the check dam.
7. Use on slopes above 5%.

Maintenance

Remove silt when it has reached a depth of one-half the height of the check dam.

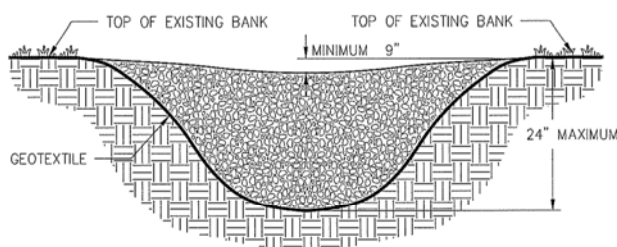
STONE CHECK DAM

SPACING BETWEEN CHECK DAMS

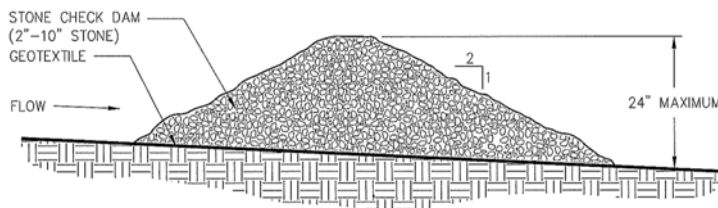


STONE CHECK DAM

CROSS SECTION



PROFILE VIEW

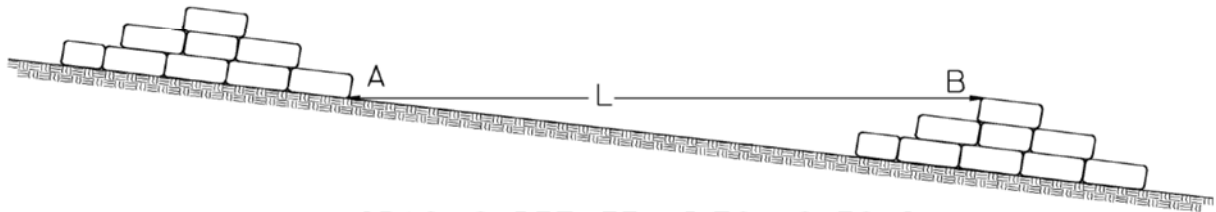


NOTES FOR “STONE RIP RAP DITCH CHECKS”

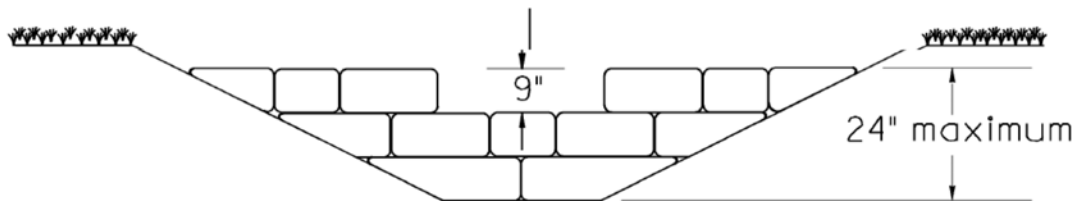
1. STONE RIP RAP CHECKS AS SHOWN SHALL NOT BE USED INSIDE CLEAR ZONE.
2. STONE DUMPED RIP RAP SHALL BE IN ACCORDANCE TO SECTION 603 EXCEPT WHEN NOTED OTHERWISE.
3. TEMPORARY DITCH CHECKS SHALL BE ACCORDING TO SECTION 603
4. THE CONTRACTOR MAY ELECT TO SUBSTITUTE SAND BAG RIP RAP FOR THE STONE SHOWN AND TO THE SAME DIMENSIONS WITH NO CHANGE IN PAYMENT.

SAND BAG CHECK DAM

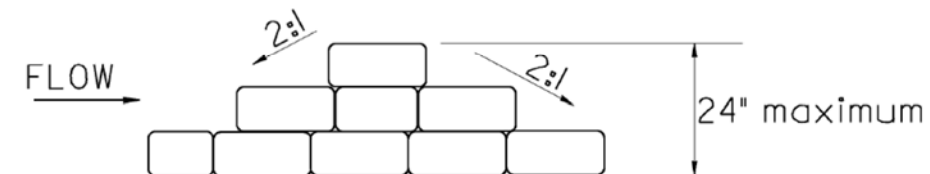
"L" = the distance such that Pt. A & Pt. B are of Equal Elevation.



SPACING BETWEEN DITCH CHECKS

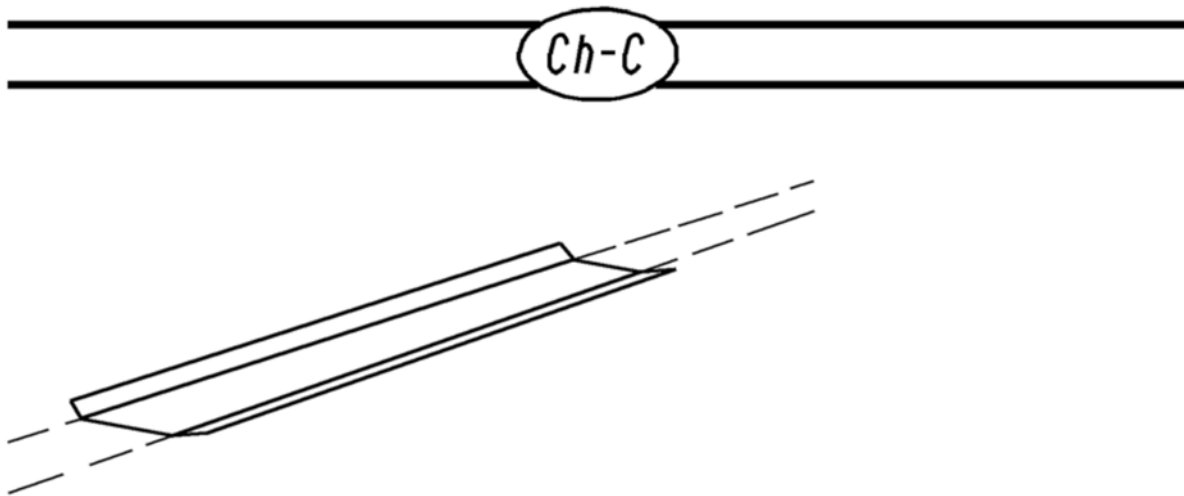


SECTION



LONGITUDINAL VIEW

CONCRETE CHANNEL



Section 441 and Detail 10

THIS ITEM CONSISTS OF CONSTRUCTING A 4" THICK CONCRETE CHANNEL. THE CONCRETE SHALL PROTECT THE DITCH FLOWING TO A DEPTH "D_p" RECOMMENDED BY THE GDOT DITCH PROTECTION PROGRAM

"D_p" SHALL BE IDENTIFIED IN A TABLE LOCATED ON THE SUMMARY OF QUANTITIES SHEETS

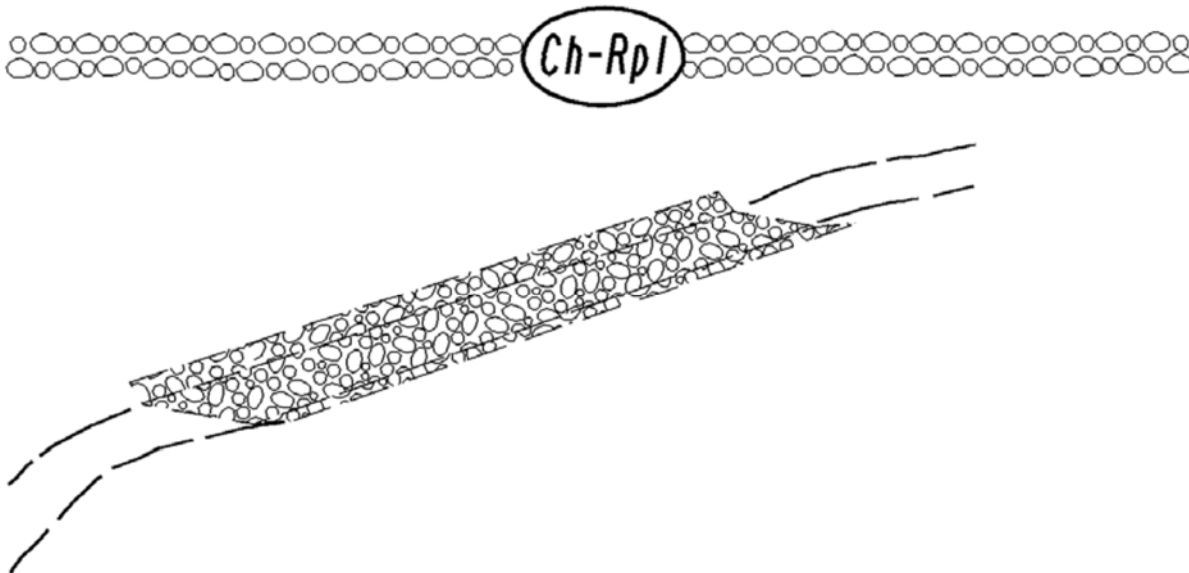
Construction

Construct concrete paved ditches according to Section 441, "Miscellaneous Concrete" and Detail D-10. Ensure Storm water discharges from concrete paved ditches to a non-erodible area.

Maintenance

Maintain all paved ditches to the satisfaction of the Engineer until final acceptance.

CHANNEL RIP RAP (TYPE I)



SECTION 603

THIS ITEM CONSISTS OF LINING A CHANNEL WITH TYPE I RIP RAP 24" THICK (UNLESS SPECIFIED OTHERWISE) BE PLACED ON TOP OF A GEOTEXTILE UNDERLINER. THE RIP RAP SHALL PROTECT THE DITCH FLOWING TO A DEPTH "D_p" RECOMMENDED BY THE GDOT DITCH PROTECTION PROGRAM. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED ALONG THIS CHANNEL SUCH AS Sd1-C, Rdc OR Sg.

"D_p" SHALL BE IDENTIFIED IN A TABLE LOCATED ON THE SUMMARY OF QUANTITIES SHEETS

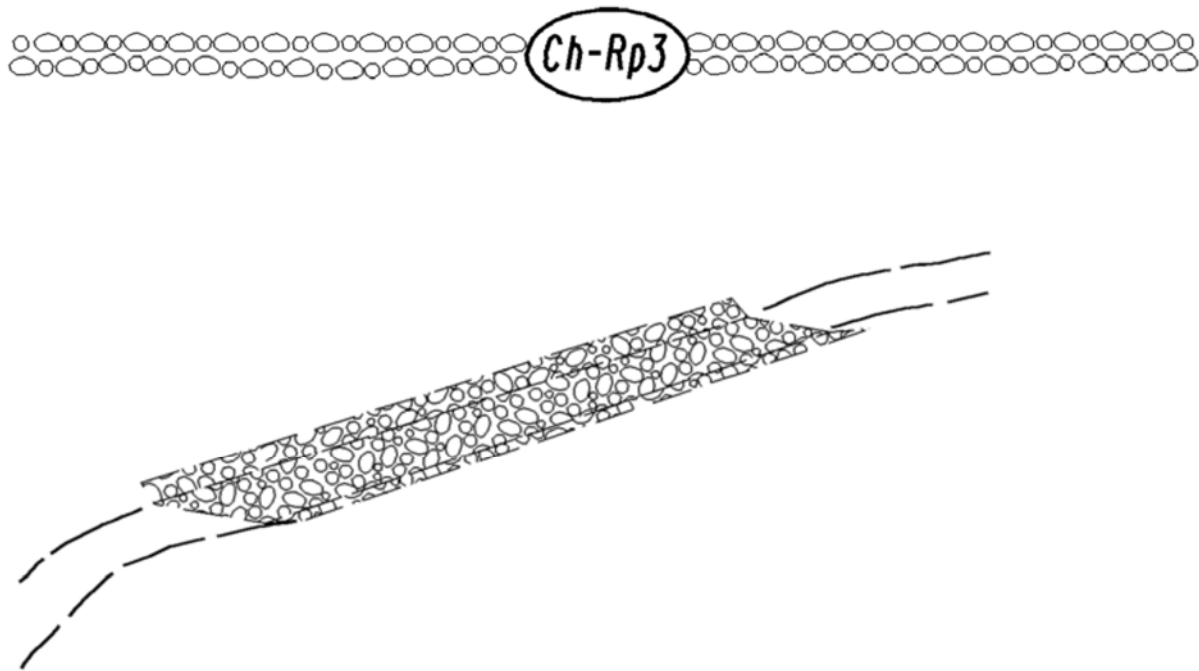
Construction

Place rip rap according to Section 603 and the Plans. Do not damage the woven filter fabric beneath the rip rap.

Follow these guidelines:

1. Remove all trees, brush, stumps and other objectionable materials so they will not interfere with the construction or proper functioning of the channel.
2. Filter fabric is required under all rip rap.
3. Excavate at the locations and grades shown on the Plans.
4. Construction plans will specifically detail the location and handling of spoils. Dispose of spoil material resulting from clearing, grubbing and channel excavation in a manner which will:
 - a. Not cause an increase in flood stage,
 - b. Minimize overbank wash,
 - c. Not cause an adverse effect on the environmental integrity of the area,
 - d. Provide for the free flow of water between the channel and flood plain unless the valley routing and water surface profile are based on continuous dikes being installed,
 - e. Leave the Rights-of-Way in the best condition feasible, and
 - f. Improve the aesthetic appearance of the site to the extent feasible.
5. Establish or install channel linings immediately after construction or as soon as weather permits.

CHANNEL RIP RAP (TYPE 3)



SECTION 603

THIS ITEM CONSISTS OF LINING A CHANNEL WITH TYPE 1 RIP RAP 24" THICK (UNLESS SPECIFIED OTHERWISE) BE PLACED ON TOP OF A GEOTEXTILE UNDERLINER. THE RIP RAP SHALL PROTECT THE DITCH FLOWING TO A DEPTH "D_p" RECOMMENDED BY THE GDOT DITCH PROTECTION PROGRAM. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED ALONG THIS CHANNEL SUCH AS Sd1-C, Rdc OR Sg.

"D_p" SHALL BE IDENTIFIED IN A TABLE LOCATED ON THE SUMMARY OF QUANTITIES SHEETS

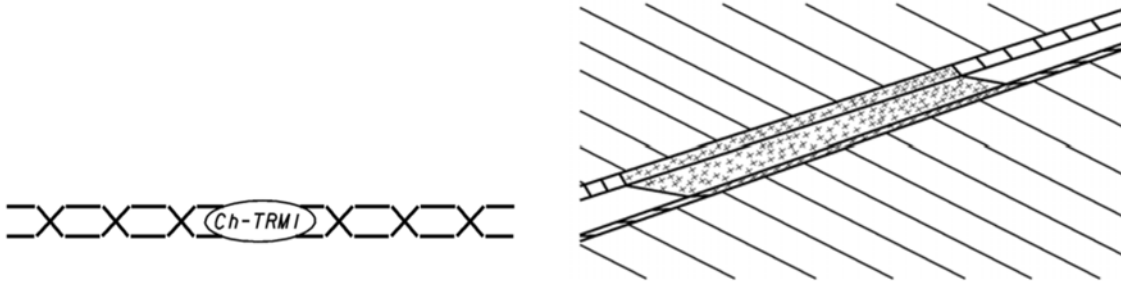
Construction

Place rip rap according to Section 603 and the Plans. Do not damage the woven filter fabric beneath the rip rap.

Follow these guidelines:

1. Remove all trees, brush, stumps and other objectionable materials so they will not interfere with the construction or proper functioning of the channel.
2. Filter fabric is required under all rip rap.
3. Excavate at the locations and grades shown on the Plans.
4. Construction plans will specifically detail the location and handling of spoils. Dispose of spoil material resulting from clearing, grubbing and channel excavation in a manner which will:
 - a. Not cause an increase in flood stage,
 - b. Minimize overbank wash,
 - c. Not cause an adverse effect on the environmental integrity of the area,
 - d. Provide for the free flow of water between the channel and flood plain unless the valley routing and water surface profile are based on continuous dikes being installed,
 - e. Leave the Rights-of-Way in the best condition feasible, and
 - f. Improve the aesthetic appearance of the site to the extent feasible.
5. Establish or install channel linings immediately after construction or as soon as weather permits.

TURF REINFORCING MAT (TYPE 1)



Section 711 and Construction Detail D-35

THIS THREE DIMENSIONAL EROSION CONTROL MAT IS USED IN DITCHES TO STABILIZE THE SOIL BY REINFORCING THE GRASS ROOTS TO PROVIDE LONG TERM PROTECTION FOR SHEAR STRESSES 0-2 psf.

Definition

Three dimensional erosion control mat used in ditches to stabilize the soil by reinforcing the grass roots to provide long term protection.

Construction

Place the erosion control mat according to Section 711 of the Specifications and the attached Details.

Do not soil fill the mat. Plow, lime, fertilize and seed the prepared area prior to placing the mat.

TURF REINFORCING MAT (TYPE 2)



Section 711 and Construction Detail D-35

THIS THREE DIMENSIONAL EROSION CONTROL MAT IS USED IN DITCHES TO STABILIZE THE SOIL BY REINFORCING THE GRASS ROOTS TO PROVIDE LONG TERM PROTECTION FOR SHEAR STRESSES 0-4 psf.

Definition

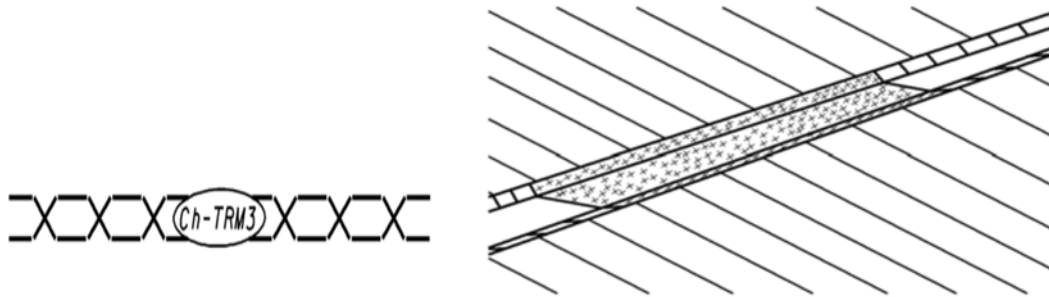
Three dimensional erosion control mat used in ditches to stabilize the soil by reinforcing the grass roots to provide long term protection.

Construction

Place the erosion control mat according to Section 711 of the Specifications and the attached Details.

Do not soil fill the mat. Plow, lime, fertilize and seed the prepared area prior to placing the mat.

TURF REINFORCING MAT (TYPE 3)



Section 711 and Construction Detail D-35

THIS THREE DIMENSIONAL EROSION CONTROL MAT IS USED IN DITCHES TO STABILIZE THE SOIL BY REINFORCING THE GRASS ROOTS TO PROVIDE LONG TERM PROTECTION FOR SHEAR STRESSES 0-6 psf.

Definition

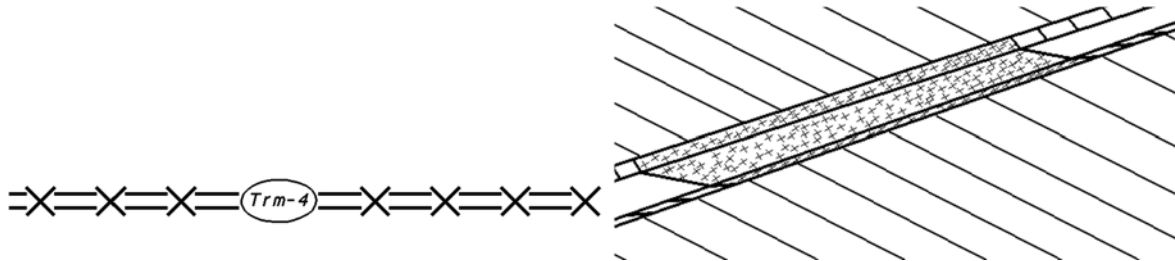
Three dimensional erosion control mat used in ditches to stabilize the soil by reinforcing the grass roots to provide long term protection.

Construction

Place the erosion control mat according to Section 711 of the Specifications and the attached Details.

Do not soil fill the mat. Plow, lime, fertilize and seed the prepared area prior to placing the mat.

TURF REINFORCING MAT (TYPE 4)



Section 711 and Construction Detail 35

THIS THREE DIMENSIONAL EROSION CONTROL MAT IS USED IN DITCHES TO STABILIZE THE SOIL BY REINFORCING THE GRASS ROOTS TO PROVIDE LONG TERM PROTECTION FOR SHEAR STRESSES 0-8 psf.

Definition

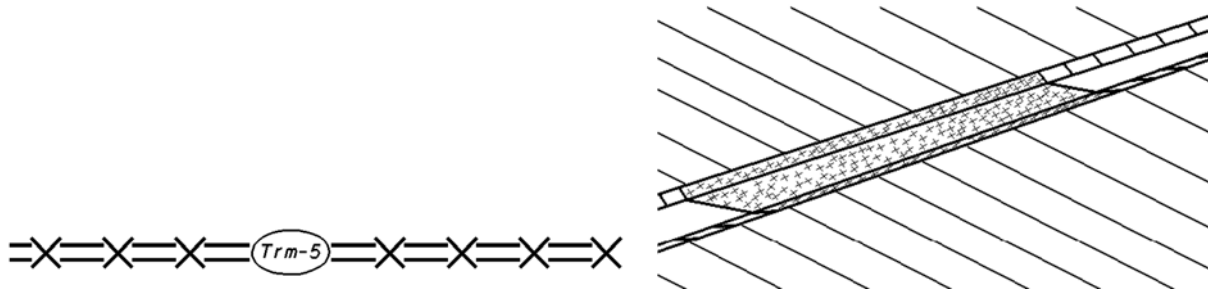
Three dimensional erosion control mat used in ditches to stabilize the soil by reinforcing the grass roots to provide long term protection.

Construction

Place the erosion control mat according to Section 711 of the Specifications and the attached Details.

Do not soil fill the mat. Plow, lime, fertilize and seed the prepared area prior to placing the mat.

TURF REINFORCING MAT (TYPE 5)



Section 711 and Construction Detail 35

THIS THREE DIMENSIONAL EROSION CONTROL MAT IS USED IN DITCHES TO STABILIZE THE SOIL BY REINFORCING THE GRASS ROOTS TO PROVIDE LONG TERM PROTECTION FOR SHEAR STRESSES 0-10 psf.

Definition

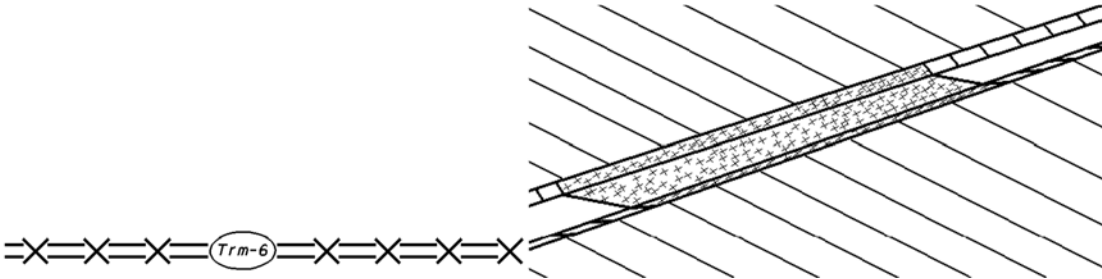
Three dimensional erosion control mat used in ditches to stabilize the soil by reinforcing the grass roots to provide long term protection.

Construction

Place the erosion control mat according to Section 711 of the Specifications and the attached Details.

Do not soil fill the mat. Plow, lime, fertilize and seed the prepared area prior to placing the mat.

TURF REINFORCING MAT (TYPE 6)



Section 711 and Construction Detail 35

THIS THREE DIMENSIONAL EROSION CONTROL MAT IS USED IN DITCHES TO STABILIZE THE SOIL BY REINFORCING THE GRASS ROOTS TO PROVIDE LONG TERM PROTECTION FOR SHEAR STRESSES 0-12 psf.

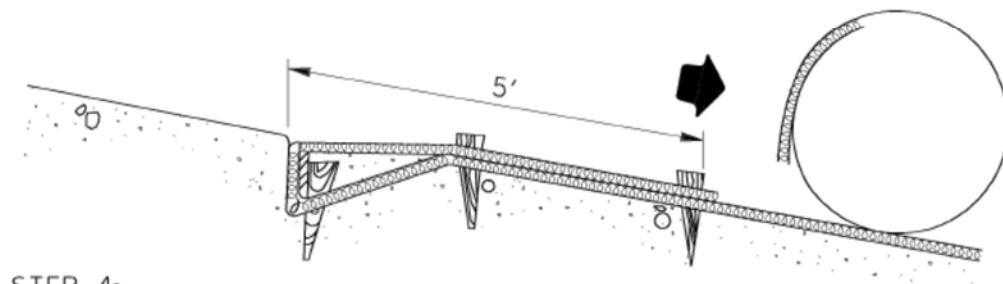
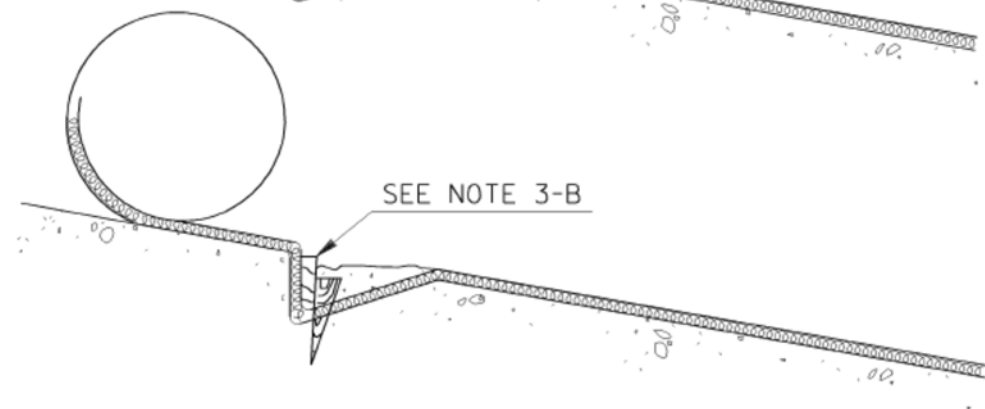
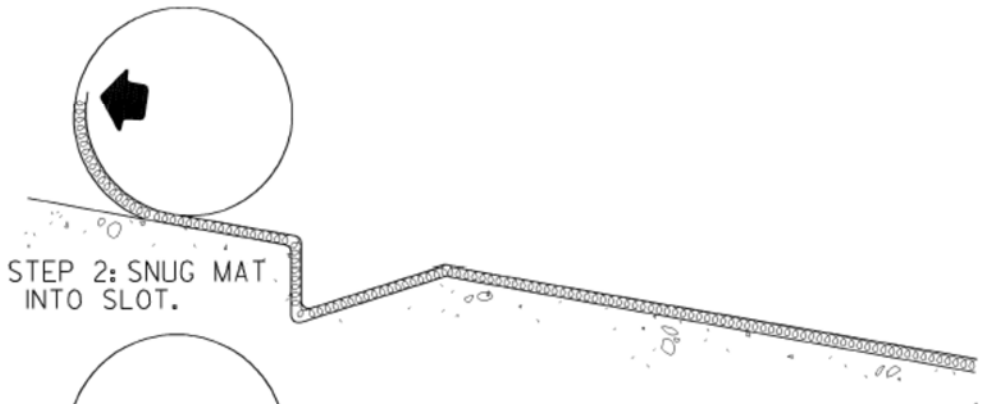
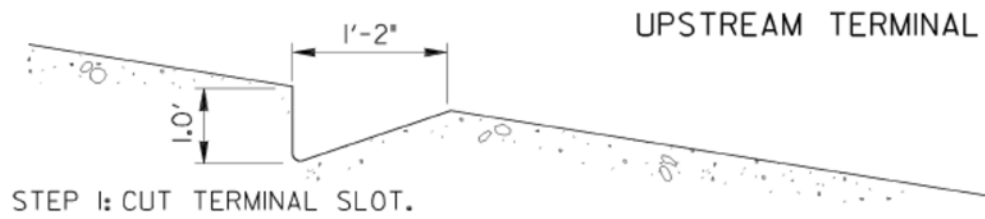
Definition

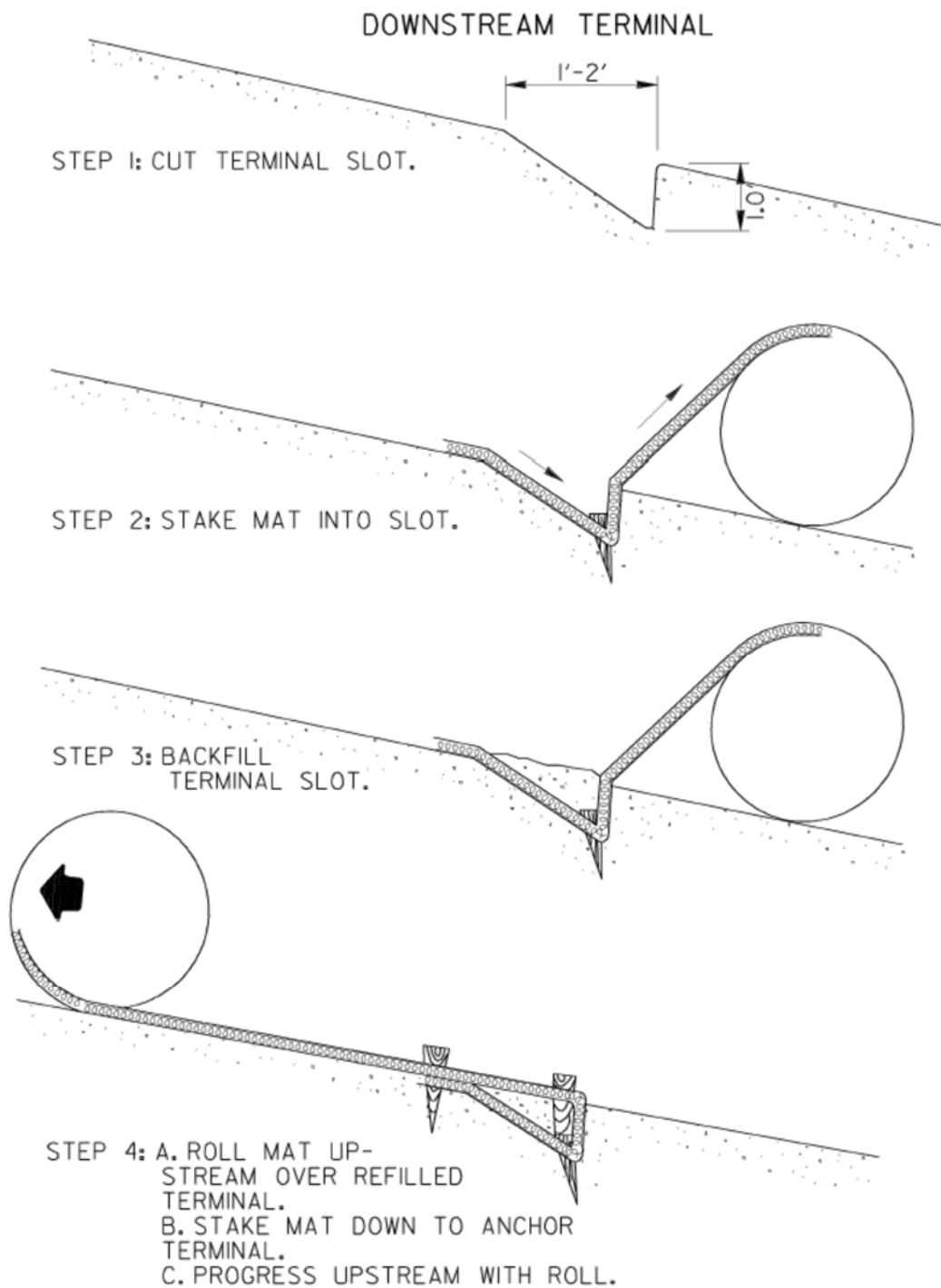
Three dimensional erosion control mat used in ditches to stabilize the soil by reinforcing the grass roots to provide long term protection.

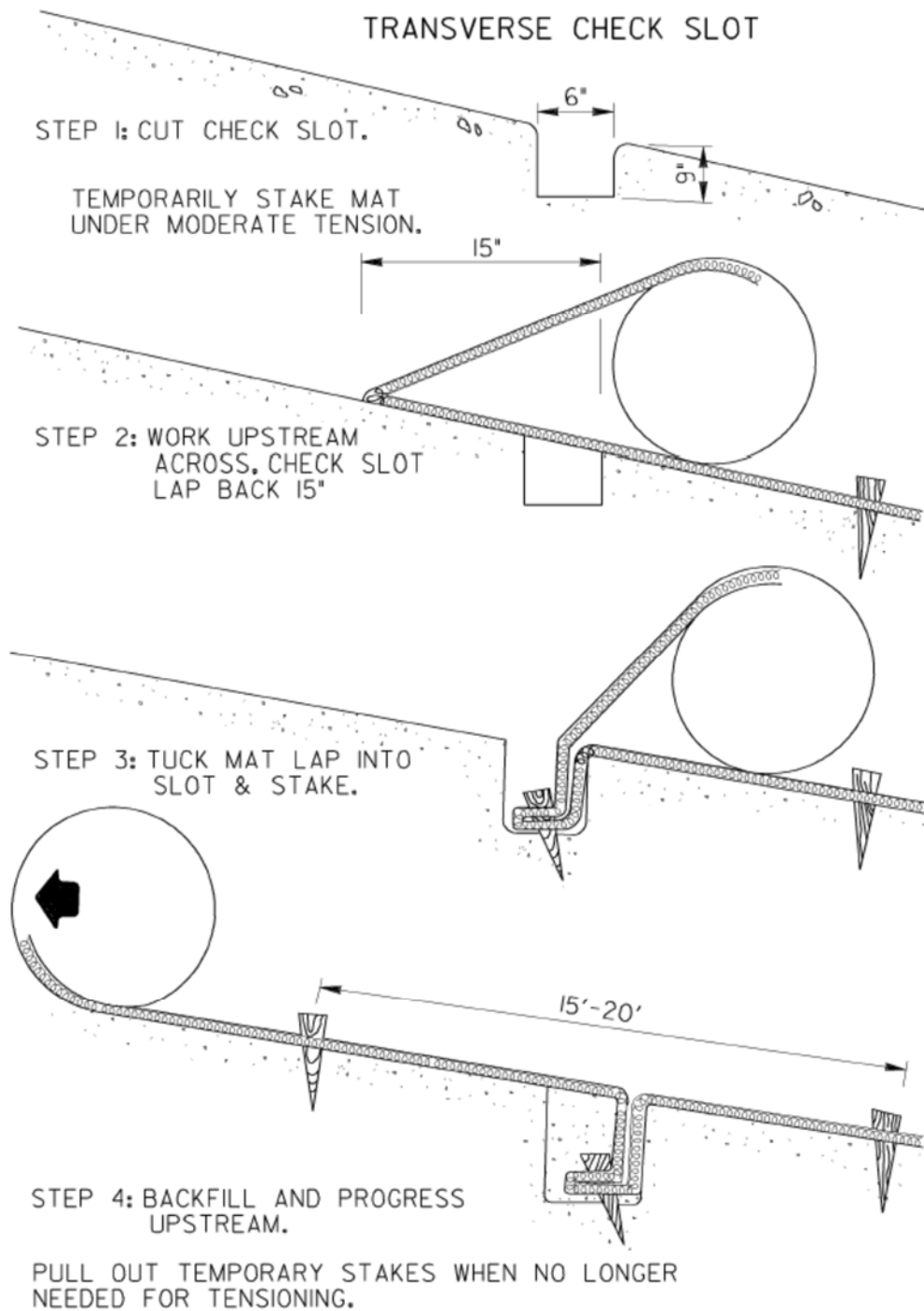
Construction

Place the erosion control mat according to Section 711 of the Specifications and the attached Details.

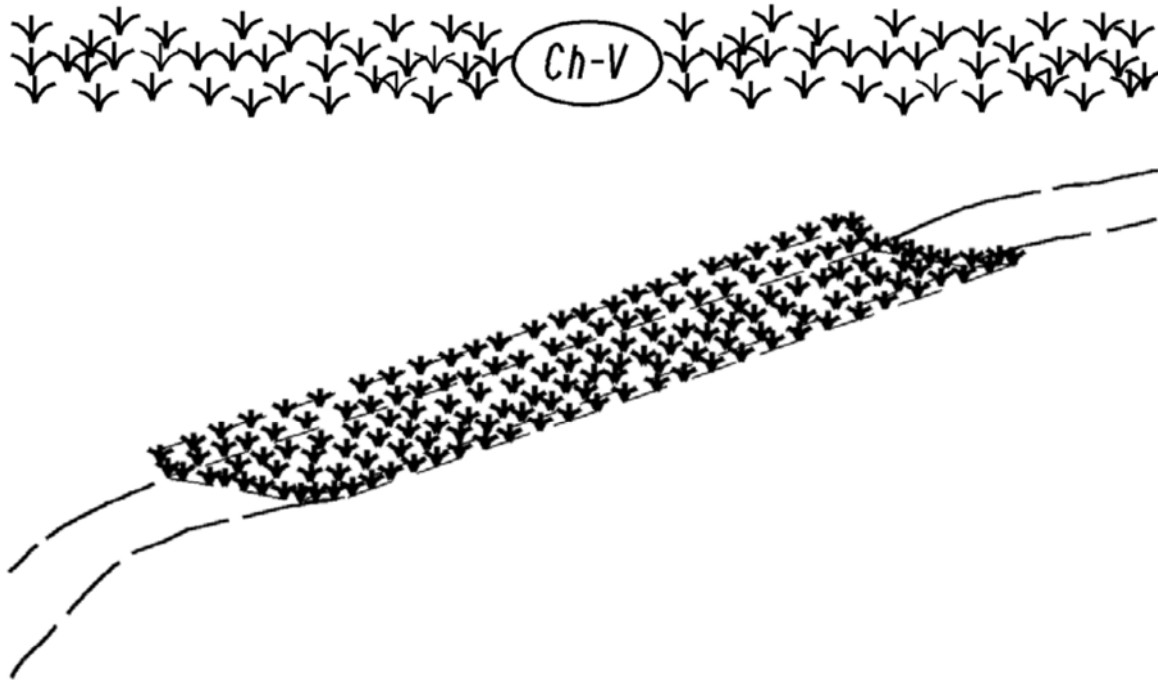
Do not soil fill the mat. Plow, lime, fertilize and seed the prepared area prior to placing the mat.







CHANNEL GRASS



USED TO IMPROVE OR STABILIZE A NEW OR EXISTING CHANNEL. IT IS CONSTRUCTED IN STORMWATER DRAINAGE DITCHES. THIS MEASURE SHALL BE DESIGNED IN ACCORDANCE WITH THE GDOT DITCH PROTECTION PROGRAM ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED. TYPICALLY NOT SHOWN IN PLANS.

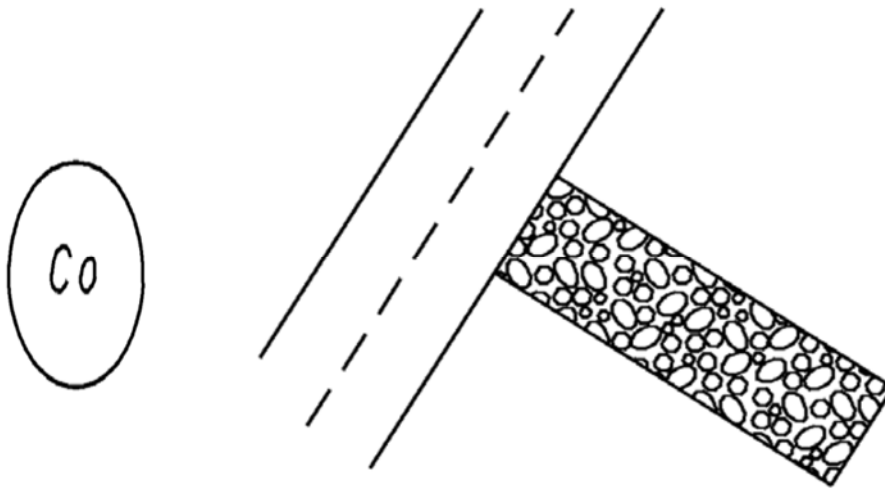
Purpose

Dispose of stormwater runoff, prevent erosion, and reduce sedimentation.

Construction

1. Install according to approved Plan, if shown.
2. Remove all woody growth, obstructions and other objectionable material.
3. Waterway cross-section may be parabolic or trapezoidal in shape. Maximum velocity is 5 feet per second without geotextile.

CONSTRUCTION EXIT



Construction Detail D-41

A STONE STABILIZED PAD LOCATED AT ANY POINT WHERE TRAFFIC WILL BE EXITING A CONSTRUCTION SITE TO A PUBLIC ROAD. BEST USED AT ACCESS POINTS, I. e. NEW LOCATION PROJECTS, BORROW PITS, WASTE PITS, ACCESS ROADS, ETC. SHOULD BE MIN. 20' WIDE AND 50' LONG, AND 6" THICK. REQUIRES A GEOTEXTILE UNDERLINER, INCLUDED IN THE PRICE FOR THE CONSTRUCTION EXIT.

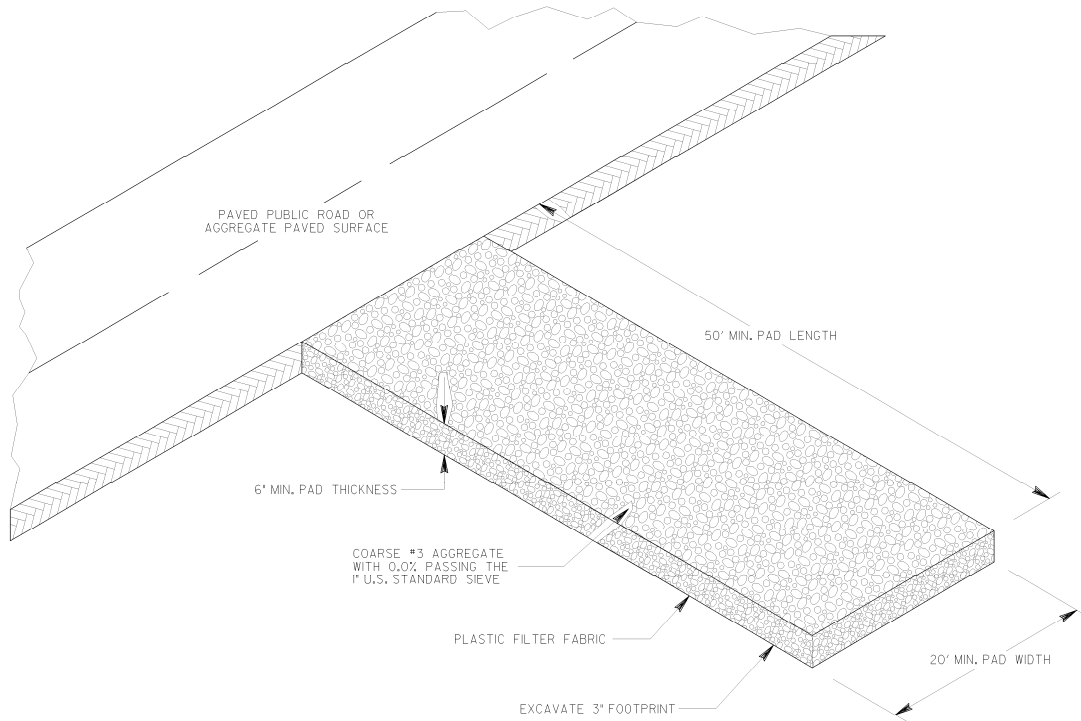
Construction

It is recommended that the entrance area be excavated to a depth of 3 inches and be cleared of all vegetation and roots. Place filter fabric underliner for the full length and width of the entrance.

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, dropped, washed, or raked from vehicles or site onto roadways or into storm drains must be removed immediately

CONSTRUCTION EXIT



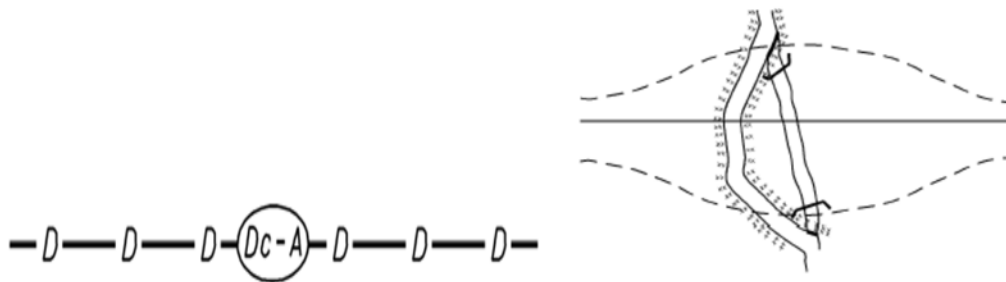
MAINTENANCE

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 COARSE #3 AGGREGATE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES TO TRAP SEDIMENT. ALL MUD AND DEBRIS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

MAINTENANCE

THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT OF WAYS. 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, DROPPED, WASHED, OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

Diversion Channel-A (Geotextile or Polyethylene Film)



SECTION 163 AND CONSTRUCTION DETAIL 38 (Silt Fence D-24B)

A DIVERSION CHANNEL IS A TEMPORARY CHANNEL CONSTRUCTED TO CONVEY FLOW AROUND A CONSTRUCTION SITE WHILE A PERMANENT DRAINAGE STRUCTURE IS BEING CONSTRUCTED IN A NATURAL STREAM. THIS IS A MEASURE USED TO PROTECT STREAM BEDS FROM EROSION. LINE THE CHANNEL WITH GEOTEXTILE OR POLYETHYLENE FILM. INSTALL TWO ROWS OF Silt-C PARALLEL TO THE CHANNEL TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING THE STREAM. THE SIZE OF THE CHANNEL WILL DEPEND ON THE DISCHARGE, CHANNEL GEOMETRY, CHANNEL SLOPE AND ROUGHNESS. IT IS DESIGNED FOR A TWO YEAR STORM FREQUENCY WITH A FLOW RATE BETWEEN 0-2.5 fps. CONSTRUCTION OF THE DIVERSION CHANNEL IS INCLUDED IN THE COST OF THE STRUCTURE.

Materials

Line Type A Diversion Channels with geotextile or polyethylene. Place two rows of silt fence along both sides of the channel to prevent unfiltered runoff from entering the channel. Trench the first row silt fence closest to the creek in with the geotextile or polyethylene liner.

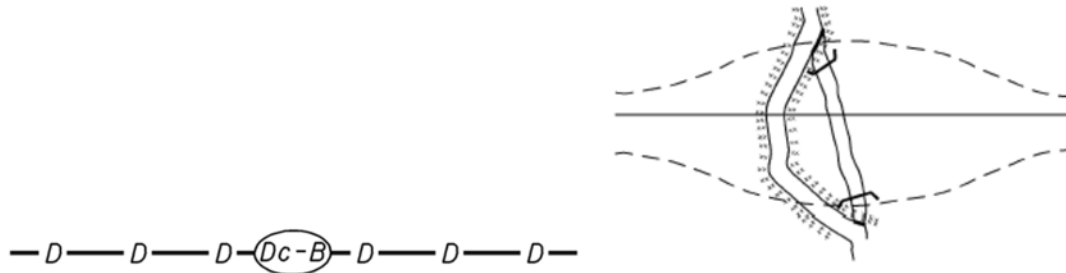
Construction

Excavate the channel leaving soil plugs at both ends. The material excavated for the temporary channel can be used as a berm on the side of the channel. Immediately seed and mulch the berm. Line the channel with geotextile or polyethylene as directed in the Plans. Place rock check slots every 25 feet. Secure the outer edges at the top of the channel with compacted soil. When the liner installation is complete, remove the plugs at both ends (downstream first) and divert the flow into the diversion. After the installation of the permanent drainage structure is complete, re-plug the diversion, salvage the diversion liner, and backfill the channel.

Maintenance

Inspect routinely and after every rainfall for damage to the liner. Repair problems immediately.

DIVERSION CHANNEL – B (Geotextile Only)



SECTION 163 AND CONSTRUCTION DETAIL 38 (Silt Fence D-24B)

A DIVERSION CHANNEL IS A TEMPORARY CHANNEL CONSTRUCTED TO CONVEY FLOW AROUND A CONSTRUCTION SITE WHILE A PERMANENT DRAINAGE STRUCTURE IS BEING CONSTRUCTED IN A NATURAL STREAM. THIS IS A MEASURE USED TO PROTECT STREAM BEDS FROM EROSION. LINE THE CHANNEL WITH GEOTEXTILE ONLY. INSTALL TWO ROWS OF Silt-C PARALLEL TO THE CHANNEL TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING THE STREAM. THE SIZE OF THE CHANNEL WILL DEPEND ON THE DISCHARGE, CHANNEL GEOMETRY, CHANNEL SLOPE AND ROUGHNESS. IT IS DESIGNED FOR A TWO YEAR STORM FREQUENCY WITH A FLOW RATE BETWEEN 2.5-9.0 fps. CONSTRUCTION OF THE DIVERSION CHANNEL IS INCLUDED IN THE COST OF THE STRUCTURE.

Materials

Line Type B Diversion Channels with geotextile only. Place two rows of silt fence along both sides of the channel to prevent unfiltered runoff from entering the channel. Trench the first row silt fence closest to the creek in with the geotextile liner.

Construction

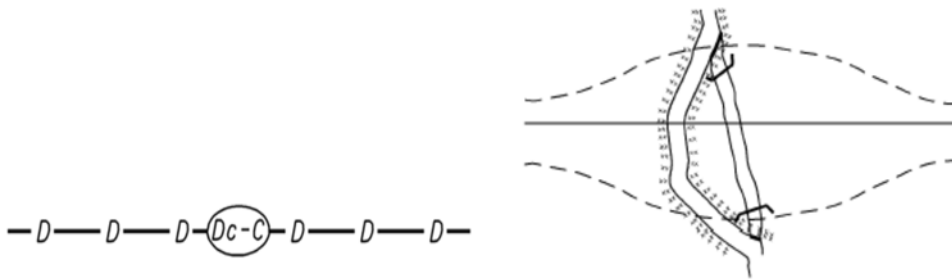
Excavate the channel leaving soil plugs at both ends. The material excavated for the temporary channel can be used as a berm on the side of the channel. Immediately seed and mulch the berm. Line the channel with geotextile only as directed in the Plans. Place rock check slots every 25 feet. Secure the outer edges at the top of the channel with compacted soil. When the liner installation is complete, remove the plugs at both ends (downstream first) and divert the flow into the diversion. After the installation of the permanent drainage structure is complete, re-plug the diversion, salvage the diversion liner, and backfill the channel.

Maintenance

Inspect routinely and after every rainfall for damage to the liner. Repair problems immediately.

DIVERSION CHANNEL- C

(Rip Rap and Geotextile)



SECTION 163 AND CONSTRUCTION DETAIL 38 (Silt Fence D-24B)

A DIVERSION CHANNEL IS A TEMPORARY CHANNEL CONSTRUCTED TO CONVEY FLOW AROUND A CONSTRUCTION SITE WHILE A PERMANENT DRAINAGE STRUCTURE IS BEING CONSTRUCTED IN A NATURAL STREAM. THIS IS A MEASURE USED TO PROTECT STREAM BEDS FROM EROSION. LINE THE CHANNEL WITH RIPRAP AND GEOTEXTILE. INSTALL TWO ROWS OF Silt-C PARALLEL TO THE CHANNEL TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING THE STREAM. THE SIZE OF THE CHANNEL WILL DEPEND ON THE DISCHARGE, CHANNEL GEOMETRY, CHANNEL SLOPE AND ROUGHNESS. IT IS DESIGNED FOR A TWO YEAR STORM FREQUENCY WITH A FLOW RATE BETWEEN 9.0-13.0 fps. CONSTRUCTION OF THE DIVERSION CHANNEL IS INCLUDED IN THE COST OF THE STRUCTURE.

Materials

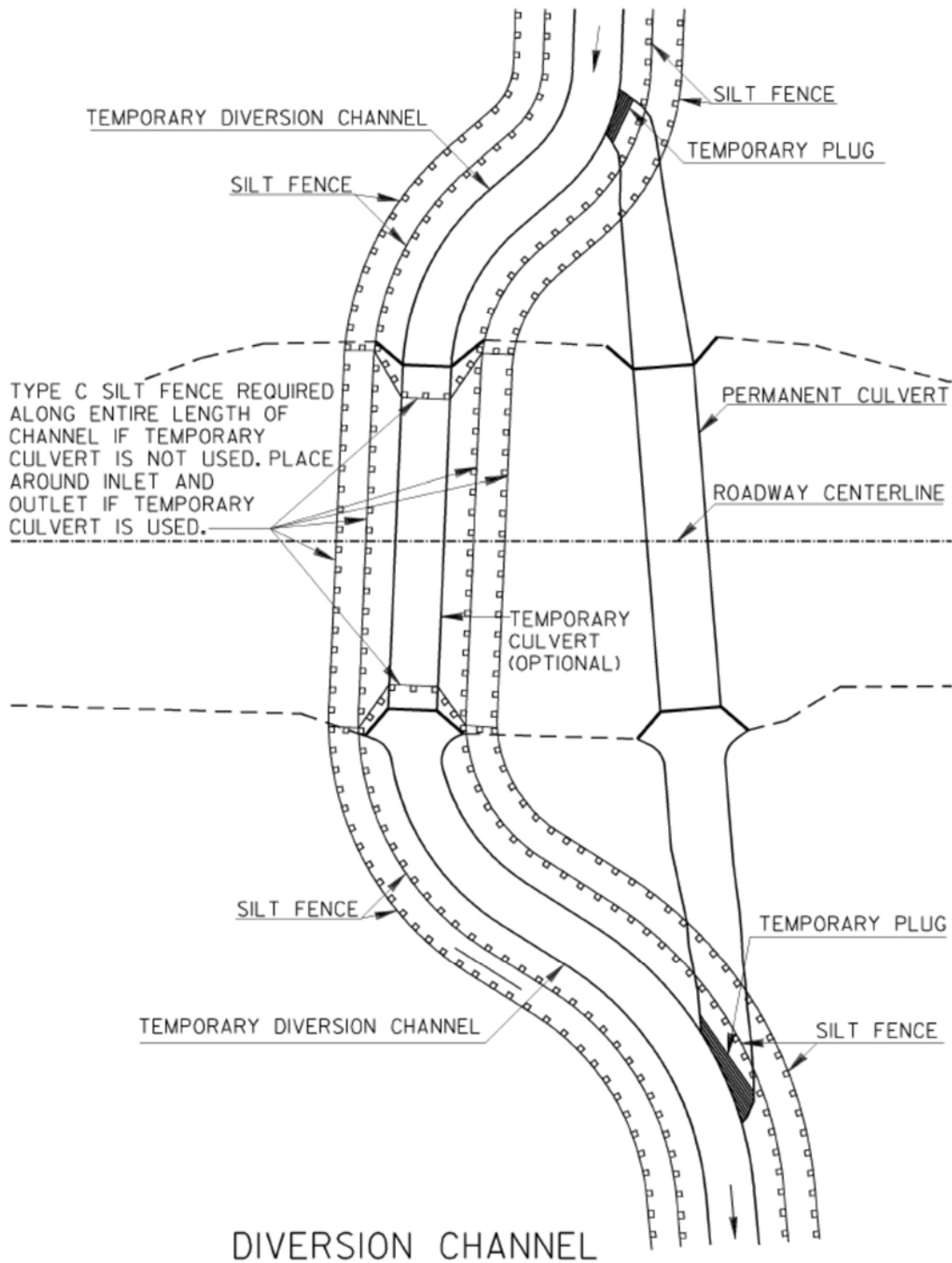
Line Type C Diversion Channels with rip rap and geotextile. Place two rows of silt fence along both sides of the channel to prevent unfiltered runoff from entering the channel. Trench the first row silt fence closest to the creek in with the geotextile liner.

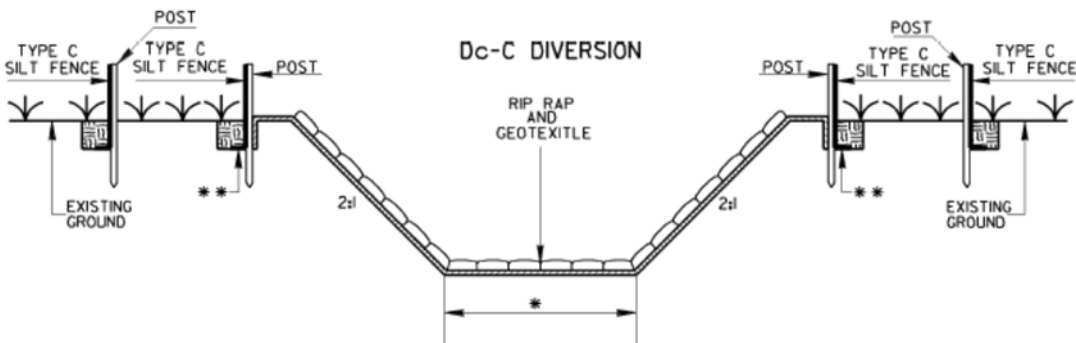
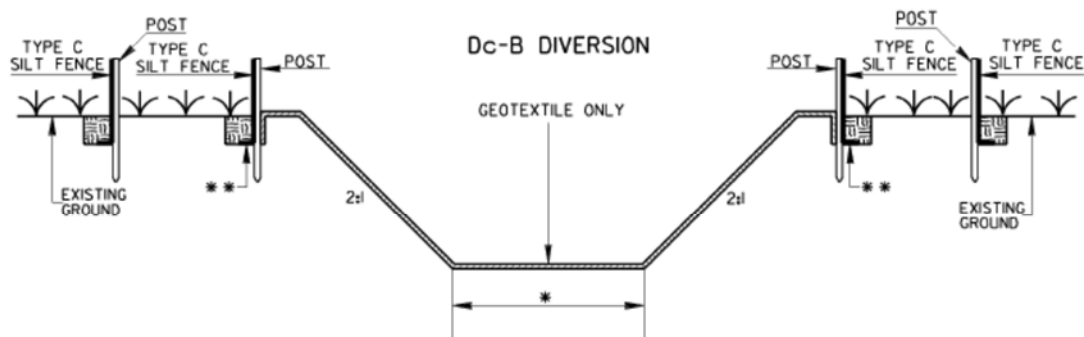
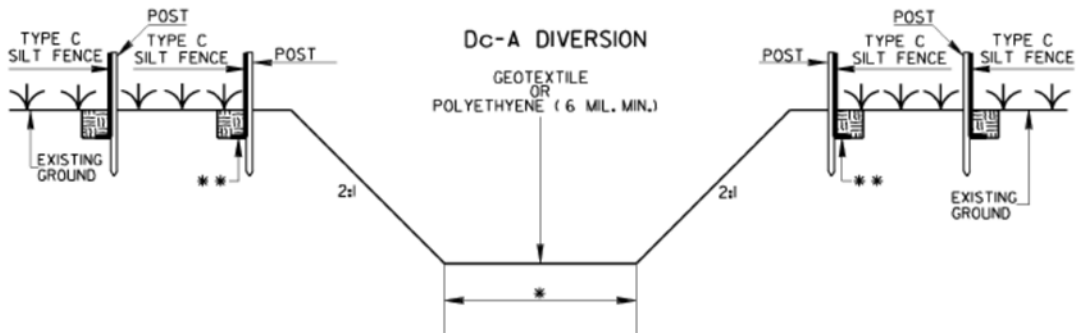
Construction

Excavate the channel leaving soil plugs at both ends. The material excavated for the temporary channel can be used as a berm on the side of the channel. Immediately seed and mulch the berm. Line the channel with rip rap underlain by a geotextile as directed in the Plans. When the liner installation is complete, remove the plugs at both ends (downstream first) and divert the flow into the diversion. After the installation of the permanent drainage structure is complete, re-plug the diversion, salvage the rip rap and geotextile and backfill the channel.

Maintenance

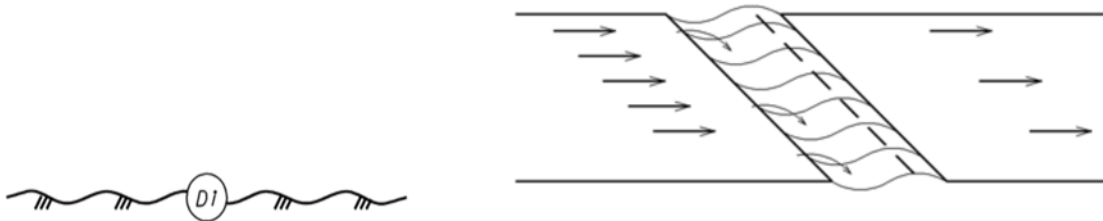
Inspect routinely and after every rainfall for damage to the liner. Repair problems immediately.





- * 6' MINIMUM OR WIDTH OF EXISTING STREAM WHICHEVER IS LESS
 - ** ENTRENCH SILT FENCE AND FILTER CLOTH IN SAME TRENCH
- DIVERSION CHANNELS

DIVERSION



Section 205 and Construction Detail D-47

AN EARTH CHANNEL WITH A COMPACTED SUPPORTING RIDGE ON THE LOWER SIDE, CONSTRUCTED ABOVE, ACROSS OR BELOW A SLOPE TO REDUCE THE LENGTH OF A SLOPE AND TO INTERCEPT RUNOFF AND DIRECT THE RUNOFF TO A STABLE OUTLET.

Purpose

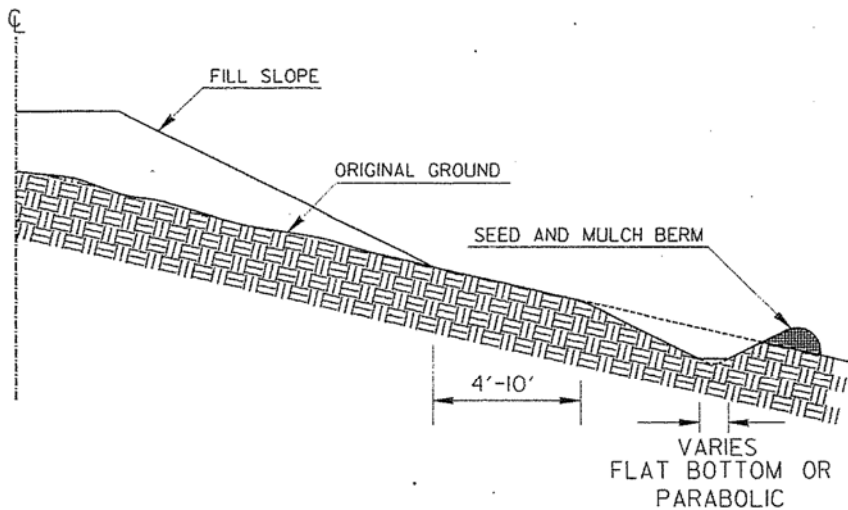
Diversions are measures used on a temporary or permanent basis to divert water around an area that is either under construction, being stabilized, or prone to erosion. This is accomplished by constructing channels and berms. Specific applications include diverting runoff around a large denuded area as a perimeter control, diverting runoff around a cut slope as a temporary or permanent measure.

Construction

Diversion channels for perimeter controls should be constructed after the area has been cleared but before grubbing and grading operations begin. The material excavated for the temporary channel can be used as a berm on the side of the channel. Immediately seed the berm with temporary vegetation and mulch. **Line the channel immediately with the appropriate lining material.**

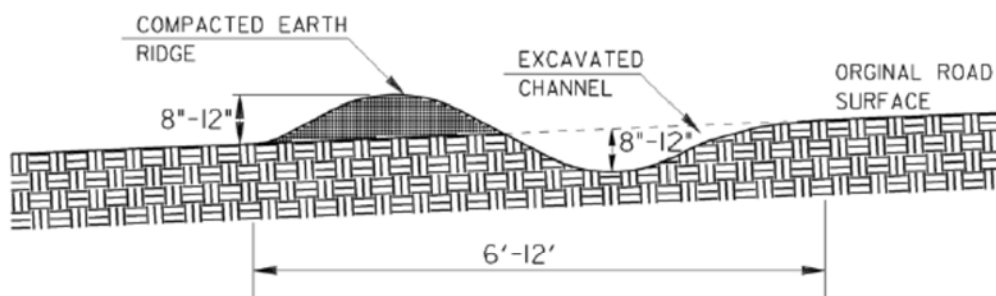
Maintenance

Inspect the channel periodically and after every rainfall to ensure proper functioning. Any damage in the lining should be repaired or revegetated. Remove and properly dispose of all debris to provide adequate flow conveyance.

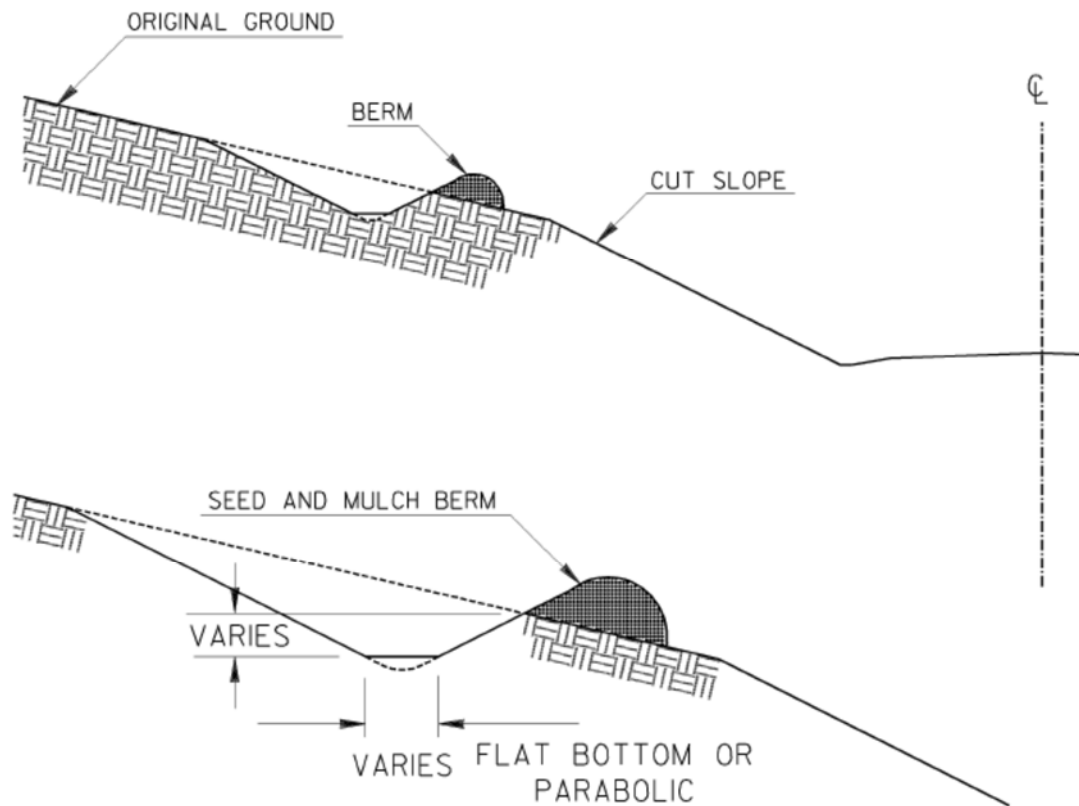


NOTE: DITCH SHOULD BE SEEDED AND PROTECTED WITH TEMPORARY LINING.

DIVERSION FILL SECTION

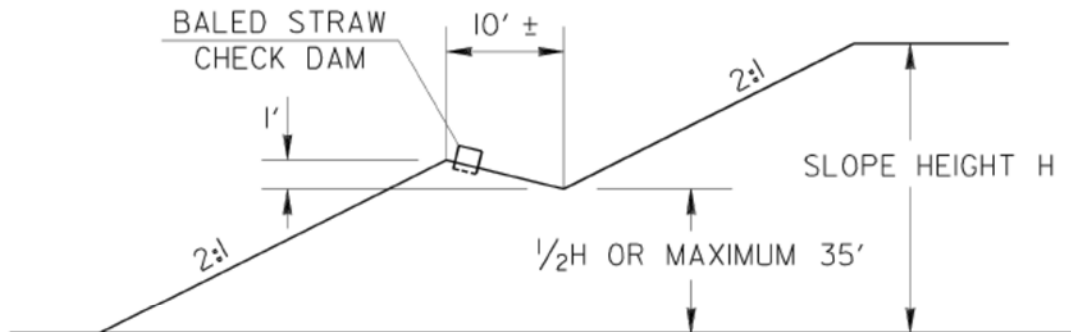


TYPICAL DIVERSION ACROSS ROAD



NOTE: DITCH SHOULD BE SEEDED AND PROTECTED WITH TEMPORARY LINING.

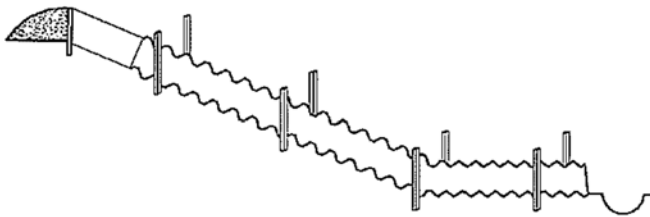
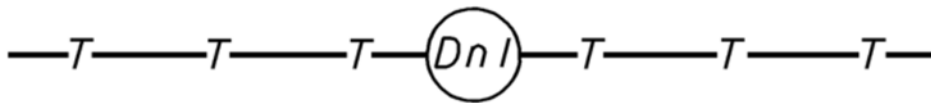
DIVERSION CUT SECTION



NOTES:

1. FOR SLOPES HEIGHTS GREATER THAN 35 FEET, A BERM SHOULD BE CONSTRUCTED AT APPROXIMATELY $\frac{1}{2}$ THE SLOPE HEIGHT. FOR SLOPES HEIGHTS GREATER THAN 70 FEET, CONSTRUCT A BERM EVERY 35 FEET.
2. THE BERM SHOULD BE SLOPED TO DRAIN AND SHOULD BE CONNECTED TO CONCRETE FLUMES TO REMOVE WATER FROM SLOPE.
3. A DRAINAGE DITCH SHOULD BE CONSTRUCTED AT THE TOP OF CUT SLOPES WHERE WATER DRAINS TOWARD SLOPE.

DOWN DRAIN STRUCTURE-FLEXIBLE



SECTION 163 AND CONSTRUCTION DETAIL D-19

A TEMPORARY PIPE SLOPE DRAIN IS A PLASTIC FLEXIBLE PIPE TO CARRY WATER FROM THE WORK AREA TO A LOWER ELEVATION. TEMPORARY SLOPE DRAINS SHOULD BE PLACED AT INTERVALS OF 500 FEET ON A 0 TO 2 PERSENT GRADE, 200 FEET ON STEEPER GRADES AND MORE FREQUENTLY AS DIRIECTED BY FIELD CONDITIONS. THE USUAL PIPE SIZE IS 10 IN CH CORRUGATED. THE OUTLET AREA SHOULD BE STABILIZED WITH SILT FENCE, SUMP HOLE, HAYBALES, ANGLING OUTLET IN UPHILL DIRECTION OR OTHER APPRIATE MEANS OF VELOCITY DISSIPATION AAND EROSION CONTROL. THE PIPE WILL BE ANCHORED WITH STAKES AT INTERVALS NOT TO EXCEED 10 FT.

Construction

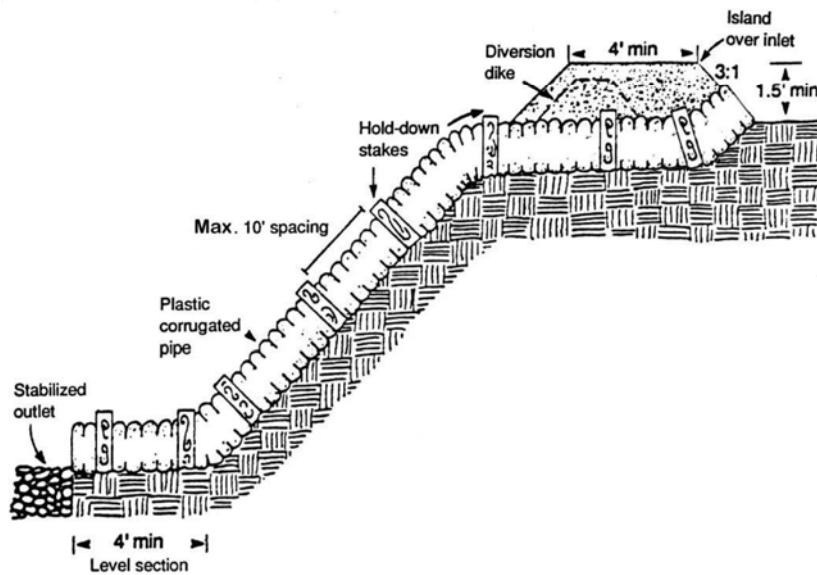
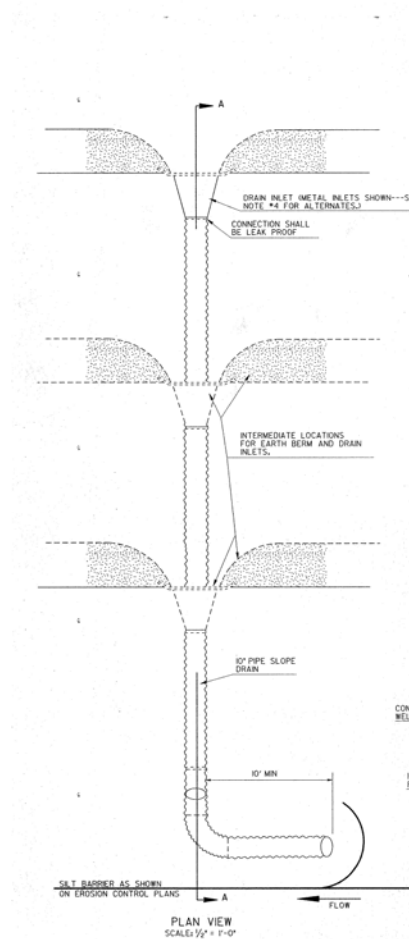
A common failure of slope drains is caused by water saturating the soil and seeping along the pipe. This creates voids from consolidation and piping causes washouts. Proper backfilling around and under the pipe "haunches" with stable soil material and hand compacting in 6-inch lifts to achieve firm contact between the pipe and the soil at all points will eliminate this type of failure.

1. Place slope drains on undisturbed soil or well-compacted fill at locations and elevations shown on the Plans.

2. Slightly slope the section of pipe under the dike toward its outlet.
3. Hand tamp the soil under and around the entrance section in lifts not to exceed 6 inches.
4. Ensure that fill over the drain at the top of the slopes has minimum dimensions shown on the Plans.
5. Ensure that the pipe is placed at an angle down the slope and not straight down.
6. Ensure that slope drain connections are water-tight and that the pipe extends all the way down the slope.
7. Ensure that all fill material is well compacted. Securely fasten the exposed section of the drain with grommets or stakes spaced no more than 10 feet apart.
8. Extend the drain 4 feet beyond the toe of the slope and adequately protect the outlet from erosion.
9. Always place the outlet within the contained area. Do not cut the silt fence and run the pipe through it or put the pipe over the fence.
10. Make the settled, compacted dike ridge no less than 1 foot above the top of the pipe at every point.
11. Immediately stabilize all disturbed areas following construction.

Maintenance

Inspect the slope drain and supporting diversion after every rainfall and promptly make necessary repairs. When the protected area has been permanently stabilized, temporary measures may be removed, materials disposed of properly, and all disturbed areas stabilized appropriately.



DOWN DRAIN STRUCTURE-PERMANENT (CONCRETE FLUME- TYPE A)



SECTION 441 AND STD 9017J

A CONCRETE FLUME TYPE "A" IS USED TO DIRECT SURFACE RUNOFF DOWN A ROADWAY SLOPE INTO ANOTHER FORM OF CONTROL. IT IS USED IN ALL DEPRESSED AREAS WHERE WATER FLOW DOWN THE SLOPE. IT IS DESIGNED FOR A 25 YEAR STORM AND MUST HAVE SOME FORM OF OUTLET PROTECTION. ADDITIONAL LABELING IS NOT REQUIRED IF SHOWN AS A PERMANENT DRAINAGE STRUCTURE ON THE CONSTRUCTION PLANS. INLET SHALL BE SPACED ACCORDING TO GDOT GUIDELINES (REGARDING GUTTER SPREAD AND/OR OTHER CRITERIA.

Purpose

To prevent rill and gully erosion of cut and fill slopes.

Construction

Concrete flumes shall be constructed according to Section 441, "Miscellaneous Concrete". Ensure storm water discharges from concrete flumes to non-erodible areas.

Maintenance

Maintain all concrete flumes to the satisfaction of the Engineer until final acceptance.

DOWN DRAIN STRUCTURE-PERMANENT

(CONCRETE FLUME- TYPE B)



SECTION 441 AND STD 9017J

A CONCRETE FLUME TYPE "B" IS USED TO DIRECT SURFACE DITCH RUNOFF DOWN A BACK SLOPE INTO ANOTHER FORM OF CONTROL. IT IS USED IN DEPRESSED AREAS WHERE CONCENTRATED OFFSITE WATER REACHES THE CUT SLOPE. IT IS DESIGNED TO SAFETLY CONVEY WATER DOWN THE CUT SLOPE. IT IS DESIGNED FOR A 25 YEAR STORM AND MUST HAVE SOME FORM OF OUTLET PROTECTION. ADDITIONAL LABELING IS NOT REQUIRED IF SHOWN AS A PERMANENT DRAINAGE STRUCTURE ON THE CONSTRUCTION PLANS. INLETS SHALL BE SPACED ACCORDING TO GDOT GUIDELINES (REGARDING GUTTER SPREAD AND OR OTHER CRITERIA).

Purpose

To prevent rill and gully erosion of cut and fill slopes.

Construction

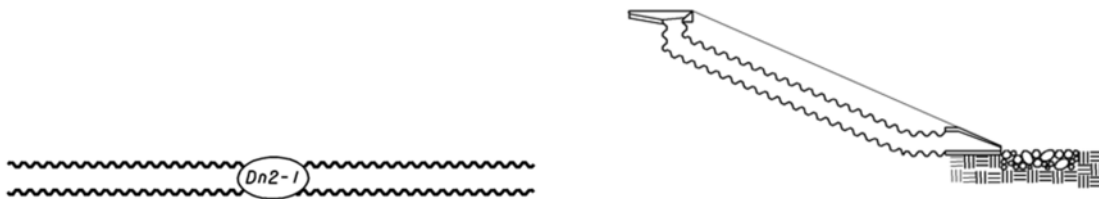
Construct concrete flumes shall be constructed according to Section 441, "Miscellaneous Concrete". Ensure storm water discharges from concrete flumes to nonerodible areas.

Maintenance

Maintain all concrete flumes to the satisfaction of the Engineer until final acceptance.

DOWN DRAIN STRUCTURE– PERMANENT

(GA STD 9017J-TYPE 1 & Detail D-26-Type 1)



SECTIONS 576, 577, STD 9017J AND DETAIL D-26

CONCRETE DRAIN INLET WITH METAL PIPE IS USED TO DRAIN CURBS, ON A GRADE, DOWN TO A LOWER ELEVATION. THIS IS A PERMANENT STRUCTURE, REQUIRING OUTLET PROTECTION, TEMPORARY AND PERMANENT. INLETS SHALL BE SPACED ACCORDING TO GDOT GUIDELINES (REGARDING GUTTER SPREAD AND OR OTHER CRITERIA).

Purpose

This practice is used to convey storm water runoff safely down a fill slope to minimize erosion.

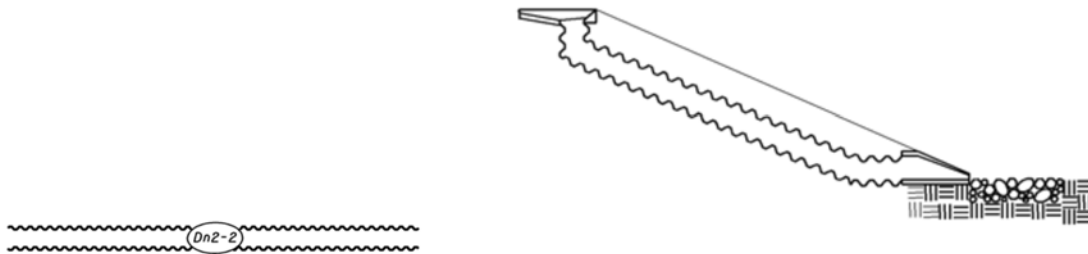
Construction

Install per plans and GA standards.

Perform this type construction in two stages. Perform Stage 1 construction and installation of the drain and inlet to protect the slope as soon as an embankment is completed. Perform Stage 2 construction progressively as the paved shoulders are completed.

DOWN DRAIN STRUCTURE – PERMANENT

(GA STD 9017J-TYPE 2 & Detail D-26-Type 2)



SECTIONS 576, 577, STD 9017 J AND DETAIL D-26

CONCRETE DRAIN INLET AND METAL PIPE IS USED TO DRAIN CURB, IN A SAG, DOWN TO A LOWER ELEVATION. THIS IS A PERMANENT STRUCTURE, REQUIRING OUTLET PROTECTION, TEMPORARY AND PERMANENT. INLETS SHALL BE SPACED ACCORDING TO GDOT GUIDELINES (REGARDING GUTTER SPREAD AND OR OTHER CRITERIA).

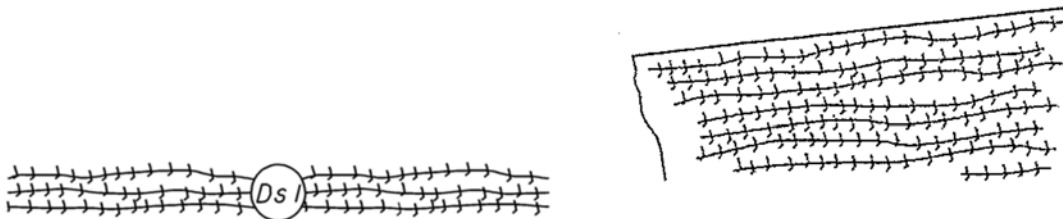
Purpose

This practice is used to convey storm water runoff safely down a fill slope to minimize erosion.

Construction

Perform this type construction in two stages. Perform Stage 1 construction and installation of the drain and inlet to protect the slope as soon as an embankment is completed. Perform Stage 2 construction progressively as the paved shoulders are completed.

MULCH



Section 163

THIS IS AN APPLICATION OF STRAW MULCH USED TO REDUCE SOIL EROSION AND STABILIZE THE SOIL. IT IS USED TO CONTROL EROSION IN AREAS WHERE PERMANENT VEGETATION IS OUT OF SEASON OR TO TEMPORARILY STABILIZE AREAS PRIOR TO FINAL GRADING.

Purpose

A temporary cover of straw or hay mulch to reduce runoff, erosion and sedimentation. Mulch is for use on areas that will be left for less than 60 days.

Construction

Install other BMPs first. Place mulch 2 to 4 inches loose. Anchor the mulch by pressing it into the soil with a crimper, empty sheepsfoot or other suitable equipment.

Where specified, use bituminous mulch (straw or hay) or a tackifier from the DOT Qualified Products List. Bituminous binder must be SS-1h or SS-1 Emulsion according to Section 822 of the Specifications. Refer to Subsection 700.3.05.G.1 for additional requirements.

Grass and mulch weekly. Mulch is paid for by the ton.

Maintenance

Inspect weekly and after rainfall events. Reapply mulch as needed to meet the Specification requirements.

TEMPORARY GRASS



SECTION 163

THE SOWING OF A QUICK GROWING SPECIES OF GRASS SUITABLE TO THE AREA AND SEASON IS TO BE USED ON ALL PROJECTS.

Purpose

A fast growing temporary vegetative cover to reduce runoff, erosion and sedimentation until permanent vegetation is established.

Construction

Refer to Subsection 700.3.05 of the Specifications for seed types and application rates.

Provide a seed bed and apply fertilizer at the rate of 400 pounds per acre (if to final grade, lime should be placed based on laboratory soil test). Apply the seed and $\frac{3}{4}$ to 1 $\frac{1}{2}$ inches of mulch. PAM is required as part of the temporary grassing process. Temporary grassing is paid for per acre. Lime (when required), fertilizer, and mulch are paid for separately.

Maintenance

Inspect the seeded areas weekly and after rainfall events. Redress and regrass areas as needed to meet the Specifications.

PERMANENT GRASSING



Section 700

THE SOWING OF PERMANENT VEGETATION, SUCH AS GRASS, SUITABLE TO THE AREA AND SEASON IS TO BE USED ON ALL PROJECTS.

PERMANENT VEGETATIVE REQUIREMENTS ARE ADDRESSED BY STANDARD SPECIFICATIONS AND ARE NOT TYPICALLY SHOWN ON THE PLANS; HOWEVER, THEY MAY BE SHOWN ON THE PLANS FOR HIGHLY SENSITIVE AREAS WHERE THESE VEGETATIVE PRACTICES ARE CRITICAL.

Purpose

To produce a permanent vegetative cover to reduce runoff, erosion and sedimentation that meet the requirements of the Specification and NPDES permits

Construction

Agricultural Lime and fertilizer rates will be based on laboratory soil test reports in accordance with subsection 700.2 C & D.

Refer to Subsection 700.3.05 of the Specifications for seed types and application rates.

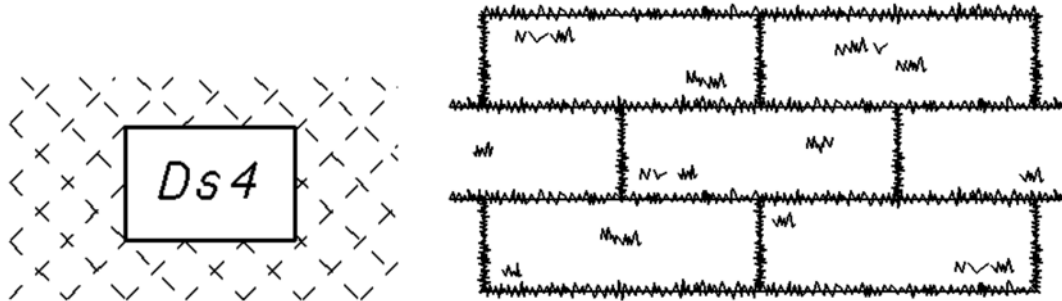
Provide a seed bed to final grade. Uniformly apply fertilizer and lime at the rates determined by the laboratory soil test. Mix soil and apply seed to areas prepared for final grassing. Use PAM in accordance with Specification and apply $\frac{3}{4}$ to 1 $\frac{1}{2}$ inches of mulch. Grassing is paid by the acre. Lime, fertilizer, and mulch are paid for separately.

Apply Nitrogen as directed by the Engineer. Nitrogen is paid separately.

Maintenance

Inspect the seeded areas weekly and after rainfall events. Preserve, protect, water, reseed and replant as necessary to keep grass areas in satisfactory condition.

SOD



SECTION 700

THE INSTALLATION OF A SPECIES OF GRASS SODDING SUITABLE TO THE AREA AND SEASON TO PROVIDE IMMEDIATE PERMANENT VEGETATION.

SODDING MAY BE SHOWN FOR HIGHLY SENSITIVE AREAS, TO IMPROVE AESTHETICS, OR FOR SPECIAL PLANTING REQUIREMENTS ON THE BASIS OF ENVIRONMENTAL COMMITMENTS OR LANDSCAPING REQUIREMENTS.

Purpose

A permanent vegetative cover that is used to reduce runoff, erosion and sedimentation.

Construction

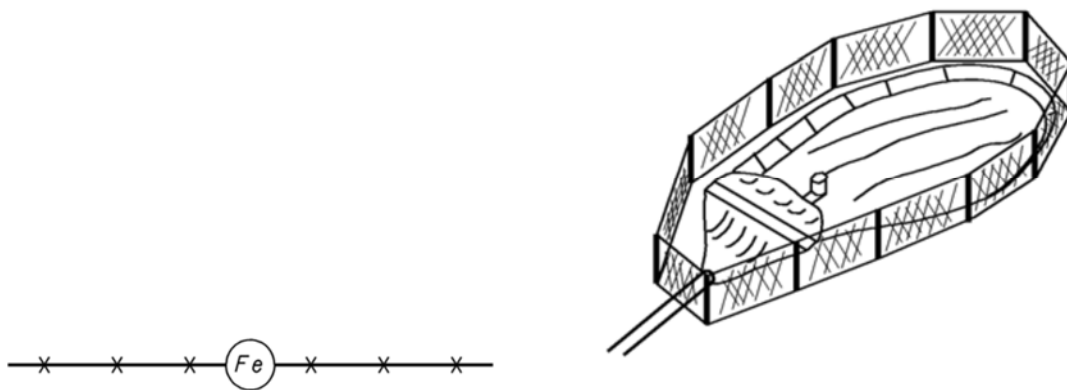
Refer to Subsection 700.3.05.H (SOD) of the Specifications for approved kinds of sod

Sod shall be nursery-grown and be accompanied with a Georgia Department of Agriculture Live Plant License Certificate or Stamp. Apply lime and fertilizer per Specification 700.3.05.D within 24 hours prior to installing sod. Stake according to Specifications and water to promote growth.

Maintenance

Inspect the areas weekly and after rainfall events.

FENCE



SECTION 643 AND CONSTRUCTION DETAILS

THIS IS A PROTECTIVE BARRIER TO PREVENT TRESPASSING INTO A SEDIMENT BASIN OR ANY OTHER TYPE OF SEDIMENT CATCHMENT AREA THAT MAY BE A HAZARD. IT SHOULD BE CONSIDERED IN URBAN AREAS. PERMANENT SEDIMENT BASINS AND DETENTION PONDS SHOULD USE CHAIN LINK FENCE. TEMPORARY SEDIMENT BASINS SHOULD USE FIELD FENCE, WOVEN WIRE FENCE OR CONSTRUCTION SAFETY FENCE.

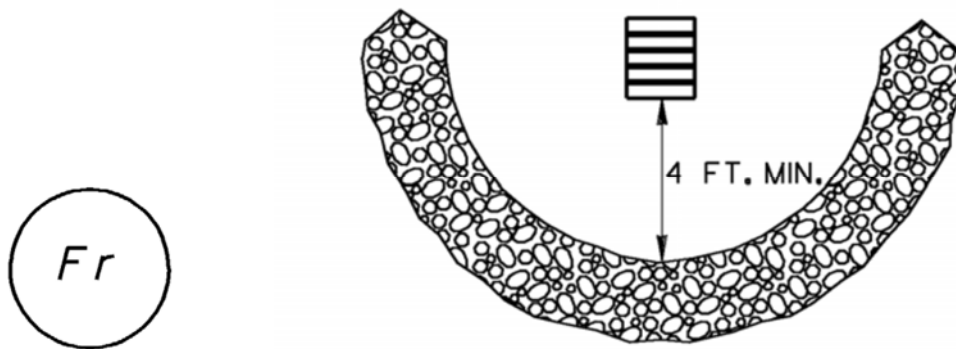
Construction

Use field fence, woven wire fence or construction safety fence according to Section 643 and the Plans.

Maintenance

Inspect fence periodically for damage and to insure that it is in-place and functioning as intended.

FILTER RING



SPECIFICATION 163 AND DETAIL EC-L3

A TEMPORARY STONE BARRIER CONSTRUCTED AT DRAINAGE STRUCTURE INLETS. THIS REDUCES THE VELOCITY OF THE RUNOFF AND FILTERS SEDIMENT FROM THE RUNOFF. SEE CHAPTER 6 OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA FOR DESIGN CRITERIA AND DETAILS.

Purpose

Used to reduce flow velocities and prevent failure of other sediment control devices. It prevents sediment from leaving the site or entering drainage systems.

Construction

Use filter rings in conjunction with other BMPs. Surround all sides of the drainage structure with the filter ring. Place it a minimum of 4 feet from the structure. If the filter ring is used above a retrofit structure, place the ring 8 to 10 feet from the retrofit. For pipe diameters less than 12 inches, use 3 to 5 inch stone for the ring. For pipe diameters greater than 12 inches, use 10 to 15 inch stone. Ensure the height of ring not less than 2 feet.

Maintenance

Inspect weekly and redress as required. Keep clear of trash and debris. Clean out at half full. Remove after area of disturbance is stabilized.

EROSION CONTROL MATS



SECTION 716 AND DETAIL EC-L3

ALL CUT OR FILL SLOPES OF 2.5:1 OR STEEPER AND WITHIN 50' OF ALL CROSS DRAINS AND CULVERTS.

Purpose

Use to provide a ground cover on slopes that have been permanently grassed.

Construction

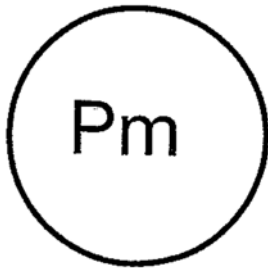
Erosion control mats may be natural or manmade materials formed into a blanket with plastic netting on one or both sides. Refer to Section 716 of the Specifications. Place mats vertically on slope. Overlay mats 4 inches on the sides and 6 inches on the top. Secure the mat to the ground with staples according to the Specifications.

Use only with permanent grassing. Place grass seed, lime, and fertilizer before placing the mat.

Maintenance

Repair erosion control mat failures according to Section 716.

POLYACRYLAMIDE (PAM)



SECTION 895 AND QPL 84

Definition

The land application of a product containing polyacrylamide (PAM) as a temporary soil-binding agent to reduce soil erosion.

Purpose

To reduce erosion from wind and water on construction sites. Other benefits may include improved water quality, Infiltration, soil fertility, and visibility.

Conditions

This temporary practice is intended for direct soil surface application to sites where the timely establishment of vegetation may not be feasible or where vegetative cover is absent or inadequate. Such areas may include construction sites where land disturbing activities prevent the establishment or maintenance of a vegetative cover.

This temporary practice is not intended for application to surface waters of the State. It is intended for application within construction storm water ditches and storm drainages which feed into preconstructed sediment ponds or basins.

Federal, State and Local Laws

Ensure Anionic PM applications comply with all federal, state, and local laws, rules, or regulations governing anionic PAM. The operator is responsible for securing required permits. This standard does not contain the text of the federal, state, or local laws governing anionic PAM.

Planning Considerations

Anionic Pam is available in emulsions, powders, and gel bars or logs. Using anionic Pam in combination with other Best Management Practices to improve erosion control is recommended.

The use of seed and mulch for additional erosion protection beyond the life of the anionic PAM. PAM is required for Temporary and Permanent Grassing. Repeat application if disturbance occurs in the areas.

The following are additional recommendations relating to design that may enhance the use of or avoid problems with the practice:

1. Use setbacks when applying anionic PAM near natural water bodies.
2. Consider that decreased performance can occur due to ultraviolet light and time after mixing when applying anionic PAM.
3. Using anionic PAM in combination with other Best Management Practices as water velocity increases in channels is recommended.
4. Mulch to protect seed, if seed is applied with anionic PAM.
5. Never add water to PAM. Add PAM slowly to water. If water is added to PAM, “globs” can form, that can clog dispensers. This signifies incomplete dissolving of the PAM and therefore increases the risk of under application.
6. **Not all polymers are PAM.**

Criteria

Application rates of anionic PAM may need to be adjusted based on soil type, slope and type of erosion targeted.

1. Use only the anionic form of PAM. Cationic PAM is toxic and **Shall Not** be used.
2. PAM and PAM mixtures shall be environmentally benign, harmless to fish, wildflowers, and plants. Ensure PAM and PAM mixtures are non-combustible.
3. Ensure Anionic PAM, in pure form, has less than or equal to 0.05% acrylamide monomer by weight, as established by the Food and Drug Administration and the Environmental Protection Agency.
4. To maintain less than or equal to 0.05% of acrylamide monomer, the maximum application rate of PAM, in pure form, shall not exceed 200 pounds per acre per year. Do not over apply PAM. Excessive application of PAM can lower infiltration rate or suspend solids in water, rather than promoting settlings.

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5. Users of anionic PAM shall obtain and follow all Material Safety Data Sheet requirements and manufacturer’s recommendations.

6. Ensure additives to PAM are non-toxic.
7. The manufacturer or supplier shall provide written application methods for PAM and PAM mixtures. Ensure that the application method provides uniform coverage to the target and avoids drift toward non-target areas including waters of the State.
8. To prevent exceeding the acrylamide monomer limit in the event of a spill, the anionic PAM in pure form shall not exceed 200 pounds per batch at 0.05% AMD or 400 pounds per batch at 0.025% AMD.

Application of Polyacrylamide (PAM)

1. Prepare soil according to project Plans and Specifications prior to applying PAM.
2. Apply PAM according to manufacturer's recommendations and the requirements listed herein.
3. Apply Polyacrylamide (PAM) to all areas that receive permanent grassing.
4. Apply PAM (powder) before grassing or PAM (emulsion) to the hydroseeding operation.
5. Use only anionic PAM.
6. Achieve > 80% reduction in soil loss as measured by a rainfall simulator test performed by a certified laboratory (1 hour storm duration, 3 inches (75 mm) rainfall per hour).
7. Ensure uniform coverage to the target area and minimize drift to non-target areas. Apply anionic PAM to all cut and fill slopes, permanently grassed or temporarily grassed, either prior to grassing or in conjunction with hydroseeding operations. Mulch will not be eliminated.
8. Use application rates in accordance with manufacturer's instructions.
9. Do not exceed 200 lbs/acre/year (224 kg/ha/year).
10. Gel blocks, logs or bars of anionic PAM mixtures may be used in ditches provided they meet the requirements of [Section 895](#).

Maintenance

Maintenance will consist of reapplying anionic PAM to disturbed areas including high use traffic areas that interfere in the performance of this practice.

ROCK FILTER DAM



SECTION 163 AND PROJECT SPECIFIC DETAILS IN PLANS

ROCK FILTER DAMS ARE CONSTRUCTED OF TYPE 3 STONE RIP RAP AND ARE USED TO PROTECT SMALL STREAMS OR DRAINAGEWAYS. TO BE USED IN SMALL DRAINAGE CHANNELS OF 50 ACRES OF LESS. THE RIP RAP SHOULD BE PLACED ON A GEOTEXTILE UNDERLINER.

Construction

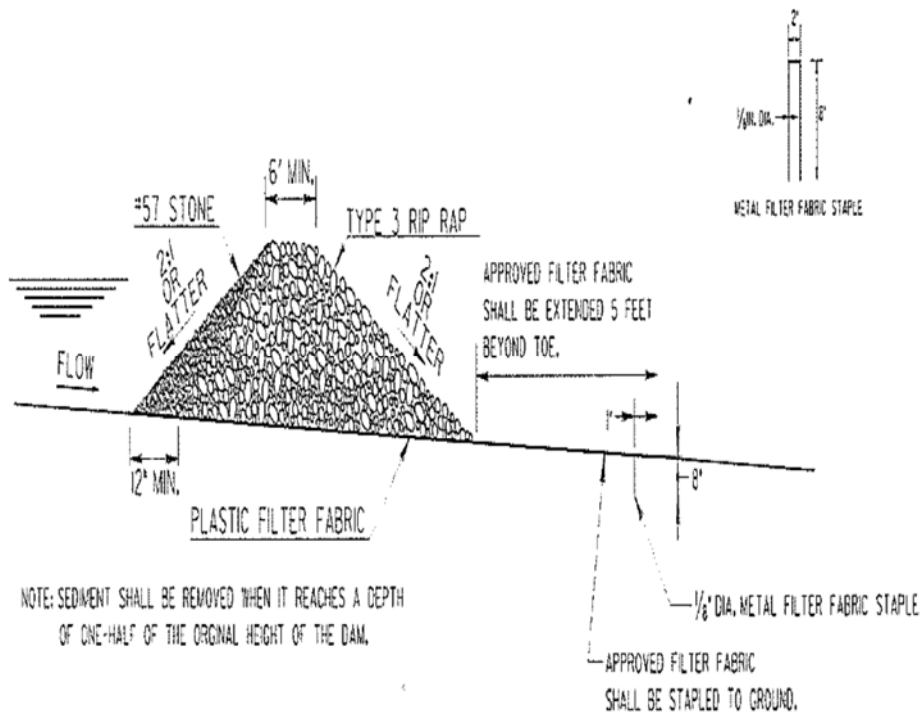
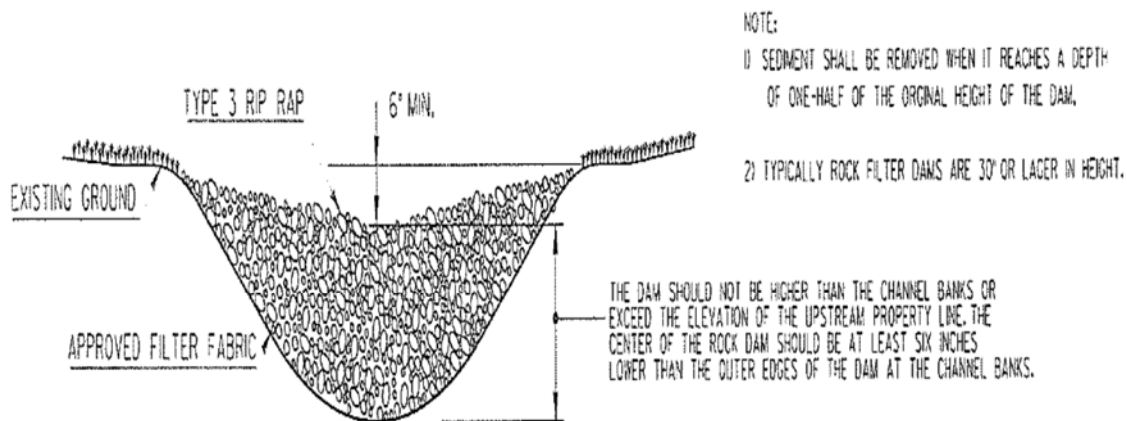
Use in small channels with drainage area of 50 acres or less. Use below culvert installations, dam construction, or project that involves grading activity directly in a stream. Not intended to substantially impound water.

Maintenance

Requires periodic inspection and maintenance. Remove sediment when it reaches one half the original dam height. Remove after completion of its usefulness.

DATE	REVISION	BY	CHKD
04/			

ROCK FILTER DAM



GENERAL NOTES:

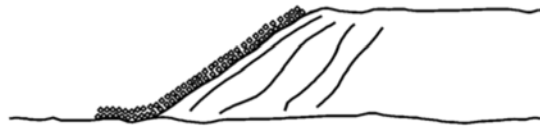
- 1 - MAXIMUM DRAINAGE AREA TO A ROCK FILTER DAM SHALL BE 50 ACRES.
- 2 - THE HEIGHT OF THE ROCK FILTER DAM SHALL NOT BE HIGHER THAN THE CHANNEL BANKS.
- 3 - THE SIDE SLOPES SHALL BE 2:1 OR FLATTER.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

CONSTRUCTION DETAILS

ROCK FILTER DAM

RIP RAP



SECTION 603 AND CONSTRUCTION PROJECT PLANS FOR DETAIL

RIP RAP IS A FLEXIBLE PERMANENT BLANKET FOR PROTECTION OF FILL SLOPES AND END ROLLS. RIP RAP, TYPE 1 SHOULD BE PLACED ON TOP OF A GEOTEXTILE UNDERLINER AT A MINIMUM 24" THICKNESS OR AS INDICATED ON THE PLANS.

Construction

This work consists of placing sand-cement bag rip rap or stone rip rap on fill slopes, cut slopes, endrolls, shoulders, ditches, stream banks, channel banks, and other locations required by the Plans or the Engineer.

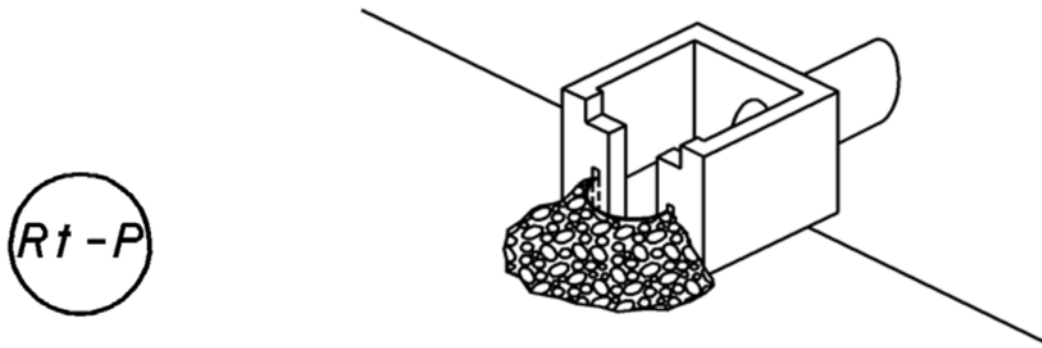
Stone dumped rip rap will be designated on the Plans as Type 1 or Type 3.

Type 1 = 125 lbs. +

Type 3 = 15 lbs. +

Filter fabric is required under all rip rap.

RETROFITTING- CURVED PIPE



SECTION 163 AND CONSTRUCTION DETAIL D-44

A PERFORATED HALF-ROUND PIPE WITH STONE FILTER PLACED IN FRONT OF A PERMANENT STORMWATER DETENTION POND OUTLET STRUCTURE TO SERVE AS A TEMPORARY SEDIMENT FILTER.

SHOULD BE USED ONLY IN DETENTION PONDS WITH LESS THAN 30 ACRES TOTAL DRAINAGE AREA.

SHALL ONLY BE USED IN DETENTION BASINS LARGE ENOUGH TO STORE 67 CUBIC YARDS OF SEDIMENT PER ACRE OF DISTURBED AREA.

THIS ITEM SHOULD BE DESIGNED ACCORDING TO CHAPTER 6 IN THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA"

Purpose

This structure allows permanent storm-water detention basins to function as temporary sediment retention basins for land-disturbing projects.

Conditions

This standard applies under the following conditions:

1. Cannot be used in detention basins on live streams or in basins with a total contributing drainage area of 100 acres or more.

2. Can only be used in detention basins large enough to store 67 cubic yards of sediment per acre of disturbed area in the project. Required sediment storage may be obtained by excavating in front of the retrofitted outlet structure.
3. Shall be considered a temporary structure and will be removed from the detention pond basin.

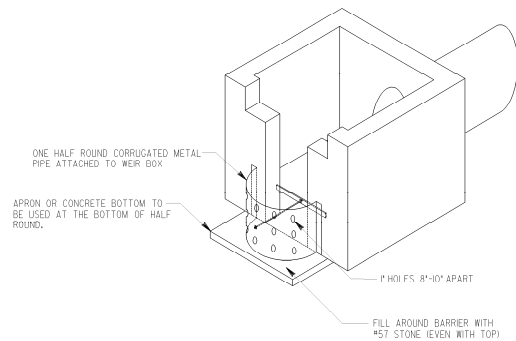
Construction

The following requirements apply to perforated half-round pipe with stone filter:

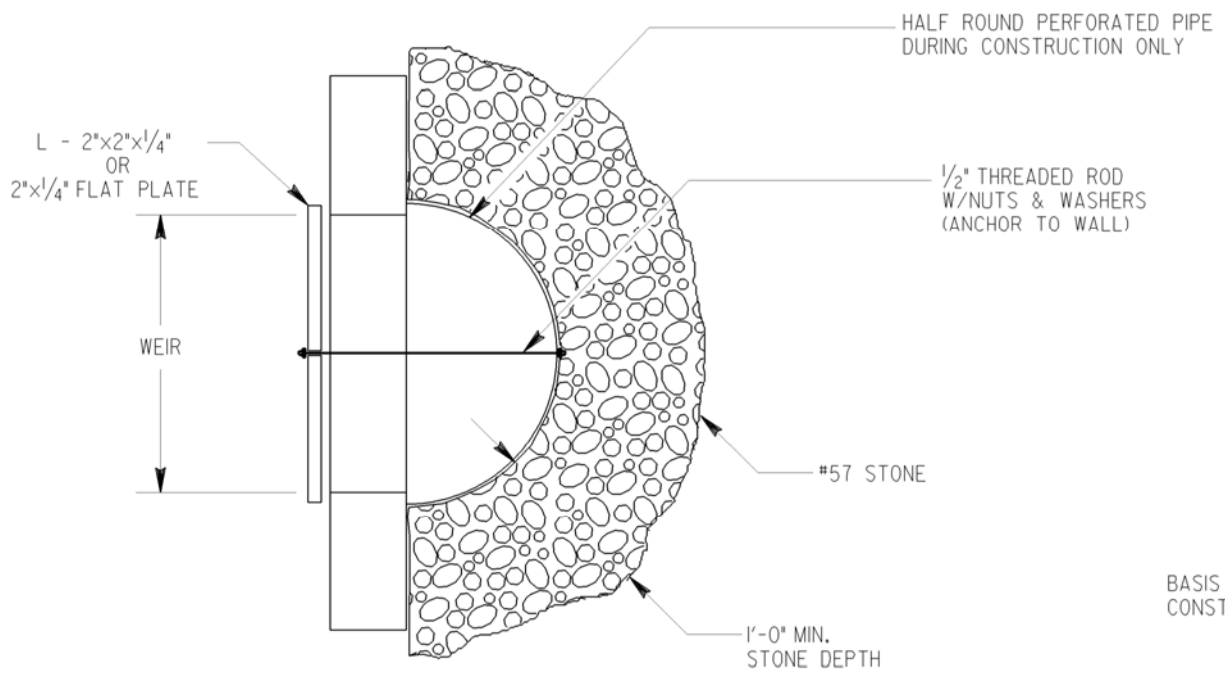
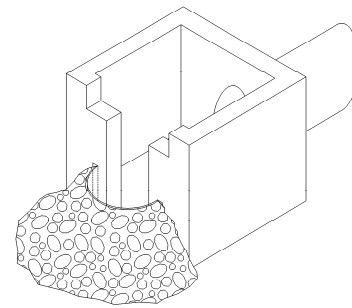
1. The diameter of half-round pipe should be 1.5 times the diameter of the principal pipe outlet or wider than the greatest width of the concrete weir.
2. Use perforations and stone sizes as required on the Plans.
3. Affix the half round pipe to the concrete outlet structure by the specified means (bolts, etc) but never use on exposed pipe end or winged headwall.
4. Ensure good contact between pipe and structure. Lines of silt fence may be added to enhance filtering.
5. Use only in detention ponds with less than 30 acres total drainage area.
6. Stone filter rings can be used in conjunction with half-rounds or board dams, as additional sediment filtering device. For pipe diameters larger than 12 inches, stone size should be a minimum 10-15 inch stone, faced with smaller filter stone on the upstream side, if necessary.
7. Disturbed areas shall be vegetated immediately after construction with perennial vegetation.

Maintenance

All types of retrofit structures must be kept clear of trash and debris. This will require continuous monitoring and maintenance, which includes sediment removal when one third full. Structures are temporary and should be removed when the land-disturbing project has been re-stabilized.



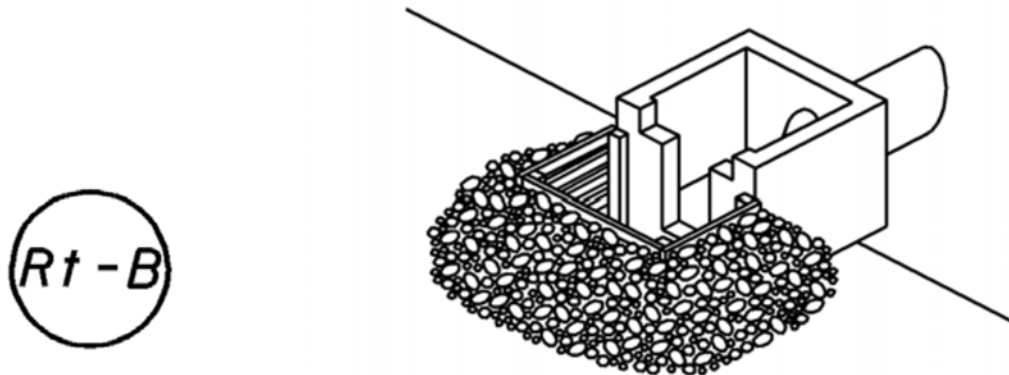
ISOMETRICS



BASIS 1
CONST

ATTACHMENT DETAIL
PLAN

RETROFITTING – SLOTTED BOARDS



SECTION 163 AND CONSTRUCTION DETAIL D-45

A SLOTTED BOARD DAM WITH STONE PLACED IN FRONT OF A PERMANENT STORMWATER DETENTION POND OUTLET STRUCTURE TO SERVE AS A TEMPORARY SEDIMENT FILTER.

SHOULD BE USED ONLY IN DETENTION PONDS WITH LESS THAN 100 ACRES TOTAL DRAINAGE AREA.

SHALL ONLY BE USED IN DETENTION BASINS LARGE ENOUGH TO STORE 67 CUBIC YARDS OF SEDIMENTS PER ACRE OF DISTURBED AREA.

THIS ITEM SHOULD BE DESIGNED ACCORDING TO CHAPTER 6 IN THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA"

Purpose

This structure allows permanent storm-water detention basins to function as temporary sediment retention basins for land-disturbing projects.

Conditions

This standard applies under the following conditions:

1. Cannot be used in detention basins on live streams or in basins with a total contributing drainage area of 100 acres or more.
2. Can only be used in detention basins large enough to store 67 cubic yards of sediment per acre of disturbed area in the project. Required sediment storage may be obtained by excavating in front of the retrofitted outlet structure.
3. Shall be considered a temporary structure and will be removed from the detention pond basin.

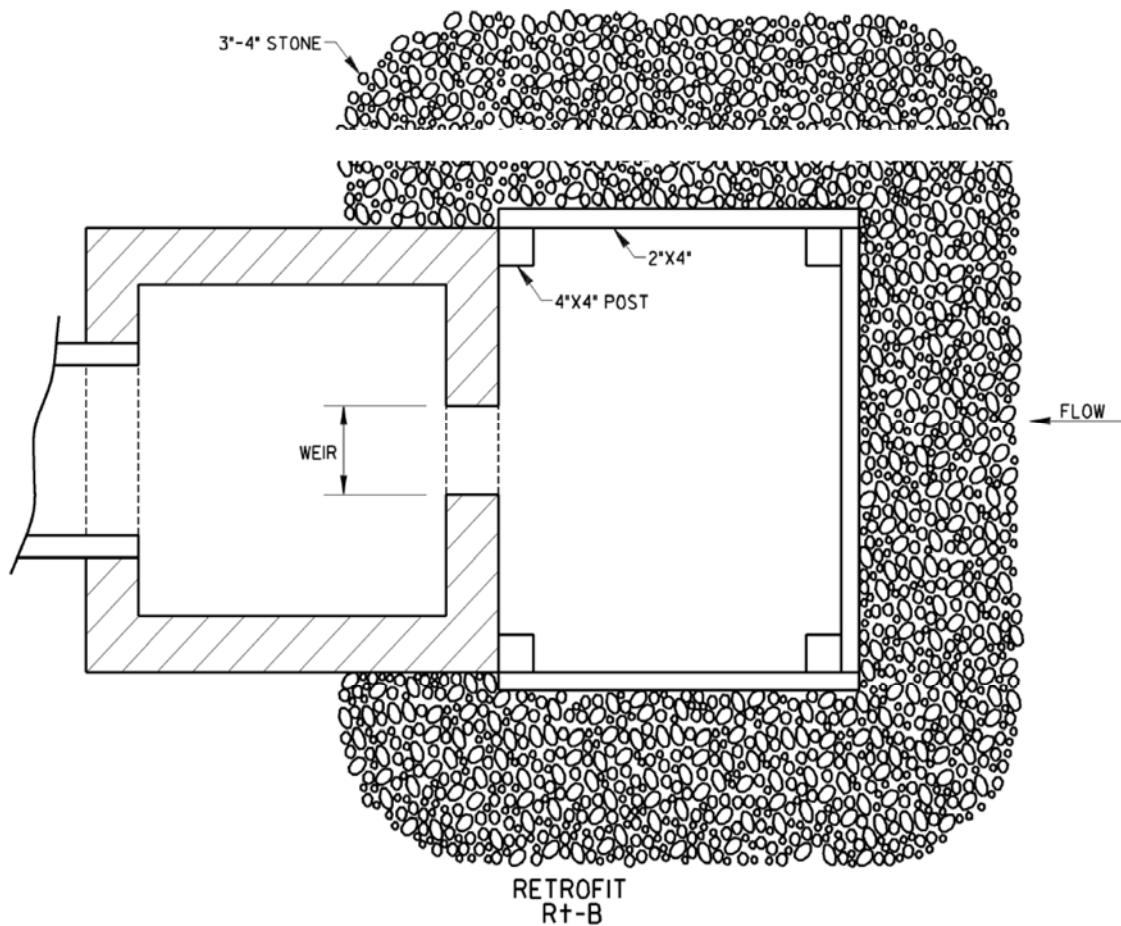
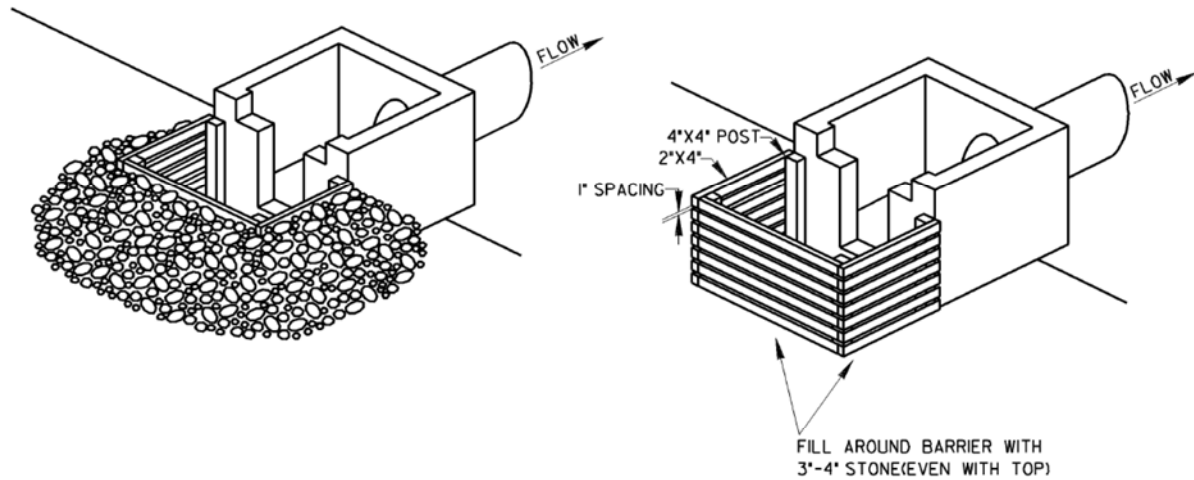
Construction

The following requirements apply to slotted board dam with stone:

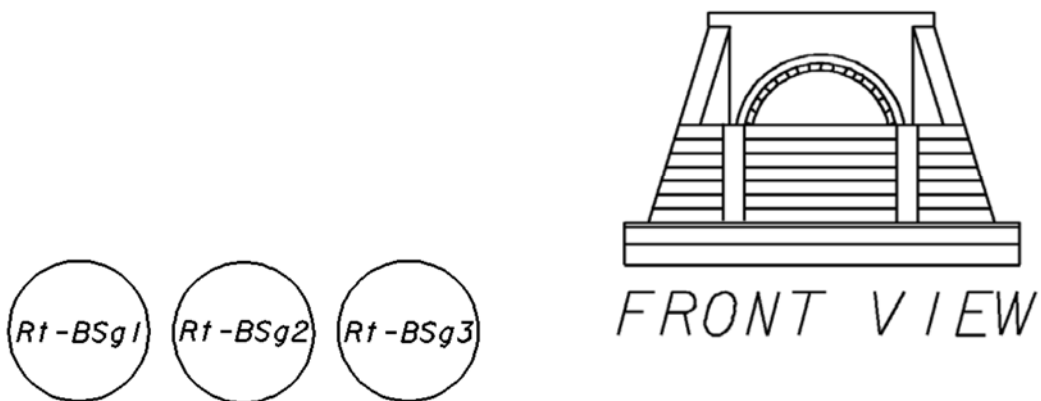
1. Can be used with open end pipe outlets, winged headwalls, or concrete weir outlets.
2. Install with minimum size 4" x 4" posts.
3. Allow 0.5" – 1.0" space between boards.
4. Can be used in detention ponds with drainage areas up to 100 acres.
5. Stone filter rings can be used in conjunction with half-rounds or board dams, as additional sediment filtering device. For pipe diameters larger than 12 inches, stone size should be a minimum 10-15 inch stone, faced with smaller filter stone on the upstream side, if necessary.
6. Disturbed areas shall be vegetated immediately after construction with perennial vegetation.

Maintenance

All types of retrofit structures must be kept clear of trash and debris. This will require continuous monitoring and maintenance, which includes sediment removal when one-third full. Structures are temporary and should be removed when the land-disturbing project has been re-stabilized.



RETROFITTING- SILT CONTROL GATES



SECTION 163 AND CONSTRUCTION DETAIL D-20

A SILT CONTROL GATE IS A STRUCTURE PLACED ON A PIPE, SMALL BOX CULVERT, OR DROP INLET TO FORM A BASIN TO CATCH SILT AND PREVENT IT FROM LEAVING THE CONSTRUCTION SITE. IT IS EFFECTIVE ON SMALL DRAINAGE AREAS ONLY. DO NOT USE IN STATE WATERS.

Rt-BSg1=TYPE 1: USED ON BOX CULVERTS

Rt-BSg2=TYPE 2: USED ON STRAIGHT HEADWALLS

Rt-BSg3=TYPE 3: USED ON FLARED END SECTIONS AND TAPERED HEADWALLS

Construction

Where silt control gates are required, the following sequence of operation shall be followed:

1. Do not place on pipe or culvert with a live stream.
2. Clear and grade only that portion of the roadway within the affected drainage area necessary to construct the drainage structure. Construct the drainage structure and backfill.
3. Install the appropriate silt control gate at inlet of the structure. Use the type indicated on the Plans.

4. The effective height of the gate shall be in accordance with the Plan details. The height necessary to accomplish the intended purpose may be varied as directed.
5. Complete grading of roadway in the affected drainage area, grass and mulch all slopes and ditches that will not be paved. Construct all ditch paving required in the affected area.
6. When silt has been deposited at the gate to a depth equal to half the height of the gate, the silt shall be removed and placed in an area and permanently stabilized.
7. The gate shall remain in place until all work in the affected drainage area is complete and until the erodible earth is stabilized. The gate assembly shall then be removed by sawing off the wood posts flush with the concrete apron. The concrete apron between the gate and the structure inlet shall be left in place. The gate shall remain the property of the Contractor.

Maintenance

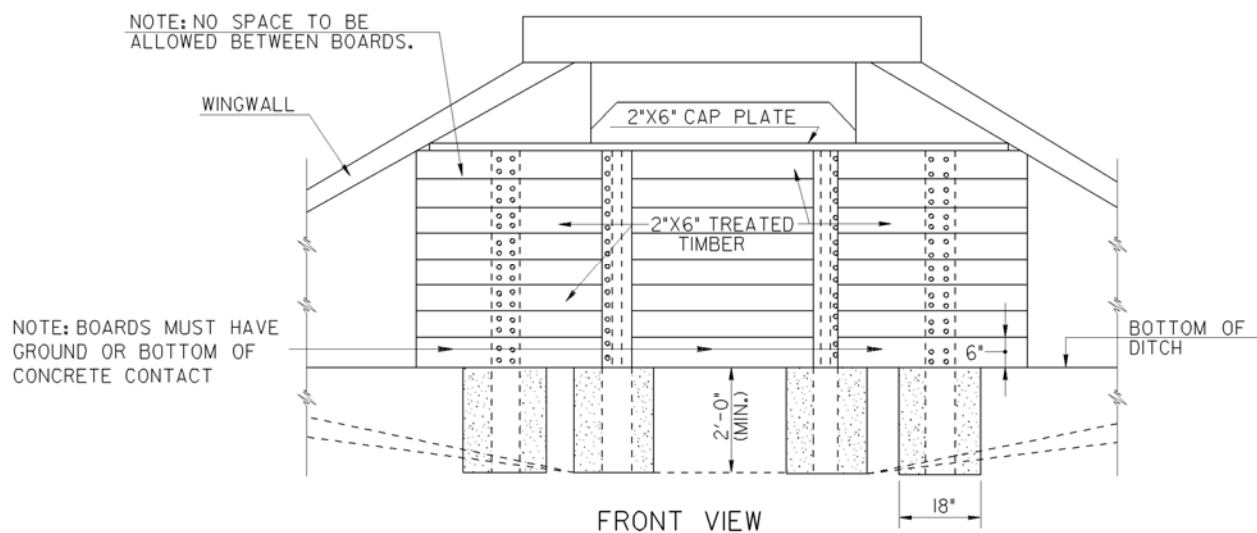
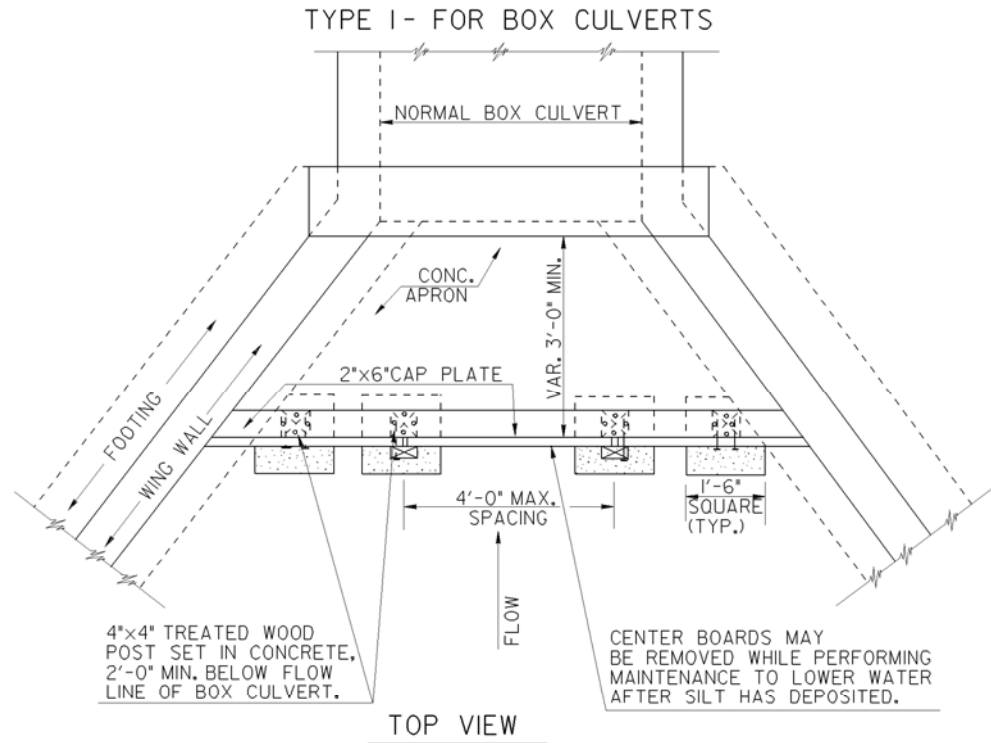
Clean out when half full.

Georgia Department Of Transportation WORKSITE EROSION CONTROL MANUAL

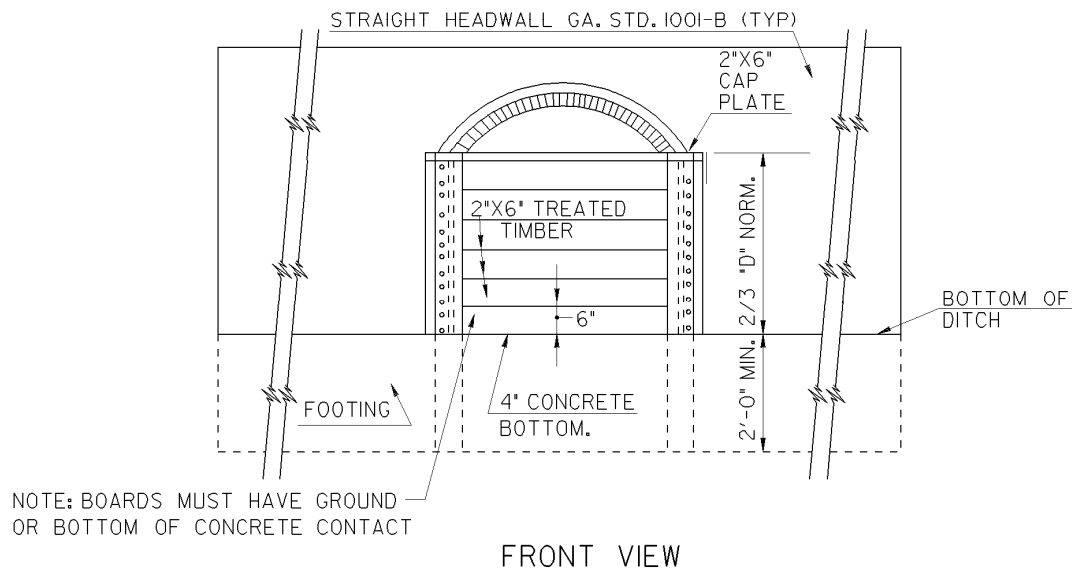
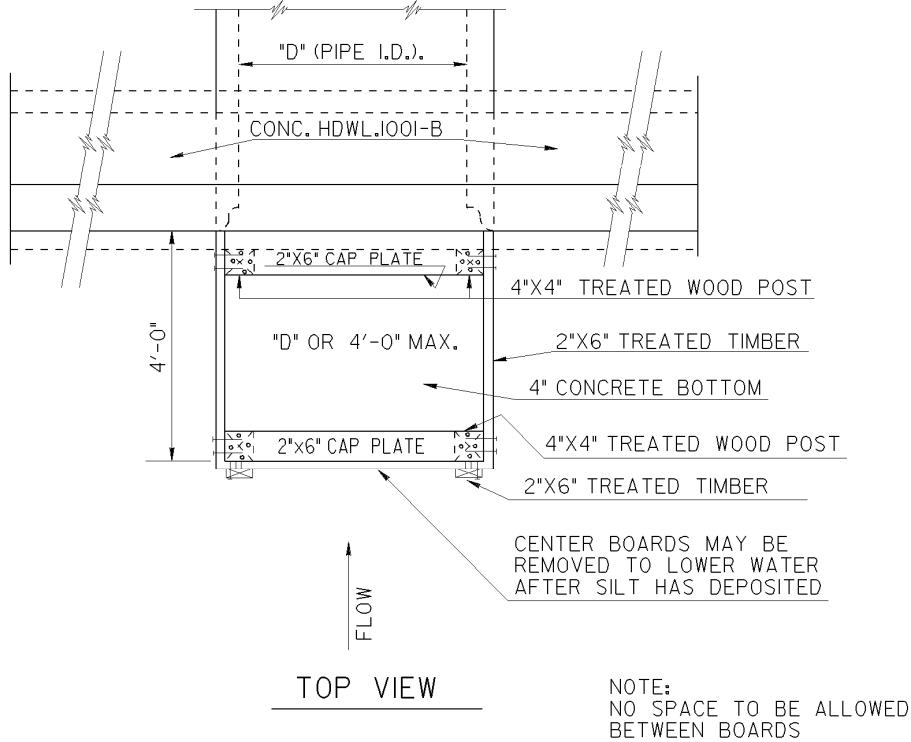


NOTES:

1. REFER TO CONSTRUCTION DETAIL 2332 FOR CONCRETE APRONS.
2. REMOVAL OF TYPE I SILT CONTROL GATE SHALL BE IN ACCORDANCE WITH SECTION 163.3.05.



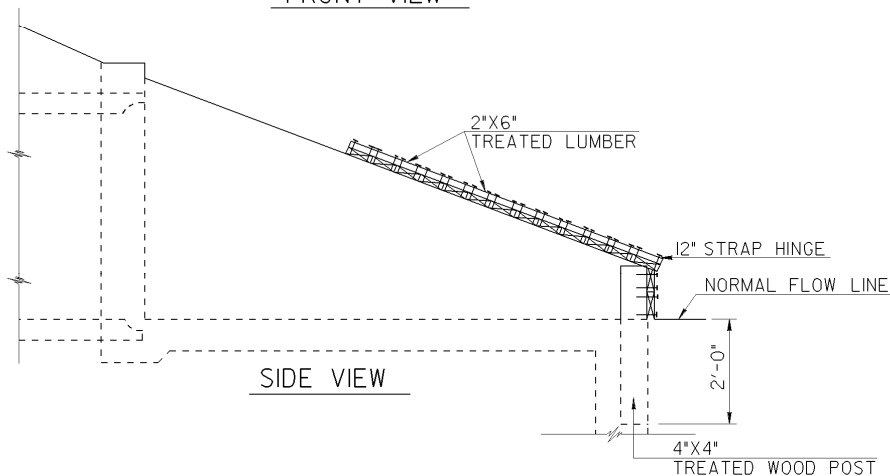
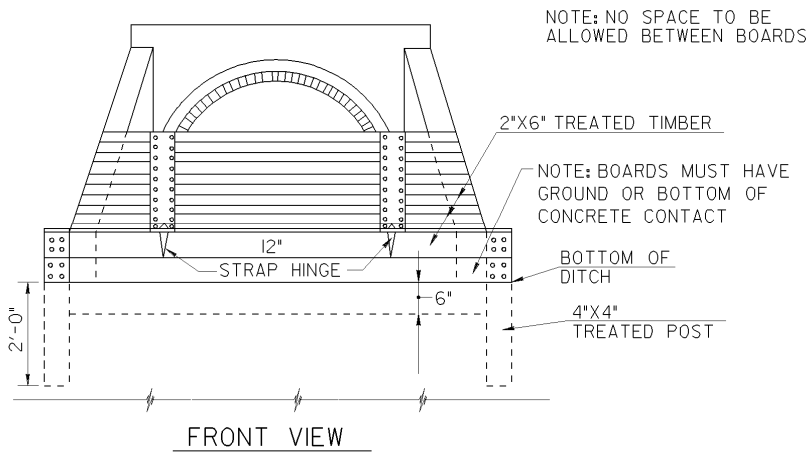
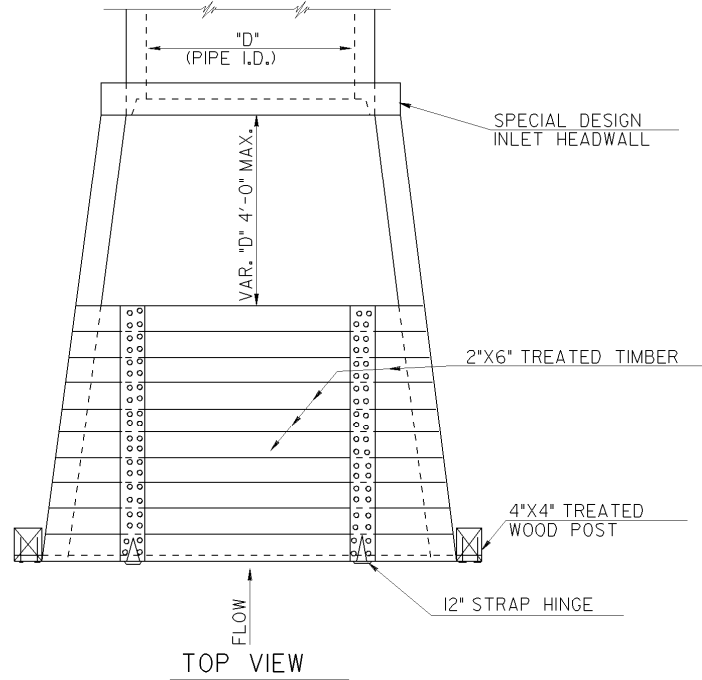
TYPE 2 - FOR STRAIGHT HEADWALLS



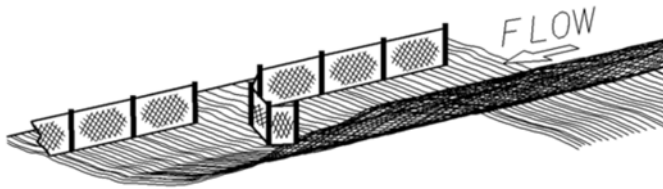
Georgia Department Of Transportation
WORKSITE EROSION CONTROL MANUAL



TYPE 3 - FOR FLARED END
SECTIONS AND TAPERED HEADWALLS



SILT FENCE- TYPE A



SECTION 171 AND CONSTRUCTION DETAIL D-24A

USED FOR CHECK DAMS, ALONG THE TOE OF FILLS OVER 10 FT HIGH. ALONG THE RIGHT OF WAY LINE OR PARALLEL TO STREAMS. THE FENCE SHOULD NEVER RUN CONTINUOUS. IT SHOULD TURN BACK INTO THE FILL TO CREAT SMALL POCKETS TO TRAP SILT. WHEN USED AS DITCH CHECK DAM THE SPACING IS 100 FEET FOR SLOPES 1% TO 2%; AND 50 FEET FOR 2% TO 3% SLOPES. THE SPACING SHOWN SHOULD BEDECREASED FOR HIGH FILLS AND LONG DITCHES.

Purpose

Type A silt fence is used to prevent sediment that is carried by sheet flow from leaving the site and entering natural drainage ways or storm drainage systems. Silt fence slows storm water runoff, causing the deposition of sediments at the structure.

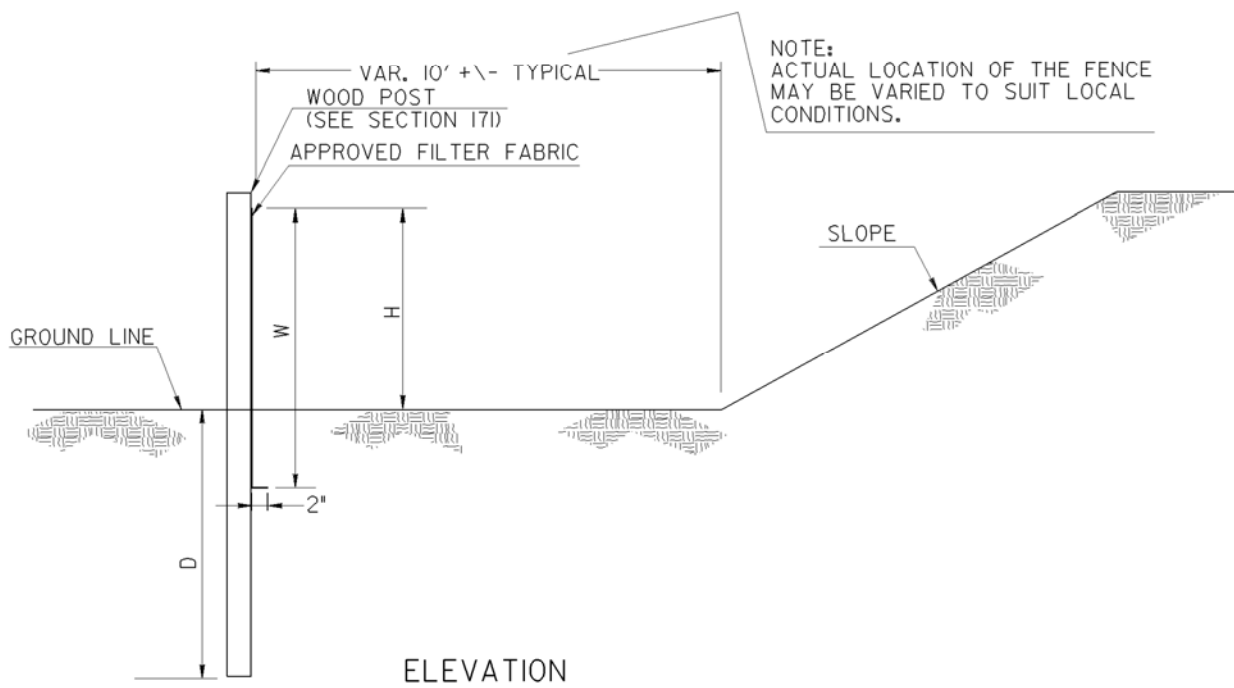
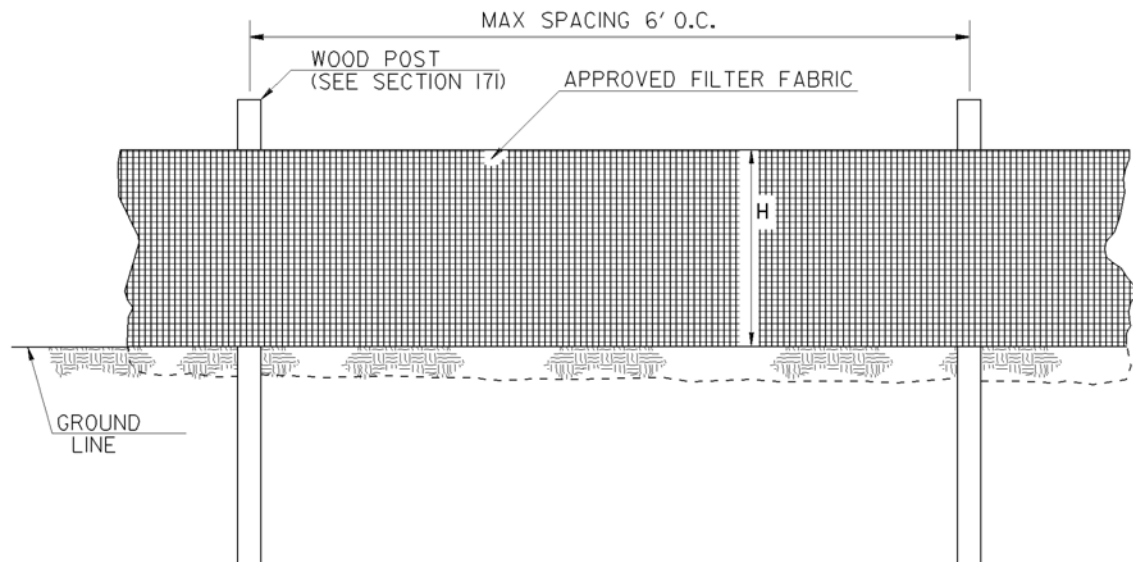
Construction

1. Type A silt fence is constructed of standard strength synthetic filter fabrics meeting Section 171 and listed on QPL 36.
2. Ensure that the height of the silt fence does not exceed 28 inches above the ground surface.

3. To avoid joints, construct the silt fence fabric from a continuous roll of fabric cut the length of the barrier. When joints are necessary, securely fasten the filter cloth only a support post with a minimum overlap of 18 inches or wrap the ends of the two rolls together.
4. Place posts at a spacing not to exceed 6 feet.
5. Excavate a trench approximately 2 inches wide and 6 inches deep along the line of posts and upslope of the barrier.
6. Staple or wire the filter fabric directly to the posts. Extend the filter fabric 8 inches into the trench.
7. Backfill the trench and compact the soil over the filter fabric.
8. On culverts, extend silt fence along wingwalls and across parapet. Hook fence into fill slopes.
9. Silt fence must be toed in properly. Clean out at half full.
10. Do not place in flowing streams.

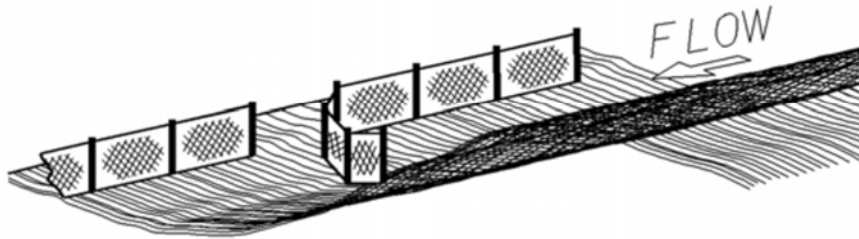
Maintenance

Silt fence should be inspected for damage weekly and after rainfall. Common failures are tearing, undermining, and collapsing. Any damaged fence should be repaired immediately. Accumulated sediment should be removed and properly disposed of. When the disturbed areas have been properly stabilized, the fence may be removed and any remaining areas stabilized.



SINGLE ROW TYPE A SILT FENCE

SILT FENCE- TYPE B



SECTION 171 AND CONSTRUCTION DETAIL D-24A

TYPE B MAY BE USED IN LIEU OF BALED STRAW AND AT THE TOE OF FILLS LESS THAN 10 FEET HIGH. IT MAY BE USED FOR DITCH CHECK DAMS FOR SLOPES LESS THAN 1% USING 100' SPACING. THE FENCE SHOULD NEVER RUN CONTINUOUS. IT SHOULD TURN BACK INTO THE FILL TO CREATE SMALL POCKETS TO TRAP SILT.

PURPOSE

Type B silt fence is used as an alternate to baled straw. Type B silt fence may be used for a ditch check for slopes less than 1% using 100 foot spacing. It is used to prevent sediment carried by sheet flow from leaving the site.

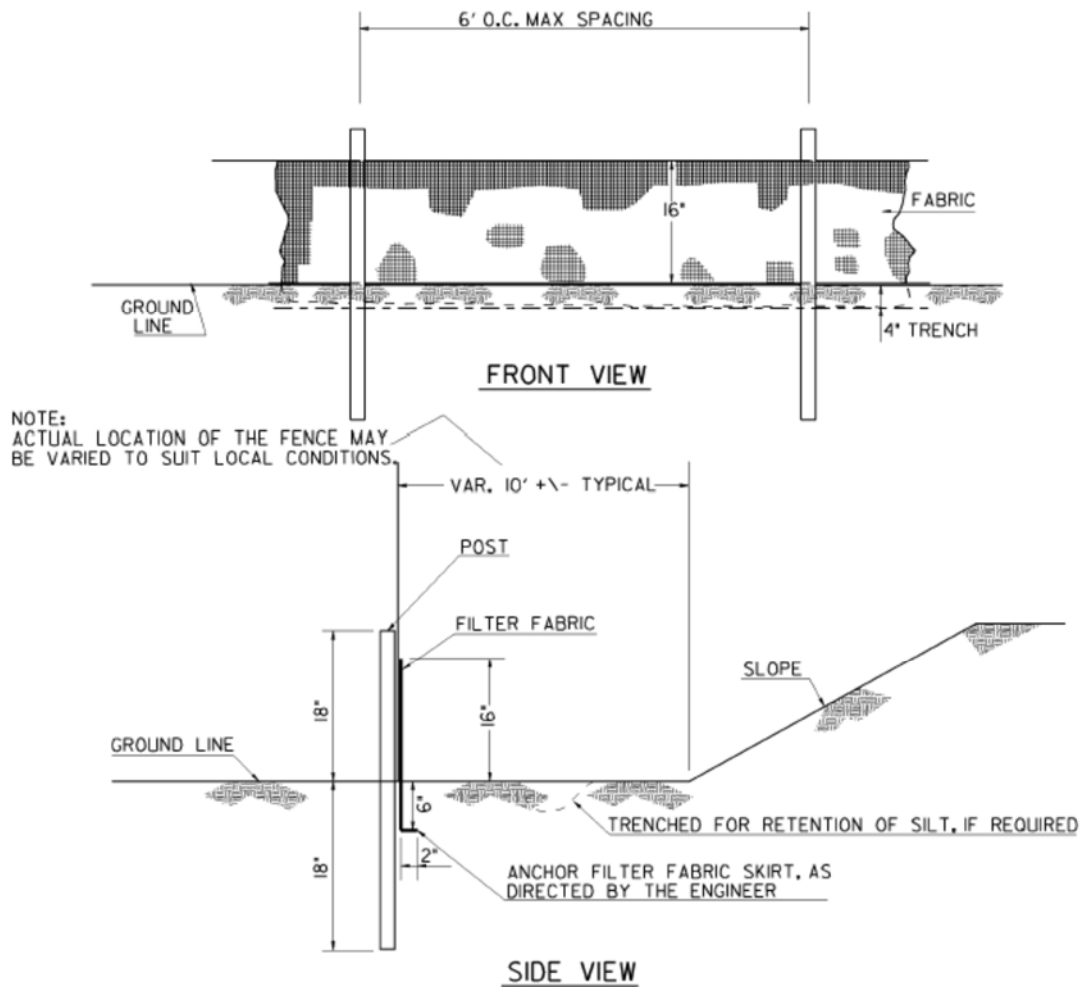
Construction

1. Type B silt fence is constructed of standard strength synthetic filter fabrics meeting Section 171 and listed on QPL 36.

2. Ensure that the height of the silt fence does not exceed 16 inches above the ground surface.
3. To avoid joints, construct the silt fence fabric from a continuous roll of fabric cut the length of the barrier. When joints are necessary, securely fasten the filter cloth only a support post with a minimum overlap of 18 inches or wrap the ends of the two rolls together.
4. Place posts at a spacing not to exceed 6 feet.
5. Excavate a trench approximately 2 inches wide and 4 inches deep along the line of posts and upslope of the barrier.
6. Staple or wire the filter fabric directly to the posts. Extend the filter fabric 6 inches into the trench.
7. Backfill the trench and compact the soil over the filter fabric.
8. May be substituted for baled straw. Hook fence into fill slopes. Clean out at half full.
9. Do not place in live flowing streams.

Maintenance

Silt fence should be inspected for damage weekly and after rainfall. Common failures are tearing, undermining, and collapsing. Any damaged fence should be repaired immediately. Accumulated sediment should be removed and properly disposed of before the next rainfall. When the disturbed areas have been properly stabilized, the fence may be removed and any remaining areas stabilized.



TEMPORARY SILT FENCES ARE FOR USE WHERE IT HAS BEEN DETERMINED THAT BALED STRAW EROSION CHECKS ARE INADEQUATE OR THAT SILT FENCES CAN BE JUSTIFIED ON A COST EFFECTIVE BASIS.

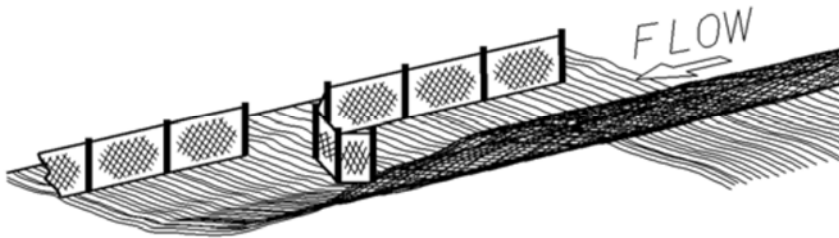
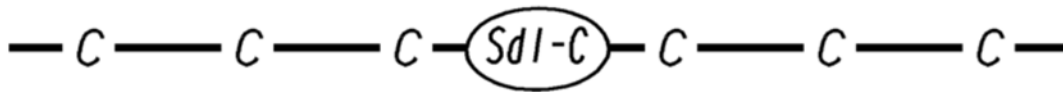
TEMPORARY SILT FENCES ARE NOT TO BE CONFUSED WITH SILT RETENTION BARRIERS.

SEE SECTION 171 FOR SILT FENCE SPECIFICATIONS.

USE 22" G. D. O. T. APPROVED FABRIC
USE WOOD OR STEEL POSTS.

SILT FENCE-TYPE B

SILT FENCE- TYPE C



SECTION 171 AND D-24A (DOUBLE ROW TYPE C- DETAIL D-24B)

Purpose

Type C silt fence is used to prevent sediment that is carried by sheet flow from leaving the site and entering natural drainage ways or storm drainage systems. Silt fence slows storm water runoff, causing the deposition of sediments at the structure.

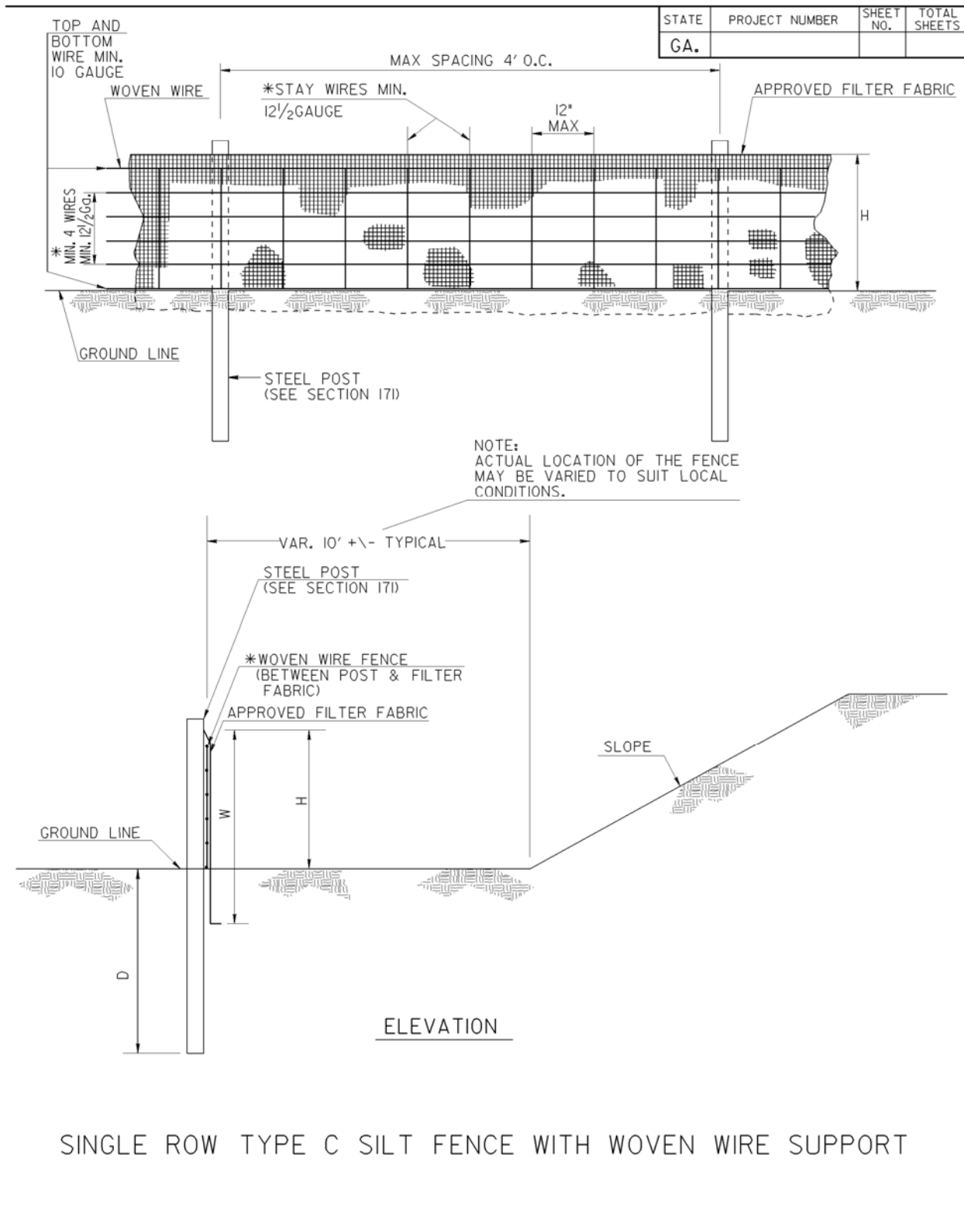
Construction

1. Type C silt fence is constructed of standard strength synthetic filter fabrics meeting Section 171 and listed on QPL 36.
2. Ensure that the height of the silt fence does not exceed 28 inches above the ground surface.
3. To avoid joints, construct the silt fence fabric from a continuous roll of fabric cut the length of the barrier. When joints are necessary, securely fasten the filter cloth only a support post with a minimum overlap of 18 inches or wrap the ends of the two rolls together.

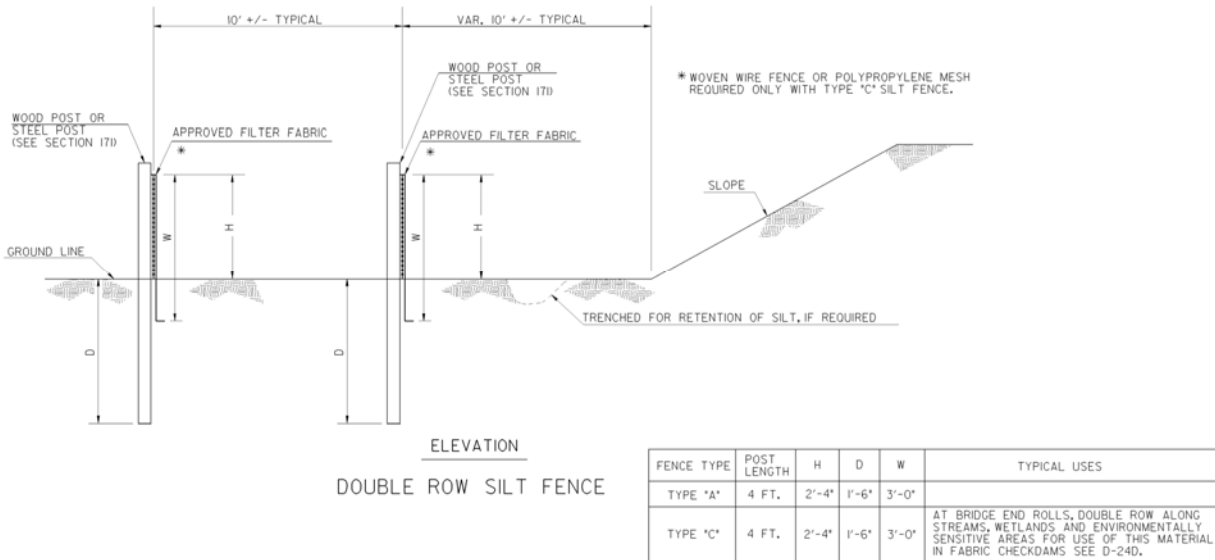
4. Place posts at a spacing not to exceed 4 feet.
5. Excavate a trench approximately 2 inches wide and 6 inches deep along the line of posts and upslope of the barrier.
6. For Type C fence:
 - a. Woven Wire Supported
Steel Post: use wire to attach the fabric to the top of the woven wire support fence at the midpoint between post. Also, use wire to attach the fabric to post.
 - b. Polypropylene Mesh Support
Wood Post: use at least six staples per post. Use two staple in a crisscross or parallel pattern to secure the top portion of the fence. Evenly space the remaining staples down the post.
Steel Post: Use wire to attach the fabric and polypropylene mesh to the post.
7. Backfill the trench and compact the soil over the filter fabric.
8. On culverts, extend silt fence along wingwalls and across parapet. Hook fence into fill slopes.
9. Silt fence must be toed in properly. Clean out at half full.
10. Do not place in live flowing streams.

Maintenance

Silt fence should be inspected for damage weekly and after rainfall. Common failures are tearing, undermining, and collapsing. Any damaged fence should be repaired immediately. Accumulated sediment should be removed and properly disposed of before the next rainfall. When the disturbed areas have been properly stabilized, the fence may be removed and any remaining areas stabilized.



INFORMATION FROM CONSTRUCTION DETAIL D-24B

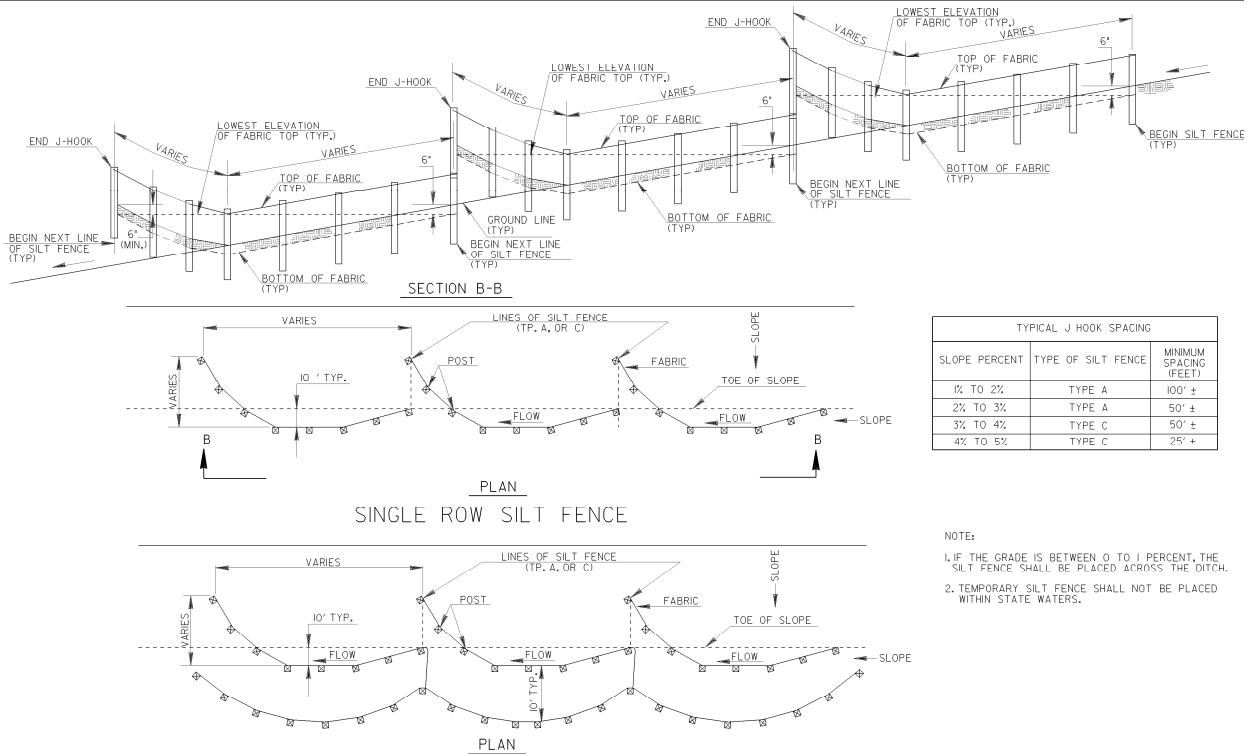


FENCE TYPE	POST LENGTH	H	D	W	TYPICAL USES
TYPE 'A'	4 FT.	2'-4"	1'-6"	3'-0"	
TYPE 'C'	4 FT.	2'-4"	1'-6"	3'-0"	AT BRIDGE END ROLLS, DOUBLE ROW ALONG STREAMS, WETLANDS AND ENVIRONMENTALLY SENSITIVE AREAS FOR USE OF THIS MATERIAL IN FABRIC CHECKDAMS SEE D-24D.

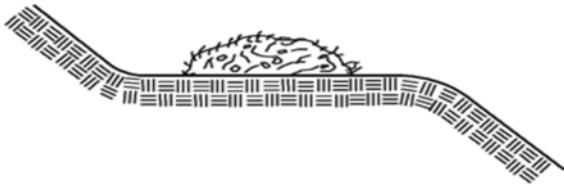
NOTES:

1. WIRE STAPLES SHALL BE AT LEAST 17 GAUGE, WITH LEGS AT LEAST $\frac{1}{2}$ INCHES LONG AND A CROWN AT LEAST $\frac{3}{4}$ INCHES WIDE. NAILS SHALL BE AT LEAST 14 GAUGE, 1 INCH LONG, WITH BUTTON HEADS AT LEAST $\frac{3}{4}$ INCHES WIDE.
2. NAILS OR STAPLES SHALL BE EVENLY PLACED WITH AT LEAST 5 PER POST FOR TYPE A FENCE AND 4 PER POST FOR TYPE C FENCE.
3. THE VERTICAL WIRES FOR THE WOVEN WIRE SUPPORT FENCE SHALL HAVE A MAXIMUM SPACING OF 12 INCHES. THE TOP AND BOTTOM WIRES SHALL BE AT LEAST 10 GAUGE AND ALL OTHER WIRES SHALL BE AT LEAST 12 $\frac{1}{2}$ GAUGE.
4. TEMPORARY SILT FENCE INSTALLATION IS DIFFERENT THAN THE SILT RETENTION BARRIER INSTALLATION.
5. SEE SECTION 171 FOR SILT FENCE SPECIFICATIONS.
6. SEE SECTION 894 FOR FENCING SPECIFICATIONS.
7. SEE OPL-36 FOR A LIST APPROVED SILT FENCE FABRIC.
8. TEMPORARY SILT FENCE SHALL NOT BE PLACED WITHIN STATE WATERS UNLESS PERMITTED.

INFORMATION FROM CONSTRUCTION DETAIL D-24C



BRUSH BARRIER



CONSTRUCTION DETAIL D-24B

THIS ITEM CONSISTS OF INTERMINGLED BRUSH, LOGS, ETC. SO AS NOT TO FORM A SOLID DAM. CONSTRUCTED AT THE TOE OF FILL SLOPES DURING THE CLEARING AND GRUBBING OPERATION. THE BARRIER SHOULD BE USED AT THE TOE OF FILL SLOPES ON GRADING PROJECTS IN RURAL AREAS WHERE SUFFICIENT RIGHT OF WAY OR EASEMENT IS AVAILABLE (10 FEET OR MORE). THE BARRIER SHOULD RUN ROUGHLY PERPENDICULAR TO THE FLOW OF WATER WHERE THIS DOES NOT CONFLICT WITH RIGHT OF WAY OR EASEMENT LIMITS. THEY WILL NOT BE PLACED IN WETLANDS. PAYMENT FOR THIS ITEM IS INCLUDED IN THE CLEARING AND GRUBBING COST. NO SEPERATE PAYMENT SHALL BE MADE.

Purpose

A brush barrier is a temporary measure constructed from residue materials from the clearing and grubbing operation. Brush barriers are perimeter controls constructed at the time of clearing and grubbing. Brush barriers are typically left in place to degrade when the project is completed. There is no separate pay item for Brusher Barrier.

Construction

1. Construct the brush barrier to a minimum height of 3 feet.
2. The minimum width of the brush barrier is 5 feet at its base.

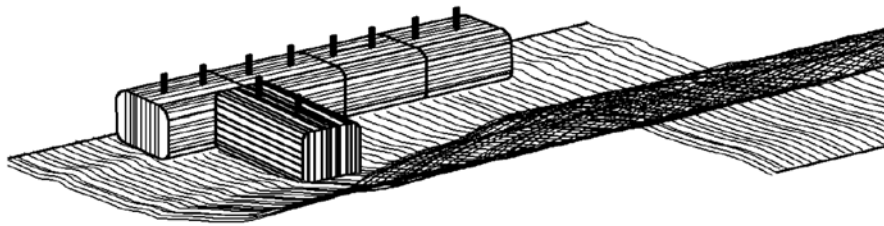
3. Construct the barrier by piling brush, stone, root matter and other material from the clearing operations into a mounded row on the contour.
4. When a greater filtering capacity is required, cut filter fabric into lengths sufficient to lay across the barrier from its upslope base to just beyond its peak. Where joints are necessary, splice the fabric together with a minimum 6 inch overlap and securely seal.
5. Excavate a trench 6 inches wide and 4 inches deep along the length of the barrier and immediately uphill from the barrier.
6. Drape the lengths of the filter fabric across the width of the barrier with the uphill edge placed in the trench and the edges of adjacent pieces overlapping each other.
7. Secure the filter fabric in the trench with stakes set approximately 36 inches on center
8. Backfill the trench and compact the soil over the filter fabric.
9. Set stakes into the ground along the downhill edge of the brush barrier, and anchor the fabric by tying twine from the fabric to the stakes.

Maintenance

Brush barriers should be inspected for damage weekly and after rainfall. Any damage should be repaired immediately. Sediment should be removed and properly disposed of when accumulations reach half the height of the barrier. When the project is complete, the barriers may be left in place after removing the fabric to decompose or they may be removed when the disturbed areas have been stabilized.

There is no specific pay item. Add silt fence if placed adjacent to wetland areas.

HAY BALE SEDIMENT BARRIER



Section 163 – 171

A BARRIER OF BALED STRAW IS USED TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT IS USED IN DITCHES AS DITCH CHECKS OR ALONG THE TOE OF SLOPE OR RIGHT OF WAY IN FILLS LESS THAN 10 FEET HIGH. THE BALES SHOULD RUN PARALLEL TO THE SILT YIELDING AREA UNTIL THE TOP OF THE BALE IS 6 INCHES LOWER THAN THE GROUND ELEVATION OF THE BEGINNING BALE. THEY SHOULD THEN TURN INTO THE FILL WITH A LOW POINT FOR THE WATER TO DRAIN OVER THE BALE. IN DITCHES, BALED STRAW SHOULD BE PERPENDICULAR TO THE FLOW. USED FOR SLOPES LESS THAN 1%, USE 100' SPACING. BALED STRAW SHALL BE STAKED SECURELY TO THE GROUND.

Construction

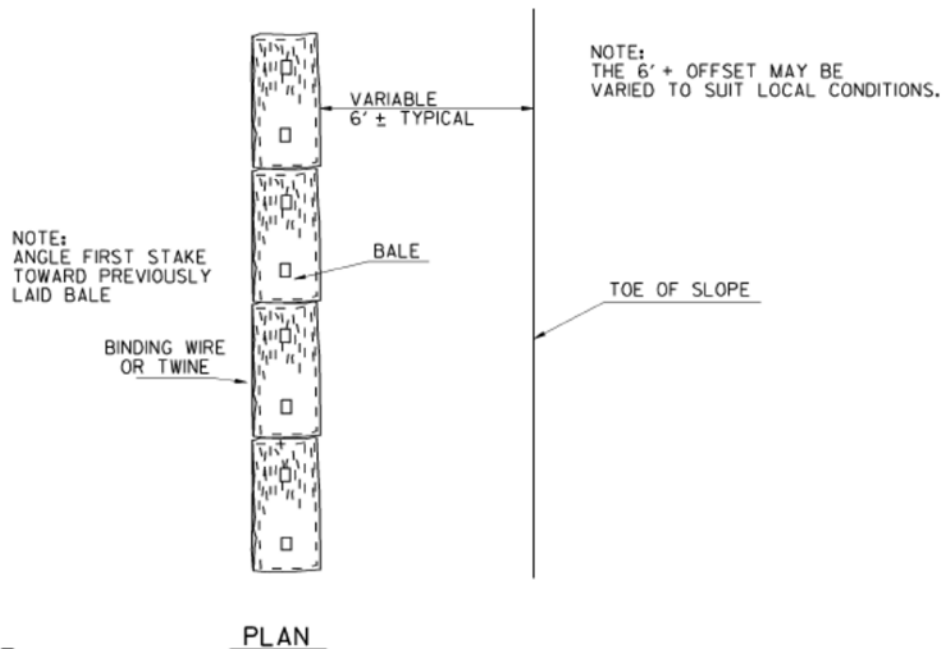
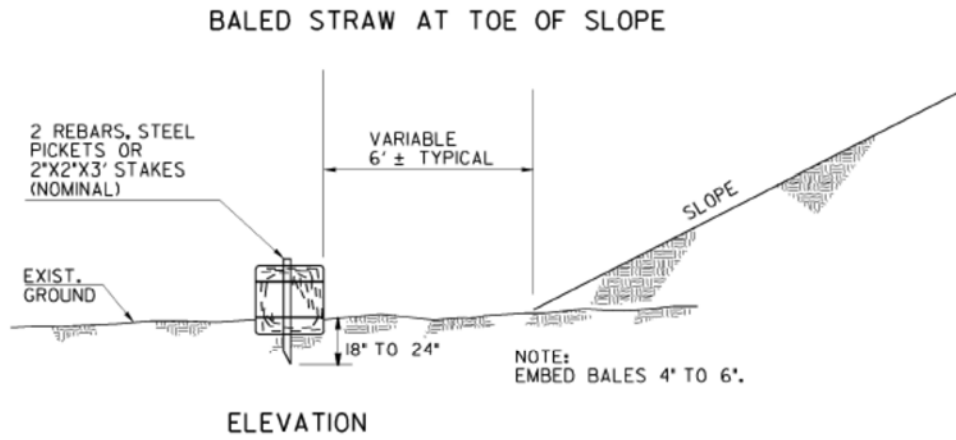
Construct baled straw erosion checks according to the Plan details and Section 163. Triangular silt barrier is an alternate material for baled straw.

Use in ditches with a slope of 1% or less at 100 foot spacing. Trench in 4 inches.

Alternate materials include excelsior logs, compost berms, compost socks and triangular silt barrier.

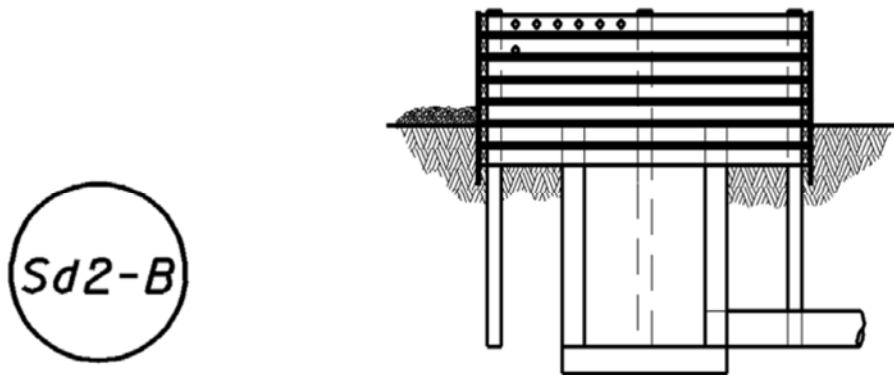
Maintenance

Clean out when ½ full.



NOTE:
BALED STRAW IS USED IN TYPICAL RURAL AREAS WHERE FILLS ARE FROM 5 FT. TO 10 FT. HIGH, FOR DITCH CHECKS, AND AS SPECIFIED ELSEWHERE.
SYNTHETIC HAY BALES OF TYPE WHICH HAVE BEEN CLASSIFIED AS "ACCEPTED" BY THE D.O.T. OFFICE OF MATERIALS & RESEARCH MAY BE USED AS AN ALTERNATE TO BALED STRAW AS APPROVED BY THE ENGINEER.

BAFFLE BOX INLET SEDIMENT TRAP



SECTION 163 AND CONSTRUCTION DETAIL D-42

USED FOR INLETS RECEIVING RUNOFF WITH A HIGHER VOLUME OR VELOCITY. A GUIDE FOR USE WILL BE FOR AN INLET RECEIVING A $Q=7\text{ cfs}$.

Purpose

To prevent sediment from leaving the site, or from entering storm drainage systems, prior to permanent stabilization of the disturbed area.

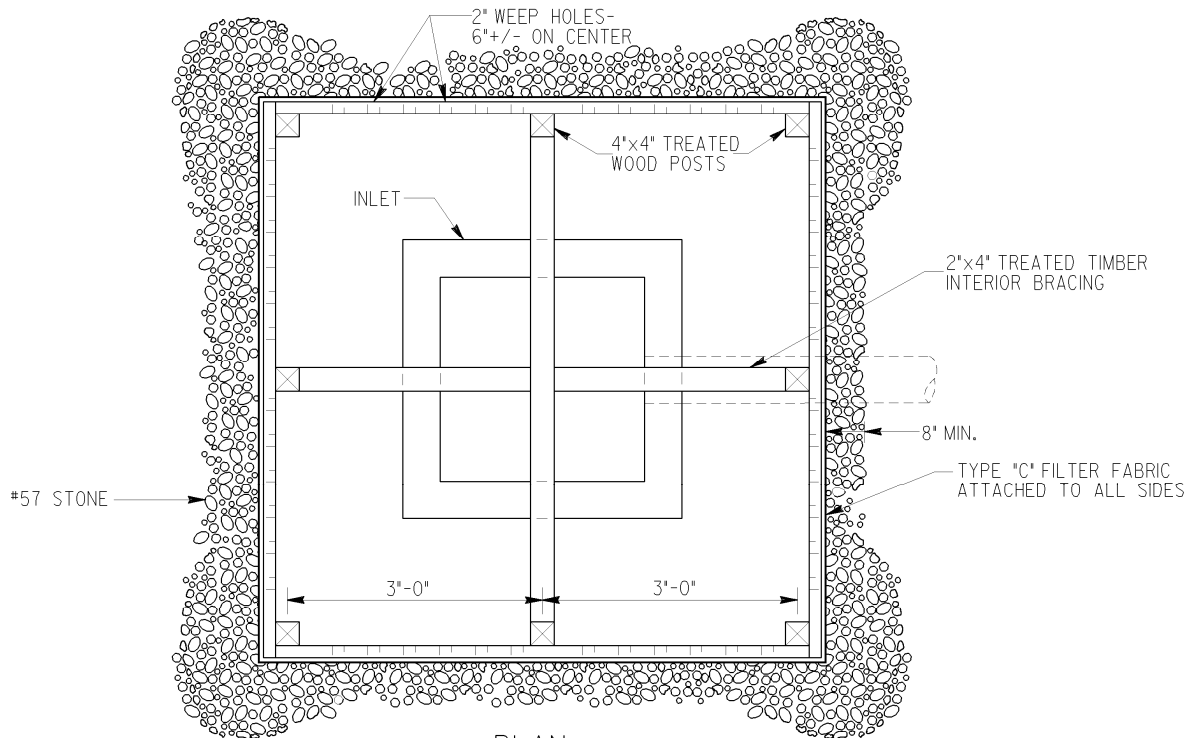
Construction

Construct using 2 inch by 4 inch boards spaced 1 inch apart or by using plywood with 2 inch diameter holes spaced on 6 inch centers. Corner posts cannot exceed 4 inches by 4 inches.

Wrap the entire box in Type C filter fabric that is entrenched 12 inches and backfilled. Place gravel all around the box to a depth of 2 to 4 inches.

Maintenance

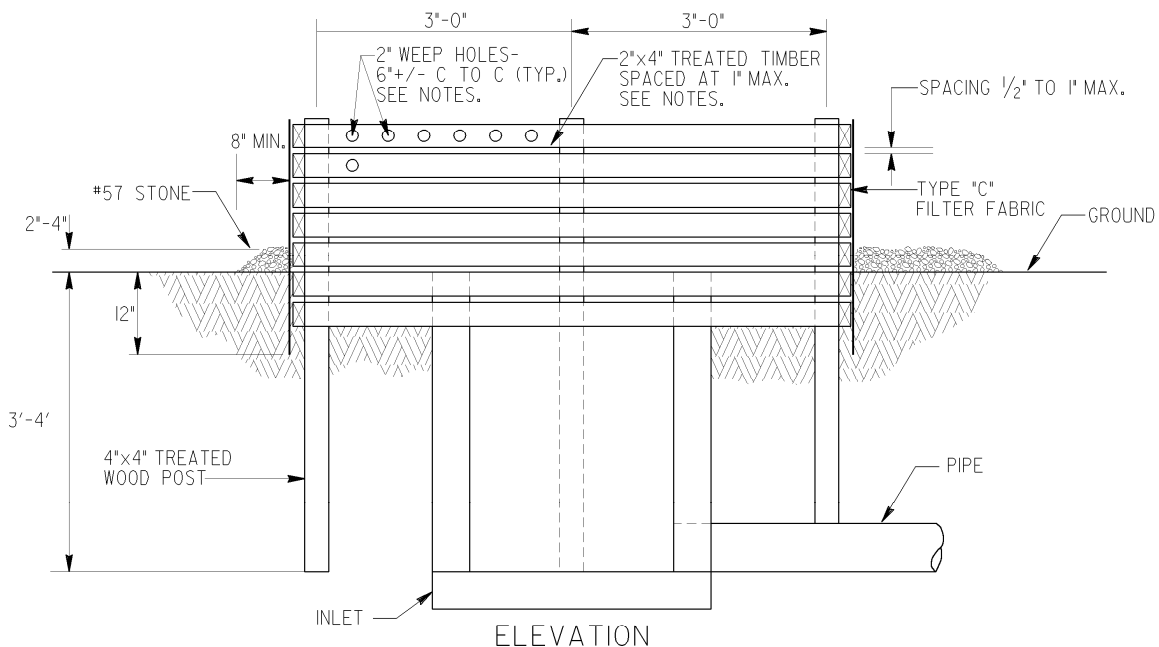
Clean out when half full of sediment.



NOTES:

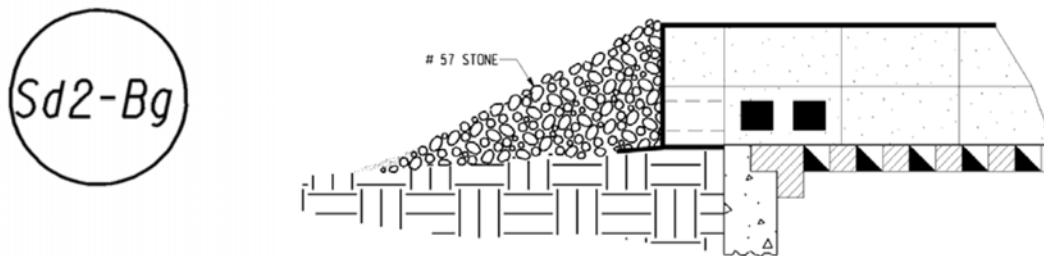
BAFFLE BOX SHALL BE CONSTRUCTED OF 2"x4" TREATED TIMBER SPACED A MAXIMUM OF 1" APART OR OF PLYWOOD WITH WEEP HOLES 2" IN DIAMETER PLACED APPROXIMATELY 6" ON CENTER VERTICALLY AND HORIZONTALLY.

GRAVEL SHALL BE PLACED OUTSIDE THE BOX, ALL AROUND THE INLET, TO A DEPTH OF 2 TO 4 INCHES. THE ENTIRE BOX SHALL BE WRAPPED IN TYPE "C" FILTER FABRIC THAT SHALL BE ENTRENCHED 12 INCHES AND BACKFILLED.



BAFFLE BOX (Sd2-B)

BLOCK AND GRAVEL INLET PROTECTION



SECTION 163 AND CONSTRUCTION DETAIL D-42

USED FOR INLET PROTECTION WHERE HEAVY FLOWS ARE EXPECTED AND WHERE OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE. CAN BE USED AT CULVERT INLETS. A GUIDE FOR USE WILL BE FOR AN INLET RECEIVING A Q=5-7 cfs.

Purpose

To prevent sediment from leaving the site, or from entering storm drainage systems, prior to permanent stabilization of the disturbed area.

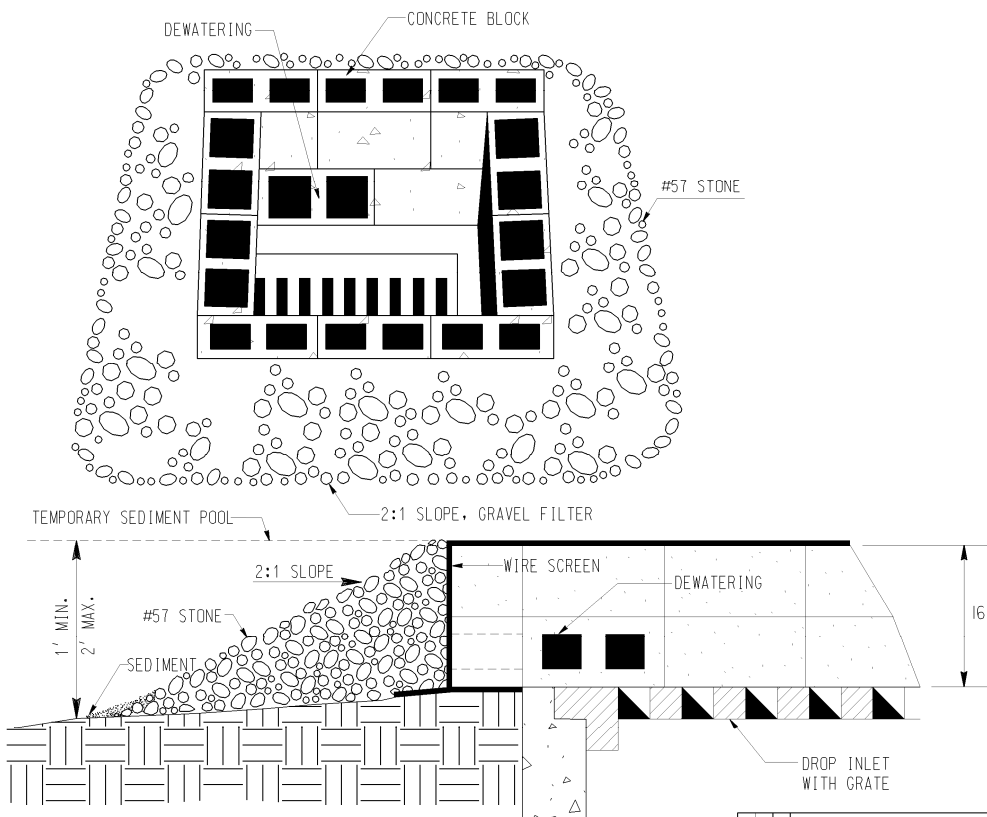
Construction

Place one block on its side on each side of the structure in the bottom row to allow pool drainage.

Excavate the foundation at least 2 inches below the crest of the storm drain. The bottom row of blocks is placed against the storm drain for lateral support and to avoid washouts when overflow occurs. Fit a piece of hardware cloth with 1/2 inch openings over all block openings to hold gravel in place. Place #57 stone on a 2:1 slope or flatter at least 2 inches below the top of the block and smooth it to a level grade.

Maintenance

Clean out when half full of sediment.

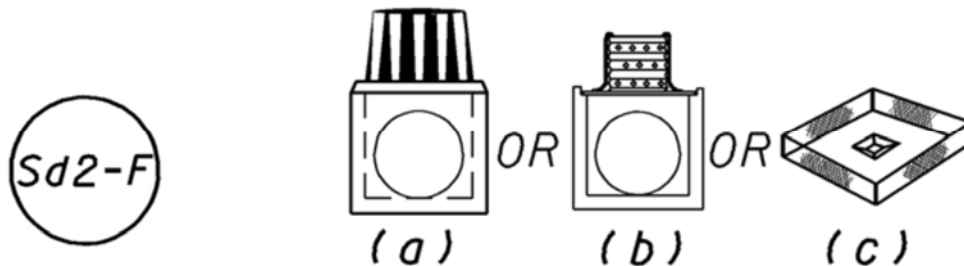


BLOCK & GRAVEL DROP
INLET PROTECTION
(Sd2-Bg)

BASIS OF PAYMENT:
CONSTRUCT AND REMOVE INLET SEDIMENT TRAP _____ EACH

DATE	DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
REVISION	CONSTRUCTION DETAIL INLET SEDIMENT TRAPS BAFFLE BOX Sd2-B BLOCK AND GRAVEL DROP INLET PROTECTION Sd2-Bg GRAVEL DROP INLET PROTECTION Sd2-G	
NO SCALE	MAY 2008	
BY	NUMBER D-42	

INLET SEDIMENT TRAP



SECTION 163 AND CONSTRUCTION DETAIL D-24C

(a) A SEDIMENT BARRIER CONSISTING OF A PREFABRICATED FRAME WITH FILTER FABRIC USED AROUND A DROP INLET OR CATCH BASIN
(b) A SEDIMENT BARRIER CONSISTING OF A PERFORATED METAL STAND PIPE WITH FILTER FABRIC USED AROUND A DROP INLET OR CATCH BASIN
(c) TYPE C SILT FENCE WITH SUPPORTING FRAME CAN BE USED AS AN ALTERNATE TO INLET SEDIMENT TRAP FOR AREAS WITH SLOPES < 5%

THIS ITEM IS USED TO PREVENT SILT FROM ENTERING THE PIPE SYSTEM. SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS. RECOMMENDED FOR INLET RECEIVING FLOWS THAT RANGE FROM $Q=0-4$ cfs.

Purpose

To prevent sediment from leaving the site, or from entering storm drainage systems prior to permanent stabilization of the disturbed area.

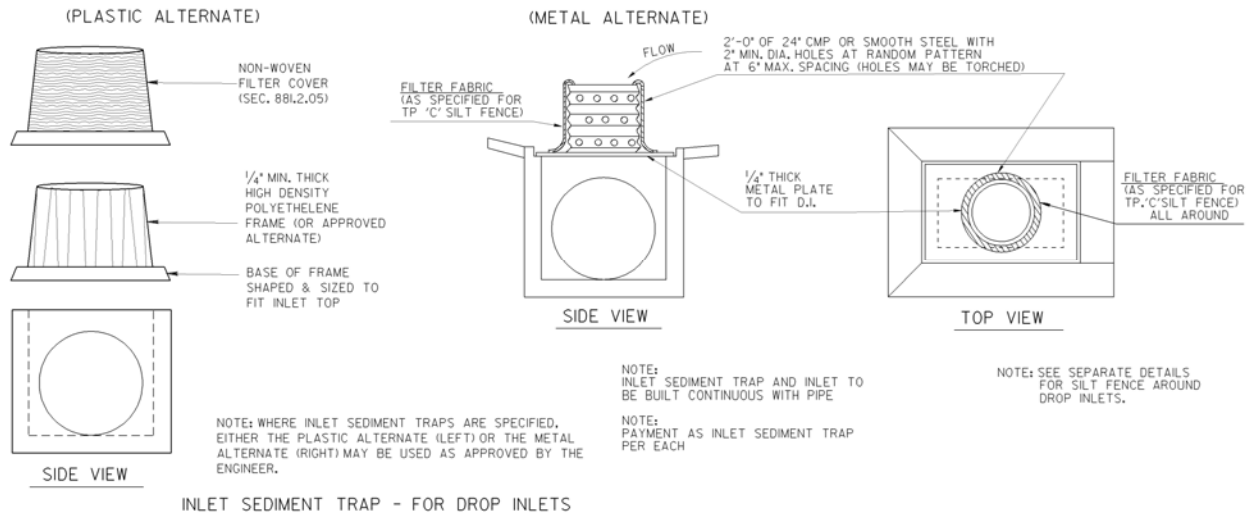
Construction

Use Type C silt fence woven wire supported by steel posts and/or polypropylene mesh supported by wood post. Space the posts evenly around the inlet at a maximum of 3 feet apart and driven in the ground 18 inches deep. Entrench the fabric 12 inches and backfill with stone or compacted soil. Securely fasten the wire and fabric to the posts. Overlap the fabric ends a minimum of 18 inches or wrap together around a post to provide a continuous fabric barrier around the inlet. Ensure sump is constructed around inlet sediment trap per detail.

Maintenance

Watch for water getting under silt fence. Clean out at half full. Berms on downstream side will enhance function.

Georgia Department Of Transportation WORKSITE EROSION CONTROL MANUAL



NOTE:

THE DRAINAGE AREA ENTERING THE INLET SEDIMENT TRAP SHALL BE NO GREATER THAN ONE ACRE.

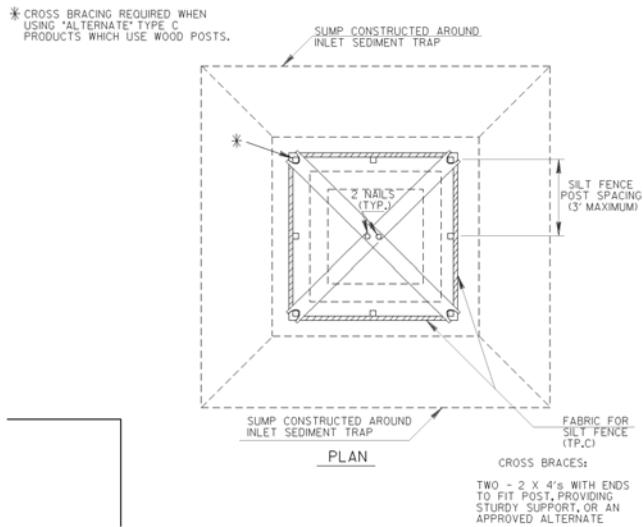
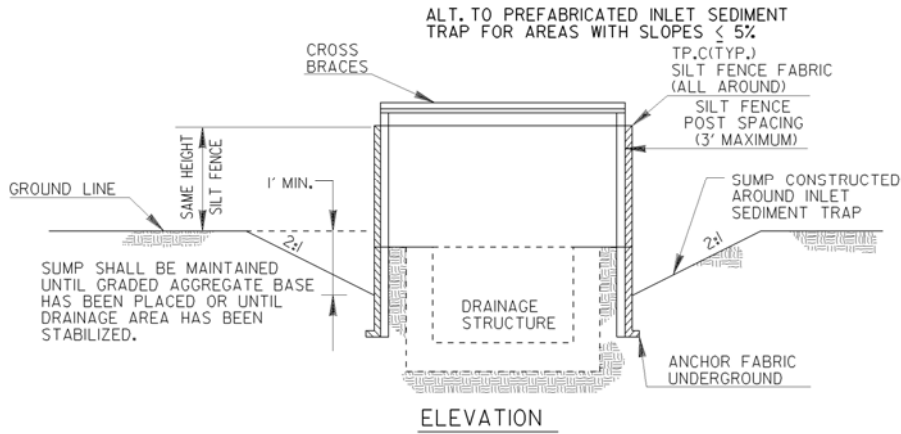
TYPICAL CONSTRUCTION SEQUENCE FOR INLET SEDIMENT TRAP ALTERNATE

1. EXCAVATE APPROXIMATELY 4" TO 6" BELOW THE TOP OF THE INLET STRUCTURE.
2. PLACE THE FRAME ONTO THE INLET STRUCTURE, ENSURING PROPER SEATING OF FRAME TO STRUCTURE.
3. SLIDE THE FILTER OVER THE FRAME.
4. FILL THE FILTER POCKETS WITH SOIL, #57 GRAVEL OR EQUIVALENT. THE FILTER POCKETS SHOULD BE COMPLETELY FILLED TO ENSURE A GOOD SEAL BETWEEN THE GROUND AND INLET STRUCTURE.
5. BACK FILL AROUND THE FRAME AND FILTER ASSEMBLY IS NOT REQUIRED TO COMPLETE INSTALLATION; HOWEVER, BACK FILLING MAY BE NECESSARY TO COMPLETE EXCAVATION REQUIREMENTS FOR THE SITE.

NOTE:

INLET SEDIMENT TRAP ALTERNATE SHALL BE AS APPROVED BY THE GA. D.O.T. OFFICE OF MATERIALS & RESEARCH. DETAILS & SPECIFICATIONS NOT SHOWN ARE PER THE MANUFACTURER'S REQUIREMENTS.

TYPICAL LOCATION AROUND DROP INLETS



NOTE:
PAYMENT AS INLET SEDIMENT TRAP PER EACH.

NOTE:
SEE SEPARATE SHEET ENTITLED "TEMPORARY SILT FENCE DETAILS" FOR SILT FENCE ERECTION DETAILS.

GRAVEL DROP INLET PROTECTION



SECTION 163 AND CONSTRUCTION DETAIL D-42

USED FOR INLET PROTECTION WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED. STONE AND GRAVEL ARE USED TO TRAP SEDIMENT. THE SLOPE TOWARD THE INLET SHALL BE NO MORE THAN 3:1. A GUIDE FOR USE WILL BE FOR AN INLET RECEIVING A Q=3-5 cfs.

Purpose

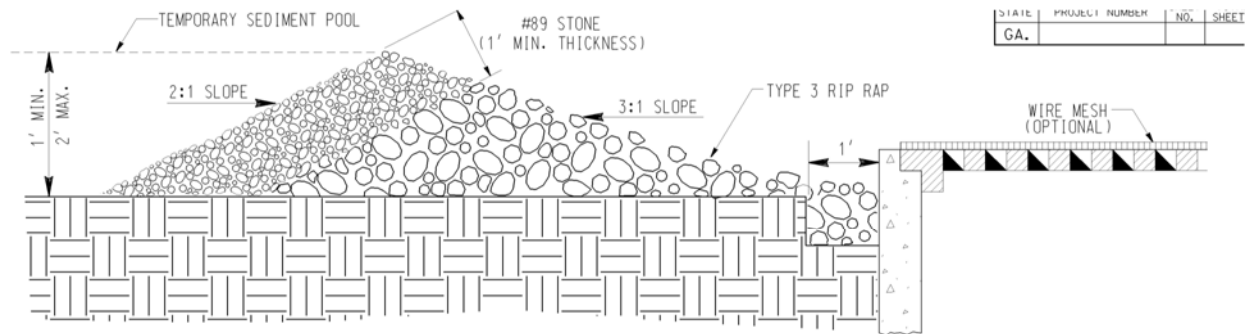
To prevent sediment from leaving the site, or from entering storm drainage systems, prior to permanent stabilization of the disturbed area.

Construction

Refer to the Construction Detail and Section 163 of the Specifications. Use 3:1 or flatter slope toward the inlet. Place stone 3 inches in diameter or larger on the slope toward the inlet. Place ½ inch to ¾ inch gravel on the slope away from the inlet at a minimum of 1 foot thickness.

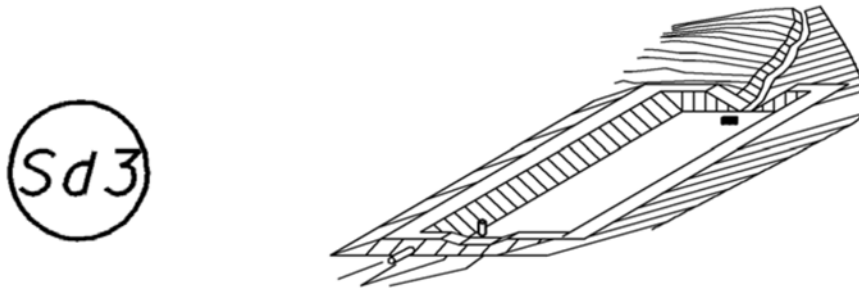
Maintenance

Clean out when half full of sediment.



GRAVEL DROP INLET PROTECTION
(GRAVEL DONUT) Sd2-G

SEDIMENT BASIN



SECTION 163 AND CONSTRUCTION DETAIL D-22A AND D-22B

A BASIN EXCAVATED OR AN AREA THAT IS DAMMED. THE BASIN IS DESIGNED TO HOLD A SEDIMENT LOAD OF 1815 CUBIC FEET OF VOLUME PER ACRE OF DRAINAGE AREA. IT IS USED FOR DRAINAGE AREAS OF 3 TO 5 ACRES OR WHERE A ROADWAY CUTS OR FILLS EXCEEDS 1,000 FEET IN LENGTH. IF A SEDIMENT BASIN IS USED ON AN AREA LARGER THAN 5 ACRES SPECIAL CONSIDERATION FOR CLEAN OUT IS REQUIRED. SUFFICIENT RIGHT OF WAY OR PERMANENT EASEMENT NEEDED FOR THE BASIN AND ACCESS FOR CLEAN OUT VIA A ROUTE WITH 3:1 SLOPES OR LESS. SEDIMENT BASINS SHOULD ALSO BE CONSIDERED WHERE HIGH FILLS OVER 30 FEET DRAIN TO ONE LOCATION.

Purpose

To detain runoff waters and trap sediment from erodible areas in order to protect drainageways below the installation from damage by excessive sedimentation and debris. The water is temporarily stored and the bulk of the sediment carried by the water drops out and is retained in the basin.

The sediment storage volume of a basin has to be at least 67 cubic yards per acre.

Construction

A. General

1. Clear and grub the area under the embankment of all vegetation and root matter. Clear the pool area to reduce debris buildup and facilitate cleanout.
2. Use fill material for the that is free of roots and other woody vegetation, organic material, and large stones. Compact the embankment in 8 inch layers by traversing with construction equipment.

3. Construct the Rip Rap spillway to the dimensions shown on the Plans. Place filter fabric beneath all Rip Rap.

4. Provide permanent stabilization of the embankment immediately after construction. (SLOPE MAT ONLY)

B. Primary Spillway (Perforated Principal Spillway Detail without Skimmer)

1. The minimum pipe size is 8 inches.
2. The pipe shall be perforated with ½ inch holes every 3 inches.
3. No holes are allowed in the pipe above the stone filter.
4. Use # 57 stone as a filter.
5. Trash rack and anti-vortex devices are required.
6. Provide enough concrete on the base of the pipe to prevent flotation.
7. Stabilize the area at the outlet of the primary spillway.

C. Primary Spillway (Perforated Principal Spillway Detail with Skimmer)

1. See Construction Detail D-22B for all information

D. Emergency Spillway

1. Construct in undisturbed soil.
2. The minimum width of the spillway bottom is 8 feet.
3. The spillway channel must have a straight control section for a minimum of 20 ft.
4. The spillway outlet channel must be straight for at least 25 feet.
5. A non-erosive material must protect the spillway.
6. Stabilize the outlet of the emergency spillway.

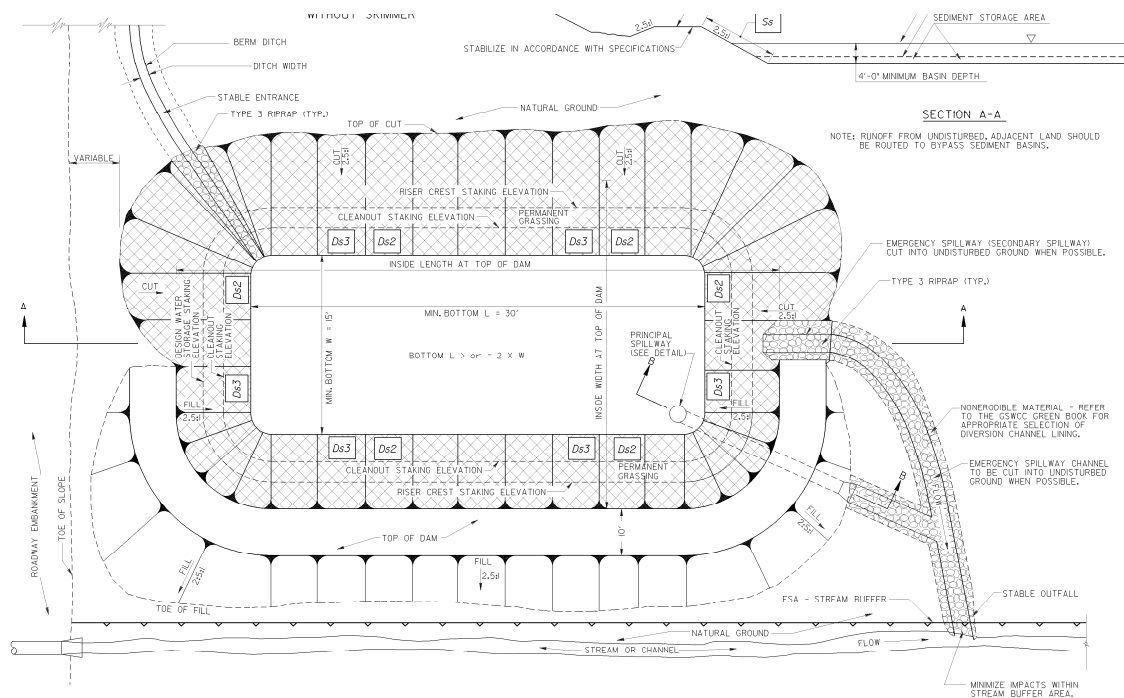
Maintenance

Remove sediment from the basin and restore it to its original dimensions when the sediment has accumulated to one-third of the storage volume.

Deposit removed sediment in a suitable area and in such a manner that it will not erode.

SEE DETAIL D-22A FOR ALL INFORMATION

BELOW: TEMPORARY SEDIMENT BASIN WITH CONVENTIONAL PRINCIPAL SPILLWAY



GENERAL NOTES:

1. SEDIMENT BASINS ARE GENERALLY CONSTRUCTED AT THE TOE OF A SLOPE, EXCAVATED ON THE UPHILL SIDE, AND DAMMED ON THE DOWNHILL SIDE.
2. SEDIMENT BASINS ARE DESIGNED TO HOLD A SEDIMENT LOAD OF 67 CUBIC YARDS OF VOLUME PER DRAINAGE ACRE.
3. DESIGN THE SQUARE CONCRETE ANTI-FLOTATION BLOCK IN ACCORDANCE WITH THE GSWCC GREEN BOOK BUT WITHOUT REBAR.
4. IF NECESSARY, ADD A SPECIAL CLEANOUT PENINSULA TO LARGE BASINS.
5. SUFFICIENT EASEMENT IS NEEDED FOR BASINS AS WELL AS ACCESS FOR CLEANOUT VIA A ROUTE WITH A 3:1 SLOPE OR LESS.
6. IN SECTION 54 OF THE ESPCP, SHOW THE FOOTPRINT OF EACH BASIN.
7. REFER TO THE SEDIMENT BASIN TABLE IN THE ESPCP FOR BASIN-SPECIFIC DETAILS.
8. OVERALL BASIN LENGTH TO WIDTH RATIO SHALL BE NO LESS THAN 2; IF NOT, USE BAFFLES TO INCREASE THE FLOW PATH LENGTH TO 2 TIMES THE BASIN WIDTH.
9. DESIGN AND CONSTRUCT THE PRINCIPAL SPILLWAY TO CONVEY THE TOTAL 24-HOUR, 2-YEAR STORM; THE COMBINED PRINCIPAL AND EMERGENCY SPILLWAYS TO CONVEY THE TOTAL 25-YEAR STORM; AND THE SKIMMER ITSELF TO DRAIN THE BASIN WITHIN 24 TO 48 HOURS.
10. EROSION CONTROL MATTING AND MATTING BLANKETS SHALL BE INSTALLED ON ALL INSIDE BASIN SLOPED AREAS FROM THE BASIN TOP EDGE TO THE BASIN BOTTOM EDGE.
 - II. APPROVED EROSION CONTROL MATTING OR BLANKETS OR BONDED FIBER MATRIX SHALL BE APPLIED TO ALL 2.5:1 SLOPES OR GREATER SLOPES.
12. ALL ITEMS SHOWN AND INCIDENTAL ITEMS NECESSARY FOR THE BASIN ARE TO BE INCLUDED IN THE OVERALL BID PRICE OF THE SEDIMENT BASIN (SECTION 163.5.C).

DEBRIS SCREEN
(2'-0" x 5/8" REINF. BARS
WELDED TO TOP OF
RISER PIPE 4" CC)

4" TYP.

WELD 3/4" STEEL BAR
AROUND TOP

PRINCIPAL SPILLWAY CREST

1'-0"

1'-0"

6" 6"

DRAIN HOLES SHALL NOT
BE ABOVE THIS ELEVATION

1" DIA. DRAIN HOLES
ON MAX. SPACING
OF 6" C. TO C.

#57 GRAVEL

BASIN DEPTH
VARIABLE

6"

18"

VARIABLE

CLASS B CONCRETE
SQUARE ANTIFOATATION BLOCK

WELD ALL AROUND

OUTLET PIPE

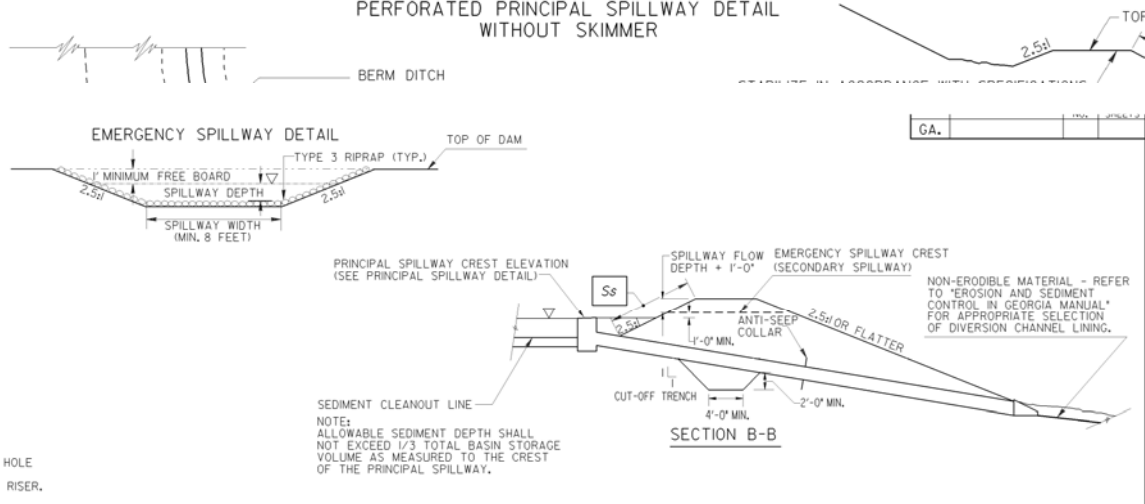
Do

6"

NOTE:
PLACE STAND PIPE IN 24"
AND POUR 18" CONCRETE F
THEN POUR 18" CONCRETE

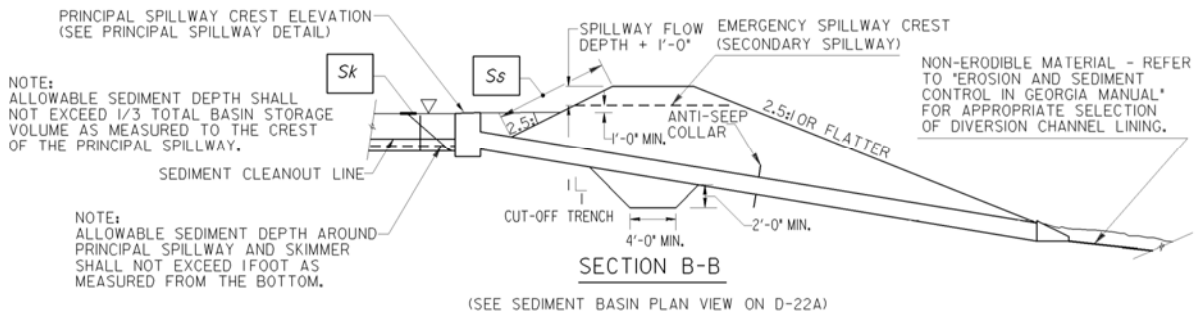
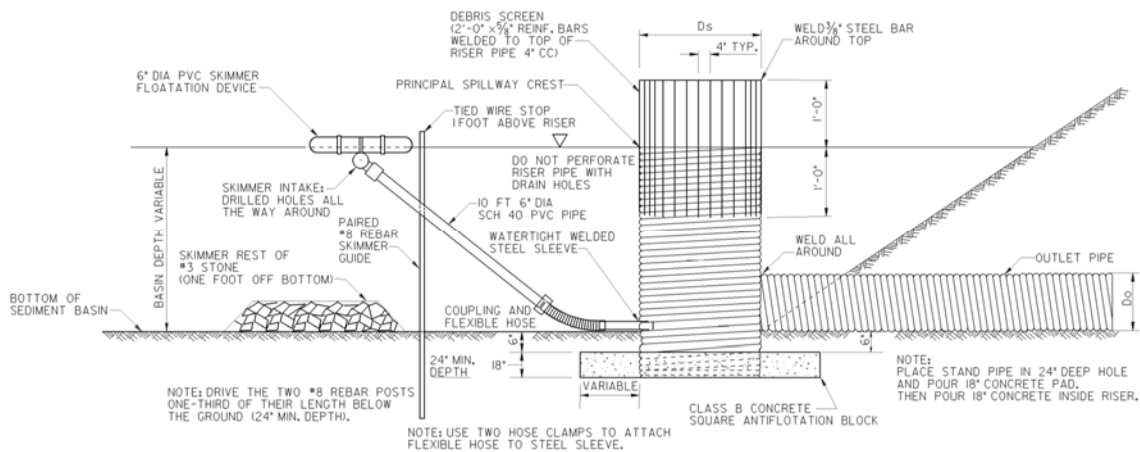
PERFORATED PRINCIPAL SPILLWAY DETAIL
WITHOUT SKIMMER

TOP

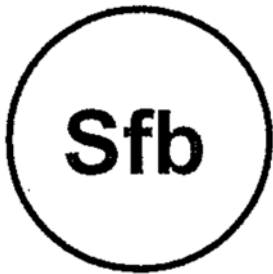


SEE DETAIL D-22B FOR ALL INFORMATION

BELOW: SKIMMER AND RISER PIPE PRINCIPAL SPILLWAY DETAIL FOR TEMPORARY SEDIMENT BASIN



SILT FILTER BAG



SECTION 719

DEFINITION

A geosynthetic bag used to filter sediment from water.

Construction Specifications

1. Must meet the requirement of Section 719
2. Place on a gravel bed.
3. Bags may be removed and properly disposed of or buried on site.
4. Bags are paid for per each.

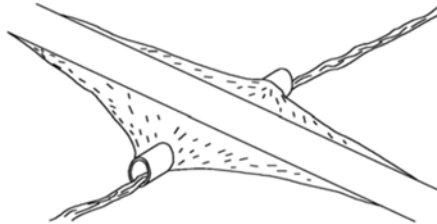
Silt Filter Bag Installation

1. Each Silt Filter Bag is manufactured with a standard 4 inch neck (the bags sold in Georgia have a 6 inch neck) with tie straps to insert a discharge hose. Insert the discharge hose into the bag so that the hose extends into the main body of the bag several inches past the neck opening.
2. Tie the provided straps around the discharge hose tightly to prevent water and sediment from flowing through the neck of the Silt Filter bag.
3. The Silt Filter Bag should be placed so the incoming water flows into the bag and will flow out through the bag and then off the site without creating more erosion

4. To increase surface area flow capabilities, the bag may be placed on a gravel bed to allow water to flow in all directions (cost of gravel to be included in price of bag).
5. The Silt Filter bag is considered full and should be disposed of when it is impractical for the bag to filter the sediment at a reasonable rate.* The bag may rupture if the bag is full and sides are clogged with silt or sediment.
6. Disposal maybe accomplished by the following methods:
 - a. If the site allows, the bag may be cut open and the silt raked and seeded; or
 - b. The contractor may use the lifting straps to remove the bag from the site for proper disposal.

*Under most circumstances, the Silt Filter Bag will accommodate flow rates of 1500 gallons per minute (GPM) per bag. If pumping more than 1500 gallons, it is recommended to split the discharge into more than one bag (i.e., 3000 gpm would require 2 bags)

STREAM CROSSING



SPECIAL PROVISION SECTION 161

*A TEMPORARY BRIDGE OR PIPE STRUCTURE PROTECTING A STREAM OR WATER COURSE FROM DAMAGE BY CONSTRUCTION EQUIPMENT. THIS AREA MUST BE COMPLETELY STABILIZED. THIS ITEM MUST BE DESIGNED ACCORDING TO CHAPTER 6 OF THE MANUAL FOR EROSION CONTROL IN GEORGIA
FOR CONTRACTOR'S USE ONLY*

Purpose

This standard is used to protect streams from damage and erosion. The line codes for temporary bridges and pipe structures used as stream crossings are **Sr-b** and **Sr-c**, respectively.

Construction

1. Construct the stream crossing according to Plan details. Use non-erodible material for construction.
2. Keep clearing and excavation of the stream bed and banks to a minimum.
3. Remove the structure as soon as it is no longer necessary for project construction.
4. Upon removal of the structure, immediately reshape the stream to its original cross-section and properly stabilize the disturbed area.
5. The stream crossing must be approved by the Engineer.
6. **Fording of live streams with construction equipment is not permitted.**

Maintenance

Inspect the structure after every rainfall and at least once a week, whether it has rained or not. Repair all damages immediately.

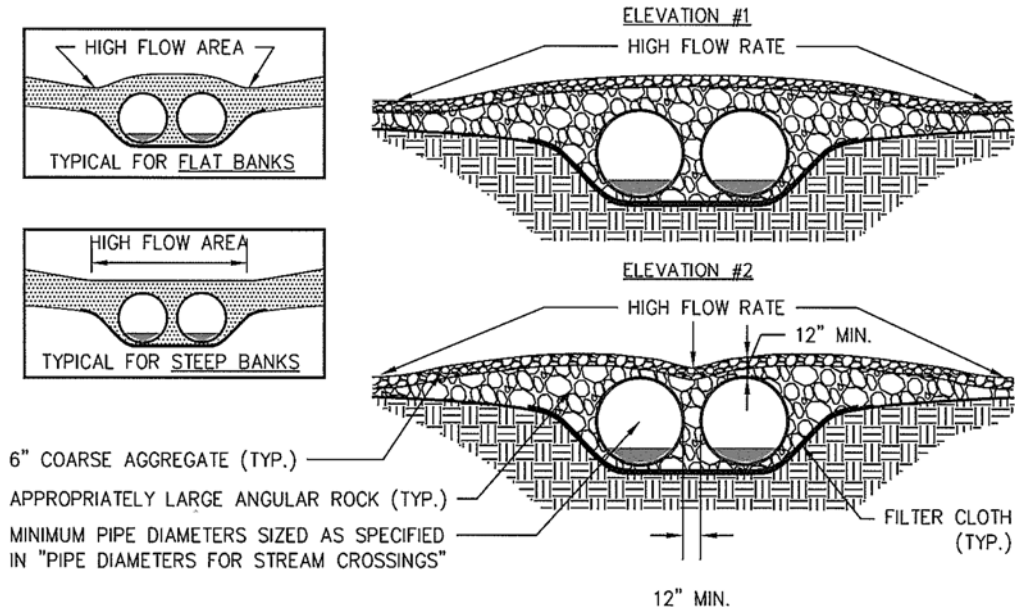
PIPE DIAMETERS FOR STREAM CROSSINGS
(INCHES)

DRAINAGE AREA (ACRES)	AVERAGE SLOPE FOR STREAM WATERSHED			
	1%	4%	8%	16%
1-25	24	24	30	30
26-50	24	30	36	36
51-100	30	36	42	48
101-150	30	42	48	48
151-200	36	42	48	54
201-250	36	48	54	54
251-300	36	48	54	60
301-350	42	48	60	60
351-400	42	54	60	60
401-450	42	54	60	72
451-500	42	54	60	72
501-550	48	60	60	72
551-600	48	60	60	72
601-640	48	60	72	72

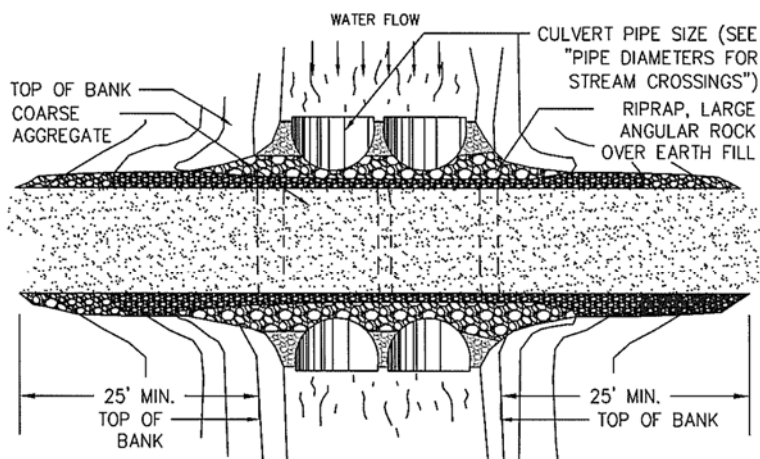
TEMPORARY STREAM CROSSINGS SHALL NOT BE USED ON
STREAMS WITH DRAINAGE AREAS GREATER THAN ONE
SQUARE MILE.

CONFIGURATION OF TEMPORARY CULVERT CROSSINGS

(SECTIONS - NOT TO SCALE)



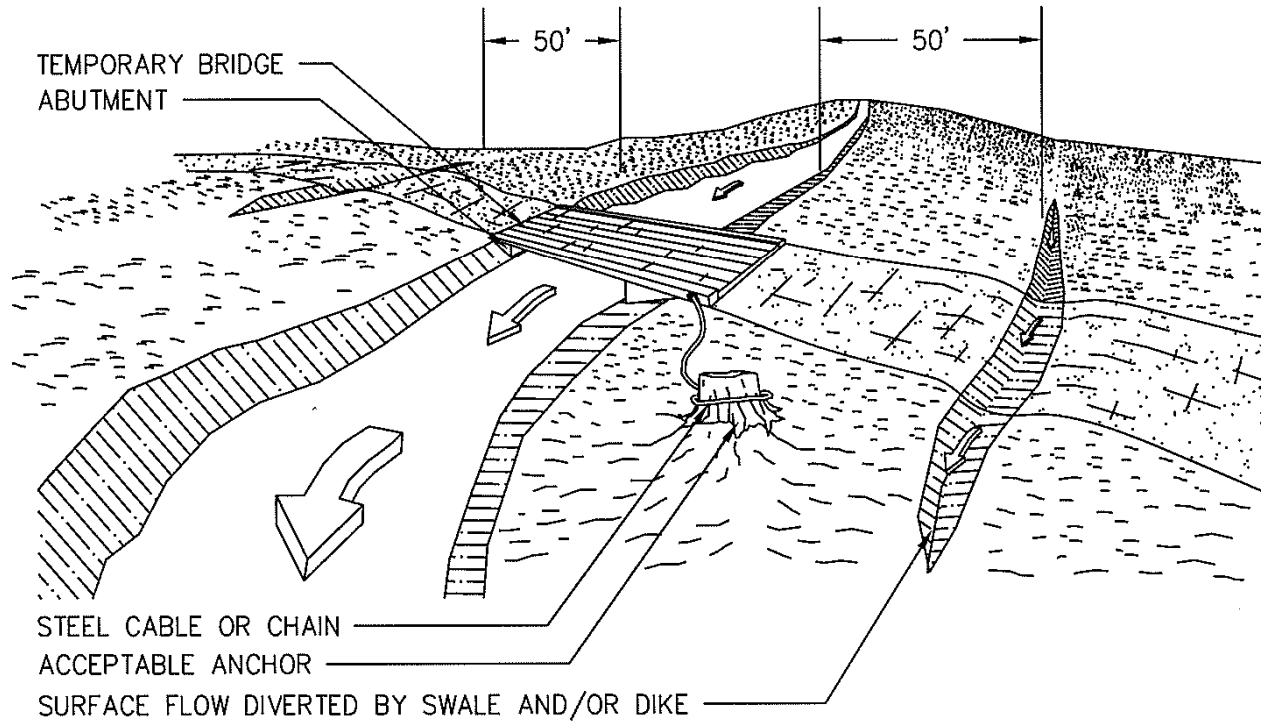
TYPICAL CULVERT CROSSING PLAN (NOT TO SCALE)



NOTES:

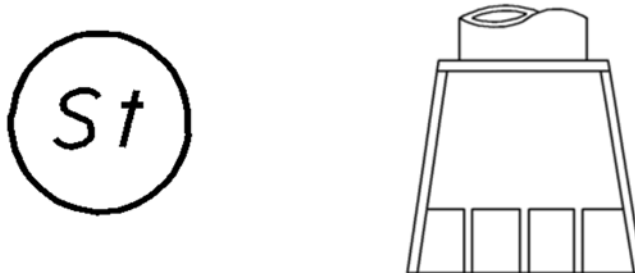
1. THIS TYPE OF CROSSING CAN BE INSTALLED IN BOTH A WET OR DRY WEATHER STREAM CONDITION WHERE THE DRAINAGE AREA EXCEEDS 10 ACRES.
2. REMOVE DURING CLEANUP.

TEMPORARY BRIDGE CROSSING



STORM DRAIN OUTLET PROTECTION

(HEADWALL WITH APRON AND DISSIPATOR BLOCKS)



GA Standards 1120, 1125 and 2332

A PIPE OR BOX CULVERT OUTLET HEADWALL WITH AN APRON AND DISSIPATOR BLOCKS IS USED TO PREVENT EROSION AND TO SLOW WATER. IT IS USED ON THE OUTLET OF ALL BOX CULVERTS AND ON 48" AND LARGER PIPES. MAY BE USED ON INLET FOR FLOWING STREAMS. USE ON SMALL PIPES WHEN OUTLET VELOCITY IS 12 fps AND GREATER.

Purpose

This standard is used to reduce velocity of flow before entering receiving channels below storm drain outlets.

Conditions

Velocity dissipaters are required on outlet headwalls on pipes 48 inches and larger. They will be used on pipes smaller than 48 inches when the outlet velocity is 12 feet per second or greater.

Toe-walls are required for outlets of concrete storm drains, except where ditch paving or other erosion protection is provided or where the outlet velocity is less than 8 feet per second. Toewalls are not required for side drains, slope drains or inlets of storm drains. These criteria may be varied where specified by the Engineer.

Toe-walls are paid for as Cubic Yards of Class A concrete. The contractor may elect to construct toe-walls with sand cement bag riprap or stone riprap to the same minimum dimensions with no additional payment.

Precast toe-walls shall be Class A concrete. Cast in place toe-walls may be Class A or B concrete and may be trenched formed. Where plans itemize one Class of concrete and the contractor elects to use another class of concrete, no additional payment will be made. No payment is made for steel in toe-wall.

Construction

Refer to the Standard drawings 1120 and 1125 for details on construction and requirements for outlet headwall velocity dissipaters.

Maintenance

Inspect the structure after every rainfall and at least once a week, whether it has rained or not.

Repair all damages immediately. Clean out when half full of sediment

STORM DRAIN OUTLET PROTECTION

(Type 1 Rip Rap)



SECTION 603 AND CONSTRUCTION DETAIL EC-L6

THIS ITEM IS ADDED TO "St" WHEN ADDITIONAL PROTECTION IS NEEDED. TYPE 1 RIP RAP SHOULD BE USED AT A 24" THICKNESS. MAY BE USED ON INLETS FOR FLOWING STREAMS. REFER TO CHARTS IN "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR QUANTITIY DETERMINATION.

Construction

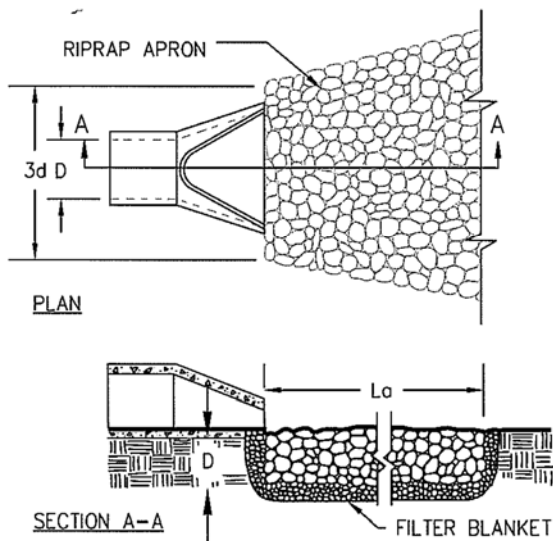
1. Begin rip rap in a toe ditch constructed in original ground around the toe of the fill or the cut slope. The toe ditch shall be 2 feet deep in the original ground, and the side next to the fill or cut shall have the same slope. Where rip rap is to commence in water or below normal water level, the toe ditch will be omitted and an apron of rip rap shall be substituted.
2. Protect the filter fabric from tearing while placing rip rap.
3. Ensure that the subgrade for the filter and rip rap follows the required lines and grades shown in the Plans. 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 rip rap thickness.

4. The rip rap and gravel filter must conform to the specified grading limits shown on the Plans.
5. Filter fabric, when used, must meet design requirements and be properly protected from punching or tearing during installation. Repair any damage by removing the rip rap and placing another piece of filter fabric over the damaged area. All connecting joints should overlap a minimum of 1 foot. If the damage is extensive, replace the entire filter fabric.
6. Rip rap may be placed by equipment, but take care to avoid damaging the filter fabric.
7. The minimum thickness of the rip rap should be 1.5 times the maximum stone diameter.
8. Construct the apron on zero grade with no overfall at the end. Make the top of the rip at the downstream end level with the receiving area or slightly below it.
9. 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.

Maintenance

Inspect the rip rap outlet protection after heavy rains for erosion at sides and ends of apron and for stone displacement. Make repairs immediately using appropriate stone sizes. Do not place stones above finished grade.

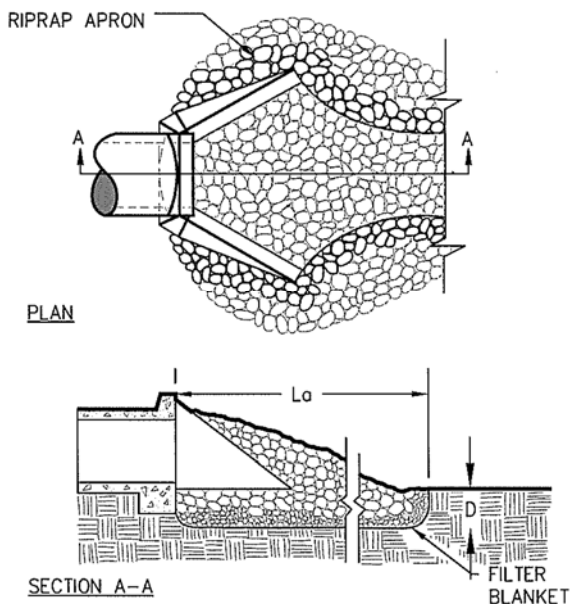
PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL



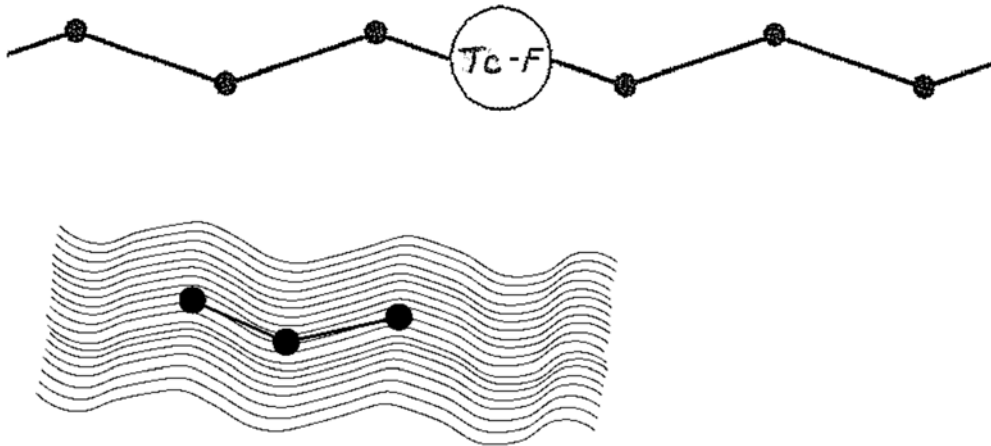
NOTES:

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

PIPE OUTLET TO WELL DEFINED CHANNEL



TURBIDITY CURTAIN FLOATING



FLOATING

SECTION 170

A FLOATING BARRIER IS USED TO PREVENT SEDIMENT FROM MOVING IN WATER BY FORCING IT TO DROP OUT OF SUSPENSION BEFORE IT MOVES OUT OF THE CONSTRUCTION AREA. IT IS USUALLY USED WHERE CONSTRUCTION IS REQUIRED IN A LARGE BODY OF WATER SUCH AS LAKES AND RIVERS. IT SHOULD BE USED AS DIRECTED BY THE ENGINEER.

THIS ITEM IS ONLY TO BE USED WHEN PERMITTED FILL IS BEING PLACED INTO A STATE WATER, OR AS A SUPPLEMENT TO ADEQUATELY PLACED BMP'S.

PURPOSE

Silt retention barrier are used to control water pollution at sites where embankment construction or removal of material causes stream or wetland pollution.

Construction

Follow these guidelines for installing Floating Silt Retention Barrier:

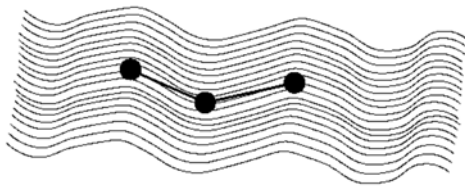
1. Install before construction or material removal begins to reduce impact.
2. Confine dredged material to ponding areas or settlement basins using standpipes or weirs.

3. Place the barrier approximately 25 feet outside the affected construction area, and at the depth within 5 feet of the bottom.
4. If the body of water has a significant current, place the barrier parallel to the water flow. Ensure that the fabric is permeable.
5. Vary the dimensions and methods to suit the conditions and to meet the requirements of other local and State water control agencies to ensure that silt dispersion is effectively controlled.
6. Provide a fabric that is weighted to prevent it from floating.

Maintenance

Silt barrier should be inspected for damage weekly and after rainfall. Common failures are tearing, undermining, and damage to the floatation device.

TURBIDITY CURTAIN STAKED



STAKED

SECTION 170

A STAKED BARRIER IS USED TO PREVENT SEDIMENT FROM MOVING IN WATER BY FORCING IT TO DROP OUT OF SUSPENSION BEFORE IT MOVES OUT OF THE CONSTRUCTION AREA. IT IS USUALLY USED WHERE CONSTRUCTION IS REQUIRED IN SHALLOW INUNDATED AREAS. IT SHOULD BE USED AS DIRECTED BY THE ENGINEER. A STAKED BARRIER MAY BE USED TO PROTECT A SMALL STREAM WHILE IT IS BEING REALIGNED OR WIDENED IN "Ch1". IN THIS CASE THE BARRIER SHOULD EXTEND TO THE BOTTOM OF THE STREAM. IT SHOULD BE LIMITED TO 5' IN HEIGHT UNLESS OTHERWISE DIRECTED. STAKED BARRIERS IN SMALL STREAMS SHOULD EXTEND 1' ABOVE NORMAL WATER. THIS ITEM IS ONLY TO BE USED WHEN PERMITTED FILL IS BEING PLACED INTO A STATE WATER, OR AS A SUPPLEMENT TO ADEQUATELY PLACED BMP'S.

PURPOSE

Silt retention barrier are used to control water pollution at sites where embankment construction or removal of material of material causes streams or wetland pollution.

Construction

Follow these guidelines for installing Staked Silt Retention Barrier:

1. Where a staked barrier is used to protect a stream or inundated area, ensure that the fabric :
 - a. Extends to the bottom of the stream or inundated area and is weighted to prevent it from floating
 - b. Is permeable and not trenched in at the bottom
 - c. Extends 1 ft (300 mm) above the normal water from the top of the fabric
2. Ensure that the post meet the following requirements:
 - a. Size: May be either 2 inch (50mm) X 4 inch (100mm) wood; 2 ½ inch (62.5 mm-minimum diameter) wood; or , steel at a minimum of 1.33 pounds per foot (1.980 kg/m)
 - b. Length: Minimum of 5 ft (1.5 m)
 - c. Spacing: Maximum of 4 ft (1.2 m)
 - d. Depth: Install posts a minimum of 18 inches (450 mm) into the soil.

Maintenance

Silt barrier should be inspected for damage weekly and after rainfall. Common failures are tearing, undermining, and damage to the staked fence.

BEST MANAGEMENT PRACTICES

- ***A COLLECTION OF STRUCTURAL & VEGATATIVE MEASURES WHICH, WHEN PROPERLY DESIGNED, INSTALLED & MAINTAINED, WILL PROVIDE EFFECTIVE E & S CONTROL FOR RAINFALL EVENTS UP TO & INCLUDING A 25 YEAR 24 HOUR RAINFALL EVENT.***

BMP TYPES

- Site Prep (prior to construction)
- Construction Activities (Temporary)
- Post Construction (Permanent)

Site Prep BMP's

- Construction Exits & Roads (Co, Cr)
- Stream Crossing (Sr)
- Preventative Filters (Rd, Sd1 perimeter)
- Flow Diversions (Dc)
- Sediment Basins (Sd3)

Construction BMP's

- Channel Stabilization
 - Ch-C, Ch-Rp, Ch-TRM, Ch-V
- Concentrated Flow
 - St, Cd, Di, Rd
- Cut/Fill Slopes
 - Dn1, Dn2, Mb
- Sediment Barriers
 - Sd1, Sd2, Fr, Sg

Post Construction BMP's

- Permanent Structures Required by Plans

BMP MAINTENANCE **161.3.07**

- Effectively install and maintain the erosion control features.
- Ensure these features contain the erosion and sediment within the limits of the right of way.
- Control the discharges of storm-water from disturbed areas.
- Meet all local, state, and federal requirements on water quality

BMP MAINTENANCE

- **MAINTENANCE IS THE KEY TO BMP PERFORMANCE**
- **THE BEST INSTALLED & THE BEST DESIGNED BMP'S ARE ONLY AS GOOD AS THEY ARE MAINTAINED.**

State Soil and Water Conservation Commission Website

www.gaswcc.georgia.gov

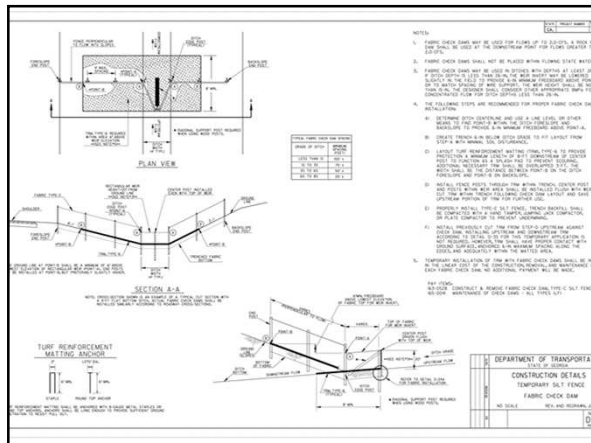
Click on documents for
Green Book or SSWCC BMP Manual

Cd-Check Dam

- Cd-F Fabric
- Cd-Fs Composite Filter Sock
- Cd-Hb Hay Bales
- Cd-S Stone
- Check Dams are for use in swales, drainage ditches or areas of concentrated flow.

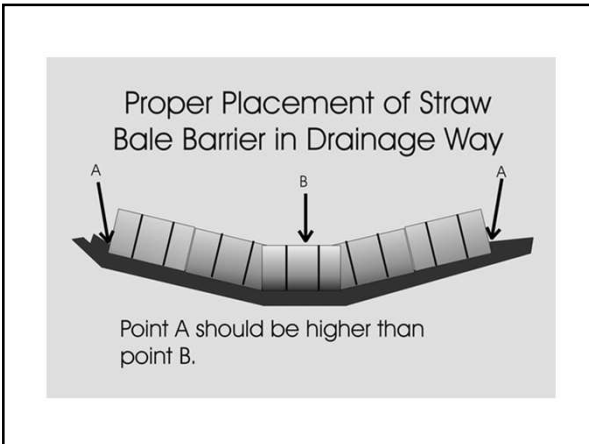
Cd-F Fabric Check Dam

- Installation
 - May be used for flows up to 2.0 cfs
 - Do not place in flowing State Waters
 - May be used in ditches with depths at least 26 inches
 - See Detail D-24D
- Maintenance
 - Inspect for washout and damage after rainfall
 - Remove sediment at 1/2 full



Cd-Hb Hay Bale Check Dam

- Installation
 - Turn hay bale on side
 - Embed hay bale a minimum of 4 inches and secure with two stakes
 - Do not use where drainage areas exceed 1 area
- Maintenance
 - Inspect for washout and damage after rainfall
 - Remove Sediment at 1/2 full





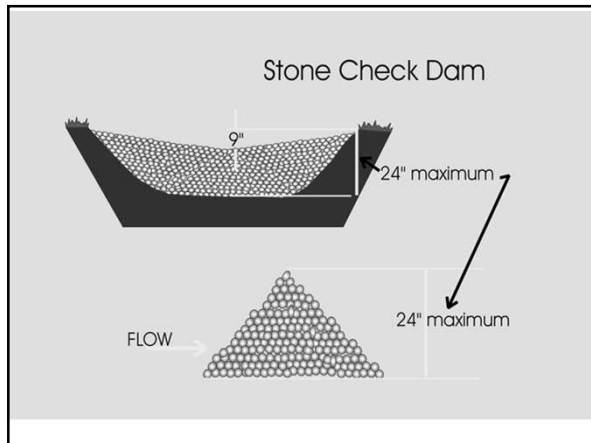
Substitutes for Hay Bales

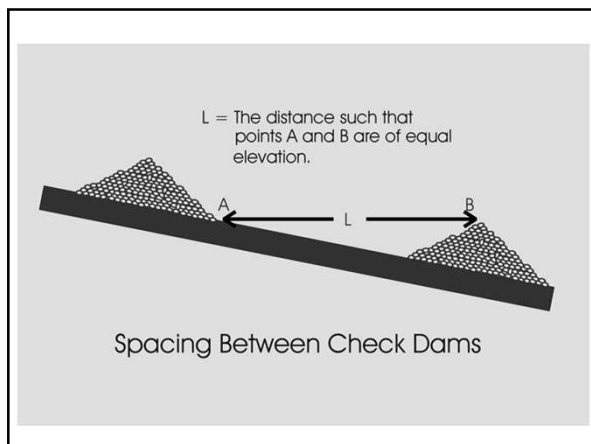
- Type B silt fence
- Compost Filter Berms
- Triangular Silt Barrier
- Synthetic Fiber
- Coir
- Excelsior
- Composite Filter Sock

Cd-S Stone or Sand Bag Check Dam

■ Installation

- Drainage area not to exceed 2 acres
- Use DOT type 3 Rip Rap 2 feet thick on sides
- Construct center 9 inches lower than sides
- Top of downstream dam should be same elevation as toe of upstream dam
- **Use geotextile under stone**
- **Do not place in live streams**
- Refer to Construction Details







Cd-S Sand Bag Check Dam

- Construct Sand Bag check dam according to WECS Manual
- Sand Bag Check Dam shall conform to the same dimensions as the stone check dam with no change in payment

Ch- Channel Stabilization

- Ch-C Concrete Channel
- Ch-Rp Rip Rap (Type 1 or 3)
- Ch-TRM (Turf Reinforcing Matting)
- Ch-V Channel Grass

Ch-C Concrete Channel

- **Installation**
 - Install according to Section 441 and Detail D-10
 - Use for channels where velocities exceed 10 feet per second
 - Ensure outlet protection for velocity is installed
- **Maintenance**
 - Maintain to the satisfaction of Engineer until Final Acceptance



Ch-Rp Rip Rap (Type 1 or 3)

- **Installation**
 - Design based on GDOT ditch program
 - Velocity range between 5 and 10 feet per second
 - Remove all vegetation & objectionable materials
 - Install 24" deep according to Section 603 and Plans
 - Place Geotextile underneath Rip Rap
 - Do not damage geotextile during placement of Rip Rap
 - Install immediately after construction or as soon weather permits
- **Maintenance**
 - Maintain to the satisfaction of Engineer until Final Acceptance





Ch- TRM (Turf Reinforcing Mat Type 1-6)

- Installation
 - Install according to Section 711 & Detail D-35
 - Plant grass prior to placing mat
 - Roll mat uphill in the ditch and install check slots and edge anchors
- Maintenance
 - Periodic inspection and maintenance to ensure mat retention and grass production



Ch-V Channel Grass

- Installation
 - Install according to Plans
 - Remove all woody growth, obstructions, and objectionable material
 - Waterway cross-section may be parabolic or trapezoidal in shape
 - Maximum velocity 5 feet per second without geotextile
 - Plant grass selected from Section 700 of the DOT Specification. Mulch grass areas.
- Maintenance
 - Replant grass as needed to ensure a stand of grass



Co Construction Exits

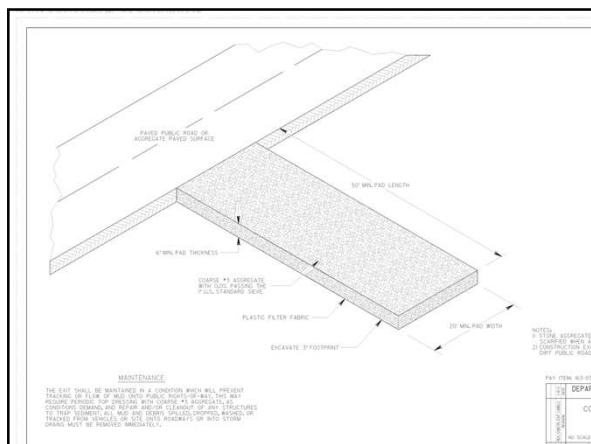
■ Installation

- Install according to Plan Details and Construction Detail D-41
- Place geotextile under the length and width of exit
- Tire washing is required if the coarse aggregate does not remove the mud from the tires. Wash into an approved sediment trap or basin

Co Construction Exits

- Maintenance

- **INSPECT DAILY!!**
- Periodically dress with 1.5"– 3.5" stone to ensure an exit condition that removes mud from the tires
- Remove material dropped, washed, spilled, or tracked onto the roadway or into storm drains immediately





Cr Construction Road

- Provide access to a construction area while limiting the amount of impact
- Ensure the Contractor abides by guidelines in the GSWCC Manual and in Specification 106 and 161

Dc Diversion Channel Type A, B & C

- Installation Guidelines
 - Drainage area not to exceed 1 square mile
 - Ensure plan is submitted by a Level II Certified Design Professional
 - Install according to Plans
 - Bottom width of diversion min 6' or width of existing streambed whichever is greater
 - Side slopes no steeper than 2:1
 - Depth & grade sufficient to ensure continuous flow

Lining Materials	Symbol	Acceptable Velocity Range
Geotextile, polyethylene film, or sod	Dc-A	0 -2.5 fps
Geotextile alone	Dc-B	2.5 -9.0 fps
Class I riprap and geotextile	Dc-C	9.0 -13.0 fps

Dc Diversion Channel Type A, B & C

- Installation Guidelines
 - Excavate the channel--plug both ends
 - Install appropriate liner
 - Install double row of Type C silt fence on each side of diversion channel to prevent unfiltered silt from entering the stream
 - Unplug the ends (downstream plug first) when installation is complete

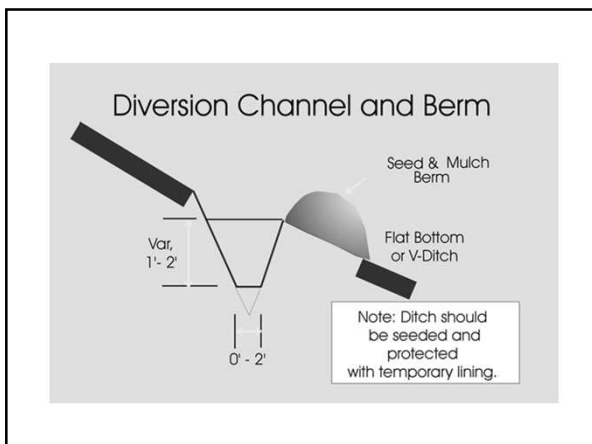
Dc Diversion Channel Type A, B, & C

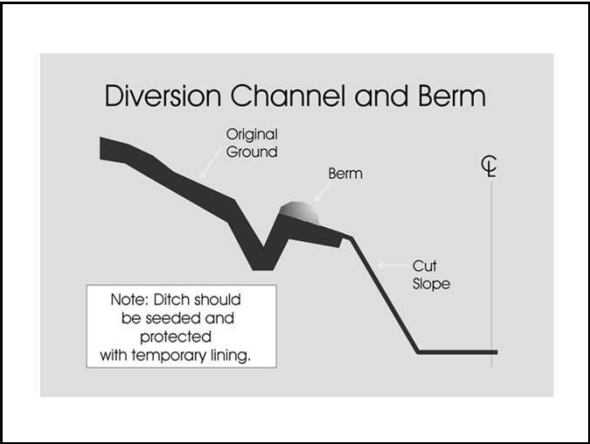
- Installation Guidelines
 - Upon the completion of the structure, immediately restore the stream
 - Re-plug the ends of the channel
 - Remove the liner
 - Backfill the diversion channel and vegetate the area with grass, mulch and matting if needed

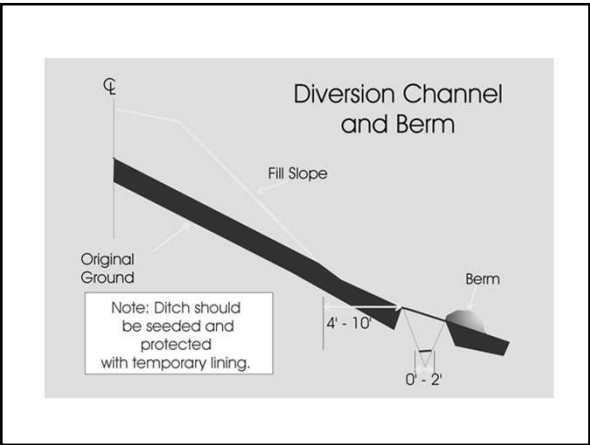


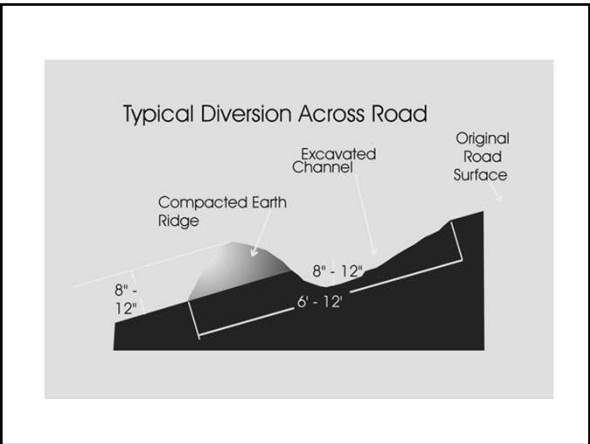
Di-Diversion

- Definition: An earthen channel or dike located above, below or across a slope to divert runoff. This may be temporary or permanent structure
- Installation
 - Use on grading projects
 - Compact the berm
 - Stabilize berm with mulch or grass
 - Install per details
- Maintenance:
 - Inspect after rainfall & repair as necessary







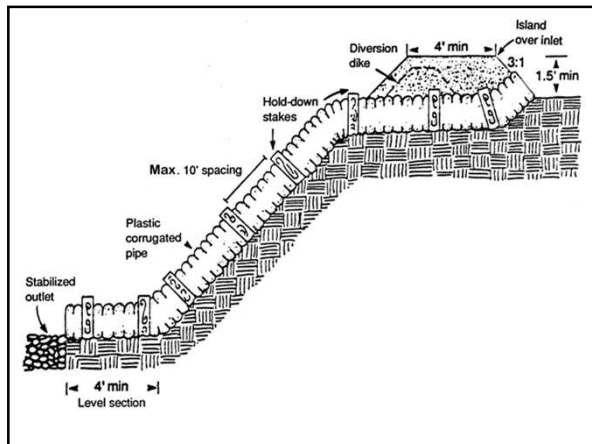


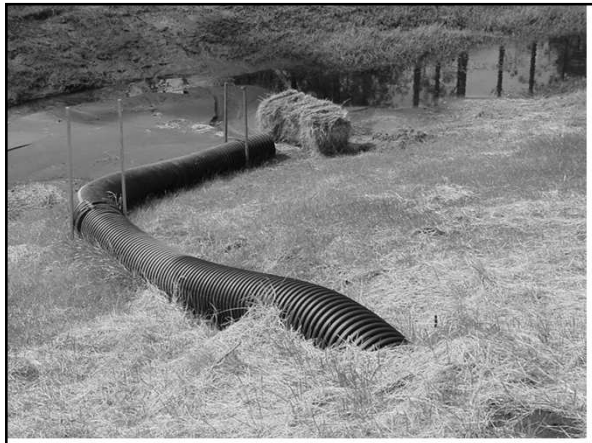


Dn1 Temporary Down Drain Structure

- Installation
 - Refer to plans for pipe size and location
 - Install according to Plans, Specification 163 and Construction Detail D-19
 - Ensure the pipe is anchored to the slope and provide a stable outlet
- Maintenance
 - Check after every rainfall—promptly make any needed repairs
 - Remove when permanent structures are installed







Dn2- A & B Permanent Down Drain Structures Concrete

- Installation
 - Install the type structure shown on the Plans
 - Stabilize outlet as required by the Plans
 - Vegetate all disturbed areas
- Maintenance
 - Periodic inspection required. Maintain to the satisfaction of Engineer until Final Acceptance

Dn2-Type 1 & 2 Permanent Down Drain Structure

■ Installation

- Construct according to Ga Std 9017-J Type 1 & 2 and Detail 26
- Construct in two stages. Stage 1 as soon as embankment is complete. Stage 2 as soon as paved shoulders are complete.
- Stabilize outlets as required by the Plans

■ Maintenance

- Inspect periodically and after rainfall events. Maintain to the Engineers satisfaction.



Ds

- Ds-1 Mulch
- Ds-2 Temporary Grass
- Ds-3 Permanent Grass
- Ds-4 Sod

Ds-1 Mulch

- Installation
 - Install all other BMPs first
 - Apply straw or hay mulch to disturbed areas weekly
 - Apply at the rate of 2 to 4 inches loose
 - Imbed the mulch into the slope with a tracked vehicle, empty sheepsfoot roller, light discing or other means acceptable to the Engineer
- Maintenance
 - Add mulch as needed to maintain depth



Ds-2 Temporary Grass

- Installation
 - Soil Analysis
 - Ground Prep
 - Plant according to Zone and Seed Chart (Spec 700)
 - Polyacrylamide (PAM)
 - Fertilizer
 - Lime (if applicable)
- Maintenance
 - According to Spec guidelines: Preserve, protect, water, reseed and replant as necessary to keep grass areas in satisfactory condition



Ds-3 Permanent Grass

- Installation
 - Soil Analysis
 - Ground Prep
 - Plant according to Zone and Seed Chart (Spec 700)
 - PAM/Fertilizer/Lime/Nitrogen
- Maintenance
 - According to Spec guidelines: Preserve, protect, water, reseed and replant as necessary to keep grass areas in satisfactory condition



Ds-4 Sod

- Installation
 - Ground Prep
 - Apply Lime/Fertilizer per Specification
 - Furnish and install as shown on Plans or as directed by the Engineer
 - Stake according to Specification
- Maintenance
 - Water to promote growth
 - Replace any unacceptable sod at Contractors expense

Fe Fence

- Installation
 - Chain Link
 - Permanent sediment basins or detention ponds
 - Field fence, woven wire fence, or safety fence
 - Temporary sediment basins
 - Refer to Section 643, Ga Std 9031N, and Detail F-4

Fr Filter Ring

- Installation
 - Place rock around inlet and another at 4 ft minimum from structure inlet
 - See Plans for stone size
- Maintenance
 - Keep clear of trash and debris
 - Clean out at half full
 - Remove after disturbed area is stabilized

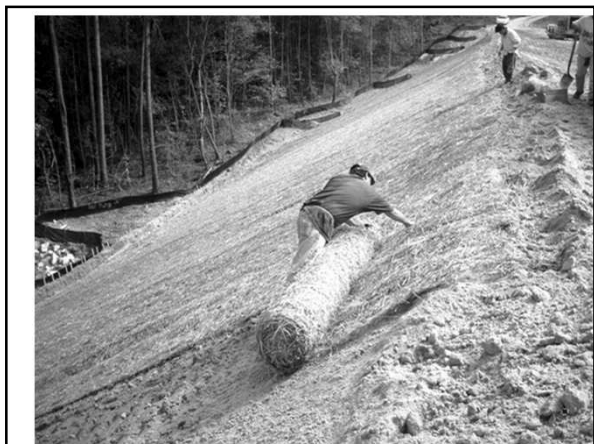


Mb Erosion Control Mats

- Installation
 - Refer to Section 716 of Specification
 - Cut and fill slopes steeper than 2.5:1
 - Within 50 feet of all cross drains and culverts
 - Environmental Sensitive Area
 - Grass, lime and fertilizer before placing mat
 - Use Permanent Grass only unless specifically noted elsewhere
 - Place mats vertically on slopes
 - Overlap mats 4" (sides) 6" (ends)
 - STAPLES shall be done in accordance to Specification
 - NOTE: Ensure proper matting is used in accordance with any Buffer Variance Requirements

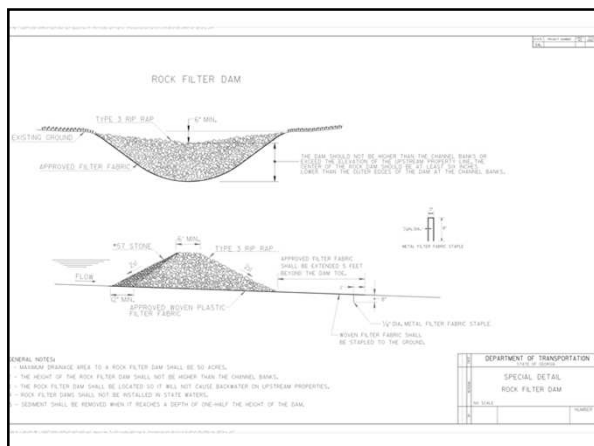
Mb Erosion Control Mats

- Maintenance
 - Inspect monthly
 - Repair exposed/damaged areas as quickly as possible.



Rd Rock Filter Dam

- **Installation**
 - For use with drainage area 50 acres or less
 - Use below culvert installations, dam construction, or project that involves grading activity directly in a stream
 - Not intended to substantially impound water
 - Refer to WECS Manual detail
 - Do NOT install in state waters unless proper COE permits or other agencies permitting is authorized





Rp Rip Rap

- Installation
 - Place Type I rip rap as indicated on Plans (usually 24" thick)
 - Always use fabric under rip rap
 - Do not damage fabric during placement of rip rap
- Maintenance
 - Minimal Monthly Inspection



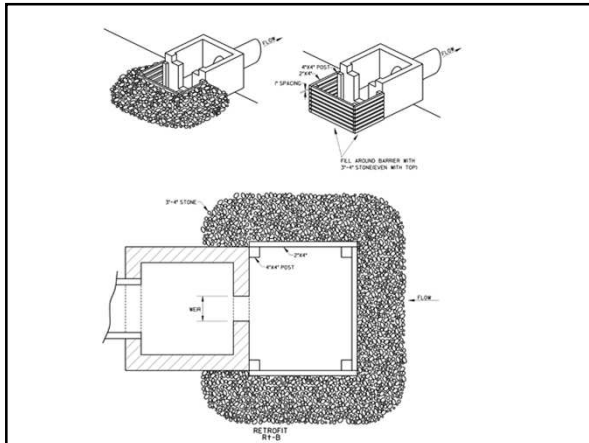
Rt-B Retrofitting (Slotted Boards)

■ Installation

- Use with detention ponds with less than 100 acres total drainage area and on roadway drainage structures with drainage area less than 30 acres
- Detention basins must be large enough to store 67 cubic yards of silt per acre of sediment storage
- Refer to Plan details for construction

■ Maintenance

- Continuous monitoring and maintenance
- Clean out when 1/3 full





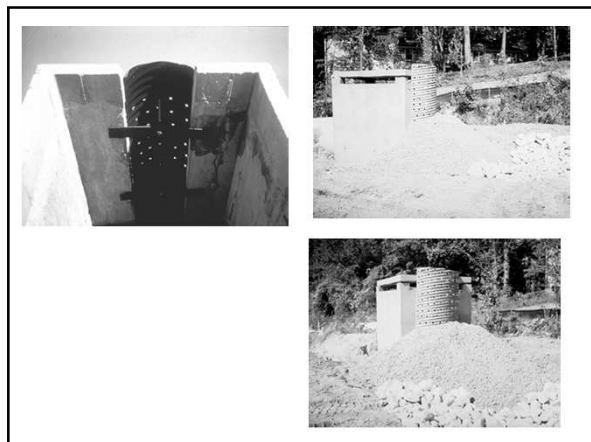
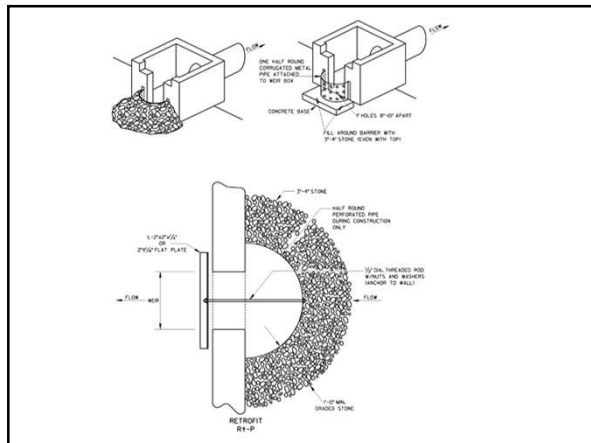
Rt-P Retrofitting (Curved Pipe)

■ Installation

- Use with detention ponds with less than 30 acres total drainage area
- Detention basins must be large enough to store 67 cubic yards of silt per acre of sediment storage
- Refer to Plan details for construction

■ Maintenance

- Continuous monitoring and maintenance
- Clean out when 1/3 full



Rt- Sg Silt Gates Type 1, 2, or 3

- Installation
 - Construct according to Detail and Section 163
 - Rt-Sg1 (Box culverts)
 - Rt-Sg2 (Pipes with straight headwalls)
 - Rt-Sg3 (Pipe with flared end sections of tapered headwalls)

Do not place in flowing streams!

- Maintenance
 - Inspect weekly and after rain events
 - Clean out when ½ full

Sd-1 Sediment Barrier

- Sd1- A,B,C Silt Fence
- Sd1-Bb Brush Barrier
- Sd1-Hb Baled Straw

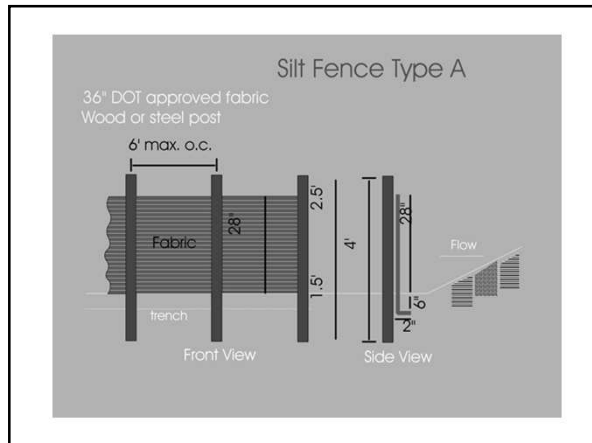
Sd1-A Silt Fence Type A

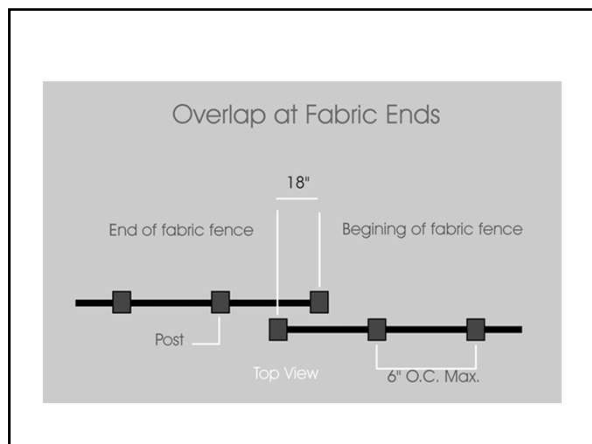
- Installation
 - Install per plan details. Use DOT approved fabric
 - Install along toe of fills over 10' feet high, along the right of way line and parallel to streams
 - Do not run fence continuous. Turn fence back into the fill to create small pockets to trap silt.
 - Lap fence 18 "
 - May be used as ditch checks for 1 to 3% grades

Sd1-A Silt Fence Type A

■ Maintenance

- Inspect silt fence weekly and after every $\frac{1}{2}$ " rainfall event
- Clean out when $\frac{1}{2}$ full
- Restore to like new condition if damaged or deteriorated.
- Remove filtercake from fabric





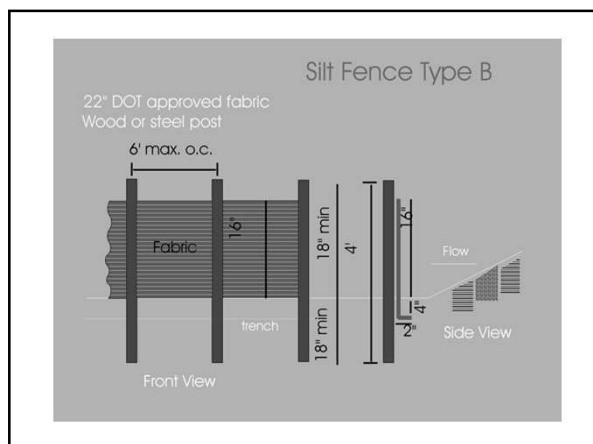


Sd1-B Silt Fence Type B

- Installation
 - Install per plan details. Use DOT approved fabric
 - Install along toe of fills under 10' feet high
 - Do not run fence continuous. Turn fence back into the fill to create small pockets to trap silt.
 - Lap fence 18 "
 - May be used as ditch checks for 1% grades
 - May be substituted for hay bales

Sd1-B Silt Fence Type B

- Maintenance
 - Inspect silt fence weekly and after every 1/2" rainfall event
 - Clean out when 1/2 full
 - Restore to like new condition if damaged or deteriorated.
 - Remove filtercake from fabric



Sd1-C Silt Fence Type C

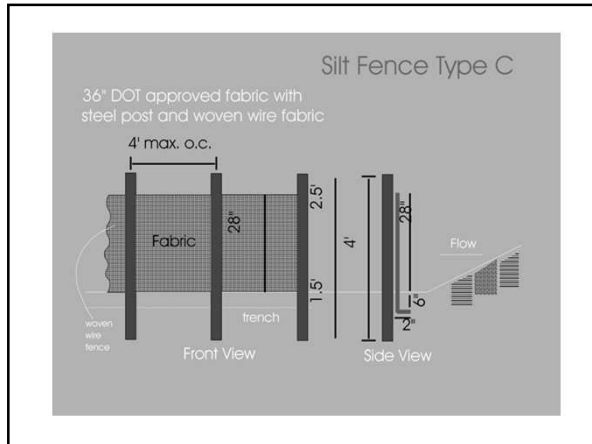
■ Installation

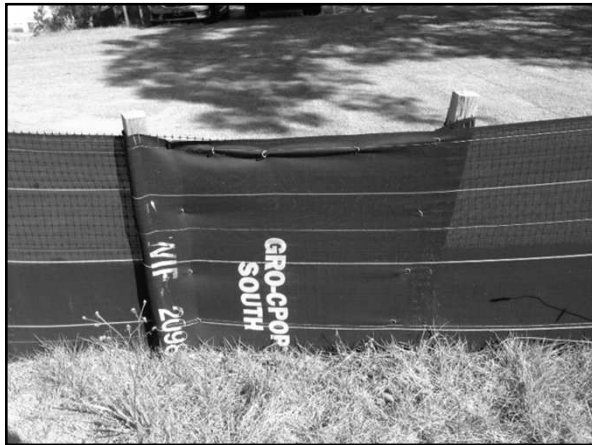
- Install per plan details. Use DOT approved fabric
- Install along toe of fills under 10' feet high, under all bridges, along the right of way line, parallel to streams, and to protect environmentally sensitive areas
- Do not run fence continuous. Turn fence back into the fill to create small pockets to trap silt.
- Lap fence 18 "
- May be used on DOT work as ditch checks (Cd-F) per plans and Detail D-24D

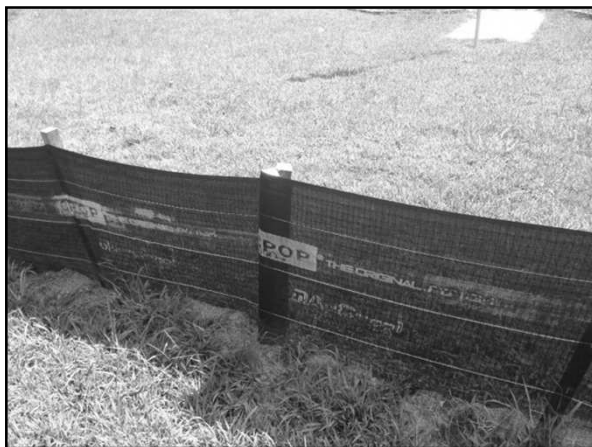
Sd1-C Silt Fence Type C

■ Maintenance

- Inspect silt fence weekly and after every 1/2" rainfall event
- Clean out when 1/2 full
- Restore to like new condition if damaged or deteriorated.
- Remove filtercake from fabric

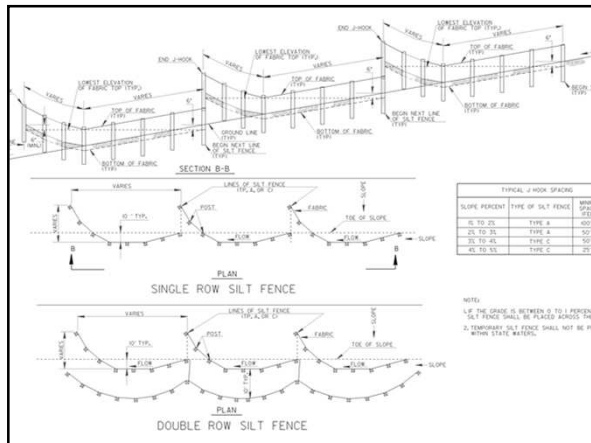






J HOOK SPACING

- Install per ESPCP general notes
- See Detail D-24C for installation guidelines



Sd1-Bb Brush Barrier

- Installation
 - Place parallel to the toe of fills during clearing and grubbing
 - Typically used in rural areas where there is sufficient R/W (10' or more)
 - Use a minimum height of 3' and a minimum width of 5' at the base
 - Filter Fabric may be required if more filtering capacity is required or a sensitive area is near
 - Do NOT place in wetlands

Sd1-Bb Brush Barrier

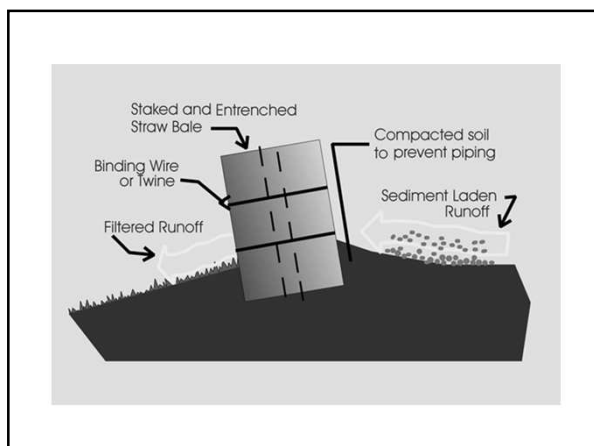
- Maintenance
 - Inspect weekly and after rainfall for damage
 - Repair any noted damaged immediately
 - May be left in place to decompose after construction
 - Remove silt fence used with the barrier

Sd1-Hb Baled Straw Sediment Barrier

- Installation
 - Place along the toe of the fill less than 10' high
 - Run parallel to the slope until the top of the bale is 6" lower than the ground elevation of the beginning bale
 - Turn into the fill with a low point for water to drain over the bale
 - Embed into the soil 4' deep with the bale turned up on its side
 - Secure with two stakes driven through or behind each bale

Sd1-Hb Baled Straw Sediment Barrier

- Maintenance
 - Inspect weekly and after rain events
 - Clean out when 1/2 full
 - Replace as needed (filled with sediment, decomposed, etc)

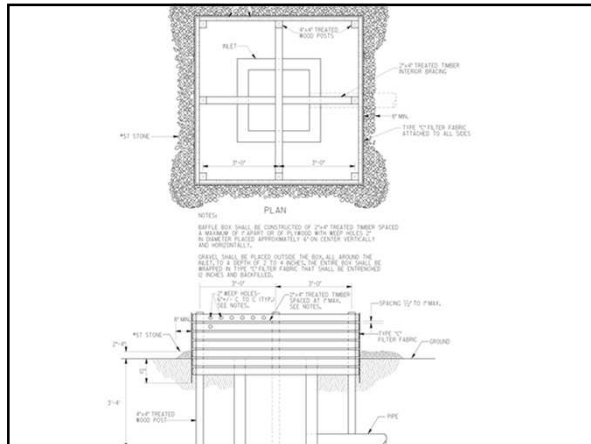


Sd2 Inlet Sediment Trap

- Sd2-B Baffle Box
- Sd2-Bg Block and Gravel
- Sd2-F Frame and Filter
- Sd2-G Gravel

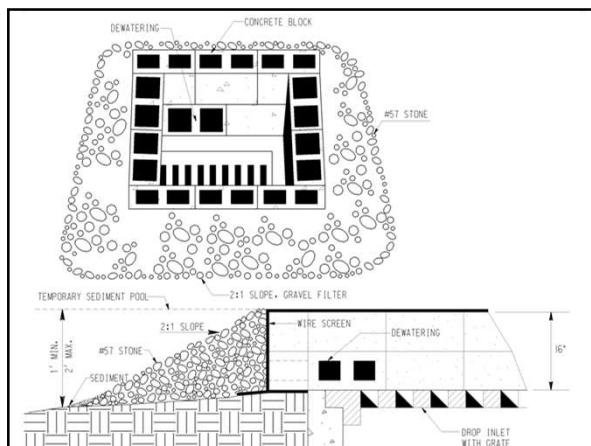
Sd2-B Baffle Box Inlet Sediment Trap

- Installation
 - Install per Plans
 - Use 4"x4" corner posts with 2"x4" boards around the sides spaced 1" apart or with plywood having 2" diameter holes
 - Wrap in Type C filter fabric and trench it in the ground 12" deep
- Maintenance
 - Inspect weekly and after rainfall
 - Clean out when 1/2 full



Sd2-Bg Block and Gravel Drop Inlet Protection

- **Installation**
 - Install device according to Detail D-42 and Section 163 of the Specification
- **Maintenance**
 - Inspect weekly and after rainfall
 - Clean out when ½ full





Sd2-F Inlet Sediment Trap

- Installation
 - Install according to Detail D-24C and Section 163 of the Specs
 - Sump constructed around inlet trap
 - Berms placed on downstream side will enhance function
 - Silt Fence post spacing 3' maximum
 - Do not use around inlets with concentrated flows
 - Should only be used for inlets receiving 0-4 cfs

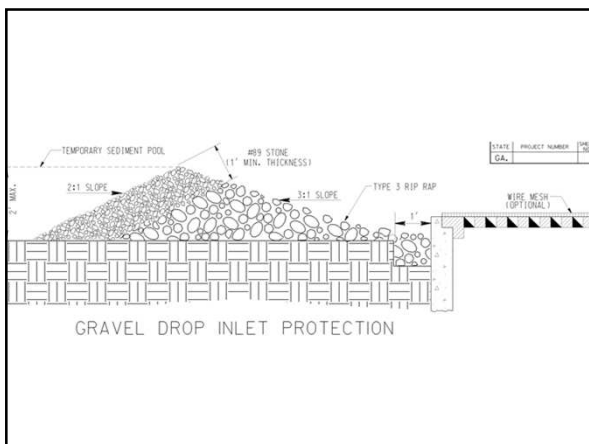
Sd2-F Inlet Sediment Trap

- Maintenance
 - Monitor traps during rain events to ensure water is not ponding on the road
 - Check for water getting under the fence
 - Clean out is normally required after each rain event
 - Required clean out is at 1/2 full
 - Remove filtercake from fabric



Sd2-G Gravel Drop Inlet Protection

- Installation
 - Install according to the Plans, Section 163 and Construction Detail D-42
 - For use with heavy flows from 3-5 cfs
 - Ensure a 2:1 front slope on the gravel and that the slope of the gravel toward the inlet is no more than 3:1
- Maintenance
 - Inspect weekly and after every rain event
 - Clean out when 1/2 full



Sd3 Sediment Basin

- Installation
 - Install according to the Construction Detail 22 A & B and Section 163
 - Ensure sufficient R/W or permanent easement is available
 - Ensure cleanout route is 3:1 or flatter slope
 - Construct basin per plan detail
 - Construct emergency spillway in natural ground when possible
 - Protect spillway with non-erodible material i.e. rip rap
 - Permanent grass and mat basin

Sd3- Sediment Basin

- Maintenance
 - Clean out sediment basin when it is 1/3 full
 - Remove sediment and immediately stabilize according to Section 165

Sk Floating Surface Skimmer

- Installation
 - Install per Detail D-22B
- Maintenance
 - Inspect Floating Skimmers together with the sediment basin inspection.
 - Inspect for structural damage
 - Clogging
 - Excessive sediment accumulation
 - Ensure skimmer is allowed to have free movement for normal operation
 - Floating skimmer should settle low enough to drain entire basin

Sr (B or C) Stream Crossing

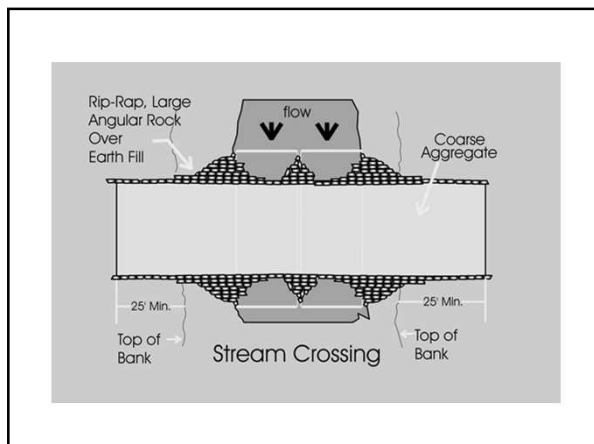
- Installation
 - Install according to Plans and Section 161 of Specs
 - Ensure Contractor has submitted a plan by a Level II Certified Design Professional
 - Minimize clearing and excavation of stream bed and banks
 - Structures should be adequate for a 25 year storm event
 - Remove structure when no longer needed
 - Reshape stream banks and bed to original cross section
 - Stabilize the disturbed area with grass and approved matting
 - NOTE: Temporary stream crossing should not be used on streams with drainage areas greater than one square mile, unless specifically designed to accommodate the additional drainage.

Sr (B or C) Stream Crossing

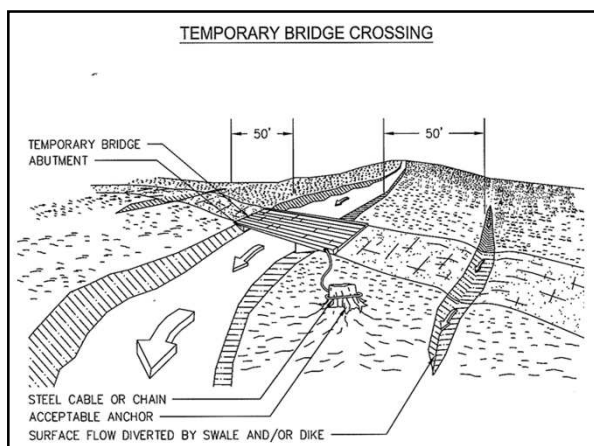
- Maintenance
 - Inspect weekly and after each rain event
 - Repair any damage immediately

Stream Crossings 161.3.05.G.5

**DO NOT FORD LIVE
STREAMS WITH
CONSTRUCTION
EQUIPMENT**







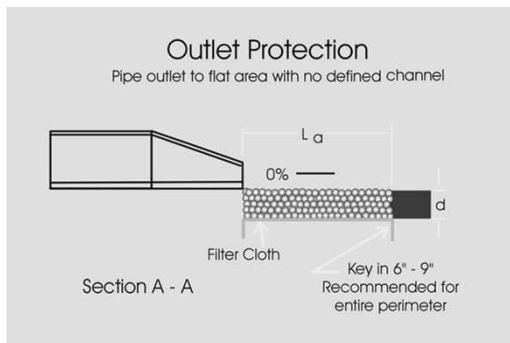
St Storm Drain Outlet Protection

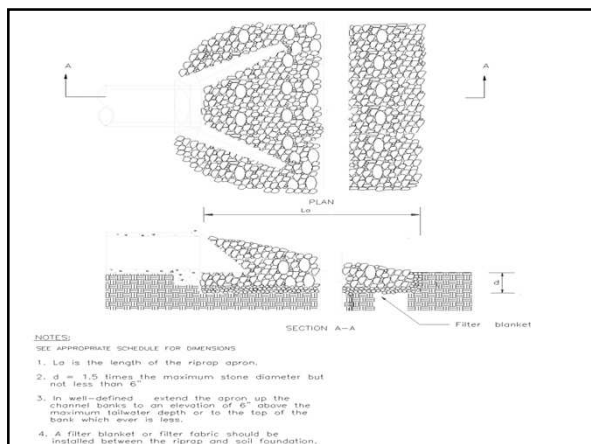
■ Definition

- A paved or short section of rip rap channel placed at the outlet of a storm drain system

■ Purpose

- The purpose is to reduce the velocity of water flows below storm drain outlets and concrete ditches to prevent erosion from concentrated flow





Tc-F Floating Turbidity Curtain

- Installation
 - Install per Plan detail and according to Section 170 and 894 of the Specification
 - Install before construction begins
 - Place about 25' outside of construction area within R/W
 - Use barrier dimension that suit conditions
 - Should have sufficient length and width to control turbidity
 - Where water has significant current, place parallel to stream flow
 - Insure fabric is weighted to prevent it from floating

Tc-F Floating Turbidity Curtain

- Maintenance
 - Inspect for damage weekly and after rainfall. Common failures are tearing, undermining, and damage to floating device
 - Clean out and remove after construction





Tc-S Staked Turbidity Curtain

- Installation
 - Install per Plan detail and according to Section 170 and 894 of the Specification
 - Install before construction begins
 - Should have sufficient length and width to control turbidity
 - Where water has sufficient current, place parallel to stream flow
 - Insure fabric is weighted to prevent it from floating

Tc-S Staked Turbidity Curtain

- Maintenance
 - Inspect for damage weekly and after rainfall. Common failures are tearing and undermining
 - Clean out and remove after construction

Stone Filter Berm

- Installation
 - Per Plan Detail
- Maintenance
 - Inspect weekly and after rain events
 - Clean out when 1/2 full

Silt Filter Bag

- Installation
 - Install silt filter bags according to Section 719 of the Specifications
 - Ensure the bag is placed on a gravel bed
 - Ensure compliance with regard to ESPCP general notes
- Maintenance
 - After bags are filled and water has seeped out, dispose of the bags
 - If site conditions permit, cut open bag, rake the silt and grass it, or
 - Remove the bag and dispose of it properly

BMP MAINTENANCE Specification 161.3.07

- Effectively install and maintain the erosion control features.
- Ensure these features contain the erosion and sediment within the limits of the right of way.
- Control the discharges of storm-water from disturbed areas.
- Meet all local, state, and federal requirements on water quality



Erosion Control Law



DISCLAIMER NOTICE

This is a copy of an abstract from the Official Code of Georgia Annotated which has been certified by the Secretary of State as a true and correct copy of material enacted by the General Assembly of Georgia.

The Georgia Department of Natural Resources assumes no responsibility for the correctness of this copy of the abstracted material

This copy is provided only as a reference and a source of general information pertaining to the above stated act.

In the matters of litigation or interpretation, the Official Code of Georgia Annotated should be utilized.

Department of Natural Resource
Environmental Protection Division
Erosion and Sedimentation Control
Suite 1058 East Floyd Towers
205 Butler Street, S.E.
Atlanta, Ga 30334

- The Law now focus on Best Management Practice (BMP's) for land disturbance and provides for fees no to exceed \$80.00 per acre of land disturbing activity to be paid to The Environmental Protection Division and the Local issuing authority for the management of their programs.
- You have two opportunities for violating local, state laws, and federal permits...
 - If BMPS are not properly designed, installed, and maintained in accordance with the "Manual of Erosion and Sediment Control in Georgia" published by the State Soil and Water Conservation Commission.
 - If discharge from your site results in turbidity of the receiving water increasing by more than 25 NTU for warm water streams and 10 NTU for trout streams with sediment in the waters of the state, you are in violation of local, state and federal permits.
- Proper design, installation, and maintenance of BMP's shall constitute a complete defense to any action by the director or to any other allegation of noncompliance with this act.
- Local Issuing Authority will now enforce the provision of this act and the Common Develop and Stand Alone NPDES General Permits.
- EPD will enforce the provision of this act and the provision of the infrastructure NPDES General Permit on Infrastructure Projects.
- **Section 12-7-19** All persons involved in land development design, review, permitting, construction, monitoring, or inspection or any

land disturbing activity shall meet the education and training certification requirements, dependent on their level of involvement.

- Training is provided for in **Section 12-7-19**
 - a) Level IA—fundamental seminar for the site operators and non-regulatory inspectors, and others
 - b) Level IB- advanced seminar will provide additional details of installation and maintenance, for both regulatory and non-regulatory inspectors and others
 - c) Level 2- design seminar will provide required training to design and review a successful erosion, sedimentation, and pollution control plan
 - d) Level I- awareness seminar provides information regarding practice and processes in the state
- **Section 12-7-9-** Permits shall be issued or denied as soon as practical after the application therefore has filed with the local issuing authority, but in no not later than 45 days thereafter.
- **Section 12-7-10-** A district shall approve or disapprove a plan within 35 days of receipt. Failure of a district to act within 35 days shall be considered an approval of a pending plan.
- **Section 12-7-11 (c) –** Stop work orders
- **Section 12-7-15-** Civil penalty (fines)

The Law describes BMP's as sound conservation and engineering practices to prevent and minimize erosion and resultant sedimentation, which are consistent with, and no less stringent than, those practices contained in

the "Manual for Erosion and Sediment Control In Georgia" published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted.

In addition, , **Section 12-7-6** establishes the following minimum standard that all sites must comply with:

- (1) Stripping of vegetation, regrading, and other development activities shall be conducted in such a manner so as to minimize erosion;
- (2) Cut and fill operations must be kept to a minimum;
- (3) Development plans must conform to topography and soil type, so as to create the lowest practicable erosion potential;
- (4) Whenever feasible, natural vegetation shall be retained, protected, and supplemented;
- (5) The disturbed area and the duration of exposure to erosive elements shall be kept to a practicable minimum;
- (6) Disturbed soil shall be stabilized as quickly as practicable;
- (7) Temporary vegetation or mulching shall be employed to protect exposed critical areas during development;

(8) Permanent vegetation and structural erosion control measures must be installed as soon as practicable;

(9) To the extent necessary, sediment in run-off water must be trapped by the use of debris basins, sediment basins, silt traps, or similar measures until the disturbed area is stabilized. As used in this paragraph, a disturbed area is stabilized when it is brought to a condition of continuous compliance with the requirements of this chapter;

(10) Adequate provisions must be provided to minimize damage from surface water to the cut face of excavations or the sloping surfaces of fills;

(11) Cuts and fills may not endanger adjoining property;

(12) Fills may not encroach upon natural watercourses or constructed channels in a manner so as to adversely affect other property owners;

(13) Grading equipment must cross flowing streams by the means of bridges or culverts, except when such methods are not feasible, provided, in any case, that such crossings must be kept to a minimum;

(14) Land-disturbing activity plans for erosion and sedimentation control shall include provisions 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 subsection (a) of this Code section;

(15) (A) There is established a 25 foot buffer along the banks of all state waters, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, except:

(i) As provided by paragraph (16) of this subsection;

(ii) Where the director determines to allow a variance that is at least as protective of natural resources and the environment;

(iii) Where otherwise allowed by the director pursuant to Code Section 12-2-8;

(iv) Where a drainage structure or a roadway drainage structure must be constructed, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented;

(v) Along any ephemeral stream. As used in this division, the term "ephemeral stream" means a stream:

(I) That under normal circumstances has water flowing only during and for a short duration after precipitation events;

(II) That has the channel located above the ground-water table year round;

(III) For which ground water is not a source of water; and

(IV) For which runoff from precipitation is the primary source of water flow; or

(vi) Where shoreline stabilization is installed; provided, however, that this exception shall be limited to the construction of bulkheads and sea walls only to the extent required to prevent the erosion of the shoreline. This exception shall be limited to Lake Oconee and Lake Sinclair and shall be limited to the duration of such construction.

Unless exempted under division (v) of this subparagraph, buffers of at least 25 feet established pursuant to Part 6 of Article 5 of Chapter 5 of this title shall remain in force unless a variance is granted by the director as provided in this paragraph.

(B) No land-disturbing activities shall be conducted within any such buffer; and a buffer shall remain in its natural, undisturbed state of vegetation until all land-

disturbing activities on the construction site are completed, except as otherwise provided by this paragraph. 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 bed.

(C) On or before December 31, 2004, the board shall adopt rules which contain specific criteria for the grant or denial by the director of requests for variances. After such date, no variance shall be granted by the director which is not consistent with the criteria contained in such rules. Such rules shall provide, at a minimum, that the director shall consider granting a variance in the following circumstances:

(i) Where a proposed land-disturbing activity within the buffer would require the landowner to acquire a permit from the United States Army Corps of Engineers under Section 404 of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1344, and

the Corps of Engineers has approved a mitigation plan to be implemented as a condition of such a permit;

(ii) Where the landowner provides a plan satisfactory to the director that shows that, even with the proposed land-disturbing activity within the buffer, the completed project will result in maintained or improved water quality downstream of the project; or

(iii) Where a project with a proposed land-disturbing activity within the buffer is located in or upstream and within ten linear miles of a stream segment listed as impaired under Section 303(d) of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1313(d) and the landowner provides a plan satisfactory to the director that shows that the completed project will result in maintained or improved water quality in such listed stream segment and that the project has no adverse impact relative to the pollutants of concern in such stream segment.

All projects covered under divisions (i), (ii), and (iii) of this subparagraph shall meet all criteria set forth in rules for specific variance criteria adopted by the board by December 31, 2004.

(D) The buffer shall not apply to the following land-disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of

disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented:

- (i) Stream crossings for water lines; or
- (ii) Stream crossings for sewer lines; and

(16) There is established a 50 foot buffer, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, along the banks of any state waters classified as "trout streams" pursuant to Article 2 of Chapter 5 of this title except where a roadway drainage structure must be constructed; provided, however, that small springs and streams classified as trout streams which discharge an average annual flow of 25 gallons per minute or less shall have a 25 foot buffer or they may be piped, at the discretion of the landowner, pursuant to the terms of a rule providing for a general variance promulgated by the board providing for notice to the division or local issuing authority of the location and extent of the piping and prescribed methodology for minimizing the impact of such piping and for measuring the volume of water discharged by the stream. Any such pipe must stop short of the downstream landowner's property, and the landowner must comply with the buffer requirement for any adjacent trout streams. The director may grant a variance from such buffer to allow land-disturbing

activity, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented. The following requirements shall apply to any such buffer:

(A) 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 bed;

(B) On or before December 31, 2000, the board shall adopt rules which contain specific criteria for the grant or denial by the director of requests for variances. After such date, no variance shall be granted by the director which is not consistent with the criteria contained in such rules; provided, however, that, should the board fail to adopt rules which contain specific criteria for the grant or

denial of requests for variances by the director on or before December 31, 2000, the authority of the director to issue such variances shall be suspended until the board adopts such rules; and

(C) The buffer shall not apply to the following land-disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented:

- (i) Stream crossings for water lines; or
- (ii) Stream crossings for sewer lines.

(c) Nothing contained in this chapter shall prevent any local issuing authority from adopting rules and regulations, ordinances, or resolutions which contain stream buffer requirements that exceed the minimum requirements in subsection (b) of this Code section.

(d) The fact that land-disturbing activity for which a permit has been issued results in injury to the property of another shall neither constitute proof of nor create a presumption of a violation of the standards provided for in this Code section or the terms of the permit.

**Georgia Department Of Transportation
WORKSITE EROSION CONTROL MANUAL
State Erosion and Sedimentation Act**



GEORGIA CODE

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**** Current Through the 2014 Regular Session ****

TITLE 12. CONSERVATION AND NATURAL RESOURCES

CHAPTER 7. CONTROL OF SOIL EROSION AND SEDIMENTATION

O.C.G.A. § 12-7-1 (2014)

§ 12-7-1. Short Title

This chapter shall be known and may be cited as the "Erosion and Sedimentation Act of 1975."

O.C.G.A. § 12-7-2 (2014)

§ 12-7-2. Legislative findings; policy of state and intent of chapter

It is found that soil erosion and sediment deposition onto lands and into waters within the watersheds of this state are occurring as a result of widespread failure to apply proper soil erosion and sedimentation control practices in land clearing, soil movement, and construction activities and that such erosion and sediment deposition result in pollution of state waters and damage to domestic, agricultural, recreational, fish and wildlife, and other resource uses. It is therefore declared to be the policy of this state and the intent of this chapter to strengthen and extend the present erosion and sediment control activities and programs of this state and to provide for the establishment and implementation of a state-wide comprehensive soil erosion and sediment control program to conserve and protect the land, water, air, and other resources of this state.

O.C.G.A. § 12-7-3 (2014)

§ 12-7-3. Definitions

As used in this chapter, the term:

- (1) "Board" means the Board of Natural Resources.
- (2) "Buffer" means the area of land immediately adjacent to the banks of state waters in its natural state of vegetation, which facilitates the protection of water quality and aquatic habitat.

(3) "Commission" means the State Soil and Water Conservation Commission.

(4) "Director" means the director of the Environmental Protection Division of the Department of Natural Resources.

(5) "District" means any one of the soil and water conservation districts of this state.

(6) "Division" means the Environmental Protection Division of the Department of Natural Resources.

(7) "Drainage structure" means a device composed of a virtually nonerodible material such as concrete, steel, plastic, or other such material that conveys water from one place to another by intercepting the flow and carrying it to a release point for storm-water management, drainage control, or flood control purposes.

(8) "Erosion and sediment control plan" or "plan" means a plan for the control of soil erosion and sediment resulting from a land-disturbing activity.

(9) "Land-disturbing activity" means any activity which may result in soil erosion from water or wind and the movement of sediments into state water or onto lands within the state, including, but not limited to, clearing, dredging, grading, excavating, transporting, and filling of land but not including agricultural practices as described in paragraph (5) of Code Section 12-7-17.

(9.1) "Larger common plan of development or sale" means a contiguous area where multiple separate and distinct construction activities are occurring under one plan of development or sale. For purposes of this paragraph, "plan" means an announcement; piece of documentation such as a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, or computer design; or physical demarcation such as boundary signs, lot stakes, or surveyor markings, indicating that construction activities may occur on a specific plot.

(10) "Local issuing authority" means the governing authority of any county or municipality which is certified pursuant to subsection (a) of Code Section 12-7-8.

(10.1) "Operator" means the party or parties that have:

(A) Operational control of construction project plans and specifications, including the ability to make modifications to those plans and specifications; or

(B) Day-to-day operational control of those activities that are necessary to ensure compliance with a storm-water pollution prevention plan for the site or other permit conditions, such as a person authorized to direct workers at a site to carry out activities required by the storm-water pollution prevention plan or to comply with other permit conditions.

(11) "Person" means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, state agency, municipality or other political subdivision of this state, any interstate body, or any other legal entity.

(12) "Qualified personnel" means any person who meets or exceeds the education and training requirements of Code Section 12-7-19.

(13) "Roadway drainage structure" means a device, such as a bridge, culvert, or ditch, composed of a virtually nonerodible material such as concrete, steel, plastic, or other such material that conveys water under a roadway by intercepting the flow on one side of a traveled way consisting of one or more defined lanes, with or without shoulder areas, and carrying water to a release point on the other side.

(14) "Soil and water conservation district approved plan" means an erosion and sediment control plan approved in writing by a soil and water conservation district.

(15) "State general permit" means the National Pollution Discharge Elimination System general permit or permits for storm-water runoff from construction activities as is now in effect or as may be amended or reissued in the future pursuant to the state's authority to implement the same through federal delegation under the Federal Water Pollution Control Act, as amended, 33 U.S.C. Section 1251, et seq., and subsection (f) of Code Section 12-5-30.

(16) "State waters" includes any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the state, which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation.

O.C.G.A. § 12-7-4 (2014)

§ 12-7-4. Adoption of comprehensive ordinances relating to land-disturbing activities; delegation of responsibility to planning and zoning commission; other local ordinances relating to land development; effect of chapter on design professionals

(a) The governing authority of each county and each municipality shall adopt a comprehensive ordinance establishing the procedures governing land-disturbing activities which are conducted within their respective boundaries. Such ordinances shall be consistent with the standards provided by this chapter. Local governing authorities shall have the authority, by such ordinance, to delegate in whole or in part the responsibilities of the governing authorities, as set forth in this chapter, to any constitutional or statutory local planning and zoning commission. Where the local governing authority deems it appropriate, it may integrate such provisions with other local ordinances relating to land development including but not limited to tree protection, flood plain protection, stream buffers, or storm-water management; and the properties to which any of the types of ordinances identified in this Code section shall apply, whether or not such ordinances are integrated, shall include without limitation property owned by the local governing authority or by a local school district, except as otherwise provided by Code Section 12-7-17.

(b) Nothing in this chapter shall be construed as to limit or exclude any design professional, including but not limited to any professional engineer or registered land surveyor, or Natural Resource Conservation Service employee, within any county, municipality, or consolidated government in this state from performing such professional services as may be incidental to the practice of his or her profession, including any and all soil erosion and sedimentation control plans, storm-water management reports including hydrological studies, and site

plans, when such professional has demonstrated competence through such qualifications, education, experience, and licensing as required for practice in this state by applicable provisions of Title 43 related to such profession; provided, however, that any such person shall be subject to the requirements of Code Section 12-7-19

O.C.G.A. § 12-7-5 (2014)

§ 12-7-5. Adoption of rules and regulations for localities without ordinances

The board, by appropriate rules and regulations, shall adopt the procedures governing land-disturbing activities which are conducted in those counties and municipalities which do not have in effect an ordinance conforming to this chapter. Such rules and regulations shall be developed by the division in consultation with the commission and shall contain provisions which meet those minimum requirements set forth in Code Section 12-7-6.

O.C.G.A. § 12-7-6 (2014)

§ 12-7-6. Best management practices; minimum requirements for rules, regulations, ordinances, or resolutions

(a) (1) Best management practices as set forth in subsection (b) of this Code section shall be required for all land-disturbing activities. Proper design, installation, and maintenance of best management practices shall constitute a complete defense to any action by the director or to any other allegation of noncompliance with paragraph (2) of this subsection or any substantially similar terms contained in a permit for the discharge of storm water issued pursuant to subsection (f) of Code Section 12-5-30. As used in this subsection, the terms "proper design" and "properly designed" mean designed in accordance with the hydraulic design specifications contained in the "Manual for Erosion and Sediment Control in Georgia" specified in subsection (b) of this Code section.

(2) A discharge of storm-water runoff from disturbed areas where best management practices have not been properly designed, installed, and maintained shall constitute a separate violation of any land-disturbing permit issued by a local issuing authority or of any state general permit issued by the division pursuant to subsection (f) of Code Section 12-5-30 for each day on which such discharge results in the turbidity of receiving waters being increased by more than 25 nephelometric turbidity units for waters supporting warm water fisheries or by more than ten nephelometric turbidity units for waters classified as trout waters. The turbidity of the receiving waters shall be measured in accordance with guidelines to be issued by the director. This paragraph shall not apply to any land disturbance associated with the construction of single-family homes which are not part of a larger common plan of development or sale unless the planned disturbance for such construction is equal to or greater than five acres.

(3) Failure properly to design, install, or maintain best management practices shall constitute a violation of any land-disturbing permit issued by a local issuing authority or of any state general permit issued by the division pursuant to subsection (f) of Code Section 12-5-30 for each day on which such failure occurs.

(4) The director may require, in accordance with regulations adopted by the board,

reasonable and prudent monitoring of the turbidity level of receiving waters into which discharges from land-disturbing activities occur.

(b) The rules and regulations, ordinances, or resolutions adopted pursuant to this chapter for the purpose of governing land-disturbing activities shall require, as a minimum, protections at least as stringent as the state general permit; and best management practices, including sound conservation and engineering practices to prevent and minimize erosion and resultant sedimentation, which are consistent with, and no less stringent than, those practices contained in the "Manual for Erosion and Sediment Control In Georgia" published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, as well as the following:

- (1) Stripping of vegetation, regrading, and other development activities shall be conducted in such a manner so as to minimize erosion;
- (2) Cut and fill operations must be kept to a minimum;
- (3) Development plans must conform to topography and soil type, so as to create the lowest practicable erosion potential;
- (4) Whenever feasible, natural vegetation shall be retained, protected, and supplemented;
- (5) The disturbed area and the duration of exposure to erosive elements shall be kept to a practicable minimum;
- (6) Disturbed soil shall be stabilized as quickly as practicable;
- (7) Temporary vegetation or mulching shall be employed to protect exposed critical areas during development;
- (8) Permanent vegetation and structural erosion control measures must be installed as soon as practicable;
- (9) To the extent necessary, sediment in run-off water must be trapped by the use of debris basins, sediment basins, silt traps, or similar measures until the disturbed area is stabilized. As used in this paragraph, a disturbed area is stabilized when it is brought to a condition of continuous compliance with the requirements of this chapter;
- (10) Adequate provisions must be provided to minimize damage from surface water to the cut face of excavations or the sloping surfaces of fills;
- (11) Cuts and fills may not endanger adjoining property;
- (12) Fills may not encroach upon natural watercourses or constructed channels in a manner so as to adversely affect other property owners;
- (13) Grading equipment must cross flowing streams by the means of bridges or culverts, except when such methods are not feasible, provided, in any case, that such crossings must be kept to a minimum;
- (14) Land-disturbing activity plans for erosion and sedimentation control shall include provisions 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 subsection (a) of this Code section;

(15) (A) There is established a 25 foot buffer along the banks of all state waters, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, except:

(i) As provided by paragraph (16) of this subsection;

(ii) Where the director determines to allow a variance that is at least as protective of natural resources and the environment;

(iii) Where otherwise allowed by the director pursuant to Code Section 12-2-8;

(iv) Where a drainage structure or a roadway drainage structure must be constructed, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented;

(v) Along any ephemeral stream. As used in this division, the term "ephemeral stream" means a stream:

(I) That under normal circumstances has water flowing only during and for a short duration after precipitation events;

(II) That has the channel located above the ground-water table year round;

(III) For which ground water is not a source of water; and

(IV) For which runoff from precipitation is the primary source of water flow; or

(vi) Where shoreline stabilization is installed; provided, however, that this exception shall be limited to the construction of bulkheads and sea walls only to the extent required to prevent the erosion of the shoreline. This exception shall be limited to Lake Oconee and Lake Sinclair and shall be limited to the duration of such construction.

Unless exempted under division (v) of this subparagraph, buffers of at least 25 feet established pursuant to Part 6 of Article 5 of Chapter 5 of this title shall remain in force unless a variance is granted by the director as provided in this paragraph.

(B) No land-disturbing activities shall be conducted within any such buffer; and a buffer shall remain in its natural, undisturbed state of vegetation until all land-disturbing activities on the construction site are completed, except as otherwise provided by this paragraph. 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 bed.

(C) On or before December 31, 2004, the board shall adopt rules which contain specific criteria for the grant or denial by the director of requests for variances. After such date, no

variance shall be granted by the director which is not consistent with the criteria contained in such rules. Such rules shall provide, at a minimum, that the director shall consider granting a variance in the following circumstances:

(i) Where a proposed land-disturbing activity within the buffer would require the landowner to acquire a permit from the United States Army Corps of Engineers under Section 404 of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1344, and the Corps of Engineers has approved a mitigation plan to be implemented as a condition of such a permit;

(ii) Where the landowner provides a plan satisfactory to the director that shows that, even with the proposed land-disturbing activity within the buffer, the completed project will result in maintained or improved water quality downstream of the project; or

(iii) Where a project with a proposed land-disturbing activity within the buffer is located in or upstream and within ten linear miles of a stream segment listed as impaired under Section 303(d) of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1313(d) and the landowner provides a plan satisfactory to the director that shows that the completed project will result in maintained or improved water quality in such listed stream segment and that the project has no adverse impact relative to the pollutants of concern in such stream segment.

All projects covered under divisions (i), (ii), and (iii) of this subparagraph shall meet all criteria set forth in rules for specific variance criteria adopted by the board by December 31, 2004.

(D) The buffer shall not apply to the following land-disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented:

(i) Stream crossings for water lines; or

(ii) Stream crossings for sewer lines; and

(16) There is established a 50 foot buffer, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, along the banks of any state waters classified as "trout streams" pursuant to Article 2 of Chapter 5 of this title except where a roadway drainage structure must be constructed; provided, however, that small springs and streams classified as trout streams which discharge an average annual flow of 25 gallons per minute or less shall have a 25 foot buffer or they may be piped, at the discretion of the landowner, pursuant to the terms of a rule providing for a general variance promulgated by the board providing for notice to the division or local issuing authority of the location and extent of the piping and prescribed methodology for minimizing the impact of such piping and for measuring the volume of water discharged by the stream. Any such pipe must stop short of the downstream landowner's property, and the landowner must comply with the buffer requirement for any adjacent trout streams. The director may grant a variance from such buffer to allow land-disturbing activity, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented. The following requirements shall apply to any such buffer:

(A) 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 bed;

(B) On or before December 31, 2000, the board shall adopt rules which contain specific criteria for the grant or denial by the director of requests for variances. After such date, no variance shall be granted by the director which is not consistent with the criteria contained in such rules; provided, however, that, should the board fail to adopt rules which contain specific criteria for the grant or denial of requests for variances by the director on or before December 31, 2000, the authority of the director to issue such variances shall be suspended until the board adopts such rules; and

(C) The buffer shall not apply to the following land-disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented:

(i) Stream crossings for water lines; or

(ii) Stream crossings for sewer lines.

(c) Nothing contained in this chapter shall prevent any local issuing authority from adopting rules and regulations, ordinances, or resolutions which contain stream buffer requirements that exceed the minimum requirements in subsection (b) of this Code section.

(d) The fact that land-disturbing activity for which a permit has been issued results in injury to the property of another shall neither constitute proof of nor create a presumption of a violation of the standards provided for in this Code section or the terms of the permit.

O.C.G.A. § 12-7-7 (2014)

§ 12-7-7 Permit or notice of intent for land-disturbing activities; approval of application and issuance of permit; denial of permit; bond requirement

(a) No land-disturbing activities shall be conducted in this state, except those land-disturbing activities provided for in Code Section 12-7-17, without the operator first securing a permit from a local issuing authority or providing notice of intent to the division as required by this Code section.

(b) In those counties and municipalities which are certified as local issuing authorities pursuant to subsection (a) of Code Section 12-7-8:

(1) The application for such permit shall be made to and the permit shall be issued by the governing authority of the county wherein such land-disturbing activities are to occur, in the event that such activities will occur outside the corporate limits of a municipality;

(2) In those instances where such activities will occur within the corporate limits of any municipality, the application for such permit shall be made to and the permit shall be issued by the governing authority of the municipality in which such land-disturbing activities are to occur; and

(3) The local issuing authority shall conduct inspections and enforce the permits it issues.

(c) In those counties and municipalities which are not certified pursuant to subsection (a) of Code Section 12-7-8, the terms of the state general permit shall apply, those terms shall be enforced by the division, and no individual land-disturbing activity permit under this Code section will be required; provided, however, that notice of intent shall be submitted to the division prior to commencement of any land-disturbing activities under the state general permit in any of such uncertified counties or municipalities.

(d) (1) Fees assessed pursuant to paragraph (5) of subsection (a) of Code Section 12-5-23 shall be calculated and paid by the primary permittee as defined in the state general permit for each acre of land-disturbing activity included in the planned development or each phase of development.

(2) In a jurisdiction that is certified pursuant to subsection (a) of Code Section 12-7-8, half of any such fees levied shall be submitted by the applicant to the local issuing authority and half of such fees shall be submitted to the division; except that any and all fees due from an entity which is required to give notice pursuant to paragraph (9) or (10) of Code Section 12-7-17 shall be submitted in full to the division, regardless of the existence of a local issuing authority in the jurisdiction. In a jurisdiction where there is no local issuing authority, the full fee shall be submitted to the division.

(e) Except as provided in this subsection, no permit shall be issued pursuant to subsection (b) of this Code section unless the erosion and sediment control plan has been approved by the appropriate district as is required by Code Section 12-7-10. When the governing authority of a county or municipality lying within the boundaries of the district demonstrates capabilities to review and approve an erosion and sediment control plan and requests an agreement with the district to conduct such review and approval, the district, with the concurrence of the commission, shall enter into an agreement which allows the governing authority to conduct review and approval without referring the application and plan to the district, if such governing authority meets the conditions specified by the district as set forth in the agreement. A district may not enter into an agreement authorized in this Code section with the governing authority of any county or municipality which is not certified pursuant to subsection (a) of Code Section 12-7-8.

(f) (1) If a permit applicant has had two or more violations of previous permits or this Code section within three years prior to the date of filing of the application under consideration, the local issuing

authority may deny the permit application.

(2) The local issuing authority may require the permit applicant to post a bond in the form of government security, cash, irrevocable letter of credit, or any combination thereof up to, but not exceeding, \$3,000.00 per acre of the proposed land-disturbing activity, prior to issuing the permit. If the applicant does not comply with this Code section or with the conditions of the permit after issuance, the local issuing authority may call the bond or any part thereof to be forfeited and may use the proceeds to hire a contractor to stabilize the site of the land-disturbing activity and bring it into compliance. This subsection shall not apply unless there is in effect an ordinance or statute specifically providing for hearing and judicial review of any determination or order of the local issuing authority with respect to alleged permit violations.

O.C.G.A. § 12-7-7.1 (2014)

§ 12-7-7.1. Erosion and sediment control plan prepared; completion; implementation

(a) As used in this Code section, the term "contractor" means the individual, firm, corporation, or combination thereof or governmental organization contracting with the Department of Transportation or State Road and Tollway Authority for the performance of prescribed work.

(b) (1) In addition to the requirements of Code Section 12-7-6, the Department of Transportation or the State Road and Tollway Authority after July 1, 2003, shall not contract for land-disturbing activity on any construction or maintenance project that will disturb one or more contiguous acres of land until an erosion and sediment control plan for such project has been prepared and accepted pursuant to this Code section.

(2) Through its own forces or by means of the acquisition of professional service pursuant to the provisions of Chapter 22 of Title 50, the Department of Transportation or the State Road and Tollway Authority shall be responsible for the preparation of an erosion and sediment control plan for any construction or maintenance project as required by paragraph (1) of this subsection. Any consultant providing such professional service shall be prequalified by the Department of Transportation as a responsible bidder for the design of erosion and sediment control plans. The division shall assist the Department of Transportation in developing the prequalification approval process for purposes of this subsection.

(c) Upon completion of a proposed plan, the same shall be submitted to the division for review and comment as required by the state general permit.

(d) (1) All bidders for any construction or maintenance project subject to this Code section shall review and submit with their bid proposal a cost estimate as a separate bid for the

implementation of the plan, it being understood that the contractor may utilize either its own personnel and resources, qualified subcontractors, or both for implementation of the plan. All contractors and subcontractors for such project shall be prequalified by the Department of Transportation as a responsible bidder for the installation of erosion and sediment control devices in accordance with a plan. The division shall assist the Department of Transportation in developing the prequalification approval process for purposes of this subsection.

(2) The contractor for a construction or maintenance project subject to this Code section shall be responsible for implementing the plan on the awarded project. Payment to any contractor under any contract for implementing any part or all of any plan shall not be on a lump sum basis; rather, such payment shall be based upon unit prices for specific quantities of work performed pursuant to the approved erosion and sediment control plan plus any additional quantities of completed work necessitated by project conditions affecting erosion and sediment control, including without limitation soil types and weather conditions. Charges for all maintenance and cleaning of erosion and sediment control devices shall likewise be paid on a unit price basis.

(e) (1) Through the services of independent consultants, contractors, or subcontractors, or by its own forces, the Department of Transportation shall monitor the water quality and inspect the installation and maintenance of the best management practices in accordance with the plan. All such consultants, contractors, or subcontractors shall be prequalified by the Department of Transportation as a responsible bidder for the inspection of such best management practices and shall have the necessary expertise to determine that such practices are being installed and maintained in accordance with the plan. The division shall assist the Department of Transportation in developing the prequalification approval process for purposes of this subsection.

(2) Proper design, installation, and maintenance of best management practices shall constitute a complete defense to any action by the director or to any other allegation of noncompliance with paragraph (2) of subsection (a) of Code Section 12-7-6.

(3) If deficiencies in the plan or installation or maintenance of best management practices are discovered during the inspection, the Department of Transportation or the State Road and Tollway Authority shall determine the appropriate corrective action. Further, the Department of Transportation or State Road and Tollway Authority may require the consultant to amend the plan or the contractor to change its procedures by change order or supplemental agreement in order to institute such changes as may be necessary to correct any errors or deficiencies in the plan, the implementation of the plan, or the maintenance of the best management practices.

(4) The division, the Department of Transportation, or the State Road and Tollway Authority shall control or coordinate the work of its employees inspecting any project so as to prevent any delay of, interference with, or hindrance to any contractor performing land-disturbing activity on any project subject to the provisions of this Code section.

(f) (1) There shall be an Erosion and Sediment Control Overview Council which shall provide guidance on the best management practices for implementing any erosion and sediment control plan for purposes of this Code section. The council shall be composed of nine members, including one member who shall be appointed by the Speaker of the House of Representatives and serve at the pleasure thereof; one member who shall be appointed by the Lieutenant Governor and serve at the pleasure thereof; and seven members who shall be appointed by the Governor and serve at the pleasure thereof, including one employee each from the Department of Transportation, the Environmental Protection Division of the Department of Natural Resources, and the Georgia Regional Transportation Authority, a professional engineer licensed to practice in this state from a private engineering consulting firm practicing environmental engineering, two representatives of the highway contracting industry certified by the Department of Transportation, and a chairperson. The council shall meet at the call of the chairperson. Each councilmember shall receive a daily allowance in the amount specified in subsection (b) of Code Section 45-7-21; provided, however, that any full-time state employee serving on the council shall draw no compensation but shall receive necessary expenses. The commissioner is authorized to pay such compensation and expenses from department funds.

(2) The council may develop recommendations governing the preparation of plans and the installation and maintenance of best management practices. If a dispute concerning the requirements of this Code section should arise, the Erosion and Sediment Control Overview Council shall mediate the dispute.

(g) Nothing in this Code section shall be construed to affect the division's authority under Article 2 of Chapter 5 of this title, the "Georgia Water Quality Control Act."

O.C.G.A. § 12-7-8 (2014)

§ 12-7-8. Certification of locality as local issuing authority; periodic review; procedure for revoking certification; enforcement actions

(a) (1) If a county or municipality has enacted ordinances which meet or exceed the standards, requirements, and provisions of this chapter and the state general permit, except that the standards, requirements, and provisions of the ordinances for monitoring, reporting, inspections, design standards, turbidity standards, education and training, and project size thresholds with regard to education and training requirements shall not exceed the state general permit requirements, and which are enforceable by such county or municipality, and if a county or municipality documents that it employs qualified personnel to implement enacted ordinances, the director may certify such county or municipality as a local issuing authority for the purposes of this chapter.

(2) A local issuing authority shall regulate both primary and secondary permittees as such terms are defined in the state general permit. Primary permittees shall be responsible for installation and maintenance of best management practices where the primary permittee is

conducting land-disturbing activities. Secondary permittees shall be responsible for installation and maintenance of best management practices where the secondary permittee is conducting land-disturbing activities. A local issuing authority must review, revise, or amend its ordinances within 12 months of any amendment to this chapter.

(3) Any land-disturbing activities by a local issuing authority shall be subject to the same requirements of the ordinances such local issuing authority adopted pursuant to this chapter as are applied to private persons, and the division shall enforce such requirements upon the local issuing authority.

(b) The districts or the commission or both shall review semi-annually the actions of counties and municipalities which have been certified as local issuing authorities pursuant to subsection (a) of this Code section. The districts or the commission or both may provide technical assistance to any county or municipality for the purpose of improving the effectiveness of the county's or municipality's erosion and sedimentation control program. The districts or the commission shall notify the division and request investigation by the division if any deficient or ineffective local program is found.

(c) The board, on or before December 31, 2003, shall promulgate rules and regulations setting forth the requirements and standards for certification and the procedures for decertification of a local issuing authority. The division may periodically review the actions of counties and municipalities which have been certified as local issuing authorities pursuant to subsection (a) of this Code section. Such review may include, but shall not be limited to, review of the administration and enforcement of and compliance with a governing authority's ordinances and review of conformance with an agreement, if any, between the district and the governing authority. If such review indicates that the governing authority of any county or municipality certified pursuant to subsection (a) of this Code section has not administered, enforced, or complied with its ordinances or has not conducted the program in accordance with any agreement entered into pursuant to subsection (e) of Code Section 12-7-7, the division shall notify the governing authority of the county or municipality in writing. The governing authority of any county or municipality so notified shall have 90 days within which to take the necessary corrective action to retain certification as a local issuing authority. If the county or municipality does not take necessary corrective action within 90 days after notification by the division, the division shall revoke the certification of the county or municipality as a local issuing authority.

(d) The director may determine that the public interest requires initiation of an enforcement action by the division. Where such a determination is made and the local issuing authority has failed to secure compliance, the director may implement the board's rules and seek compliance under provisions of Code Sections 12-7-12 through 12-7-15. For purposes of this subsection, enforcement actions taken by the division pursuant to Code Sections 12-7-12 through 12-7-15 shall not require prior revocation of certification of the county or municipality as a local issuing authority.

O.C.G.A. § 12-7-9 (2014)

§ 12-7-9. Applications for permits; erosion and sediment control plans and data; time for issuance or denial

(a) Applications for permits shall be submitted in accordance with this chapter and the rules and regulations, ordinances, and resolutions adopted pursuant to this chapter. Such

applications shall be accompanied by the applicant's erosion and sediment control plans and by such supportive data as will affirmatively demonstrate that the land-disturbing activity proposed will be carried out in such a manner that the minimum requirements set forth in Code Section 12-7-6 shall be met. All applications shall contain a certification stating that the plan preparer or the designee thereof visited the site prior to creation of the plan or that such a visit was not required in accordance with rules and regulations established by the board.

(b) No permit shall be issued to any applicant unless the local issuing authority affirmatively determines that the plan embracing such activities meets the requirements of Code Section 12-7-6. All applicable fees shall be paid prior to issuance of the land disturbance permit by the local issuing authority.

(c) Permits shall be issued or denied as soon as practicable after the application therefor has been filed with the local issuing authority, but in any event not later than 45 days thereafter.

O.C.G.A. § 12-7-10 (2014)

§ 12-7-10. Referral of application and plan to district; time for action

Except as otherwise provided by Code Section 12-7-7, immediately upon receipt of an application for a permit the application and plan for sediment and erosion control shall be referred to the appropriate district wherein such land-disturbing activities are proposed to take place, for its review and approval or disapproval concerning the adequacy of the erosion and sediment control plan proposed by the applicant. A district shall approve or disapprove a plan within 35 days of receipt. Failure of a district to act within 35 days shall be considered an approval of the pending plan

O.C.G.A. § 12-7-11 (2014)

§ 12-7-11. Statement of reasons for denial of permit required; conditions for approval; suspension, revocation, or modification of permit

(a) Within the time specified by Code Section 12-7-9, the local issuing authority shall issue or deny the permit. The local issuing authority, upon denial of a permit, shall state its reasons for the denial, setting forth specifically wherein such application is found to be deficient. Any land-disturbing activity permitted under this chapter shall be carried out in accordance with this chapter and the ordinance, resolution, or rules and regulations adopted and promulgated pursuant to this chapter. The local issuing authority shall specify on the permit the conditions under which the activity may be undertaken.

(b) The permit may be suspended, revoked, or modified by the local issuing authority, as to all or any portion of the land affected by the plan, upon a finding that the holder or his or her successor in title is not in compliance with the approved erosion and sediment control plan or that the holder or his or her successor in title is in violation of this chapter or any ordinance, resolution, rule, or regulation adopted or promulgated pursuant to this chapter. A holder of a permit shall notify any successor in title to him or her as to all or any portion of the land affected by the approved plan of the conditions contained in the permit.

O.C.G.A. § 12-7-12 (2014)

§ 12-7-12. Orders directed to violators; stop work order procedures

(a) Except as provided in subsection (d) of this Code section, whenever the director has reason to believe that a violation of any provision of this chapter, any rule or regulation of the board, or any order of the director has occurred in a county or municipality which is not certified pursuant to subsection (a) of Code Section 12-7-8, the director may issue an order directed to such violator or violators. The order shall specify the provisions of this chapter or the rules or regulations or order alleged to have been violated and may require that land-disturbing activity be stopped until necessary corrective action and mitigation have been taken or may require that necessary corrective action and mitigation be taken within a reasonable time to be prescribed in the order. Any order issued by the director under this Code section shall be signed by the director. Any such order shall become final unless the person or persons named therein request, in writing, a hearing pursuant to Code Section 12-7-16.

(b) Except as provided in subsection (d) of this Code section, whenever a local issuing authority has reason to believe that a violation of any provision of a local ordinance or resolution has occurred within the jurisdiction of the local issuing authority, the local issuing authority may require that land-disturbing activity be stopped until necessary corrective action and mitigation have been taken or may require that necessary corrective action and mitigation be taken within a reasonable time.

(c) The following procedures shall apply to the issuances of stop work orders:

(1) For the first and second violations of the provisions of this chapter, the director or the local issuing authority shall issue a written warning to the violator. The violator shall have five days to correct the violation. If the violation is not corrected within five days, the director or local issuing authority shall issue a stop work order requiring that land-disturbing activities be stopped until necessary corrective action or mitigation has occurred; provided, however, that, if the violation presents an imminent threat to public health or waters of the state, the director or local issuing authority shall issue an immediate stop work order in lieu of a warning;

(2) For a third and each subsequent violation, the director or local issuing authority shall issue an immediate stop work order; and

(3) All stop work orders shall be effective immediately upon issuance and shall be in effect until the necessary corrective action or mitigation has occurred.

(d) When a violation of this chapter in the form of taking action without a permit, failure to maintain a stream buffer, or significant amounts of sediment, as determined by the local issuing authority or by the director or his or her designee, have been or are being discharged into state waters and where best management practices have not been properly designed, installed, and maintained, a stop work order shall be issued by the local issuing authority or by the director or his or her designee. All such stop work orders shall be effective immediately upon issuance and shall be in effect until the necessary corrective action or mitigation has occurred. Such stop work orders shall apply to all land-disturbing

activity on the site with the exception of the installation and maintenance of temporary or permanent erosion and sediment controls

O.C.G.A. § 12-7-13 (2014)

§ 12-7-13. Injunctions

Whenever, in the judgment of the director, any person has engaged in or is about to engage in any act or practice which constitutes or would constitute a violation of this chapter, the rules and regulations adopted pursuant to this chapter, or any order or permit conditions in a county or municipality which is not certified pursuant to subsection (a) of Code Section 12-7-8, he or she may make application to the superior court of the county where such person resides or, if such person is a nonresident of the state, to the superior court of the county in which the violative act or practice has been or is about to be engaged in for an order enjoining such act or practice or for an order requiring compliance with this chapter, the rules and regulations adopted pursuant to this chapter, or the order or permit condition. Upon a showing by the director that such person has engaged in or is about to engage in any such violative act or practice, a permanent or temporary injunction, restraining order, or other order shall be granted without the necessity of showing the lack of an adequate remedy at law.

O.C.G.A. § 12-7-14 (2014)

§ 12-7-14. Actions to restrain imminent danger; emergency orders; duration of effectiveness of orders

(a) Notwithstanding any other provision of this chapter to the contrary, upon receipt of evidence that certain land-disturbing activities occurring in a municipality or county which is not certified pursuant to subsection (a) of Code Section 12-7-8 are presenting an imminent and substantial danger to the environment or to the health of humans, the director may bring an action as provided in Code Section 12-7-13 to restrain immediately any person causing or contributing to the danger caused by such land-disturbing activities or to take such other action as may be necessary.

(b) If it is not practicable to assure prompt protection of the environment or the health of humans solely by commencement of such a civil action, the director may issue such emergency orders as may be necessary to protect the environment or the health of humans who are or may be affected by such land-disturbing activities. Notwithstanding any other provision of this chapter, such order shall be immediately effective for a period of not more than 48 hours, unless the director brings an action under subsection (a) of this Code section before the expiration of such period. Whenever the director brings such an action within such period, such order shall be effective for such period of time as may be authorized by the court pending litigation or thereafter.

O.C.G.A. § 12-7-15 (2014)

§ 12-7-15. Civil penalty

Any person who violates any provision of this chapter, the rules and regulations adopted pursuant to this chapter, or any permit condition or limitation established pursuant to this chapter or who negligently or intentionally fails or refuses to comply with any final or emergency order of the director issued as provided in this chapter shall be liable for a civil penalty not to exceed \$2,500.00 per day. For the purpose of enforcing the provisions of this chapter, notwithstanding any provision in any city charter to the contrary, municipal courts shall be authorized to impose a penalty not to exceed \$2,500.00 for each violation. Notwithstanding any limitation of law as to penalties which can be assessed for violations of county ordinances, any magistrate court or any other court of competent jurisdiction trying cases brought as violations of this chapter under county ordinances approved under this chapter shall be authorized to impose penalties for such violations not to exceed \$2,500.00 for each violation. Each day during which the violation or failure or refusal to comply continues shall be a separate violation

O.C.G.A. § 12-7-16 (2014)

§ 12-7-16. Hearings and review

All hearings on and review of contested matters, orders, or permits issued by or filed against the director and all hearings on and review of any other enforcement actions or orders initiated by the director under this chapter shall be provided and conducted in accordance with subsection (c) of Code Section 12-2-2. The hearing and review procedure provided in this Code section is to the exclusion of all other means of hearings or review

O.C.G.A. § 12-7-17 (2014)

§ 12-7-17. Exemptions

This chapter shall not apply to the following activities:

- (1) Surface mining, as the same is defined in Code Section 12-4-72;
- (2) Granite quarrying and land clearing for such quarrying;
- (3) Such minor land-disturbing activities as home gardens and individual home landscaping, repairs, maintenance work, fences, and other related activities which result in minor soil erosion;
- (4) The construction of single-family residences, when such construction disturbs less than one acre and is not a part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one acre and not otherwise exempted under this paragraph; provided, however, that construction of any such residence shall conform to

the minimum requirements as set forth in subsection (b) of Code Section 12-7-6 and this paragraph. For single-family residence construction covered by the provisions of this paragraph, there shall be a buffer zone between the residence and any state waters classified as trout streams pursuant to Article 2 of Chapter 5 of this title. In any such buffer zone, no land-disturbing activity shall be constructed between the residence and the point where vegetation has been wrested by normal stream flow or wave action from the banks of the trout waters. For primary trout waters, the buffer zone shall be at least 50 horizontal feet, and no variance to a smaller buffer shall be granted. For secondary trout waters, the buffer zone shall be at least 50 horizontal feet, but the director may grant variances to no less than 25 feet. Regardless of whether a trout stream is primary or secondary, for first order trout waters, which are streams into which no other streams flow except for springs, the buffer shall be at least 25 horizontal feet, and no variance to a smaller buffer shall be granted. The minimum requirements of subsection (b) of Code Section 12-7-6 and the buffer zones provided by this paragraph shall be enforced by the issuing authority;

(5) Agricultural operations as defined in Code Section 1-3-3 to include those practices involving the establishment, cultivation, or harvesting of products of the field or orchard; the preparation and planting of pasture land; farm ponds; dairy operations; livestock and poultry management practices; and the construction of farm buildings;

(6) Forestry land management practices, including harvesting; provided, however, that when such exempt forestry practices cause or result in land-disturbing or other activities otherwise prohibited in a buffer, as established in paragraphs (15) and (16) of subsection (b) of Code Section 12-7-6, no other land-disturbing activities, except for normal forest management practices, shall be allowed on the entire property upon which the forestry practices were conducted for a period of three years after the completion of such forestry practices;

(7) Any project carried out under the technical supervision of the Natural Resources Conservation Service of the United States Department of Agriculture;

(8) Any project involving less than one acre of disturbed area; provided, however, that this exemption shall not apply to any land-disturbing activity within a larger common plan of development or sale with a planned disturbance of equal to or greater than one acre or within 200 feet of the bank of any state waters, and for purposes of this paragraph, "state waters" excludes channels and drainageways which have water in them only during and immediately after rainfall events and intermittent streams which do not have water in them year round; provided, however, that any person responsible for a project which involves less than one acre, which involves land-disturbing activity, and which is within 200 feet of any such excluded channel or drainageway must prevent sediment from moving beyond the boundaries of the property on which such project is located and provided, further, that nothing contained in this chapter shall prevent a city or county which is a local issuing authority from regulating any such project which is not specifically exempted by paragraph (1), (2), (3), (4), (5), (6), (7), (9), or (10) of this Code section;

(9) Construction or maintenance projects, or both, undertaken or financed in whole or in part, or both, by the Department of Transportation, the Georgia Highway Authority, or the State Road and Tollway Authority; or any road construction or maintenance project, or both, undertaken by any county or municipality; provided, however, that construction or maintenance projects of the Department of Transportation or the State Road and Tollway Authority which disturb one or more contiguous acres of land shall be subject to the provisions of Code Section 12-7-7.1; except where the Department of Transportation, the Georgia Highway Authority, or the State Road and Tollway Authority is a secondary

permittee for a project located within a larger common plan of development or sale under the state general permit, in which case a copy of a notice of intent under the state general permit shall be submitted to the local issuing authority, the local issuing authority shall enforce compliance with the minimum requirements set forth in Code Section 12-7-6 as if a permit had been issued, and violations shall be subject to the same penalties as violations by permit holders;

(10) Any land-disturbing activities conducted by any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission, or distribution of power; except where an electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission, or distribution of power is a secondary permittee for a project located within a larger common plan of development or sale under the state general permit, in which case the local issuing authority shall enforce compliance with the minimum requirements set forth in Code Section 12-7-6 as if a permit had been issued, and violations shall be subject to the same penalties as violations by permit holders; and

(11) Public water system reservoirs.

O.C.G.A. § 12-7-18 (2014)

§ 12-7-18. Effect of chapter on requirements of the "Georgia Water Quality Control Act."

No provision of this chapter shall authorize any person to violate Article 2 of Chapter 5 of this title, the "Georgia Water Quality Control Act," or the rules and regulations promulgated and approved under said article or to pollute any waters of this state as defined in said article.

O.C.G.A. § 12-7-19 (2014)

§ 12-7-19. Education and training requirements; required programs; instructor qualifications; expiration of certification

(a) (1) Persons involved in land development design, review, permitting, construction, monitoring, or inspection or any land-disturbing activity shall meet the education and training certification requirements, dependent on his or her level of involvement with the process, as developed by the commission in accordance with this Code section and in consultation with the division and the Stakeholder Advisory Board created pursuant to Code Section 12-7-20.

(2) On or after May 14, 2007, for each site on which land-disturbing activity occurs, each entity or person acting as either a primary, secondary, or tertiary permittee, as defined in the state general permit, shall have as a minimum one person who is in responsible charge

of erosion and sedimentation control activities on behalf of said entity or person and meets the applicable education or training certification requirements developed by the commission present on site whenever land-disturbing activities are conducted on that site. A project site shall herein be defined as any land disturbance site or multiple sites within a larger common plan of development or sale permitted by an owner or operator for compliance with the state general permit.

(3) Persons or entities involved in projects not requiring a state general permit but otherwise requiring certified personnel on site may contract with certified persons to meet the requirements of this chapter.

(4) If a state general permittee who has operational control of land-disturbing activities for a site has met the certification requirements of paragraph (1) of subsection (b) of this Code section, then any person or entity involved in land-disturbing activity at that site and operating in a subcontractor capacity for such permittee shall have until December 31, 2007, to meet those educational requirements specified in paragraph (4) of subsection (b) of Code Section 12-7-19 and shall not be required to meet any educational requirements that exceed those specified in said paragraph.

(b) No less than the following training programs shall be established:

(1) A fundamentals seminar (Level 1) will be established which provides sufficient training to all participants as to the applicable laws, requirements, processes, and latest means and methods recognized by this state to effectively control erosion and sedimentation;

(2) An advanced fundamentals seminar (Level 1) will be established which provides additional details of installation and maintenance of best management practices for both regulatory and nonregulatory inspectors and others;

(3) An introduction to design seminar (Level 2) will be established which provides required training to design and review a successful erosion, sedimentation, and pollution control plan;

(4) An awareness seminar (Level 1) will be established which does not exceed two hours in duration and which provides information regarding the erosion and sediment control practices and processes in the state and which will include an overview of the systems, laws, and roles of the participants; and

(5) A trainer and instructor seminar will be established for both Level 1 and Level 2 trainers and instructors which will provide the minimum training as to applicable laws and best management practices and design of erosion, sedimentation, and pollution control plans in this state.

(c) Trainer and instructor qualifications will be established with the following minimum requirements:

(1) Level 1 trainers and instructors shall meet at least the following minimum requirements and any other requirements as set by the commission:

(A) Education: four-year college degree or five years' experience in the field of erosion and sediment control;

(B) Experience: five-years' experience in the field of erosion and sediment control.

Where years of experience is used in lieu of the education requirement of subparagraph (A) of this paragraph, a total of ten years' field experience is required;

(C) Approval by the commission and the Stakeholder Advisory Board; and

(D) Successful completion of the Level 1 trainer and instructor seminar found in paragraph (5) of subsection (b) of this Code section; and

(2) Level 2 trainers and instructors shall meet at least the minimum requirements of a Level 1 trainer or instructor, any other requirements as set by the commission, and successful completion of the Level 2 trainer and instructor seminar created under paragraph (5) of subsection (b) of this Code section.

(d) In addition to the requirements of subsection (c) of this Code section, the commission shall establish and any person desirous of holding certification must obtain a passing grade as established by the Stakeholder Advisory Board on a final exam covering the material taught in each mandatory seminar; provided, however, that there shall be no final exam requirement for purposes of paragraph (4) of subsection (b) of this Code section. Final exams may, at the discretion of the commission, serve in lieu of attendance at the seminar. Any person shall be authorized to administer a final examination for any seminar for which he or she was the instructor.

(e) (1) A certification provided by achieving the requirements established by the commission shall expire no later than three years after its issuance.

(2) A certified individual shall be required to attend and participate in at least four hours of approved continuing education courses, as established by the commission, every three years.

(3) A certification may be extended or renewed by meeting requirements established by the commission.

(4) Revocation procedures may be established by the commission in consultation with the division and the Stakeholder Advisory Board.

O.C.G.A. § 12-7-20 (2014)

§ 12-7-20. Creation of Stakeholder Advisory Board; responsibilities; procedures

(a) There shall be a Stakeholder Advisory Board to consist of not more than 13 members.

(b) Members shall be appointed by the Governor, shall serve at the pleasure thereof, and shall represent the following interests:

(1) The division;

(2) The commission;

(3) Soil and water conservation districts;

- (4) The Department of Transportation;
- (5) Municipal governments;
- (6) County governments;
- (7) Public utilities;
- (8) The engineering and design community;
- (9) The construction community;
- (10) The development community;
- (11) The environmental community;
- (12) The Erosion and Sediment Control Overview Council; and
- (13) Educators.

(c) The Stakeholder Advisory Board shall elect one of its members as chairperson. The chairperson shall call all meetings of the Stakeholder Advisory Board.

(d) The Stakeholder Advisory Board shall be responsible for working together with the division and the commission to establish, evaluate, and maintain the education and training program established pursuant to Code Section 12-7-19, including but not limited to reviewing course curricula, educational materials, and exam and testing procedures; evaluating trainer and instructor qualifications; and reviewing audit results performed by the commission.

(e) The Stakeholder Advisory Board may conduct such meetings at such places and at such times as it may deem necessary or convenient to enable it to exercise fully and effectively its powers, perform its duties, and accomplish the objectives and purposes of this Code section. Meetings shall be held on the written notice of the chairperson. The notice of a meeting shall set forth the date, time, and place of the meeting. Minutes shall be kept of all meetings.

(f) A majority of the members shall constitute a quorum of the Stakeholder Advisory Board. The powers and duties of the Stakeholder Advisory Board shall be transacted, exercised, and performed only pursuant to an affirmative vote of a majority of those members present at a meeting at which a quorum is present.

(g) Members of the Stakeholder Advisory Board shall not be entitled to any compensation for the rendering of their services to the Stakeholder Advisory Board.

O.C.G.A. § 12-7-21 (2014)

§ 12-7-21. Appointment of panel to study controls implemented pursuant to chapter; procedure and operation of panel

Reserved.

O.C.G.A. § 12-7-22 (2014)

§ 12-7-22. Electronic filing and reporting system

In order to achieve efficiencies and economies for both the division and the regulated community by the use of electronic filing for certain application and reporting requirements of this chapter and National Pollution Discharge Elimination System permits, the division and the Pollution Prevention Assistance Division of the department shall jointly work toward implementing such an electronic filing and reporting system as soon as practicable and allowable under federal regulations

Stream Buffer Rules

Georgia Department Of Transportation
WORKSITE EROSION CONTROL MANUAL



Rules

Georgia Department of Natural Resources

Environmental Protection Division

Chapter 391-3-7

Erosion and Sediment Control

391-3-7.01 Definitions

391-3-7.02 (Repealed)

391-3-7.03 (Repealed)

391-3-7.04 (Repealed)

391-3-7.05 Buffer Variance Procedure and Criteria.

391-3-7.06 Turbidity Limits for Stormwater Runoff Discharge.

391-3-7.07 Inspection and Compliance.

391-3-7.08 Enforcement.

391-3-7.09 Local Issuing Authority.

391-3-7.10 Site Visit Required.

Georgia Department Of Transportation
WORKSITE EROSION CONTROL MANUAL



391-3-7-.01 Definitions

The following definitions shall apply in the interpretation and enforcement of these rules and regulations unless otherwise specifically stated.

1. (a) “Best Management Practices” means a collection of structural measures and vegetative practices which, when properly designed, installed and maintained, will provide effective erosion and sedimentation control and are designed in accordance with the design specifications contained in the “Manual for Erosion and Sediment Control in Georgia.” Best Management Practices also include, but are not limited to, design specifications from the most recent publications of the Georgia Stormwater Management Manual and Coastal Stormwater Supplement to the Georgia Stormwater Management Manual.
2. (b) “Certification” means an action by the Division that states in writing that a local issuing authority has met the criteria established in these rules and regulations.
3. (c) “Certified Personnel” means any person who meets or exceeds the education and training requirements of Code Section 12-7-19.
4. (d) “Complaint Investigation Process” means a process followed by a local issuing authority or the Division when dealing with inquiries, complaints or concerns about land disturbing activities.
5. (e) “Decertification” means an action by the Division that states in writing that a local issuing authority has failed to meet the criteria established in these rules and regulations.
6. (f) “Department” means the Department of Natural Resources of the State of Georgia.
7. (g) “Director” means the Director of the Environmental Protection Division.
8. (h) “District” means the appropriate local Soil and Water Conservation District.
9. (i) “Division” means the Environmental Protection Division of the Department of Natural Resources.
10. (j) “Erosion” means the process by which land surface is worn away by the action of wind, water, ice, or gravity.
11. (k) “Erosion, Sedimentation and Pollution Control Plan” or “Plan” means a plan for the control of soil erosion and sediment resulting from a land disturbing activity.

“Infrastructure Project” means construction activities that are not part of a common development that include the construction, installation and maintenance of roadway and railway projects and conduits, pipes, pipelines, substations, cables, wires, trenches, vaults, manholes, and similar or

related structures or devices for the conveyance of natural gas (or other types of gas), liquid petroleum products, electricity, telecommunications (telephone, data television, etc.), water or sewage.

(l) “Land Disturbing Activity” means any activity which may result in soil erosion and the movement of sediments into State waters or onto lands within the State, including but not limited to clearing, dredging, grading, excavating, transporting, and

filling of land, but not including those practices to the extent described in O.C.G.A. 12-7-17.

(n) “Local Issuing Authority” means the governing authority of any county or municipality that is certified pursuant to these rules and regulations and O.C.G.A. 12-7-8(a).

(o) “Major Buffer Impact” means any impact that does not meet the definition of “Minor Buffer Impact.”

(p) “Minor Buffer Impact” means an impact that upon completion yields no additional above ground, man-made materials or structures within the buffer, maintains the original grade, and results in less than 5,000 square feet of buffer impacts per stream crossing and/or less than 5,000 square feet of buffer impacts per individual area of encroachment for each project.

(q) “Permit” means the authorization necessary to conduct a land disturbing activity under the provisions of these rules and regulations.

(r) “Person” means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, State agency, municipality or other political subdivision or the State, any interstate body or any other legal entity.

(s) “Project” means the entire area of the proposed development site, regardless of the size of the area to be disturbed.

(t) “Sediment” means solid material, both organic and inorganic, that is in suspension, is being transported, or has been moved from its site of origin by wind, water, ice, or gravity as a product of erosion.

21. (u) “Sedimentation” means the action or process of forming or depositing sediment.

22. (v) “Soil and Water Conservation District Approved Plan” means an erosion, sedimentation and pollution control plan approved in writing by the Soil and Water Conservation District in which the proposed land disturbing activity will take place.

(w) “Stabilization” means the process of establishing an enduring soil cover of vegetation and/or mulch or other ground cover and/or installing temporary or

permanent structures for the purpose of reducing to a minimum the erosion process and the resultant transport of sediment by wind, water, ice or gravity.

(x) “State Waters” means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and other bodies of surface or subsurface water, natural and artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation, except as may be defined in O.C.G.A. 12-7-17(7).

(y) “Stream Bank” means the confining cut of a stream channel and is usually identified as the point where the normal stream flow has wrested the vegetation. For non- trout waters, the normal stream flow is any stream flow that consists solely of base flow or consists of both base flow and direct runoff during any period of the year. Base flow results from groundwater that enters the stream channel through the soil. This includes spring flows into streams. Direct runoff is the water entering stream channels promptly after rainfalls or snow melts.

(z) “Trout Streams” means all streams or portions of streams within the watershed as designated by the Division under the provisions of the Georgia Water Quality Control Act, O.C.G.A. 12-5-20 et seq. Streams designated as primary trout waters are defined as water supporting a self-sustaining population of rainbow, brown or brook trout. Streams designated as secondary trout waters are those in which there is no evidence of natural trout reproduction, but are capable of supporting trout throughout the year. First order trout waters are streams into which no other streams flow except springs.

(aa) “Watercourse” means any natural or artificial waterway, stream, river, creek, channel, ditch, canal, conduit, culvert, drain, gully, ravine, or wash in which water flows either continuously or intermittently, having a definite channel, bed and bank, and includes any area adjacent thereto which is subject to inundation by reason of overflow or floodwater.

(bb) “Water Quality” means the chemical, physical, and biological characteristics of the State’s water resources.

Authority: O.C.G.A. Secs. 12-2-24, 12-7-5. History. Original Rule entitled “Definitions” adopted. F. Apr. 6, 1977; eff. Apr. 26, 1977. Amended: F. July 16, 1981; eff. Aug. 5, 1981. Amended: F. Dec. 12, 1989, eff. Jan. 1, 1990. Amended: F. Nov. 2, 2000, eff. Nov. 22, 2000. Amended: F. Nov. 5, 2003; eff. Nov. 25, 2003. Amended: F. Dec. 9, 2003; eff. Dec. 29, 2003. Amended: F. Dec. 20; 2004; eff. Jan. 9, 2005. Amended: F. Nov. 19, 2010; eff. Dec. 9, 2010. Amended: F. Aug. 16, 2013; eff. Sept. 5, 2013.

391-3-7-.02 Repealed.

Authority O.C.G.A. Secs. 12-2-24, 12-7-5. History: Original Rule entitled “Scope and Exclusions” adopted. F. Apr. 6, 1977; eff. Apr. 26, 1977. Amended: F. July 16, 1981; eff. Aug. 5, 1981. Amended: F. Dec. 12, 1989, eff. Jan. 1, 1990. Amended: F. Nov. 2, 2000, eff. Nov. 22, 2000. Repealed: F. Nov. 5, 2003; eff. Nov. 25, 2003.

391-3-7-.03 Repealed.

Authority O.C.G.A. Secs. 12-2-24, 12-7-5. History. Original Rule entitled ‘Land Disturbing Activity Permits’ adopted. F. Apr. 6, 1977; eff. Apr. 26, 1977. Amended: F. July 16, 1981; eff. Aug. 5, 1981. Amended: F. Dec. 12, 1989; eff. Jan 1, 1990. Amended: F. Nov. 2, 2000; eff. Nov. 22, 2000. Repealed: F. Nov. 5, 2003; eff. Nov. 25, 2003.

391-3-7-.04 Repealed.

Authority O.C.G.A. Secs. 12-2-24, 12-7-5. History. Original Rule entitled “Erosion and Sediment Control Plans Required” adopted. F. Apr. 6, 1977; eff. Apr. 26, 1977. Amended: F. July 16, 1981; eff. Aug. 5, 1981. Amended: Rule retitled “Erosion and Sedimentation Control Plan Requirements”. F. Dec. 12, 1989; eff. Jan 1, 1990. Amended: F. Nov. 2, 2000; eff. Nov 22, 2000. Repealed: F. Nov. 5, 2003; eff. Nov. 25, 2003.

391-3-7-.05 Buffer Variance Procedures and Criteria

1. (1) Buffers on state waters are valuable in protecting and conserving land and water resources; therefore, buffers should be protected. The buffer variance process will apply to all projects legally eligible for variances and to all state waters having vegetation wrested from the channel by normal stream flow, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented. The following activities do not require application to or approval from the Division:
 1. (a) stream crossings for water lines or stream crossing for sewer lines that occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer; or
 2. (b) where drainage structures must be constructed within the twenty-five (25) foot buffer area of any state water not classified as a trout stream; or
 3. (c) where roadway drainage structures must be constructed within the twenty-five (25) foot buffer area of any state waters or the fifty (50) foot buffer of any trout stream; or
 4. (d) construction of bulkheads or sea walls on Lake Oconee and Lake Sinclair where required to prevent erosion at the shoreline; or
 5. (e) construction of public water system reservoirs.
2. (2) Variance applications will be reviewed by the Director only where the applicant provides reasonable evidence that impacts to the buffer have been avoided or minimized to the fullest extent practicable and only in the following cases:
 1. (a) The project involves the construction or repair of an existing infrastructure project or a structure that, by its nature, must be located within the buffer. Such structures include, include but are not limited to, dams, public water supply intake structures, detention/retention ponds, waste water discharges, docks including access ways, boat launches including access ways, and stabilization of areas of public access to water; or
 2. (b) The project will result in the restoration or enhancement to improve water quality and/or aquatic habitat quality; or
 3. (c) Buffer intrusion is necessary to provide reasonable access to a property or properties; or
 4. (d) The intrusion is for gravity-flow sewer lines that cannot reasonably be placed outside the buffer, and stream crossings and vegetative disturbance are minimized; or
5. (e) Crossing for utility lines, including but not limited to gas, liquid, power, telephone, and other pipelines, provided that the number of crossings and the amount of vegetative disturbance are minimized; or
6. (f) Recreational foot trails and viewing areas, providing that impacts to the buffer are minimal; or
7. (g) The project involves construction of one (1) single family home for residential use by the owner of the subject property and, at the time of adoption of this rule, there is no opportunity to develop the home under any reasonable design configuration unless a buffer variance is granted. Variances

will be considered for such single family homes only if construction is initiated or local government approval is obtained prior to January 10, 2005; or

8. (h) For non-trout waters, the proposed land disturbing activity within the buffer will require a permit from the United States Army Corps of Engineers under Section 404 of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1344, and the Corps of Engineers has approved a mitigation plan to be implemented as a condition of such a permit; or
 9. (i) For non-trout waters, a plan is provided for buffer intrusion that shows that, even with the proposed land disturbing activity within the buffer, the completed project will result in maintained or improved water quality downstream of the project; or
 10. (j) For non-trout waters, the project with a proposed land disturbing activity within the buffer is located in, or upstream and within ten linear miles of, a stream segment listed as impaired under Section 303(d) of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1313(d) and a plan is provided that shows that the completed project will result in maintained or improved water quality in such listed stream segment and that the project has no adverse impact relative to the pollutants of concern in such stream segment; or
 11. (k) The proposed land disturbing activity within the buffer is not eligible for a permit from the United States Army Corps of Engineers under Section 404 of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1344, but includes required mitigation in accordance with current EPD “Stream Buffer Variance Mitigation Guidance” document, and involves:
 1. piping, filling, or re-routing of non-trout waters that are not jurisdictional Waters of the U.S.; or
 2. stream buffer impacts due to new infrastructure projects adjacent to state waters (jurisdictional and non-jurisdictional Waters of the U.S.). This criterion shall not apply to maintenance and/or modification to existing infrastructure, which are covered under 391-3-7.05(2)(a).
3. (3) If the buffer impact will be minor, the buffer variance request shall include the following information at a minimum:
1. (a) Site map that includes locations of all state waters, wetlands, floodplain boundaries and other natural features, as determined by field survey.
 2. (b) Description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property.
 3. (c) Dated and numbered detailed site plan that shows the locations of all structures, impervious surfaces, and the boundaries of the area of soil disturbance, both inside and outside of the buffer. The exact area of the buffer to be impacted shall be accurately and clearly indicated.
 4. (d) Description of the project, with details of the buffer disturbance, including estimated length of time for the disturbance and justification for why the disturbance is necessary.
 5. (e) Calculation of the total area and length of the buffer disturbance.
 6. (f) Letter from the issuing authority (if other than the Division and as applicable) stating that the issuing authority has visited the site and determined the presence of state waters that require a buffer and that a

stream buffer variance is required as per the local erosion and sedimentation control ordinance.

7. (g) Erosion, sedimentation and pollution control plan.
 8. (h) Re-vegetation plan as described in the most recent publication of the Division's guidance book, "Streambank and Shoreline Stabilization" and/or a plan for permanent vegetation as per the "Manual for Erosion and Sedimentation Control in Georgia."
 9. (i) For projects within the buffer of or upstream and within one linear mile of impaired stream segments on Georgia's "305(b)/303(d) List Documents (Final)," documentation that the project will have no adverse impacts relative to the pollutants of concern and if applicable, documentation that the project will be in compliance with the TMDL Implementation Plan(s).
 10. (j) Any other reasonable information related to the project that the Division deems necessary to effectively evaluate the variance request.
 11. (k) Applications must be on the most current forms provided by the Division.
4. (4) If the buffer impact will be major, the buffer variance request shall include all of the information in Sections (3)(a) thru (k) above, with the exception of (3)(h). A buffer

variance request for major buffer impacts shall also include the following additional information:

1. (a) For variance requests made under Section (2)(h), a copy of the permit application and supporting documentation, as submitted to the United States Army Corps of Engineers under Section 404 of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1344.
2. (b) Buffer mitigation plan addressing impacts to critical buffer functions, including water quality and floodplain, watershed and ecological functions based on an evaluation of existing buffer conditions and predicted post construction buffer conditions pursuant to Section (7)(c) herein.
3. (c) Plan for stormwater control once site stabilization is achieved, when required by a local stormwater ordinance.
4. (d) For variance requests made under Sections (2)(i) and (2)(j), the application shall include the following water quality information:
 1. Documentation that post-development stormwater management systems to conform to the minimum standards for water quality, channel protection, overbank flood protection and extreme flood protection as established in the Georgia Stormwater Management Manual or the equivalent and if applicable, the Coastal Stormwater Supplement to the Georgia Stormwater Management Manual.
 2. Documentation that existing water quality will be maintained or improved based on predicted pollutant loading under pre- and post-development conditions as estimated by models accepted by the Division.
5. (e) For variance requests made under Section (2)(j), if the proposed project is in, or upstream and within ten linear miles of impaired stream segments on Georgia's "305(b)/303(d) List Documents (Final)," documentation that the project will have no adverse impacts relative to the pollutants of concern and

if applicable, documentation that the project will be in compliance with the TMDL Implementation Plan(s).

6. (f) For variance requests made under Section (2)(k)1., the application shall include documentation from the United States Army Corps of Engineers verifying the water bodies identified in the application are non-jurisdictional waters of the United States under Section 404 of the Clean Water Act.

(5) Upon receipt of a completed application in accordance with Sections 391-3-7-.05(3) or 391-3-7-.05(4), the Division shall consider the completed application and the following factors in determining whether to issue a variance:

1. (a) Locations of state waters, wetlands, floodplain boundaries and other natural features as determined by field surveys.
2. (b) Shape, size, topography, slope, soils, vegetation and other physical characteristics of the property.
3. (c) Location and extent of buffer intrusion.
4. (d) Whether reasonable alternative project designs, such as the use of retaining walls, are possible which do not require buffer intrusion or which require less buffer intrusion.
5. (e) Whether issuance of the variance, with the required mitigation plan, re-vegetation plan and/or plan for permanent vegetation, is at least as protective of natural resources and the environment (including wildlife habitat).
6. (f) The current condition of the existing buffer, to be determined by:
 1. The extent to which existing buffer vegetation is disturbed;
 2. The hydrologic function of the buffer; and
 3. Stream characteristics such as bank vegetative cover, bank stability, prior channel alteration or sediment deposition.
7. (g) The extent to which the encroachment into the buffer may reasonably impair buffer functions.
8. (h) The value of mitigation activities conducted pursuant to this rule, particularly Subsections 391-3-7-.05(7)(c) and 391-3-7-.05(7)(d) herein, and shall take regional differences into consideration on-site or downstream, to be determined by development techniques or other measures that will contribute to the maintenance or improvement of water quality, including the use of low impact designs and integrated best management practices, and reduction in effective impervious surface area.
9. (i) The long-term water quality impacts of the proposed variance, as well as the construction impacts. And for applications made under Subsections 391-3-7.05(2)(i) and 391-3-7-.05(2)(j), the following criteria, which reflect regional differences in the state, shall be used by the Director to assist in determining whether the project seeking a variance will, when completed and with approved mitigation, result in maintained or improved water quality downstream of the project and minimal net impact to the buffer:

1. Division will assume that the existing water quality conditions are

commensurate with an undeveloped forested watershed unless the applicant provides documentation to the contrary. If the applicant chooses to provide baseline documentation, site and/or stream reach specific water quality, habitat, and/or biological data would be needed to document existing conditions. If additional data

are needed to document existing conditions, the applicant may need to submit a monitoring plan and have it approved by the Division prior to collecting any monitoring data. Existing local data may be used, if available and of acceptable quality to the Division.

2. The results of the predicted pollutant loading under pre- and post-development conditions as estimated by models accepted by the Division indicate that existing water quality conditions will be maintained or improved.

(j) For applications made under Section 391-3-7-.05(2)(j), for which a land disturbing activity is proposed within the buffer of a 303(d) listed stream, or upstream and within 10 linear miles of a 303(d) listed stream, the results of the model demonstrate that the project has no adverse impact relative to the pollutants of concern in such stream segment.

6. (6) Within 60 days of receipt of a complete buffer variance application, the Division will either provide written comments to the applicant or propose to issue a variance. When the Division proposes to issue a variance, it will send out a public advisory to all citizens and groups who request to receive the advisories. The applicant will then publish one public notice in the legal organ of each of the counties where the buffer disturbance will occur. The public advisory and public notice shall describe the proposed buffer encroachment, the location of the project, where the public can review site plans, and where comments should be sent. The public shall have 30 days from the date of publication of the public advisory and the public notice to comment on the proposed buffer variance.
7. (7) In all cases in which a buffer variance is issued, the following conditions shall apply:

(a) The variance shall be the minimum reduction in buffer width necessary to provide relief. Streams shall not be piped if a buffer width reduction is sufficient to provide relief.

(b) Disturbance of existing buffer vegetation shall be minimized.

(c) Mitigation is required for all major buffer impacts and shall offset the buffer encroachment and any loss of buffer functions. Where lost functions cannot be replaced, mitigation shall provide other buffer functions that are beneficial. Buffer functions include, but are not limited to:

1. temperature control (shading);
2. streambank stabilization;
3. trapping of sediments, if any;
4. removal of nutrients, heavy metals, pesticides and other pollutants;
5. aquatic habitat and food chain;
6. terrestrial habitat, food chain and migration corridor; and
7. buffering of flood flows.

(d) Mitigation should be on-site when possible. Depending on site conditions, acceptable forms of mitigation may include but are not limited to:

- 1.
2. 3. 4.
5. 6.
7. 8.
- 9.

Restoration of the buffer to a naturally vegetated state to the extent practicable, or to current existing conditions;

Bioengineering of channels to reduce bank erosion and improve habitat; Creation or restoration of wetlands;

Stormwater management systems to better maintain the pre-development flow regime (with consideration given to downstream effects) that exceeds the requirements of applicable ordinances at the time of application;

Reduction in pollution sources, such as on-site water quality treatment or improving the level of treatment of septic systems;

Other forms of mitigation that protect or improve water quality and/or aquatic wildlife habitat;

An increase in buffer width elsewhere on the property;

Mitigation as required under a Clean Water Act Section 404 or Nationwide permit issued by the U.S. Army Corps of Engineers;

Stormwater management systems described in the most recent publication of the Georgia Stormwater Management Manual and the Coastal Stormwater Supplement to the Georgia Stormwater Management Manual;

Mitigation as described in the most recent publication of the Division's guidance document, Stream Buffer Mitigation Guidance.

10.

(e) Forms of mitigation that are not acceptable include:

(f)

1. Activities that are already required by the Georgia Erosion and Sedimentation Act, such as the minimal use of best management practices;

2. Activities that are already required by other federal, state and local laws, except as described in 391-3-7.05(7)(d) above. U.S. Army Corps of Engineers mitigation is acceptable.

The Division will not place a condition on a variance that requires a landowner to deed property or the development rights of property to the state or to any other entity. The landowner may voluntarily preserve property or the development rights of property as a mitigation option with the agreement of the Division.

8. (8) If the approved buffer impacts are not completed within five years of the date issued, buffer variances issued on or after the effective date of this rule will become null and void.

The applicant may request a buffer variance time extension only if the approved buffer impacts will not be completed prior to the buffer variance expiration date. The buffer variance time extension, if granted, can be for a period of up to five years. If the applicant can demonstrate that a time extension for a period of greater than five years is reasonable, the Director may grant a buffer variance time extension for a reasonable period of greater than five years. A buffer variance time extension may be issued only once.

The buffer variance time extension must be requested in writing at least 90 calendar days prior to the buffer variance expiration date with justifiable cause demonstrated. Once an approved buffer variance expires, it is no longer eligible for a time extension.

Time extension requests will be reviewed by the Division. The Division will either provide written comments to the applicant or propose to issue a buffer variance time extension within 60 days of receipt of a time extension request. If there are any other changes to the original buffer variance application, the Division may be required to issue a public advisory and the applicant may be required to publish a public notice in accordance with Section 391-3-7.05(6).

If a variance issued by the Director is acceptable to the issuing authority, the variance shall be included as a condition of permitting and therefore becomes a part of the permit for the proposed land disturbing activity project. If a stream buffer variance is not acceptable to the issuing authority, the issuing authority may issue a land disturbing permit without allowing encroachment into the buffer.

9. (9) A general variance is provided for piping of trout streams with an average annual flow of 25 gpm or less.
10. (10) To obtain this general variance in Section 391-3-7.05(9) for encroaching on the buffer of a trout stream, the applicant must submit information to the issuing authority or EPD if

there is no issuing authority demonstrating that the average annual flow in the stream is 25 gpm or less. There are two acceptable methods for making this determination.

(a) The USGS unit area runoff map may be used to determine the threshold acreage that will produce an average annual flow of 25 gpm or less.

(b) The applicant may submit a hydrologic analysis certified by a Registered Professional Engineer or Geologist that presents information sufficient to estimate that the average annual flow of each stream to be piped is 25 gpm or less with a high level of certainty.

(11) Any stream piping performed in accordance with this general variance in Section 391-3- 7.05(9) shall be subject to the following terms:

(a) The total length of stream that is piped in any one property shall not exceed 200 feet.

(b) Any project that involves more than 200 ft of piping will require an individual variance for the entire project. The general variance may not be applied to a portion of a project; e.g., it is not permissible to pipe 200 ft of a stream under the general variance and seek an individual variance for an additional length of pipe.

(c) The downstream end of the pipe shall terminate at least 25 ft before the property boundary.

(d) The applicant for a Land Disturbing Activity Permit shall notify the appropriate issuing authority of the precise location and extent of all streams piping as part of the land disturbing activity permit application. The issuing authority (if other than the Division) shall compile this information and convey it to the Division annually.

(e) Where piping of a stream increases the velocity of stream flow at the downstream end of the pipe, appropriate controls shall be employed to reduce flow velocity to the predevelopment level. Plans for such controls must be submitted as part of the land disturbing activity permit.

Authority: O.C.G.A. Secs. 12-2-24, 12-7-5. History. Original Rule entitled "Minimum Requirements" adopted. F. Apr. 6, 1977; eff. Apr. 26, 1977. Repealed: New Rule entitled "Land Disturbing Activities Within the 100 Year Flood Plain" adopted. F. Dec. 12, 1989; eff. Jan. 1, 1990. Repealed: New Rule entitled "Buffer Variance Procedures and Criteria" adopted. F. Nov. 2, 2000; eff. Nov. 22, 2000. Amended: F. Dec. 12, 2000; eff. Jan. 1, 2001. Amended: F. Nov. 5, 2003; eff. Nov. 25, 2003. Amended: F. Dec. 20, 2004; eff. Jan. 9, 2005. Amended: F. Nov. 19, 2010; eff. Dec. 9, 2010. Amended: F. Aug. 16, 2013; eff. Sept. 5, 2013.

391-3-7-.06 Turbidity Limits for Stormwater Runoff Discharges.

Turbidity of stormwater runoff discharges shall be controlled to the extent that the limits established in O.C.G.A. 12-7-6 shall not be exceeded.

Authority O.C.G.A. Secs. 12-2-24, 12-7-5. History. Original Rule entitled "Inspection and Compliance" adopted. F. Apr. 6, 1977; eff. Apr. 26, 1977. Amended: F. July 16, 1981; eff. Aug. 5, 1981. Repealed: New Rule entitled "Retention of Undisturbed Vegetative Buffer" adopted. F. Dec. 12, 1989; eff. Jan. 1, 1990. Repealed: New Rule entitled "Turbidity Limits for Stormwater Runoff Discharges" adopted. F. Nov. 2, 2000; eff. Nov. 22, 2000.

391-3-7-.07 Inspection and Compliance.

(1) The Division may periodically inspect the site of any land disturbing activity for which a permit has been issued to determine if such activity is being conducted in accordance with the permit and to evaluate the effectiveness of the erosion and sediment control measures employed.

(2) The Division shall have the authority to conduct such investigations as it may reasonable deem necessary to carry out its duties as prescribed by O.C.G.A. 12-7-1 et seq., and these rules and regulations and for this purpose to enter at reasonable times upon any property, public or private, for the purpose of investigating and inspecting the sites of land disturbing activities. The Division shall make its best efforts to contact a local issuing authority prior to any site inspection of a project within that local issuing authority's jurisdiction, provided however, that the Division shall, if contact was not prior made, contact the local issuing authority not more than five (5) business days after the site visit.

(3) No person shall refuse entry or access to any authorized representative of the Division who requests entry for purposed of inspection and who presents appropriate credentials, nor shall any person obstruct, hamper or interfere with any such representative while in

the process of carrying out assigned official duties.

Authority O.C.G.A. Secs. 12-2-24, 12-7-5. History. Original Rule entitled "Enforcement" adopted. F. Apr. 6, 1977; eff. Apr. 26, 1977. Repealed: New Rule of the same title adopted. F. July 16, 1981; eff. Aug. 5, 1981. Repealed: New Rule entitled "Land Disturbing Activities Within 100 Feet (Horizontal) of Trout Streams" adopted. F. Dec. 12, 1989; eff. Jan. 1, 1990. Repealed: New Rule entitled "Inspection and Compliance" adopted. F. Nov. 2, 2000; eff. Nov. 22, 2000. Amended: F. Nov. 5, 2003; eff. Nov. 25, 2003.

391-3-7-.08 Enforcement.

(1) The administration and enforcement of these rules and regulations shall be in accordance with the Erosion and Sedimentation act of 1975, O.C.G.A. 12-7-1 et seq.; the Executive Reorganization Act of 1972, O.C.G.A. 12-2-1 et seq., and the Georgia Administrative Procedure Act, O.C.G.A. 50-13-1 et seq., all as amended, but also includes the authority to require corrective action and/or remediation of conditions creating adverse water quality impacts, or otherwise in violation of these rules, regulations and authorizing statutes.

(2) When the Division seeks to enforce the requirements of these rules or the requirements of O.C.G.A. 12-7-1 et. seq., as amended, in a jurisdiction covered by a certified local issuing authority, the Division should coordinate enforcement with the local issuing authority. However, coordination with a local issuing authority is not a prerequisite for enforcement by the Division.

Authority O.C.G.A. Secs. 12-2-24, 12-7-5. History. Original Rule entitled "Permit Revocation" adopted. F. Apr. 6, 1977; eff. Apr. 26, 1977. Repealed: New Rule entitled "Effective Date" adopted. F. July 16, 1981; eff. Aug. 5, 1981. Repealed: New Rule entitled "Turbidity Limits for Stormwater Runoff Discharges" adopted. F. Dec. 12, 1989; eff. Jan. 1, 1990. Repealed: New Rule entitled "Enforcement" adopted. F. Nov. 2, 2000; eff. Nov. 22, 2000. Amended: F. Nov. 5, 2003; eff. Nov. 25, 2003. Amended: F. Dec. 20, 2004; eff. Jan. 9, 2005.

391-3-7-.09 Local Issuing Authorities.

(1) Criteria for Certification.

(A) City or county has adopted an ordinance which demonstrates compliance with the provisions in Title 12, Chapter 7 of the Official Code of Georgia.

(B) City or county has inspection personnel, who are or will be qualified personnel (within 6 months of date of hire) in erosion and sediment control.

(C) Required Documentation. A city or county shall provide the following documentation to the Division:

1. A letter from the city or county requesting certification as a Local Issuing Authority; and
2. A listing of the number of inspectors employed by the City or County that will be responsible for land disturbance activity inspections and documentation of the training for each inspector; and
3. Documentation of the geographic size of the jurisdiction; and
4. Documentation of the estimated workload and inspection frequency schedule for the inspectors; and
5. A copy of the ordinance which demonstrates compliance with the provisions in Title 12, Chapter 7 of the Official Code of Georgia.

(D) The Division shall provide written notification to the city or county of the Director's decision no later than 60 days after receipt of request for certification. In the case of a denial of local issuing authority certification, the Division shall explain the deficiencies causing the denial. The denial of certification by the Division shall not preclude a city or county from making any subsequent application for certification.

(2) Responsibilities of Certified Local Issuing Authorities.

(A) City or county demonstrates adequate program administration, record keeping and enforcement as evidenced by:

1. Processing land disturbing activity applications, issuing permits and compliance with stream buffer variance requirements; and
2. Maintaining a list of open land disturbance permits; and
3. Conducting inspections and maintaining reports of inspections including violations; and
4. Enforcing the ordinance and keeping record of written notification of violations, stop-work orders, court actions, etc.

(B) City or county must follow a Complaint Investigation Process which:

1. Includes an investigation of the complaint by the local issuing authority within 5 business days; and
2. Includes a mechanism for referral of unresolved complaints to the Division; and
3. Includes a monthly log of complaints and inquiries, including actions taken.

(C) City or county with a Memorandum of Agreement (MOA) with the appropriate local Soil and Water Conservation District to review and approve an Erosion and Sedimentation Control Plan shall approve or disapprove a revised Plan submittal within 35 days of receipt. Failure of the city or county to act within 35 days shall be considered an approval of the revised Plan submittal.

(3) De-certification of a Local Issuing Authority.

(A) Recommendation for De-certification Investigation. The Division shall begin an investigation for de-certification upon request with adequate documentation by the local Soil and Water Conservation District or Georgia Soil and Water Conservation Commission or on its own initiative if any of the following occurs:

1. City or county no longer has an ordinance which demonstrates compliance with the provisions in Title 12, Chapter 7 of the Official Code of Georgia; or
2. City or county no longer has inspection personnel who are or will be qualified personnel (within 6 months of date of hire) in erosion and sediment control; or
3. City or county does not utilize their Complaint Investigation Process pursuant to 391-3-7-.09(2)(A); or
4. City or county no longer has adequate program administration, record keeping and enforcement pursuant to 391-3-7-.09(2)(B).

(B) De-certification Investigation. Within 60 days of receipt of the de-certification request, the Division shall initiate an investigation by providing written notice of the recommendation for de-certification to the local issuing authority and detailing the perceived deficiencies enumerated in the recommendation. Prior to any de-certification of a local issuing authority, the Division must perform an on-site evaluation of the program. The city or county shall have 30 days in which to respond in writing to the Division and:

1. Acknowledge the noted deficiencies and agree to comply; or

2. Offer explanation of why deficiency or omission has occurred and establish a target deadline to comply; or
3. Disagree with some or all of the noted deficiencies and recommendations for improvement and request mediation between the city or county and the Division.

(C) Review Local Issuing Authority Response. The Director or his/her designee will review any response received from the local issuing authority. The Director may then uphold, modify, suspend or dismiss the de-certification recommendation. The determination of the Director shall be made within 30 days from receipt of the response from the local issuing authority.

(D) Final Decision and Appeal. A determination made by the Director to uphold, modify, suspend or dismiss the de-certification is a final action of the Director and may be appealed in accordance with subsection (c) of Code Section 12-2-2.

(4) Continuing Certification.

A local issuing authority shall submit documentation showing continued compliance with the criteria for certification established at 391-3-7-.09(1)(A) and (B) to the Division whenever an event requiring the Division to evaluate a local issuing authority for continuing compliance with the certification requirements occurs.

Authority O.C.G.A. Secs. 12-2-24, 12-7-5. History. Original Rule entitled "Effective Date" adopted. F. Apr. 6, 1977; eff. Apr. 26, 1977. Amended: Rule repealed. F. July 16, 1981; eff. Aug. 5, 1981. Amended: Rule entitled "Inspection and Compliance" was renumbered from 391-3-7-.06 to 391-3-7-.09. F. Dec. 12, 1989; eff. Jan. 1, 1990. Repealed: F. Nov. 2, 2000; eff. Nov. 22, 2000. Amended: New Rule entitled "Local Issuing Authorities" adopted. F. Nov. 5, 2003; eff. Nov. 25, 2003. Amended: F. July 5, 2007; eff. July 25, 2007.

391-3-7-.10 Site Visit Required.

- (1) All applications shall contain a certification stating that the plan preparer or his or her designee has visited the site prior to creation of the plan.
- (2) Plans submitted shall contain the following certification:

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

Authority O.C.G.A. Secs. 12-2-24, 12-7-5. History. Original Rule entitled “Enforcement” was renumbered

from 391-3-7-.07 to 391-3-7-.10. F. Dec. 12, 1989; eff. Jan. 1, 1990. Repealed: F. Nov. 2, 2000; eff. Nov. 22, 2000. Amended: New Rule entitled “Site Visit Required” adopted. F. Nov. 5, 2003; eff. Nov. 25, 2003.

National Pollutant Discharge Elimination System (NPDES)

Georgia Department Of Transportation
WORKSITE EROSION CONTROL MANUAL
NPDES



Georgia Department Of Transportation
WORKSITE EROSION CONTROL MANUAL
General Permit Summary



Like the Erosion and Sedimentation Law, the NPDES General Permit focuses on Best Management Practices (BMPs) for land disturbance equal to or greater than 1 acre. On August 13, 2003 EPD issued the following three NPDES General Permits:

General Permit No. GAR100001--- Stand Alone Projects

General Permit No. GAR 100002--- Infrastructure Construction Projects

General Permit No. GAR 10003 --- Common Developments

GDOT has included NPDES General Permit No. GAR100002 “Infrastructure Construction Project” in this manual

The following is a summary of the General Permit Requirements:

Notice of Intent (NOI) must be submitted to EPD fourteen (14) days before land disturbing begins. The NOI must be signed by either the owner or operator.

Each infrastructure contractor must submit a secondary NOI before performing land disturbance activities within a common development.

The owner or operator must prepare an Erosion, Sediment, and Pollution Control Plan for the site. This plan must be submitted to the EPD, along with NOI. The ESCPC plan must be prepared by a Design Professional licensed by the State of Georgia or a Certified Professional in erosion and Sediment Control (CPSEC). The ESCPC Plan requires an on-site rain gauge in order to general permit of receiving waters for a specified 24 hour rainfall event of 0.5 inches or more. If the receiving water are inaccessible, the primary permittee is required to sample outfalls specified by the ESCPC.

Proper design means designed in accordance with the design requirements of the specifications contained in the “Manual of erosion and Sediment Control in Georgia” (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land disturbing activity was permitted.

Inspection of BMPs, are required after a storm event equal or greater than 0.5 inches or at least once every 14 days. Daily inspections are required for Construction Exits and Petroleum handling and storage sites. Areas that have undergone final stabilization shall be inspected monthly for evidence of, or the potential for pollutants entering the drainage system and the receiving water until a Notice of termination (NOT) is submitted for the site.

The Turbidity values must be compared to the applicable values in the General Permit. If the BMPs on site are properly designed, installed, and maintained and pollutants do not enter waters

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General Permit Summary



of the state then there is no violation of the permit. Any deficiencies found on the site must be repaired.

A sampling summary report of the Turbidity testing must be submitted to the EPD's Regional Office by the 15th of the month following the month the required testing was done.

All the permittees must notify the EPD in writing of any and all known violations. The permittee has seven (7) days of his/her knowledge of the violation to place the information about the violation in the site records. A summary of these violations must be submitted to EPD by the permittee at the address shown in Part II.C within fourteen (14) days of his/her discovery of the violation.

**State of Georgia
Department of Natural Resources
Environmental Protection Division**

**Authorization To Discharge Under The
National Pollutant Discharge Elimination System
Storm Water Discharges Associated With Construction Activity
For Infrastructure Construction Projects**

In compliance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), hereinafter called the "State Act," the Federal Clean Water Act, as amended (33 U.S.C.1251 et seq.), hereinafter called the "Clean Water Act," and the Rules and Regulations promulgated pursuant to each of these Acts, new and existing storm water point sources within the State of Georgia that are required to have a permit, upon submittal of a Notice of Intent, are authorized to discharge storm water associated with construction activity to the waters of the State of Georgia in accordance with the limitations, monitoring requirements and other conditions set forth in Parts I through VI hereof.

This permit shall become effective on September 24 2013.

This permit and the authorization to discharge shall expire at midnight, July 31, 2018.

Signed this 23rd day of September 2013.





Director,
Environmental Protection Division

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Part I. COVERAGE UNDER THIS PERMIT

A. Permit Area.

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

B. Definitions. All terms used in this permit shall be interpreted in accordance with the definitions as set forth in the Georgia Water Quality Control Act (Act) and the Georgia Rules and Regulations for Water Quality Control Chapter 391-3-6 (Rules), unless otherwise defined in this permit:

1. "Best Management Practices" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent and minimize erosion and resultant sedimentation, which are consistent with, and no less stringent than, those practices contained in the "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted to prevent or reduce the pollution of waters of Georgia. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
2. "Buffer" means the area of land immediately adjacent to the banks of State waters in its natural state of vegetation, which facilitates the protection of water quality and aquatic habitat.
3. "Certified Personnel" means a person who has successfully completed the appropriate certification course approved by the State Soil and Water Conservation Commission.
4. "Commencement of Construction" means the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.
5. "Construction Activity" means the disturbance of soils associated with clearing, grading, excavating, filling of land, or other similar activities which may result in soil erosion. Construction activity does not include agricultural and silvicultural practices, but does include agricultural buildings.
6. "CPESC" means Certified Professional in Erosion and Sediment Control with current certification by EnviroCert International, Inc. (www.EnviroCertIntl.org).
7. "CWA" means Federal Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972).
8. "Design Professional" means a professional licensed by the State of Georgia in the field of: engineering, architecture, landscape architecture, forestry, geology, or land surveying; or a person that is a Certified Professional in Erosion and Sediment Control (CPESC) with a current certification by EnviroCert International, Inc. Design Professionals shall practice in a manner that complies with applicable Georgia law governing professional licensure.
9. "Director" means the Director of the Environmental Protection Division or an authorized representative.
10. "Division" means the Environmental Protection Division of the Department of Natural Resources.
11. "Erosion" means the process by which land surface is worn away by the action of wind, water, ice or gravity.
12. "Erosion, Sedimentation and Pollution Control Plan" or "Plan" means a plan for the control of soil erosion, sediment and pollution resulting from a construction activity.

13. "Filling" means the placement of any soil or solid material either organic or inorganic on a natural ground surface or an excavation.
14. "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, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and a seeding of target crop perennials appropriate for the region). For infrastructure construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use.
15. "General Contractor" means the operator of the infrastructure construction or site.
16. "Impossible" means the monitoring location(s) are either physically or legally inaccessible, or access would cause danger to life or limb.
17. "Infrastructure Construction" or "Infrastructure Construction Project" means construction activities that are not part of a common development that include the construction, installation and maintenance of roadway and railway projects and conduits, pipes, pipelines, substations, cables, wires, trenches, vaults, manholes and similar or related structures for the conveyance of natural gas (or other types of gas), liquid petroleum products, electricity, telecommunications (telephone, data, television, etc.), water, storm water or sewage.
18. "Infrastructure Company" or "Infrastructure Contractor" means, for the purposes of this Permit, an entity or sub-contractor that is responsible, either directly or indirectly, for infrastructure construction or an infrastructure construction project.
19. "Local Issuing Authority" means the governing authority of any county or municipality which is certified pursuant to Official Code of Georgia Section 12-7-8(a).
20. "Mass Grading" means the movement of earth by mechanical means to alter the gross topographic features (elevations, slopes, etc.) to prepare a site for final grading and the construction of facilities (buildings, roads, parking, etc.).
21. "Nephelometric Turbidity Unit (NTU)" means a numerical unit of measure based upon photometric analytical techniques for measuring the light scattered by fine particles of a substance in suspension.
22. "NOI" means Notice of Intent to be covered by this permit (see Part II).
23. "Normal Business Hours" means Monday thru Friday, 8:00 AM to 5:00 PM, excluding any non-working Saturday, non-working Sunday and non-working Federal holiday.
24. "NOT" means Notice of Termination (see Part VI).
25. "Operator" means the entity that has the primary day-to-day operational control of those activities at the construction site necessary to ensure compliance with Erosion, Sedimentation and Pollution Control Plan requirements and permit conditions.
26. "Other Water Bodies" means ponds, lakes, marshes and swamps which are waters of the State.
27. "Outfall" means the location where storm water, in a discernible, confined and discrete conveyance, leaves a facility or construction site or, if there is a receiving water on site, becomes a point source discharging into that receiving water.

28. "Owner" means the legal title holder to the real property on which is located the facility or site where construction activity takes place. For purposes of this permit, this definition does not include the legal title holder to property on which the only construction activity planned and being conducted is by a infrastructure company or infrastructure contractor and the legal title holder has no significant control over design and implementation of the construction activity.
29. "Permittee" means any entity that has submitted a Notice of Intent.
30. "Phase" or "Phased" means sub-parts or segments of infrastructure construction projects where the sub-part or segment is constructed and stabilized prior to completing the entire construction site.
31. "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure or container from which pollutants are or may be discharged. This term also means sheetflow which is later conveyed via a point source to waters of the State. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.
32. "Primary Permittee" means the Owner or the Operator or both of a tract of land for a construction project subject to this permit.
33. "Proper design" and "properly designed" means designed in accordance with the design requirements and specifications contained in the "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted and amendments to the Manual as approved by the State Soil and Water Conservation Commission up until the date of NOI submittal.
34. "Receiving Water(s)" means all perennial and intermittent waters of the State into which the runoff of storm water from a construction activity will actually discharge, either directly or indirectly.
35. "Roadway Project(s)" means traveled ways including but not limited to roads, sidewalks, multi-use paths and trails, and airport runways and taxiways. This term also includes the accessory components to a roadway project that are necessary for the structural integrity of the roadway and the applicable safety requirements. These accessory components include but are not limited to slopes, shoulders, storm water drainage ditches and structures, guardrails, lighting, signage, cameras and fences and exclude subsequent landscaping and beautification projects.
36. "Sediment" means solid material, both organic and inorganic, that is in suspension, is being transported, or has been moved from its site of origin by, wind, water, ice, or gravity as a product of erosion.
37. "Sedimentation" means the action or process of forming or depositing sediment.
38. "Sheetflow" means runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel.
39. "Site" or "Construction Site" means a facility of any type on which construction activities are occurring or are to occur which may result in the discharge of pollutants from a point source into the waters of the State.
40. "Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.
41. "Structural Erosion and Sediment Control Practices" means measures for the stabilization of erosive or sediment producing areas by utilizing the mechanical properties of matter for the purpose of either changing the surface of the land or storing, regulating or disposing of runoff to prevent excessive sediment loss.
42. "Sub-contractor" means an entity employed or retained by the permittee to conduct any type of construction activity (as defined in this permit) at an infrastructure construction site. Sub-contractors must complete the

appropriate certification course approved by the Georgia Soil and Water Conservation Commission in accordance with the provisions of O.C.G.A. 12-7-19. Sub-contractors are not permittees unless they meet the definition of either a primary, secondary or tertiary permittee.

43. "Surface Water Drainage Area" means the hydrologic area starting from the lowest downstream point where the storm water from the construction activity enters the receiving water(s) and following the receiving water(s) upstream to the highest elevation of land that divides the direction of water flow. This boundary will connect back with the storm water entrance point. Boundary lines follow the middle of the highest ground elevation or halfway between contour lines of equal elevation.

44. "Trout Streams" means waters of the State classified as either primary trout waters or secondary trout waters, as designated in the Rules and Regulations for Water Quality Control, Chapter 391-3-6 at www.gaepd.org.

45. "USGS Topographic Map" means a current quadrangle, 7½ minute series map prepared by the United States Department of the Interior, Geological Survey.

46. "Vegetative Erosion and Sediment Control Practices" means measures for the stabilization of erosive or sediment producing areas by covering the soil with: (1) permanent seeding, sprigging or planting, producing long-term vegetative cover; (2) temporary seeding, producing short-term vegetative cover; or (3) sodding, covering areas with a turf of perennial sod forming grass.

47. "Waters Supporting Warm Water Fisheries" means all waters of the State that sustain, or have the potential to sustain, aquatic life but excluding trout streams.

48. "Waters of Georgia" or "Waters of the State" means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, wetlands, and all other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation.

C. Eligibility.

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

a. all discharges of storm water associated with infrastructure construction projects that will result in contiguous land disturbances equal to or greater than one (1) acre occurring on or before, and continuing after, the effective date of this permit, (henceforth referred to as existing storm water discharges from construction activities) except for discharges identified under Part I.C.3. Contiguous means areas of land disturbances that are in actual contact to create a connected, uninterrupted area of land disturbance. However, for purposes of this permit, contiguous areas of land disturbances include those areas of land disturbances solely separated by drilling and boring activities, waters of the State and adjacent State-mandated buffers, roadways and/or railways. In addition, contiguous areas of land disturbances include all areas of land disturbances at a sole roadway intersection and/or junction;

b. all discharges of storm water associated with infrastructure construction projects that will result in contiguous land disturbances equal to or greater than one (1) acre occurring after the effective date of this permit, (henceforth referred to as storm water discharges from construction activities), except for discharges identified under Part I.C.3. Contiguous means areas of land disturbances that are in actual contact to create a connected, uninterrupted area of land disturbance. However, for purposes of this permit, contiguous areas of land disturbances include those areas of land disturbances solely separated by drilling and boring activities, waters of the State and adjacent State-mandated buffers, roadways and/or railways. In addition, contiguous areas of land disturbances include all areas of land disturbances at a sole roadway intersection and/or junction;

c. coverage under this permit is not required for discharges of storm water associated with infrastructure construction projects that consist solely of routine maintenance for the original purpose of the facility that is performed to maintain the original line and grade and the hydraulic capacity, as applicable. The permittee shall, as a minimum, implement and maintain best management practices, including sound conservation and engineering practices to prevent and minimize erosion and resultant sedimentation, which are consistent with, and no less stringent than, those practices contained in the "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity is being conducted. In order to be eligible for this exemption the project must comply with the following conditions: (1) no mass grading shall occur on the project, (2) the project shall be stabilized by the end of each day with temporary or permanent stabilization measures, (3) the project shall have a duration of less than 120 calendar days, and (4) final stabilization must be implemented at the end of the maintenance project; and

d. coverage under this permit is not required for discharge of storm water associated with railroad construction projects and emergency re-construction conducted pursuant to the Federal Railway Safety Act, the Interstate Commerce Commission Termination Act and which consist solely of routine maintenance for the original purpose of the facility that is performed to maintain the original line and grade and the hydraulic capacity, as applicable. The construction activity should, at a minimum, implement and maintain best management practices, including sound conservation and engineering practices to prevent and minimize erosion and resultant sedimentation consistent with the requirements of the Federal Railway Safety Act and applicable requirements of the Clean Water Act.

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

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

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

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

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

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

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

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

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

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

D. 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 NOI forms provided by the EPD (or an exact photocopy thereof), in order for storm water 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 storm water from construction sites under the terms and conditions of this permit fourteen (14) days after the date that the NOI is postmarked. 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.

E. Continuing Obligations of Permittees. Unless and until responsibility for a site covered under this permit is properly terminated according to the terms of the permit, the current permittee remains responsible for compliance with all applicable terms of the permit and for any violations of said terms.

Part II. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for Notification.

1. Except as provided in Part II.A.2., II.A.3. and II.A.5., Owners or Operators or both who intend to obtain coverage under this general permit for storm water discharges from a construction site (where construction activities begin after issuance of this permit), shall submit a Notice of Intent (NOI) in accordance with the requirements of this Part at least fourteen (14) days prior to the commencement of construction activities.

2. For sites where construction activities, subject to this permit, are occurring on the effective date of this permit, the Owner or Operator or both shall submit a re-issuance NOI for an existing construction site in accordance with the requirements of this part no later than ninety (90) days after the effective date of this permit. Failure to comply with this requirement shall constitute a violation of the Georgia Water Quality Control Act for each day until the Owner or Operator or both submit an initial NOI for a new construction site in accordance with Part II.A.1., comply with the special conditions in Part III., prepare and submit a new Erosion, Sedimentation and Pollution Control Plan in accordance with Part IV., and pay all applicable fees in accordance with Part II.D.

3. A discharger is not precluded from submitting an NOI in accordance with the requirements of this part after the dates provided in Parts II.A.1. or II.A.2. of this permit. In such instances, EPD may bring an enforcement action for failure to submit an NOI in a timely manner or for any unauthorized discharges of storm water associated with construction activity that have occurred on or after the dates specified in Part II.A.1. and II.A.2.

4. Where an Owner or an Operator or both changes after an NOI has been filed, the subsequent Owner or Operator or both must file a change of information NOI in accordance with this Part by the earlier to occur of (a) seven (7) days before beginning work at the facility/construction site; or (b) thirty (30) days from acquiring legal title to the facility/construction site. In the event a lender or other secured creditor acquires legal title to the facility/construction site, such party must file a change of information NOI in accordance with this Part by the earlier to occur of (a) seven (7) days before beginning work at the facility/construction site; or (b) thirty (30) days

from acquiring legal title to the facility/construction site. Stabilization and BMP installation and/or maintenance measures of a disturbed site, by the subsequent Owner or Operator, may occur in advance of filing a new NOI, without violation of this permit. Failure to comply with this requirement shall constitute a violation of the Georgia Water Quality Control Act for each day until the Owner or Operator or both submit an initial NOI for a new construction site in accordance with Part II.A.1., comply with the special conditions in Part III., prepare and submit a new Erosion, Sedimentation and Pollution Control Plan in accordance with Part IV., and pay all applicable fees in accordance with Part II.D.

5. For sites where construction activities will result in land disturbance equal to or greater than one (1) acre that are required as a result of storm- or emergency-related repair work, the Owner or Operator or both shall notify the appropriate EPD District Office within three (3) days of commencement of said construction activities. The Owner or Operator or both shall submit the NOI to the appropriate EPD District Office as soon as possible after the storm- or emergency-related event but no later than fourteen (14) days after the commencement of construction activities and shall submit the Plan in accordance with Part IV.A.6.

B. Notice of Intent Contents.

1. Primary Permittee. A single Notice of Intent for the primary permittee (i.e., one NOI signed by the Owner or the Operator or both) shall be signed in accordance with Part V.G.1. of this permit and shall include the following information:

- a. The project construction site name, GPS locations (decimal degrees) of the beginning and end of the infrastructure project, construction site location, city (if applicable) and county of the construction site for which the notification is submitted. The construction site location information must be sufficient to accurately locate the construction site;
- b. The Owner's legal name, address, telephone number and email address; and if available, the Operator's legal name, address, telephone number and email address; and if applicable, the Duly Authorized Representative's legal name and/or position name, telephone number and email address;
- c. The name, telephone number and email address of the individual to whom the permittee has assigned the responsibility for the daily operational control (i.e., construction superintendent, etc.) of the construction site;
- d. The name of the initial receiving water(s) or if unnamed, the first named blue line stream indicated on the appropriate USGS Topographic map, and when the discharge is through a municipal separate storm sewer system (MS4), the name of the local government operating the municipal separate storm sewer system and the name of the receiving water(s) which receives the discharge from the MS4, and the permittee's determination of whether the receiving water(s) supports warm water fisheries or is a trout stream as indicated in the Rules and Regulations for Water Quality Control, Chapter 391-3-6 at www.gaepd.org.
- e. The name of the receiving water(s) located within one (1) linear mile upstream of and within the same watershed as, any portion of an Impaired Stream Segment identified as "not supporting" its designated use(s) shown on Georgia's most current "305(b)/303(d) List Documents (Final)" for the criteria violated, "Bio F" (Impaired Fish Community) and/or "Bio M" (Impaired Macroinvertebrate Community), within Category 4a, 4b or 5, and the potential cause is either "NP" (nonpoint source) or "UR" (urban runoff) at www.gaepd.org/Documents/305b.html;
- f. An estimate of project start date and completion date, a schedule for the timing of the various construction activities, the number of acres of the site on which soil will be disturbed, and the surface water drainage area (if applicable). For projects that began on or before the effective date of this permit, the start date must be the actual start date of construction;

g. The following certification shall be signed in accordance with Part V.G.1. of this permit:

"I certify that to the best of my knowledge and belief, that the Erosion, Sedimentation and Pollution Control Plan (Plan) was prepared by a design professional, as defined by this permit, that has completed the appropriate certification course approved by the Georgia Soil and Water Conservation Commission in accordance with the provisions of O.C.G.A. 12-7-19 and that I will adhere to the Plan and comply with all permit requirements."

h. The type of construction activity category (from those listed on the NOI) conducted at the site;

i. The location of the receiving water(s) or outfall(s) or a combination of receiving water(s) and outfall(s) to be sampled on a map or drawing of appropriate scale. When it is determined by the primary permittee that some or all of the outfall(s) will be sampled, the applicable nephelometric turbidity unit (NTU) selected from Appendix B (i.e., based upon the size of the construction site and the surface water drainage area) must be shown for each outfall to be sampled.

j. For infrastructure projects disturbing more than 50 acres, which began after the effective date of this permit, include a single copy of the Erosion, Sedimentation and Pollution Control Plan;

k. NOIs may be submitted for separate phases of projects with a total planned disturbance greater than 5.0 acres, provided that each phase shall not be less than 1.0 acre. Phased NOIs shall include all documentation required by this permit for each phase, including fees; and

l. Any other information specified on the NOI in effect at the time of submittal.

C. Notice of Intent Submittal. NOIs are to be submitted by *return receipt certified mail* (or similar service) to both the appropriate EPD District Office according to the schedule in Appendix A of this permit and to the Local Issuing Authority in jurisdictions authorized to issue a Land Disturbance Activity permit for the permittee's construction site pursuant to O.C.G.A. 12-7-1, et seq. If an electronic submittal service is provided by EPD then the NOI may be submitted electronically; if required, a paper copy must also be submitted by return receipt certified mail or similar service. 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 alternative location from commencement of construction until such time as a Notice of Termination (NOT) is submitted in accordance with Part VI.

D. Fees. Any applicable fees shall be submitted by the **Primary Permittee** in accordance with Rules and Regulations for Water Quality Control (Rules) promulgated by the Board of Natural Resources. By submitting an NOI for coverage under this permit the primary permittee agrees to pay any fees required, now or in the future, by such Rules authorized under O.C.G.A. Section 12-5-23(a)(5)(A), which allows the Board of Natural Resources to establish a fee system. Fees may be assessed on land disturbing activity proposed to occur on or after the effective date of this permit and shall be paid in accordance with such Rules.

E. Renotification. Upon issuance of a new or different general permit for some or all of the storm water discharges covered by this permit, the permittee is required to notify the EPD of their intent to be covered by the new or different general permit. The permittee must submit a new Notice of Intent in accordance with the notification requirements of the new or different general permit.

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

A. Prohibition on Non-Storm Water Discharges.

1. Except as provided in Part I.C.2. and III.A.2., all discharges covered by this permit shall be composed entirely of storm water.
2. The following non-storm water discharges may be authorized by this permit provided the non-storm water component of the discharge is explicitly listed in the Erosion, Sedimentation and Pollution Control Plan and is in compliance with Part IV.D.7.; discharges from fire fighting activities; fire hydrant flushing; potable water sources including water line flushing; irrigation drainage; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials or pollutants.
3. This permit does not authorize the discharge of soaps or solvents used in vehicle and equipment washing.
4. This permit does not authorize the discharge of wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials.

B. Releases in Excess of Reportable Quantities.

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

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

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

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

1. If a Total Maximum Daily Load (TMDL) Implementation Plan for sediment has been finalized at least six (6) months prior to the permittee's submittal of the NOI, the Erosion, Sedimentation and Pollution Control Plan (Plan) must address any site-specific conditions or requirements included in the TMDL Implementation Plan that are applicable to the permittee's discharge(s) to the Impaired Stream Segment within the timeframe specified in the TMDL Implementation Plan. If the TMDL Implementation Plan establishes a specific numeric wasteload allocation that applies to an permittee's discharge(s) to the Impaired Stream Segment, then the permittee must

incorporate that allocation into the Erosion, Sedimentation and Pollution Control Plan and implement all necessary measures to meet that allocation. A list of TMDL Implementation Plans can be viewed on the EPD website, www.gaepd.org.

2. In order to ensure that the permittee's discharge(s) do not cause or contribute to a violation of State water quality standards, the Plan must include at least four (4) of the following best management practices (BMPs) for those areas of the site which discharge into or within one (1) linear mile upstream and within the same watershed as the Impaired Stream Segment:

- a. During all construction activities as defined in this permit, double the width of the 25 foot undisturbed vegetated buffer along all State waters requiring a buffer and the 50 foot undisturbed vegetated buffer along all State waters classified as "trout streams" requiring a buffer. During construction activities, EPD will not grant variances to any such buffers that are increased in width pursuant to this section.
- b. Increase all temporary sediment basins and retrofitted storm water management basins to provide sediment storage of at least 3600 cubic feet (134 cubic yards) per acre drained.
- c. Use baffles in all temporary sediment basins and retrofitted storm water management basins to at least double the conventional flow path length to the outlet structure.
- d. A large sign (minimum 4 feet x 8 feet) must be on the site on the actual start date of construction visible from a public roadway identifying the construction site, the permittee(s), and the contact person(s) and telephone number(s) until a NOT has been submitted.
- e. Use anionic polyacrylamide (PAM) and/or mulch to stabilize all areas left disturbed for more than seven (7) calendar days in accordance with Part III.D.1. of this permit.
- f. Conduct turbidity sampling after every rain event of 0.5 inch or greater within any 24 hour period, recognizing the exceptions specified in Part IV.D.6.d. of this permit.
- g. Comply with the applicable end-of-pipe turbidity effluent limit, without the "BMP defense" as provided for in O.C.G.A. 12-7-6(a)(1).
- h. Reduce the total planned site disturbance to less than 50% impervious surfaces (excluding any State-mandated buffer areas from such calculations). All calculations must be included on the Plan.
- i. Limit the amount of disturbed area at any one time to no greater than 25 acres or 50% of the total planned site, whichever is less. All calculations must be included on the Plan.
- j. Use "Dirt II" techniques available on the EPD website, www.gaepd.org (e.g., seep berms, sand filters, anionic PAM) to model and manage all construction storm water runoff (including sheet flow). All calculations must be included on the Plan.
- k. Add appropriate organic soil amendments (e.g., compost) and conduct pre- and post-construction soil sampling to a depth of 6 (six) inches to document improved levels of soil carbon after final stabilization of the construction site.
- l. Use mulch filter berms, in addition to a silt fence, on the site perimeter wherever construction storm water (including sheet flow) may be discharged. Mulch filter berms cannot be placed in waterways or areas of concentrated flow.
- m. Apply the appropriate Georgia Department of Transportation approved erosion control matting or blankets or bonded fiber matrix to all slopes steeper than 3:1. All graphical illustrations must be included on the Plan.

- n. Use appropriate erosion control matting or blankets instead of concrete in all construction storm water ditches and storm drainages designed for a 25 year, 24 hour rainfall event.
- o. Use anionic PAM under a passive dosing method (e.g., flocculant blocks) within all construction storm water ditches and storm drainages that feed into temporary sediment basins and retrofitted management basins.
- p. Install sod for a minimum 20 foot width (in lieu of seeding) after final grade has been achieved, along the site perimeter wherever construction storm water (including sheet flow) may be discharged.
- q. Conduct soil tests to identify and to implement site-specific fertilizer needs.
- r. Certified personnel shall conduct inspections at least once every seven (7) calendar days and within 24 hours of the end of the storm that is 0.5 inches rainfall or greater in accordance with Part IV.D.4.a.(3).. (a) – (c) of this permit.
- s. Apply the appropriate compost blankets (minimum depth 1.5 inches) to protect soil surfaces until vegetation is established during the final stabilization phase of the construction activity.
- t. Use alternative BMPs whose performance has been documented to be superior to conventional BMPs as certified by a Design Professional (unless disapproved by EPD or the State Soil and Water Conservation Commission).
- u. Limit the total planned site disturbance to less than 15% impervious surfaces (excluding any State-mandated buffer areas from such calculations). All calculations must be included on the Plan.

D. Management Practices and Permit Violations.

1. Best management practices, as set forth in this permit, are required for all construction activities, and must be implemented in accordance with the design specifications contained in the "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted to prevent or reduce the pollution of waters of Georgia. Proper design, installation, and maintenance of best management practices shall constitute a complete defense to any action by the Director or to any other allegation of noncompliance with Part III.D.3. and Part III.D.4.

2. Except as required to install the initial sediment storage requirements and perimeter control BMPs as described in Part IV.D.3., the initial sediment storage requirements and perimeter control BMPs must be installed and implemented prior to conducting any other construction activities (e.g., clearing, grubbing and grading) within the construction site or when applicable, within phased sub-parts or segments of the construction site. Failure to comply shall constitute a violation of this permit for each day on which construction activities occur. The design professional who prepared the Plan must inspect the initial sediment storage requirements and perimeter control BMPs in accordance with Part IV.A.5. within seven (7) days after installation.

3. Failure to properly design, install, or maintain best management practices shall constitute a violation of this permit for each day on which such failure occurs. BMP maintenance as a result of the permittee's routine inspections shall not be considered a violation for the purposes of this paragraph. If during the course of the permittee's routine inspection BMP failures are observed which have resulted in sediment deposition into waters of the State, the permittee shall correct the BMP failures and shall submit a summary of the violations to EPD in accordance with Part V.A.2. of this permit.

4. A discharge of storm water runoff from disturbed areas where best management practices have not been properly designed, installed, and maintained shall constitute a separate violation for each day on which such discharge results in the turbidity of receiving water(s) being increased by more than ten (10) nephelometric

turbidity units for waters classified as trout streams or more than twenty-five (25) nephelometric turbidity units for waters supporting warm water fisheries, regardless of a permittee's certification under Part II.B.1.i.

5. When the permittee has elected to sample outfall(s), the discharge of storm water runoff from disturbed areas where best management practices have not been properly designed, installed, and maintained shall constitute a separate violation for each day on which such condition results in the turbidity of the discharge exceeding the value selected from Appendix B applicable to the construction site. As set forth therein, the nephelometric turbidity unit (NTU) value shall be selected from Appendix B based upon the size of the construction site, the surface water drainage area and whether the receiving water(s) supports warm water fisheries or is a trout stream as indicated in the Rules and Regulations for Water Quality Control, Chapter 391-3-6 at www.gaepd.org.

Part IV. EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN

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

"I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-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 100002."

The Plan shall include any additional certifications regarding the design professional's site visit in accordance with the Rules for Erosion and Sedimentation Control promulgated by the Board of Natural Resources;

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

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

- (1) public drinking water system reservoirs,
- (2) fences,
- (3) stream crossings for water lines and sewer lines, provided that the stream crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, and native riparian vegetation is re-established in any bare or disturbed areas within the buffer
- (4) stream crossings for any utility lines of any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission or distribution of power, provided that: (a) the stream crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, (b) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (c) the entity is not a secondary permittee for a project located within a common development or sale under this permit,;
- (5) stream crossings for aerial utility lines, provided that: (a) the new utility line right-of-way width does not exceed 200 linear feet, (b) utility lines are routed and constructed so as to minimize the number of stream crossings and disturbances to the buffer, (c) only trees and tree debris are removed from within the buffer resulting in only minor soil erosion (i.e., disturbance to underlying vegetation is minimized), and (d) native riparian vegetation is re-established in any bare or disturbed areas within the buffer. The Plan shall include a description of the stream crossings with details of the buffer disturbance including area and length of buffer disturbance, estimated length of time of buffer disturbance, and justification;
- (6) right-of-way posts, guy-wires, anchors, survey markers and the replacement or maintenance of existing utility structures within the current right-of-way undertaken or financed in whole or in part by the Department of Transportation, the Georgia Highway Authority or the State Road and Tollway Authority or undertaken by any county or municipality, provided that: (a) the area of land disturbance does not exceed 100 square feet per structure, (b) the area of buffer vegetation to be cut (not grubbed) does not exceed 1,000 square feet per structure, (c) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (d) the entity is not a secondary permittee for a project located within a common development or sale under this permit; and
- (7) right-of-way posts, guy-wires, anchors, survey markers and the replacement or maintenance of existing utility structures within the current right-of-way undertaken by any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission or distribution of power, provided that: (a) the area of land disturbance does not exceed 100 square feet per structure, (b) the area of buffer vegetation to be cut (not grubbed) does not exceed 1,000 square feet per structure, (c) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (d) the entity is not a secondary permittee for a project located within a common development or sale under this permit.

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

- (1) public drinking water system reservoirs,
- (2) fences,
- (3) stream crossings for water lines and sewer lines, provided that the stream crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, and native riparian vegetation is re-established in any bare or disturbed areas within the buffer
- (4) stream crossings for any utility lines of any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission or distribution of power, provided that: (a) the stream crossings occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer, (b) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (c) the entity is not a secondary permittee for a project located within a common development or sale under this permit,
- (5) stream crossings for aerial utility lines, provided that: (a) the new utility line right-of-way width does not exceed 200 linear feet, (b) utility lines are routed and constructed so as to minimize the number of stream crossings and disturbances to the buffer, (c) only trees and tree debris are removed from within the buffer resulting in only minor soil erosion (i.e., disturbance to underlying vegetation is minimized), and (d) native riparian vegetation is re-established in any bare or disturbed areas within the buffer. The Plan shall include a description of the stream crossings with details of the buffer disturbance including area and length of buffer disturbance, estimated length of time of buffer disturbance, and justification; and
- (6) right-of-way posts, guy-wires, anchors, survey markers and the replacement or maintenance of existing utility structures within the right-of-way undertaken or financed in whole or in part by the Department of Transportation, the Georgia Highway Authority or the State Road and Tollway Authority or undertaken by any county or municipality, provided that: (a) the area of land disturbance does not exceed 100 square feet per structure, (b) the area of buffer vegetation to be cut (not grubbed) does not exceed 1,000 square feet per structure, (c) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (d) the entity is not a secondary permittee for a project located within a common development or sale under this permit; and
- (7) right-of-way posts, guy-wires, anchors, survey markers and the replacement or maintenance of existing utility structures within the current right-of-way undertaken by any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in Code Section 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission or distribution of power, provided that: (a) the area of land disturbance does not exceed 100 square feet per structure, (b) the area of buffer vegetation to be cut (not grubbed) does not exceed 1,000 square feet per structure, (c) native riparian vegetation is re-established in any bare or disturbed areas within the buffer and (d) the entity is not a secondary permittee for a project located within a common development or sale under this permit.

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

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

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

A. Deadlines for Plan Preparation and Compliance.

1. Except as provided in Part IV.A.2. and Part IV.A.6., the Erosion, Sedimentation and Pollution Control Plan shall be completed prior to submitting the NOI and prior to conducting any construction activity by any permittee.

2. For construction activities that began on or before the effective date of this permit and were subject to the regulations under the previous permit, the permittee(s) shall continue to operate under the existing Plan.

3. For construction activities that begin after the effective date of this permit, the primary permittee shall be required to prepare the Plan for that phase of the infrastructure development that corresponds with the NOI being submitted and the primary permittee(s) shall implement the Plan on or before the day construction activities begin.

4. Additional Plan Submittals.

a. For all projects identified under Part I.C.1.b., in a jurisdiction where there is no certified Local Issuing Authority regulating that project, a single copy of the Plan must be submitted to the EPD Watershed Protection Branch and a second copy of the Plan must be submitted to the appropriate EPD District Office prior to or concurrent with the NOI submittal. The second copy of the Plan may be submitted to the appropriate EPD District Office as a Portable Document Format (PDF) file on CD-ROM or other storage device. The EPD Watershed Protection Branch will review Plans for deficiencies using the applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted

b. For sites that are equal to or greater than 50 acres of disturbed area, regardless of the existence of a certified Local Issuing Authority in the jurisdiction, one of the following submissions is also required:

- (i) for all projects which begin after the effective date of this permit a single copy of the NOI and a single copy of the Plan shall be submitted to the appropriate EPD District Office. This copy of the Plan may be submitted to the appropriate EPD District Office as a Portable Document Format (PDF) file on CD-ROM or other storage device.
- (ii) for all projects which began on or before the effective date of this permit single copy of the NOI and a single copy of the Plan, if amended, shall be submitted to the appropriate EPD District Office. This copy of the Plan may be submitted to the appropriate EPD District Office as a Portable Document Format (PDF) file on CD-ROM or other storage device.

c. For all projects where the construction activity as indicated on the existing NOI has changed, the amended Plans must be submitted in accordance with Part IV.A.4.a. In addition, the permittee must file a change of information NOI in accordance with Part II.

5. For infrastructure projects that begin construction activity after the effective date of this permit, the primary permittee must retain the design professional who prepared the Erosion, Sedimentation and Pollution Control Plan, or an alternative design professional approved by EPD in writing, to inspect the installation of the initial sediment storage requirements and perimeter control BMPs within seven (7) days after installation. Alternatively, for linear infrastructure projects, the primary permittee must retain the design professional who prepared the Erosion, Sedimentation and Pollution Control Plan, or an alternative design professional approved by EPD in writing, to inspect (a) the installation of the sediment storage requirements and perimeter control BMPs for the "initial segment" of the linear infrastructure project and (b) all sediment basins within the entire linear infrastructure project within seven (7) days after installation. For the purposes of the specific requirements in Part IV.A.5., the disturbed acreage of the "initial segment" of a linear infrastructure project must be equal to or greater than 10% of the total estimated disturbed acreage for the linear infrastructure project but not less than one (1) acre. The

design professional shall determine if these BMPs have been installed and are being maintained as designed. The design professional shall report the results of the inspection to the primary permittee within seven (7) days and the permittee must correct all deficiencies within two (2) business days of receipt of the inspection report from the design professional unless weather related site conditions are such that additional time is required.

6. For storm- or emergency-related repair work, the permittee shall implement appropriate BMPs and certified personnel (provided by the primary permittee) shall inspect 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. If the storm- or emergency-related repair work will not be completed within sixty (60) days of commencement of construction activity, a single copy of the Plan shall be submitted to EPD and the permittee shall comply with all requirements of this permit on the sixty-first (61st) day.

B. Signature and Plan Review.

1. The Erosion, Sedimentation and Pollution Control Plan shall be signed in accordance with Part IV., and be retained on the site (or, if not possible, at a readily accessible location) which generates the storm water discharge in accordance with Part IV.F. of this permit.

2. The primary permittee shall make Plans available upon request to the EPD; to designated officials of the local government reviewing soil erosion and sedimentation control plans, grading plans, or storm water management plans; or in the case of a storm water discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the local government operating the municipal separate storm sewer system.

3. EPD may notify the primary permittee at any time that the Plan does not meet one or more of the minimum requirements of this Part. Within seven (7) days of such notification (or as otherwise provided by EPD), the primary permittee shall make the required changes to the Plan and shall submit to EPD either the amended Plan or a written certification that the requested changes have been made.

C. Keeping Plans Current. The primary permittee(s) shall amend their Plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on BMPs with a hydraulic component (i.e., those BMPs where the design is based upon rainfall intensity, duration and return frequency of storms) or if the Plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified under Part IV.D.3. of this permit. Amendments to the Plan must be certified by a design professional as provided in this permit.

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

1. Checklist. Each plan shall include a completed Erosion, Sedimentation and Pollution Control Plan Checklist established by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted and amendments to the applicable Checklist as approved by the State Soil and Water Conservation Commission up until the date of the NOI submittal. The applicable checklists are available on the EPD website, www.gaepd.org.

2. Site description. Each site-specific Plan shall provide a description of pollutant sources and other information as indicated:

- a. A description of the nature of the construction activity;

b. A detailed description and chart or timeline of the intended sequence of major activities which disturb soils for major portions of the site (i.e., initial sediment storage requirements and perimeter BMPs, clearing and grubbing activities, excavation activities, grading activities, infrastructure activities, immediate and final stabilization activities);

c. Estimates of the total area of the site and the total area of the site that is expected to be disturbed by excavation, grading, or other activities;

d. An estimate of the runoff coefficient or peak discharge flow of the site prior to the construction activities and after construction activities are completed and existing data describing the soil or the quality of any discharge from the site;

e. A site-specific map or series of drawings indicating drainage patterns and approximate slopes anticipated after major grading activities, areas of soil disturbance, an outline of areas which are not to be disturbed, the location of major structural and nonstructural controls identified in the Plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands), and locations where storm water is discharged to a surface water; and

f. Identify the receiving water(s) and areal extent of wetland acreage at the site;

3. Controls. Each Plan shall include a description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial sediment storage requirements and perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the Plan may combine all of the BMPs into a single phase Plan. The Plan will include appropriate staging and access requirements for construction equipment. The Plan will clearly describe for each major activity identified in Part IV.D.2.b., appropriate control measures and the timing during the construction process that the measures will be implemented. The primary permittee is encouraged to utilize the document, Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites, EPA 833-R-060-04, May 2007 (www.epa.gov/npdes/pubs/sw_swppp_guide.pdf), when preparing the Plan. The description and implementation of controls shall address the following minimum components:

a. Erosion and sediment controls.

(1). Stabilization measures. A description of interim and permanent stabilization measures, including site-specific scheduling of the implementation of the measures. Site plans should ensure that existing vegetation is preserved and that disturbed portions of the site are stabilized. Stabilization measures may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included in the Plan. Except as provided in paragraphs IV.D.3.(a).(1).(a). and (b). below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

(a). Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently cease is precluded by snow cover or other adverse weather conditions, stabilization measures shall be initiated as soon as practicable.

(b). Where construction activity will resume on a portion of the site within 21 days from when activities ceased, (e.g., the total time period that construction activity is temporarily

ceased is less than 21 days) then stabilization measures do not have to be initiated on that portion of site by the 14th day after construction activity temporarily ceased.

(2). Structural practices. A description of structural practices to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable. Such practices may include silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. Structural practices should be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 of the CWA.

(3). Sediment basins. For common drainage locations a temporary (or permanent) sediment basin providing at least 1800 cubic feet (67 cubic yards) of storage per acre drained, or equivalent control measures, shall be provided until final stabilization of the site. The 1800 cubic feet (67 cubic yards) of storage area per acre drained does not apply to flows from off-site areas and flows from on-site areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin. For drainage locations where a temporary sediment basin providing at least 1800 cubic feet (67 cubic yards) of storage per acre drained, or equivalent controls is not attainable, sediment traps, silt fences, wood mulch berms or equivalent sediment controls are required for all side slope and down slope boundaries of the construction area. When the sediment fills to a volume at most of 22 cubic yards per acre for each acre of drainage area, the sediment shall be removed to restore the original design volume. This sediment must be properly disposed. Sediment basins may not be feasible at some construction projects. Careful consideration must be used to determine when a sediment basin cannot be used and/or when 67 cubic yards of storage per acre drained is not attainable and a written justification explaining the decision(s) must be included in the Plan. Perennial and intermittent waters of the State shall not be used for temporary or permanent sediment detention.

When discharging from sediment basins and impoundments, permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the Plan. Outlet structures that withdraw water from the surface are temporary BMPs and must be removed prior to submitting Notice of Termination. For construction activities where the NOI was submitted prior to January 1, 2014, this requirement of the permit is not applicable.

(4). Alternative BMPs. The use of alternative BMPs whose performance has been documented to be equivalent or superior to conventional BMPs as certified by a Design Professional may be allowed (unless disapproved by EPD or the State Soil and Water Conservation Commission).

(5). High performance BMPs. The use of infiltration trenches, seep berms, sand filters, dry wells, polyacrylamide, etc. for minimizing point source discharges except for large rainfall events is encouraged.

b. Storm water management. A description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. Structural measures should be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 of the CWA. This permit only addresses the installation of storm water management measures, and not the ultimate operation and maintenance of such structures after the construction activities have been completed and the site has undergone final stabilization. Operators are only responsible for the installation and maintenance of storm water management measures prior to final stabilization of the site, and are not responsible for maintenance after storm water discharges associated with construction activity have been eliminated from the site.

(1). Such practices may include: storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff on-site; and sequential systems (which combine several practices). The Plan shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels.

(2). Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel for the purpose of providing a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., no significant changes in the hydrological regime of the receiving water(s)).

(3). Installation and use of Green Infrastructure approaches and practices that mimic natural processes and direct storm water where it can be infiltrated, evapotranspired or re-used with significant utilization of soils and vegetation rather than traditional hardscape collection, conveyance and storage structures are encouraged to the maximum extent practicable. Green Infrastructure practices or approaches include permeable or porous paving, vegetated swales instead of curbs and gutters, green roofs, tree boxes, rain gardens, constructed wetlands, infiltration planters, vegetated median strips, protection and enhancement of riparian buffers and floodplains, and the overall reduction in site disturbance and impervious area. Design information on Green Infrastructure practices and other ways to manage storm water can be found in the Georgia Stormwater Management Manual (www.georgiastormwater.com) and the Georgia Green Growth Guidelines (www.coastalgaadnr.org/cm/green/guide). Additional information on Green Infrastructure can be found at water.epa.gov/infrastructure/greeninfrastructure/index.cfm.

c. Other controls.

(1). Waste disposal. Locate waste collection areas away from streets, gutters, watercourses and storm drains. Waste collection areas, such as dumpsters, are often best located near construction site entrances to minimize traffic on disturbed soils. The Plan should include secondary containment around liquid waste collection areas to further minimize the likelihood of contaminated discharges. Solid materials, including building materials, shall not be discharged to waters of the State, except as authorized by a Section 404 permit.

(2). Off-site vehicle tracking of dirt, soils, and sediments and the generation of dust shall be minimized or eliminated to the maximum extent practical. The Plan shall include the best management practice to be implemented at the site or construction activity.

(3). Nothing in this permit relieves a permittee from any obligations to comply with all applicable State and/or local regulations of waste disposal, sanitary sewer, septic and petroleum storage systems.

(4). The Plan shall include best management practices for the remediation of all petroleum spills and leaks as appropriate.

(5). The Plan shall include best management practices for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of vehicles. Washout of the drum at the construction site is prohibited. Additional information about best management practices for concrete washout is available at www.epa.gov/nodes/pubs/concretewashout.pdf.

(6) All permittees are required to minimize the discharge of pollutants from dewatering trenches and excavations. Discharges are prohibited unless managed by appropriate controls.

4. Inspections.

a. Permittee requirements.

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

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

(3). Certified personnel (provided by the primary permittee) shall inspect the following at least once every fourteen (14) calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any Friday or on any non-working Saturday, non-working Sunday or any non-working Federal holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs first): (a) disturbed areas of the primary permittee's construction site ; (b) areas used by the primary permittee for storage of materials that are exposed to precipitation ; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the primary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, the permittee must comply with Part IV.D.4.a.(4). These inspections must be conducted until a Notice of Termination is submitted.

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

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

(6). A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial, intermediate or final), major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance with Part IV.D.4.a.(5). of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction project that has been phased has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall be readily

available by end of the second business day and/or working day and shall identify all incidents of best management practices that have not been properly installed and/or maintained as described in the Plan. Where the report does not identify any incidents, the inspection report shall contain a statement that the best management practices are in compliance with the Erosion, Sedimentation and Pollution Control Plan. The report shall be signed in accordance with Part V.G.2. of this permit.

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

6. Sampling Requirements. This permit requires the monitoring of nephelometric turbidity in receiving water(s) or outfalls in accordance with this permit. The following procedures constitute EPD's guidelines for sampling turbidity.

a. *Sampling Requirements* shall include the following:

(1) A USGS topographic map, a topographic map or a drawing (referred to as a topographic map) that is a scale equal to or more detailed than a 1:24000 map showing the location of the infrastructure 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 storm water is discharged and (b) the receiving water and/or outfall sampling locations for each representative stormwater outfall. When the permittee has chosen to use a USGS topographic map and the receiving water(s) is not shown on the USGS topographic map, the location of the receiving water(s) must be hand-drawn on the USGS topographic map from where the storm water(s) enters the receiving water(s) to the point where the receiving water(s) combines with the first blue line stream shown on the USGS topographic map;

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

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

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

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

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

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

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

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

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

c. Sampling Points.

(1). For construction activities the primary permittee must sample all perennial and intermittent streams and other water bodies shown on the USGS topographic map and all other field verified perennial and intermittent streams and other water bodies, or all outfalls into such streams and other water bodies, or a combination thereof. However, provided for in and in accordance with Part IV.D.6.c.(2). of this permit, primary permittees on an infrastructure construction project may sample the representative perennial and intermittent streams, other water bodies or outfalls, or a combination thereof. Samples taken for the purpose of compliance with this permit shall be representative of the monitored activity and representative of the water quality of the receiving water(s) and/or the storm water outfalls using the following minimum guidelines:

(a). The upstream sample for each receiving water(s) must be taken immediately upstream of the confluence of the first storm water discharge from the permitted activity (i.e., the discharge farthest upstream at the site) but downstream of any other storm water discharges not associated with the permitted activity. Where appropriate, several upstream samples from across the receiving water(s) may need to be taken and the arithmetic average of the turbidity of these samples used for the upstream turbidity value.

(b). The downstream sample for each receiving water(s) must be taken downstream of the confluence of the last storm water discharge from the permitted activity (i.e., the discharge farthest downstream at the site) but upstream of any other storm water discharge not associated with the permitted activity. Where appropriate, several downstream samples from across the receiving water(s) may need to be taken and the arithmetic average of the turbidity of these samples used for the downstream turbidity value.

(c). Ideally the samples should be taken from the horizontal and vertical center of the receiving water(s) or the storm water outfall channel(s).

(d). Care should be taken to avoid stirring the bottom sediments in the receiving water(s) or in the outfall storm water channel.

(e). The sampling container should be held so that the opening faces upstream.

(f). The samples should be kept free from floating debris.

(g). Permittees do not have to sample sheetflow that flows onto undisturbed natural areas or areas stabilized by the project. For purposes of this section, stabilized shall mean, for unpaved areas and areas not covered by permanent structures,, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in

planned landscaped areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and a seeding of target crop perennials appropriate for the region). For infrastructure construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use.

(h). All sampling pursuant to this permit must be done in such a way (including generally accepted sampling methods, locations, timing, and frequency) as to accurately reflect whether storm water runoff from the construction site is in compliance with the standard set forth in Parts III.D.3. or III.D.4., whichever is applicable.

(2). For infrastructure construction projects, the permittee is not required to sample a perennial or intermittent stream or other water bodies (or the associated outfall, if applicable) if the design professional preparing the Plan certifies that an increase in the turbidity of a specific identified receiving water to be sampled will be representative of the increase in the turbidity of a specific identified un-sampled receiving water. A written justification and detailed analysis shall be prepared by the design professional justifying such proposed sampling. A summary chart of the justification and analysis for the representative sampling must be included on the Plan. The justification and analysis shall include the location and description of the specified sampled and un-sampled receiving water and shall contain a detailed comparison and discussion of each such receiving water in the following areas:

(a). site land disturbances and characteristics;

(b). receiving water watershed sizes and characteristics; and

(c). site and watershed runoff characteristics utilizing the methods in Appendix A-1 (United States Department of Agriculture Soil Conservation Service's TR-55, Urban Hydrology for Small Watersheds) of the most recent version of the "Manual for Erosion and Sedimentation Control in Georgia" for the various precipitation events and any other such considerations necessary to show that the increase in the turbidity of a specific identified sampled receiving water will be representative of the increases in the turbidity of a specific identified un-sampled receiving waters.

(3). For infrastructure construction projects, when the permittee determines that some receiving water(s) will not be sampled due to representative sampling, the design professional making this determination and preparing the Plan must include and sign the following certification in the Plan:

"I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for the monitoring of: (a) all perennial and intermittent streams and other water bodies shown on the USGS topographic map and all other field verified perennial and intermittent streams and other water bodies, or (b) where any such specific identified perennial or intermittent stream and other water body is not proposed to be sampled, I have determined in my professional judgment, utilizing the factors required in the General NPDES Permit No. GAR 100002, that the increase in the turbidity of each specific identified sampled receiving water will be representative of the increase in the turbidity of a specific identified un-sampled receiving water."

(4). For infrastructure construction projects, if at any time during the life of the project a selected receiving water no longer represents another receiving water, then the permittee shall sample the latter receiving water until selection of an alternative representative receiving water.

(5). For infrastructure construction projects, if at any time during the life of the project a receiving water is determined not to be represented as certified in the Plan, the permittee shall sample that receiving water until a Notice of Termination is submitted or until the applicable phase is stabilized in accordance with this permit.

(6). For infrastructure construction projects, monitoring obligations shall cease for any phase of the project that has been stabilized in accordance with Part IV.D.6.c.(1).(g).

d. Sampling Frequency.

(1). The primary permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the permittee shall sample at the beginning of any storm water discharge to a monitored receiving water and/or from a monitored outfall location within forty-five (45) minutes or as soon as possible. .

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

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

(a). For each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a storm water discharge that occurs during normal business hours as defined in this permit. after all clearing and grubbing operations have been completed, but prior to completion of mass grading operations, in the drainage area of the location selected as the representative sampling location;

(b). In addition to (a) above, for each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a storm water discharge that occurs during normal business hours as defined in this permit 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 representative sampling location, whichever comes first;

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

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

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

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

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

E. Reporting.

1. The applicable permittees are required to submit the sampling results to the EPD at the address shown in Part II.C. by the fifteenth day of the month following the reporting period. Reporting periods are months during which samples are taken in accordance with this permit. Sampling results shall be in a clearly legible format. Upon written notification, EPD may require the applicable permittee to submit the sampling results on a more frequent basis. Sampling and analysis of any storm water discharge(s) or the receiving water(s) beyond the minimum frequency stated in this permit must be reported in a similar manner to the EPD. The sampling reports must be signed in accordance with Part V.G.2. Sampling reports must be submitted to EPD until such time as a NOT is submitted in accordance with Part VI.

2. All sampling reports shall include the following information:

- a. The rainfall amount, date, exact place and time of sampling or measurements;
- b. The name(s) of the certified personnel who performed the sampling and measurements;
- c. The date(s) analyses were performed;
- d. The time(s) analyses were initiated;
- e. The name(s) of the certified personnel who performed the analyses;
- f. References and written procedures, when available, for the analytical techniques or methods used;
- g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results;
- h. Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU;" and
- i. Certification statement that sampling was conducted as per the Plan.

3.. All written correspondence required by this permit shall be submitted by return receipt certified mail (or similar service) to the appropriate District Office of the EPD according to the schedule in Appendix A of this permit. The permittee shall retain a copy of the proof of submittal at the construction site or the proof of submittal shall be readily available at a designated location from commencement of construction until such time as a NOT is submitted in accordance with Part VI. If an electronic submittal is provided by EPD then the written correspondence may be submitted electronically; if required, a paper copy must also be submitted by return receipt certified mail or similar service.

F. Retention of Records

1. The primary permittee shall retain the following records at the construction site or the records shall be readily available at a designated alternate location from commencement of construction until such time as a NOT is submitted in accordance with Part VI:

- a. A copy of all Notices of Intent submitted to EPD;
- b. A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit;
- c. The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5. of this permit;
- d. A copy of all sampling information, results, and reports required by this permit;
- e. A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit;

- f. A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit; and
- g. Daily rainfall information collected in accordance with Part IV.D.4.a.(2). of this permit.

2. Copies of all Notices of Intent, Notices of Termination, inspection reports, sampling reports (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), or other reports requested by the EPD, Erosion, Sedimentation and Pollution Control Plans, records of all data used to complete the Notice of Intent to be covered by this permit and all other records required by this permit shall be retained by the permittee who either produced or used it for a period of at least three years from the date that the NOT is submitted in accordance with Part VI of this permit. These records must be maintained at the permittee's primary place of business 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.

Part V. STANDARD PERMIT CONDITIONS

A. Duty to Comply.

1. Each permittee must comply with all applicable conditions of this permit. Any permit noncompliance constitutes a violation of the Georgia Water Quality Control Act (O.C.G.A. §§12-5-20, et seq.) and is grounds for enforcement action; for permit termination; or for denial of a permit renewal application. Failure of a primary permittee to comply with any applicable term or condition of this permit shall not relieve any other primary permittee from compliance with their applicable terms and conditions of this permit.

2. Each permittee must document in their records any and all known violations of this permit at his/her site within seven (7) days of his/her knowledge of the violation. A summary of these violations must be submitted to EPD by the permittee at the addresses shown in Part II.C. within fourteen (14) days of his/her discovery of the violation.

3. Penalties for violations of permit conditions. The Federal Clean Water Act and the Georgia Water Quality Control Act (O.C.G.A. §§12-5-20, et seq.) provide that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine or by imprisonment, or by both. The Federal Clean Water Act and the Georgia Water Quality Control Act also provide procedures for imposing civil penalties which may be levied for violations of the Acts, any permit condition or limitation established pursuant to the Acts, or negligently or intentionally failing or refusing to comply with any final or emergency order of the Director.

B. Continuation of the Expired General Permit. This permit expires on the date shown on the cover page of this permit. However, an expired general permit continues in force and effect until a new general permit is issued, final and effective.

C. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Duty to Provide Information. The permittee shall furnish to the Director; a State agency approving soil erosion and sedimentation control plans, grading plans, or storm water management plans; or in the case of a storm water discharge associated with construction activity which discharges through a municipal separate storm

sewer system with an NPDES permit, to the local government operating the municipal separate storm sewer system, any information which is requested to determine compliance with this permit. In the case of information submitted to the EPD such information shall be considered public information and available under the Georgia Open Records Act.

F. Other Information. When the permittee becomes aware that he/she failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report required to be submitted to the EPD, the permittee shall promptly submit such facts or information.

G. Signatory Requirements. All Notices of Intent, Notice of Terminations, inspection reports, sampling reports, or other reports requested by the EPD shall be signed as follows:

1. All Notices of Intent and Notices of Termination shall be signed as follows:

a. For a corporation: by a responsible corporate officer. For the purpose of this permit, a responsible corporate officer means: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public facility: by either a principal executive officer or ranking elected official; and

d. Changes to authorization. If an authorization under Part II.B. is no longer accurate, a change of information NOI satisfying the requirements of Part II.B. must be submitted to the EPD prior to or together with any inspection reports, sampling reports, or other reports requested by the EPD to be signed by a person described above or by a duly authorized representative of that person.

2. All inspection reports, sampling reports, or other reports requested by the EPD shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person(s) described above and submitted to the EPD;

b. The authorization specifies either an individual or a position having responsibility for specified operation(s) of the regulated facility or activity, such as the position of manager, Operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may be either a named individual or any individual occupying a named position); and

c. *Certification.* Reports delineated in Part V.G.2. shall be signed by the permittee or duly authorized representative and shall make the following certification:

"I certify under penalty of law that this report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who

manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the Georgia Hazardous Waste Management Act, O.C.G.A. § 12-8-60, et seq. or under Chapter 14 of Title 12 of the Official Code of Georgia Annotated; nor is the Operator relieved from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act or Section 106 of Comprehensive Environmental Response Compensation And Liability Act.

I. Property Rights. The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

J. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Other Applicable Environmental Regulations and Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act. Nothing in this permit, unless explicitly stated, exempts the permittee from compliance with other applicable local, state and federal ordinances, rules, regulations, and laws. Furthermore, it is not a defense to compliance with this permit that a local government authority has approved the permittee's Erosion, Sedimentation and Pollution Control Plan or failed to take enforcement action against the permittee for violations of the Erosion, Sedimentation and Pollution Control Plan, or other provisions of this permit.

No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

L. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the required plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

M. Inspection and Entry. The permittee shall allow the Director or an authorized representative of EPA or EPD or, in the case of a construction site which discharges through a municipal separate storm sewer system with an NPDES permit, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and
3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

N. Permit Actions. This permit may be revoked and reissued, or terminated for cause including but not limited to changes in the law or regulations. The filing of a request by the permittee for termination of the permit, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

Part VI. TERMINATION OF COVERAGE

A. Notice of Termination Eligibility. Notice of Termination signed in accordance with Part V.G.1. of this permit must be submitted:

1. For infrastructure construction projects, by the permittee where the entire project has undergone final stabilization, all storm water discharges associated with construction activity that are authorized by this permit have ceased, the site is in compliance with this permit and all temporary BMPs have been removed. The permittee may also submit a Notice of Termination for each phase of the infrastructure project, not to exceed four (4) phases, that have undergone final stabilization and all storm water discharges associated with construction activity for that phase authorized by this permit have ceased. Except for the final phase, the disturbed acreage for each phase must be equal to or greater than 25% of the total estimated disturbed acreage for the infrastructure project. For the final phase, the disturbed acreage for the final phase must be equal to or greater than 10% of the total estimated disturbed acreage for the infrastructure project. The Notice of Termination for each phase of the infrastructure project must include the GPS locations (decimal degrees) of the beginning and end of each phase and if applicable, a map identifying significant landmarks.

2. By the Owner or Operator or both when the Owner or Operator or both of the site changes. Where storm water discharges will continue after the identity of the Owner or Operator or both changes, the permittee must, prior to filing the Notice of Termination, notify any subsequent Owner or Operator or both of the permitted site as to the requirements of this permit.

B. Notice of Termination Contents:

1. The NPDES permit number for the storm water discharge associated with construction activity identified by the Notice of Termination (i.e., GAR100002 – Infrastructure);

2. The project construction site name, site location, GPS locations (decimal degrees) of the beginning and end of the infrastructure construction project or if applicable, of each phase in accordance with Part VI.A.1., construction site location and if applicable, a map identifying significant landmarks, city (if applicable) and county of the site for which the notification is submitted. This information must correspond to the similar information as provided on the NOI. The construction site location information must be sufficient to accurately locate the construction site;

3. The owner's legal name, address, telephone number and email address and the operator's legal name, address, telephone and email address;

4. The name of the receiving water(s), and when the discharge is through a municipal separate storm sewer system (MS4), the name of the local government operating the municipal separate storm sewer system and the name of the receiving water(s) which receives the discharge from the MS4;

5. Copies of all sampling reports and/or a written justification why sampling was not conducted. Copies of all sampling reports may be submitted as a Portable Document Format (PDF) file on CD-ROM or other storage device;

6. Copy of the permittee's most current Notice of Intent;

7. Any other information specified on the NOT in effect at the time of submittal; and

8. The following certification signed in accordance with Part V.G.1. (signatory requirements):

"I certify under penalty of law that either: (a) all storm water discharges associated with construction activity authorized by this permit have ceased, the site is in compliance with this permit and all temporary BMPs have been removed or ; (b) I am no longer an Owner or Operator at the construction site and a new Owner or Operator has assumed operational control of the permitted construction site where I previously had ownership or operational control; and that discharging pollutants in storm water associated with construction activity to waters of Georgia is unlawful under the Georgia Water Quality Control Act and the Clean Water Act where the discharge is not authorized by a NPDES permit."

C. Notice of Termination Submittal. All Notices of Termination by this permit shall be submitted by ***return receipt certified mail*** (or similar service) to the appropriate EPD District Office according to the schedule in Appendix A of this permit and to the Local Issuing Authority in jurisdictions authorized to issue a Land Disturbance Activity permit for the permittee's construction site pursuant to O.C.G.A. 12-7-1, et seq. If an electronic submittal service is provided by the EPD then the Notice of Termination may be submitted electronically; if required, a paper copy must also be submitted by return receipt certified mail or similar service.

APPENDIX A

EPD DISTRICT OFFICES

All required correspondence, including but not limited to the Notice of Intent, Notice of Terminations, certifications, Erosion, Sedimentation and Pollution Control Plans and any other reports, shall be sent to the following District Offices of EPD.

A. For facilities/construction sites located in the following counties: Bibb, Bleckley, Chattahoochee, Crawford, Dooly, Harris, Houston, Jones, Lamar, Macon, Marion, Meriwether, Monroe, Muscogee, Peach, Pike, Pulaski, Schley, Talbot, Taylor, Troup, Twiggs, Upson

Information shall be submitted to: West Central District Office
Georgia Environmental Protection Division
2640 Shurling Drive
Macon, GA 31211-3576
(478) 751-6612

B. For facilities/construction sites located in the following counties: Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Johnson, Laurens, McDuffie, Montgomery, Richmond, Screven, Treutlen, Warren, Washington, Wheeler, Wilkinson

Information shall be submitted to: East Central District Office
Georgia Environmental Protection Division
3525 Walton Way Extension
Augusta, GA 30909-1821
(706) 667-4343

C. For facilities/construction sites located in the following counties: Baldwin, Banks, Barrow, Butts, Clarke, Elbert, Franklin, Greene, Hall, Hancock, Hart, Jackson, Jasper, Lincoln, Madison, Morgan, Newton, Oconee, Oglethorpe, Putnam, Stephens, Taliaferro, Walton, Wilkes

Information shall be submitted to: Northeast District Office
Georgia Environmental Protection Division
745 Gaines School Road
Athens, GA 30605-3129
(706) 369-6376

D. For facilities/construction sites located in the following counties: Carroll, Clayton, Coweta, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Heard, Henry, Rockdale, Spalding

Information shall be submitted to: Mountain District - Atlanta Satellite
Georgia Environmental Protection Division
4244 International Parkway, Suite 114
Atlanta, GA 30354-3906
(404) 362-2671

E. For facilities/construction sites located in the following counties: Bartow, Catoosa, Chattooga, Cherokee, Cobb, Dade, Dawson, Fannin, Floyd, Forsyth, Gilmer, Gordon, Habersham, Haralson, Lumpkin, Murray, Paulding, Pickens, Polk, Rabun, Towns, Union, Walker, White, Whitfield

Information shall be submitted to: Mountain District - Cartersville Office
Georgia Environmental Protection Division
P.O. Box 3250
Cartersville, GA 30120-1705
(770) 387-4900

F. For facilities/construction sites located in the following counties: Appling, Atkinson, Bacon, Brantley, Bryan, Bulloch, Camden, Candler, Charlton, Chatham, Clinch, Coffee, Effingham, Evans, Glynn, Jeff Davis, Liberty, Long, McIntosh, Pierce, Tattnall, Toombs, Ware, Wayne

Information shall be submitted to: Coastal District - Brunswick Office
Georgia Environmental Protection Division
400 Commerce Center Drive
Brunswick, GA 31523-8251
(912) 264-7284

G. For facilities/construction sites located in the following counties: Baker, Ben Hill, Berrien, Brooks, Calhoun, Clay, Colquitt, Cook, Crisp, Decatur, Dodge, Dougherty, Early, Echols, Grady, Irwin, Lanier, Lee, Lowndes, Miller, Mitchell, Quitman, Randolph, Seminole, Stewart, Sumter, Telfair, Terrell, Thomas, Tift, Turner, Webster, Wilcox, Worth

Information shall be submitted to: Southwest District Office
Georgia Environmental Protection Division
2024 Newton Road
Albany, GA 31701-3576
(912) 430-4144

H. For facilities/construction sites required to submit Plans required under Part IV.A.4.a. of this Permit:

Information shall be submitted to: Watershed Protection Branch
Environmental Protection Division
4220 International Parkway, Suite 101
Atlanta, Georgia 30354
(404) 675-6240

APPENDIX B

Nephelometric Turbidity Unit (NTU) TABLES

Trout Streams

		Surface Water Drainage Area, square miles							
		0-4.99	5-9.99	10-24.99	25-49.99	50-99.99	100-249.99	250-499.99	500+
Site Size, acres	1.00-10	25	50	75	150	300	500	500	500
	10.01-25	25	25	50	75	150	200	500	500
	25.01-50	25	25	25	50	75	100	300	500
	50.01-100	20	25	25	35	59	75	150	300
	100.01+	20	20	25	25	25	50	60	100

Waters Supporting Warm Water Fisheries

		Surface Water Drainage Area, square miles							
		0-4.99	5-9.99	10-24.99	25-49.99	50-99.99	100-249.99	250-499.99	500+
Site Size, acres	1.00-10	75	150	200	400	750	750	750	750
	10.01-25	50	100	100	200	300	500	750	750
	25.01-50	50	50	100	100	200	300	750	750
	50.01-100	50	50	50	100	100	150	300	600
	100.01+	50	50	50	50	50	100	200	100

To use these tables, select the size (acres) of the construction site. Then, select the surface water drainage area (square miles). The NTU matrix value arrived at from the above tables is the one to use in Part III.D.4.

Example 1: For a site size of 12.5 acres and a "trout stream" drainage area of 37.5 square miles, the NTU value to use in Part III.D.4. is 75 NTU.

Example 2: For a site size of 51.7 acres and "waters supporting warm water fisheries" drainage area of 72 square miles, the NTU value to use in Part III.D.4. is 100 NTU.



For Official Use Only

NOTICE OF INTENT

VERSION 2013

State of Georgia
Department of Natural Resources
Environmental Protection Division

For Coverage Under the 2013 Re-Issuance of the NPDES General Permits
To Discharge Storm Water Associated With Construction Activity

THESE PERMITS EXPIRE JULY 31, 2018

PRIMARY PERMITTEE

NOTICE OF INTENT (Check Only One):

Initial Notification - (New Facility/Construction Site)

Re-Issuance Notification – (Existing Facility/Construction Site and Postmarked Before December 24, 2013)

Change of Information - (Existing Facility/Construction Site, if the NOI was submitted after September 24, 2013)

COVERAGE DESIRED (Check Only One):

GAR100001 - Stand Alone

GAR100002 – Infrastructure

GAR100003 - Common Development

I. SITE/OWNER/OPERATOR INFORMATION

Project Construction Site Name: _____

GPS Location of Construction Exit of Stand Alone or Common Development Project (*decimal degrees*):

Latitude _____ Longitude _____

GPS Locations of the Beginning and End of the Infrastructure Project (*decimal degrees*):

Latitude _____ Longitude _____

Latitude _____ Longitude _____

Construction Site Location (*e.g., street address*): _____

City (applicable if the site is located within the jurisdictional boundaries of the municipality): _____

County or Counties: _____

Common Development Name (applicable only to General NPDES Permit No. GAR100003): _____

Owner's Name: _____ Phone: _____

Email Address: _____

Address: _____ City: _____ State: _____ Zip Code: _____

Duly Authorized Representative(s) (optional): _____ Phone: _____

Email Address: _____

Operator's Name (optional): _____ Phone: _____

Email Address: _____

Address : _____ City: _____ State: _____ Zip Code: _____

Facility/Construction Site Contact: _____ Phone: _____

Email Address: _____

II. CONSTRUCTION SITE ACTIVITY INFORMATION

Start Date (month/date/year): ____ / ____ / ____ Completion Date (month/date/year): ____ / ____ / ____

Estimated Disturbed Acreage (acres, to the nearest tenth (1/10th) acre): _____
(Disturbed by the Primary Permittee and all Secondary Permittees)

Calculated Fees (applicable only to new facilities/construction sites): _____

Number of Secondary Permittees (applicable only to General NPDES Permit No. GAR100003): _____

Does the Erosion, Sedimentation and Pollution Control Plan (Plan) provide for disturbing more than 50 acres at any one time for each individual permittee (i.e., primary, secondary or tertiary permittees), or more than 50 contiguous acres total at any one time ? (Check Only One):

YES - ____ / ____ / ____ Date of EPD Written Authorization (month/date/year)

NO

N/A - if the Initial NOI was submitted prior to August 1, 2008 for the General NPDES Permit No. GAR100001 and No. GAR100003 for Stand Alone and Common Development construction activities.

N/A – if construction activities are covered under the General NPDES Permit No. GAR100002 for Infrastructure construction projects.

Construction Activity Type:

Commercial	Industrial	Municipal/ Institutional	Mixed Use	Water Quality/Aquatic Habitat Restoration
Linear	Utility	Residential	Agricultural Buildings	Other _____

III. RECEIVING WATER INFORMATION

- A. Name of Initial Receiving Water(s): _____
- Trout Stream Water Supporting Warm Water Fisheries

- B. Name of MS4 Owner/Operator (*if applicable*): _____
Name of Receiving Water(s): _____
- | | |
|--------------|---------------------------------------|
| Trout Stream | Water Supporting Warm Water Fisheries |
|--------------|---------------------------------------|

- | | | | | |
|----|----------------------------------|-----|--------------------------|---|
| C. | Sampling of Receiving Stream(s): | N/A | Trout Stream
Δ 10 NTU | Water Supporting Warm Water Fisheries
Δ 25 NTU |
|----|----------------------------------|-----|--------------------------|---|

- | | | | | |
|----|-------------------------|-----|--------------|---------------------------------------|
| D. | Sampling of Outfall(s): | N/A | Trout Stream | Water Supporting Warm Water Fisheries |
|----|-------------------------|-----|--------------|---------------------------------------|

A summary chart (if applicable) delineating the following information for each outfall must be attached:

Number of Sampling Outfalls: _____ Construction Site Size (acres): _____

Appendix B NTU Value: _____ Surface Water Drainage Area (square miles): _____

- E. Does the facility/construction site discharge storm water into an Impaired Stream Segment, or within one (1) linear mile upstream of and within the same watershed as, any portion of an Impaired Stream Segment identified as “not supporting” its designated use(s), as shown on Georgia’s most current “305(b)/303(d) List Documents (Final)” listed for the criteria violated, “Bio F” (Impaired Fish Community) and/or “Bio M” (Impaired Macroinvertebrate Community), within Category 4a, 4b or 5, and the potential cause is either “NP” (nonpoint source) or “UR” (urban runoff) ? (Check Only One):

YES, Name of Impaired Stream Segment(s): _____

NO

N/A – if the Initial NOI was submitted prior to October 31, 2008 for the General NPDES Permit No. GAR100001 and No. GAR100003 for Stand Alone and Common Development construction activities.

N/A – if the Initial NOI was submitted prior to January 1, 2009 for the General NPDES Permit No. GAR100002 for Infrastructure construction activities.

- F. Does the facility/construction site discharge storm water into an Impaired Stream Segment where a Total Maximum Daily Load (TMDL) Implementation Plan for "sediment" was finalized at least six (6) months prior to the submittal of the Initial NOI ? (Check Only One):

YES, Name of Impaired Stream Segment(s): _____

NO

N/A – if the Initial NOI was submitted prior to October 31, 2008 for the General NPDES Permit No. GAR100001 and No. GAR100003 for Stand Alone and Common Development construction activities.

N/A – if the Initial NOI was submitted prior to January 1, 2009 for the General NPDES Permit No. GAR100002 for Infrastructure construction activities.

IV. ATTACHMENTS (Applicable Only to Initial Notifications for New Facilities/Construction Sites)

Indicate if the items listed below are attached to this Notice of Intent:

- _____ Location map identifying the receiving water(s), outfall(s) or combination thereof to be monitored.
- _____ Written description and location map identifying the Impaired Stream Segment(s) when applicable.
- _____ Erosion, Sedimentation and Pollution Control Plan (if the project is greater than 50 acres regardless of the existence of a certified Local Issuing Authority in the jurisdiction *OR* if the project is in a jurisdiction where there is no certified Local Issuing Authority regulating that project regardless of acreage).
- _____ Written authorization from the appropriate EPD District Office if the Plan disturbs more than 50 acres at any one time for each individual permittee (i.e., primary, secondary or tertiary permittees), or more than 50 contiguous acres total at any one time (applicable only to General NPDES Permits No. GAR100001 and No. GAR100003).
- _____ List of known secondary permittees (applicable only to General NPDES Permit No. GAR100003).
- _____ Schedule for the timing of the major construction activities.
- _____ Copy of the "NPDES General Permits – Fee Form" submitted to EPD – Construction Land Disturbance Fees, P.O. Box 932858, Atlanta, GA 31193-2858. *Do not attach payments to this Notice of Intent.*

ATTACHMENTS (Applicable Only to Re-Issuance Notifications for Existing Facilities/Construction Sites)

Indicate if the item listed below is attached to this Notice of Intent:

- _____ Copy of NOI previously submitted for coverage under the 2008 re-issuance of the NPDES General Permits to Discharge Storm Water Associated With Construction Activity.

ATTACHMENTS (Applicable Only to Change of Information Notifications for Existing Facilities/Construction Sites)

Indicate if the items listed below are attached to this Notice of Intent:

- _____ Copy of NOI previously submitted for coverage under the 2013 re-issuance of the NPDES General Permits to Discharge Storm Water Associated With Construction Activity.
- _____ Copy of the amended Plan as per Part IV.A.4.c. of the Permit for projects where the construction activity as indicated on the Notice of Intent has changed.

V. Does this project require another type of permit from EPD?

- ☐ YES – if yes, indicate what type of permit _____
- ☐ NO

VI. CERTIFICATIONS (Owner or Operator or Both to Initial as Applicable)

_____ I certify that to the best of my knowledge and belief, that the Erosion, Sedimentation and Pollution Control Plan (Plan) was prepared by a design professional, as defined by this permit, that has completed the appropriate certification course approved by the Georgia Soil and Water Conservation Commission in accordance with the provisions of O.C.G.A. 12-7-19 and that I will adhere to the Plan and comply with all applicable requirements of this permit.

_____ I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Owner's Printed Name: _____

Title: _____

Signature: _____

Date: _____

Operator's Printed Name: _____

Title: _____

Signature: _____

Date: _____

INSTRUCTIONS

NOTICE OF INTENT - PRIMARY PERMITTEE

For Coverage Under the 2013 Re-Issuance of the NPDES General Permits To Discharge Storm Water Associated With Construction Activity

THESE PERMITS EXPIRE JULY 31, 2018

Please print or type the Notice of Intent (NOI) form. Any NOI that contains illegible or incomplete information will not be accepted, will be returned and the construction site will not be granted Permit coverage. All information requested on the NOI must be submitted in order for the NOI to be valid. Any information requested on the NOI that is not applicable to the primary permittee or to the construction site must be marked "N/A." Please do not leave any sections blank in the NOI.

Who must file a Notice of Intent Form - The Owner and/or Operator of a facility/construction site that has a discharge of storm water where construction activities occur must apply for a National Pollutant Discharge Elimination System (NPDES) Permit. The Georgia Environmental Protection Division (EPD) re-issued the General NPDES Permits for Storm Water Discharges Associated with Construction Activity on September 24, 2013. The Permits are available for review at the EPD District Offices and on the EPD website, www.gaepd.org. It is highly recommended that the permittees read and understand the terms and conditions of the Permits prior to submitting a NOI. Please contact the appropriate EPD District Office as listed on the following pages for assistance in completing the NOI.

Where to file a Notice of Intent Form - The NOI and the attachments, as applicable, must be submitted to the appropriate EPD District Office as listed on the following pages. Please submit only the first five pages of this document with the applicable attachments.

Section I - Site/Owner/Operator Information

The construction site name and location information (i.e., GPS location of construction exit, street address, city, county) must be sufficient to accurately locate the construction site. If the construction site does not have a street address, please provide sufficient information to accurately locate the construction site. If additional space is needed, attach the location information to the NOI.

A duly authorized representative may be either a named individual or any individual occupying a named position that the primary permittee has authorized to sign certification statements, inspection reports, sampling reports or other reports requested by EPD.

The facility/construction site contact is the person who the primary permittee has assigned the responsibility for the daily on-site operational control.

Please do not leave any blanks in this section. Any information requested on the NOI that is not applicable to the primary permittee or to the construction site must be mark "N/A."

Section II – Construction Site Activity Information

For construction activities that began prior to the effective date of the Permits, the start date (*month/date/year*) must be the actual start date of construction activities.

Estimated disturbed acreage is the total number of acres, *to the nearest tenth (1/10th) acre*, that will be disturbed by the primary permittee and all secondary permittees.

Please do not leave any blanks in this section. Any information requested on the NOI that is not applicable to the primary permittee or to the construction site must be mark "N/A."

Section III - Receiving Water Information

"Trout Streams" are waters of the State classified as either primary trout waters or secondary trout waters, as designated in the Rules and Regulations for Water Quality Control, Chapter 391-3-6 at www.gaepd.org. "Waters Supporting Warm Water Fisheries" are all waters of the State that sustain, or have the potential to sustain, aquatic life but exclude "Trout Streams."

If the facility/construction site discharges storm water directly or indirectly to the receiving water(s), and not through a municipal separate storm sewer system (MS4), enter the name of the receiving water(s) and indicate whether the water(s) is a trout stream or a warm water fisheries stream. Attach a written description and location map identifying the receiving water(s).

If the facility/construction site discharges storm water to a municipal separate storm sewer system (MS4), enter the name of the owner/operator of the MS4 (e.g., city name or county name) and the name of the receiving water(s) at the point of discharge from the MS4. A MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) that is owned and/or operated by a city or county which is designed or used for collecting or conveying storm water. It may be necessary to contact the city or county that owns and/or operates the MS4 to determine the name of the receiving water(s). Indicate whether the receiving water(s) is a trout stream or a warm water fisheries stream. Attach a written description and location map identifying the receiving water(s).

Any permittee who intends to obtain coverage under the Permits for storm water discharges associated with construction activity into an Impaired Stream Segment, or within one (1) linear mile upstream of and within the same watershed as, any portion of an Impaired Stream Segment identified as "not supporting" its designated use(s), as shown on Georgia's most current "305(b)/303(d) List Documents (Final)" at the time of NOI submittal, must satisfy the requirements of Part III.C. of the Permits if the Impaired Stream Segment has been listed for criteria violated, "Bio F" (Impaired Fish Community) and/or "Bio M" (Impaired Macroinvertebrate Community), within Category 4a, 4b or 5, and the potential cause is either "NP" (nonpoint source) or "UR" (urban runoff). Those discharges that are located within one (1) linear mile of an Impaired Stream Segment, but are not located within the watershed of any portion of that stream segment, are excluded from this requirement. Georgia's 2008 and subsequent 305(b)/303(d) List Documents (Final) can be viewed on the EPD website, www.gaepd.org/Documents/305b.html. Attach a written description and location map identifying the Impaired Stream Segment(s).

If a Total Maximum Daily Load (TMDL) Implementation Plan for sediment has been finalized at least six (6) months prior to the permittee's submittal of the Initial NOI, the Erosion, Sedimentation and Pollution Control Plan (Plan) must address any site-specific conditions or requirements included in the TMDL Implementation Plan that are applicable to the permittee's discharge(s) to the Impaired Stream Segment within the timeframe specified in the TMDL Implementation Plan. If the TMDL Implementation Plan establishes a specific numeric wasteload allocation that applies to the permittee's discharge(s) to the Impaired Stream Segment, then the permittee must incorporate that allocation into the Erosion, Sedimentation and Pollution Control Plan and implement all necessary measures to meet that allocation. A list of TMDL Implementation Plans can be viewed on the EPD website, www.gaepd.org.

Please do not leave any blanks in this section. Any information requested on the NOI that is not applicable to the primary permittee or to the construction site must be mark "N/A."

Section V – Certifications

The owner and/or operator must sign the Notice of Intent and initial the certification statements on the lines provided. Federal and State statutes provide specific requirements as to who is authorized to sign the Notice of Intent forms. A Notice of Intent form signed by an unauthorized person will not be valid. Please be aware that Federal and State statutes provide for severe penalties for submitting false information on this Notice of Intent form. Federal and State regulations require that the Notice of Intent form be signed as follows:

- For a corporation, by a responsible corporate officer;
- For a partnership or sole proprietorship, by a general partner or the proprietor; and
- For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

GEORGIA EPD DISTRICT OFFICES

All required correspondence, including but not limited to Notices of Intent, Notices of Termination, Erosion, Sedimentation and Pollution Control Plans, sampling reports and any other reports shall be sent to the following EPD District Offices:

A. For facilities/construction sites located in the following counties: Bibb, Bleckley, Chattahoochee, Crawford, Dooley, Harris, Houston, Jones, Lamar, Macon, Marion, Meriwether, Monroe, Muscogee, Peach, Pike, Pulaski, Schley, Talbot, Taylor, Troup, Twiggs, Upson

Information shall be submitted to: West Central District Office
Georgia Environmental Protection Division
2640 Shurling Drive
Macon, GA 31211-3576
(478) 751-6612

B. For facilities/construction sites located in the following counties: Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Johnson, Laurens, McDuffie, Montgomery, Richmond, Screven, Treutlen, Warren, Washington, Wheeler, Wilkinson

Information shall be submitted to: East Central District Office
Georgia Environmental Protection Division
3525 Walton Way Extension
Augusta, GA 30909-1821
(706) 667-4343

C. For facilities/construction sites located in the following counties: Baldwin, Banks, Barrow, Butts, Clarke, Elbert, Franklin, Greene, Hall, Hancock, Hart, Jackson, Jasper, Lincoln, Madison, Morgan, Newton, Oconee, Oglethorpe, Putnam, Stephens, Taliaferro, Walton, Wilkes

Information shall be submitted to: Northeast District Office
Georgia Environmental Protection Division
745 Gaines School Road
Athens, GA 30605-3129
(706) 369-6376

D. For facilities/construction sites located in the following counties: Carroll, Clayton, Coweta, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Heard, Henry, Rockdale, Spalding

Information shall be submitted to: Mountain District - Atlanta Satellite
Georgia Environmental Protection Division
4244 International Parkway, Suite 114
Atlanta, GA 30354-3906
(404) 362-2671

E. For facilities/construction sites located in the following counties: Bartow, Catoosa, Chattooga, Cherokee, Cobb, Dade, Dawson, Fannin, Floyd, Forsyth, Gilmer, Gordon, Habersham, Haralson, Lumpkin, Murray, Paulding, Pickens, Polk, Rabun, Towns, Union, Walker, White, Whitfield

Information shall be submitted to: Mountain District - Cartersville Office
Georgia Environmental Protection Division
P.O. Box 3250
Cartersville, GA 30120-1705
(770) 387-4900

F. For facilities/construction sites located in the following counties: Appling, Atkinson, Bacon, Brantley, Bryan, Bulloch, Camden, Candler, Charlton, Chatham, Clinch, Coffee, Effingham, Evans, Glynn, Jeff Davis, Liberty, Long, McIntosh, Pierce, Tattnall, Toombs, Ware, Wayne

Information shall be submitted to: Coastal District - Brunswick Office
Georgia Environmental Protection Division
400 Commerce Center Drive
Brunswick, GA 31523-8251
(912) 264-7284

G. For facilities/construction sites located in the following counties: Baker, Ben Hill, Berrien, Brooks, Calhoun, Clay, Colquitt, Cook, Crisp, Decatur, Dodge, Dougherty, Early, Echols, Grady, Irwin, Lanier, Lee, Lowndes, Miller, Mitchell, Quitman, Randolph, Seminole, Stewart, Sumter, Telfair, Terrell, Thomas, Tift, Turner, Webster, Wilcox, Worth

Information shall be submitted to: Southwest District Office
Georgia Environmental Protection Division
2024 Newton Road
Albany, GA 31701-3576
(229) 430-4144



For Official Use Only

NOTICE OF TERMINATION

VERSION 2013

State of Georgia
Department of Natural Resources
Environmental Protection Division

To Cease Coverage Under the NPDES General Permits
To Discharge Storm Water Associated With Construction Activity

THESE PERMITS EXPIRE JULY 31, 2018

I.

PERMIT TYPE (Check Only One):

GAR100001 - *Stand Alone*

GAR100002 – *Infrastructure*

GAR100003 - *Common Development*

PERMITTEE TYPE (Check Only One and Complete):

Primary Permittee

Number of Secondary Permittees (applicable only to General NPDES Permit No. GAR100003): _____

Secondary Permittee (applicable only to General NPDES Permit No. GAR100003)

Primary Permittee's Name: _____ Phone: _____

Email Address: _____

Address: _____ City: _____ State: _____ Zip Code: _____

Tertiary Permittee (applicable only to General NPDES Permit No. GAR100003)

Primary Permittee's Name (if available): _____ Phone: _____

Email Address: _____

Address: _____ City: _____ State: _____ Zip Code: _____

II. SITE / OWNER / OPERATOR INFORMATION

Project Construction Site Name: _____

GPS Location of Construction Exit of Stand Alone or Common Development Project (*decimal degrees*):

Latitude _____ Longitude _____

GPS Locations of Beginning and End of Infrastructure Project or Phase of Infrastructure Project (*decimal degrees*):

Latitude _____ Longitude _____

Latitude _____ Longitude _____

Construction Site Location (*e.g., street address*): _____

City (*applicable if the site is located within the jurisdictional boundaries of the municipality*): _____

County or Counties: _____

Common Development Name (*applicable only to General NPDES Permit No. GAR100003*): _____

Subdivision Name (if applicable): _____

Lot Number(s) (if applicable): _____

Owner's Name: _____ Phone: _____

Email Address: _____

Address: _____ City: _____ State: _____ Zip Code: _____

Duly Authorized Representative(s) (*optional*): _____ Phone: _____

Email Address: _____

Operator's Name (*optional*): _____ Phone: _____

Email Address: _____

Address : _____ City: _____ State: _____ Zip Code: _____

Facility/Construction Site Contact: _____ Phone: _____

Email Address: _____

III. SITE ACTIVITY INFORMATION

Start Date (*month/date/year*): ____ / ____ / ____ Completion Date (*month/date/year*): ____ / ____ / ____

Disturbed Acreage of Project or Phase of Infrastructure Project (*acres, to the nearest tenth (1/10th) acre*): _____

Construction Activity Type:

Commercial	Industrial	Municipal/ Institutional	Mixed Use	Water Quality/Aquatic Habitat Restoration
Linear	Utility	Residential	Agricultural Buildings	Other _____

Name of Initial Receiving Water(s): _____

Trout Stream

Water Supporting Warm Water Fisheries

Name of MS4 Owner/Operator (if applicable): _____

Name of Receiving Water(s): _____

Trout Stream

Water Supporting Warm Water Fisheries

IV. NOTICE OF TERMINATION ELIGIBILITY (Check Only One and Complete):

Construction Activities Ceased and Final Stabilization Completed

_____ Attached to this Notice of Termination – if Primary Permittee, listing of the legal name, email address, address and telephone number for each Secondary Permittee at this site for which this NOT is submitted (applicable only to NPDES General Permit No. GAR100003).

_____ Attached to this Notice of Termination – if Primary Permittee, listing of the legal name, email address, address and telephone number for the legal title holders for each remaining undeveloped lot(s) at this site for which this NOT is submitted (applicable only to NPDES General Permit No. GAR100003).

No Longer Owner and/or Operator of Facility/Construction Site

New Owner's Name: _____ Phone: _____

Email Address: _____

Address: _____ City: _____ State: _____ Zip Code: _____

New Operator's Name (if available): _____ Phone: _____

Email Address: _____

Address: _____ City: _____ State: _____ Zip Code: _____

Primary Permittee of a Common Development Construction Project No Longer Exists (applicable only to Secondary Permittees under NPDES General Permit No. GAR100003)

Primary Permittee's Name: _____ Phone: _____

Email Address: _____

Address: _____ City: _____ State: _____ Zip Code: _____

Coverage under the 2013 NPDES General Permit No. GAR100002 is not required for the Primary Permittee of an existing Infrastructure Construction Project.

V. Did this project require another type of permit from EPD?

- ☐ YES – if yes, indicate what type of permit _____
- ☐ NO

VI. ATTACHMENTS

Indicate if the items listed below are attached to this Notice of Termination:

- _____ Copy of most recent NOI previously submitted for coverage under the 2013 NPDES General Permits to Discharge Storm Water Associated With Construction Activity.
- _____ Copies of sampling reports and/or written justifications why sampling was not conducted (when sampling is required by the permit). Copies of all sampling reports may be submitted as a PDF file on CD-ROM or other storage device.
- _____ Listing of the legal name, email address, address and telephone number for each Secondary Permittee at this site for which this NOT is submitted (*applicable only to Primary Permittees under General NPDES Permit No. GAR100003*).
- _____ Listing of the legal name, email address, address and telephone number for the legal title holders for each remaining undeveloped lot(s) at this site for which this NOT is submitted (*applicable only to Primary Permittees under General NPDES Permit No. GAR100003*).
- _____ GPS locations (decimal degrees) of the beginning and end of each phase of an infrastructure construction project, and if applicable, a map identifying significant landmarks (*applicable only to General NPDES Permit No. GAR100002*).
- _____ Documentation that the existing infrastructure construction project will not result in contiguous land disturbances equal or greater than one (1) acre on or before, and continuing after the effective date of the permit (*applicable only to General NPDES Permit No. GAR100002*).
- _____ Documentation that the existing infrastructure construction project consists solely of routine maintenance for the original purpose of the facility performed to maintain the original line and grade and/or the hydraulic capacity (*applicable only to General NPDES Permit No. GAR100002*).

VII. CERTIFICATIONS (Owner or Operator or Both to Initial as Applicable)

_____ **(Applicable only to NPDES General Permit No. GAR100001)** "I certify under penalty of law that either: (a) all storm water discharges associated with construction activity authorized by this permit have ceased, the site is in compliance with this permit and all temporary BMPs have been removed or (b) I am no longer an Owner or Operator at the construction site and a new Owner or Operator has assumed operational control of the permitted construction site where I previously had ownership or operational control; and that discharging pollutants in storm water associated with construction activity to waters of Georgia is unlawful under the Georgia Water Quality Control Act and the Clean Water Act where the discharge is not authorized by a NPDES permit."

_____ **(Applicable only to NPDES General Permit No. GAR100002)** "I certify under penalty of law that either: (a) all storm water discharges associated with construction activity authorized by this permit have ceased, the site is in compliance with this permit and all temporary BMPs have been removed or (b) I am no longer an Owner or Operator at the construction site and a new Owner or Operator has assumed operational control of the permitted construction site where I previously had ownership or operational control or (c) coverage under the permit for an existing infrastructure construction project is not required under Part I.C.1. of NPDES General Permit No. GAR100002; and that discharging pollutants in storm water associated with construction activity to waters of Georgia is unlawful under the Georgia Water Quality Control Act and the Clean Water Act where the discharge is not authorized by a NPDES permit."

_____ **(Applicable only to NPDES General Permit No. GAR100003)** "I certify under penalty of law that either: (a) all storm water discharges associated with construction activity authorized by this permit have ceased, the site is in compliance with this permit and all temporary BMPs have been removed or (b) I am no longer an Owner or Operator at the construction site and a new Owner or Operator has assumed operational control of the permitted construction site where I previously had ownership or operational control or (c) If I am secondary permittee, the primary permittee of the common development no longer exists. If I am a primary permittee filing this Notice of Termination under Part VI.A.2. of NPDES General Permit NO, GAR100003, I will notify by written correspondence to the subsequent legal title holder of any remaining lots that these lot Owners or Operators will become tertiary permittees for purposes of NPDES General Permit NO, GAR100003 and I will provide these tertiary permittees with the primary permittee's Erosion, Sedimentation and Pollution Control Plan and Notice of Termination. I understand that by submitting this Notice of Termination, that I am no longer authorized to discharge storm water associated with construction activity by the general permit, and that discharging pollutants in storm water associated with construction activity to waters of Georgia is unlawful under the Georgia Water Quality Control Act and the Clean Water Act where the discharge is not authorized by a NPDES permit."

_____ I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that certified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Owner's Printed Name: _____ Title: _____

Signature: _____ Date: _____

Operator's Printed Name: _____ Title: _____

Signature: _____ Date: _____

INSTRUCTIONS

NOTICE OF TERMINATION

NPDES General Permits for Storm Water Discharges Associated With Construction Activity

These Permits Expire July 31, 2018

Please print or type the Notice of Termination (NOT) form. Any NOT that contains illegible or incomplete information will not be accepted and will be returned. All information requested on the NOT must be submitted in order for the NOT to be valid. Any information requested on the NOT that is not applicable to the owner and/or operator or the construction site must be marked "N/A." Please do not leave any sections blank in the NOT.

Who must file a Notice of Termination (NOT) Form – The permittee of the facility/construction site must submit a Notice of Termination when (1) the facility/construction site has undergone final stabilization and all storm water discharges from construction activities that are authorized by the NPDES General Permits have ceased, (2) when the Owner and/or Operator of the site changes, (3) Primary Permittee of a Common Development construction project no longer exist, or (4) coverage under the 2013 NPDES General Permit No. GAR100002 is not required.

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 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 in landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and a seeding of target crop perennials appropriate for the region).

Where to file NOT Forms - The NOT and attachments, as applicable, must be submitted to the appropriate EPD District Office as listed on the following pages. Please submit only the first five pages of this document with the applicable attachments.

Section I - Permit and Permittee Type

Indicate the NPDES General Permit number (i.e., No. GAR100001, No. GAR100002, or No. GAR100003) and permittee (i.e., primary, secondary or tertiary permittee) for which this NOT is being submitted.

Section II - Site / Permittee Information

The construction site name and location information (i.e., GPS location of construction exit, street address, city, county) must be sufficient to accurately locate the construction site. If the construction site does not have a street address, please provide sufficient information to accurately locate the construction site. If additional space is needed, attach the location information to the NOT.

A duly authorized representative may be either a named individual or any individual occupying a named position that the permittee has authorized to sign all reports, certification statements, or other information requested by EPD.

The facility/construction site contact is the person who the permittee has assigned the responsibility for the daily on-site operational control.

Please do not leave any blanks in this section. Any information requested on the NOT that is not applicable to the permittee or to the construction site must be marked "N/A."

Section III - Site Activity Information

Mark the appropriate boxes to indicate the types of construction activities that were conducted at the facility/construction site.

Please do not leave any blanks in this section. Any information requested on the NOT that is not applicable to the permittee or to the construction site must be marked "N/A."

Section IV – Notice of Termination Eligibility

Indicate by marking the appropriate box why this NOT has been submitted: (1) the facility/construction site has undergone final stabilization and all storm water discharges from construction activities that are authorized by the NPDES General Permits have ceased, (2) when the Owner and/or Operator of the site changes, (3) Primary Permittee of a Common Development construction project no longer exist, or (4) coverage under the 2013 NPDES General Permit No. GAR100002 is not required.

For Stand Alone construction projects, the primary permittee may submit a NOT where the entire stand alone development has undergone final stabilization, all storm water discharges associated with construction activity that are authorized by this permit have ceased, the site is in compliance with this permit and all temporary BMPs have been removed. For construction activities where the primary permittee has elected to submit NOIs for separate phases of the stand alone development, the phase or phases of the stand alone development on the NOT shall correspond to the phase or phases on the NOI.

For Infrastructure construction projects, the primary permittee may submit a NOT where the entire project has undergone final stabilization, all storm water discharges associated with construction activity that are authorized by this permit have ceased, the site is in compliance with this permit and all temporary BMPs have been removed. The permittee may also submit a Notice of Termination for each phase of the infrastructure project, not to exceed four (4) phases, that have undergone final stabilization and all storm water discharges associated with construction activity for that phase authorized by this permit have ceased. Except for the final phase, the disturbed acreage for each phase must be equal to or greater than 25% of the total estimated disturbed acreage for the infrastructure project. For the final phase, the disturbed acreage for the final phase must be equal to or greater than 10% of the total estimated disturbed acreage for the infrastructure project. The Notice of Termination for each phase of the infrastructure project must include the GPS locations (decimal degrees) of the beginning and end of each phase and if applicable, a map identifying significant landmarks.

In addition, the primary permittee of an existing Infrastructure construction project may submit a NOT when the existing infrastructure construction project will not result in "contiguous" land disturbances equal or greater than one (1) acre on or before, and continuing after the effective date of the permit or when the existing infrastructure construction project consists solely of "routine maintenance" for the original purpose of the facility performed to maintain the original line and grade and/or the hydraulic capacity. As defined in the 2013 NPDES General Permit No. GAR100002 (Part IC.1.a.), "contiguous" means areas of land disturbances that are in actual contact to create a connected, uninterrupted area of land disturbance. However, for purposes of this permit, contiguous areas of land disturbances include those areas of land disturbances solely separated by drilling and boring activities, waters of the State and adjacent State-mandated buffers, roadways and/or railways. In addition, contiguous areas of land disturbances include all areas of land disturbances at a sole roadway intersection and/or junction. In order to be eligible for the "routine maintenance" exemption the project must comply with the following conditions: (1) no mass grading shall occur on the project, (2) the project shall be stabilized by the end of each day with temporary or permanent stabilization measures, (3) the project shall have a duration of less than 120 calendar days, and (4) final stabilization must be implemented at the end of the maintenance project;

For Common Development construction projects, the primary permittee may submit a NOT where the entire common development has undergone final stabilization, all storm water discharges associated with construction activity that are authorized by this permit have ceased, the site is in compliance with this permit and all temporary BMPs have been removed. For construction activities where the primary permittee has elected to submit NOIs for separate phases of the common development, the phase or phases of the common development on the NOT shall correspond to the phase or phases on the NOI.

In addition, if the primary permittee of a Common Development decides not to proceed with all permitted construction activities, the primary permittee may submit a Notice of Termination, if and only if, (a) all construction activities have ceased for a minimum of 90 days; (b) final stabilization has been implemented by the primary permittee and by all secondary permittee(s); (c) all secondary permittees have submitted a NOT signed in accordance with Part V.G.1. of this permit (excluding utility companies and/or utility contractors working under a Blanket NOI); (d) the site is in compliance with this permit; and (e) all temporary BMPs have been removed .

Secondary permittees should submit a Notice of Termination when the primary permittee of the Common Development no longer exist.

Tertiary permittees may submit a Notice of Termination when their sites within a Common Development have undergone final stabilization, all storm water discharges from their construction activities have ceased, their construction sites are in compliance with this permit and all temporary BMPs have been removed. If the total land disturbance within the tertiary permittee's construction site is less than five (5) acres, tertiary permittees may also submit a NOT for each individual lot resulting in land disturbance of less than one (1) acre with a Plan for a typical individual lot within the tertiary permittee's construction site.

Permittees may submit a NOT when the Owner or Operator of the site changes. Where storm water discharges will continue after the identity of the Owner or Operator changes, the permittee must, prior to filing the Notice of Termination, notify any subsequent Owner or Operator of the permitted site as to the requirements of this permit.

Section VII - Certifications

The owner and/or operator must sign the Notice of Termination and initial the certification statements on the lines provided. Federal and State statutes provide specific requirements as to who is authorized to sign the Notice of Termination forms. A Notice of Termination form signed by an unauthorized person will not be valid. Please be aware that Federal and State statutes provide for severe penalties for submitting false information on this Notice of Termination form. Federal and State regulations require that the Notice of Termination form be signed as follows:

- For a corporation, by a responsible corporate officer;
- For a partnership or sole proprietorship, by a general partner or the proprietor; and
- For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

GEORGIA EPD DISTRICT OFFICES

All required correspondence, including but not limited to Notices of Intent, Notices of Termination, Erosion, Sedimentation and Pollution Control Plans, sampling reports and any other reports shall be sent to the following EPD District Offices:

A. For facilities/construction sites located in the following counties: Bibb, Bleckley, Chattahoochee, Crawford, Dooly, Harris, Houston, Jones, Lamar, Macon, Marion, Meriwether, Monroe, Muscogee, Peach, Pike, Pulaski, Schley, Talbot, Taylor, Troup, Twiggs, Upson

Information shall be submitted to: West Central District Office
Georgia Environmental Protection Division
2640 Shurling Drive
Macon, GA 31211-3576
(478) 751-6612

B. For facilities/construction sites located in the following counties: Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Johnson, Laurens, McDuffie, Montgomery, Richmond, Screven, Treutlen, Warren, Washington, Wheeler, Wilkinson

Information shall be submitted to: East Central District Office
Georgia Environmental Protection Division
3525 Walton Way Extension
Augusta, GA 30909-1821
(706) 667-4343

C. For facilities/construction sites located in the following counties: Baldwin, Banks, Barrow, Butts, Clarke, Elbert, Franklin, Greene, Hall, Hancock, Hart, Jackson, Jasper, Lincoln, Madison, Morgan, Newton, Oconee, Oglethorpe, Putnam, Stephens, Taliaferro, Walton, Wilkes

Information shall be submitted to: Northeast District Office
Georgia Environmental Protection Division
745 Gaines School Road
Athens, GA 30605-3129
(706) 369-6376

D. For facilities/construction sites located in the following counties: Carroll, Clayton, Coweta, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Heard, Henry, Rockdale, Spalding

Information shall be submitted to: Mountain District - Atlanta Satellite
Georgia Environmental Protection Division
4244 International Parkway, Suite 114
Atlanta, GA 30354-3906
(404) 362-2671

E. For facilities/construction sites located in the following counties: Bartow, Catoosa, Chattooga, Cherokee, Cobb, Dade, Dawson, Fannin, Floyd, Forsyth, Gilmer, Gordon, Habersham, Haralson, Lumpkin, Murray, Paulding, Pickens, Polk, Rabun, Towns, Union, Walker, White, Whitfield

Information shall be submitted to: Mountain District - Cartersville Office
Georgia Environmental Protection Division
P.O. Box 3250
Cartersville, GA 30120-1705
(770) 387-4900

F. For facilities/construction sites located in the following counties: Appling, Atkinson, Bacon, Brantley, Bryan, Bulloch, Camden, Candler, Charlton, Chatham, Clinch, Coffee, Effingham, Evans, Glynn, Jeff Davis, Liberty, Long, McIntosh, Pierce, Tattnall, Toombs, Ware, Wayne

Information shall be submitted to: Coastal District - Brunswick Office
Georgia Environmental Protection Division
400 Commerce Center Drive
Brunswick, GA 31523-8251
(912) 264-7284

G. For facilities/construction sites located in the following counties: Baker, Ben Hill, Berrien, Brooks, Calhoun, Clay, Colquitt, Cook, Crisp, Decatur, Dodge, Dougherty, Early, Echols, Grady, Irwin, Lanier, Lee, Lowndes, Miller, Mitchell, Quitman, Randolph, Seminole, Stewart, Sumter, Telfair, Terrell, Thomas, Tift, Turner, Webster, Wilcox, Worth

Information shall be submitted to: Southwest District Office
Georgia Environmental Protection Division
2024 Newton Road
Albany, GA 31701-3576
(229) 430-4144

Georgia Department of Natural Resources

Reply To:
NonPoint Source Program
404/675-6240
FAX: 404/675-6245

Environmental Protection Division, Water Protection Branch
4220 International Parkway, Suite 101, Atlanta, Georgia 30354
Alan W. Hallum, Branch Chief
404/675-6232

October 27, 2000

Mr. Frank L. Danchetz, P. E.
Chief Engineer
Georgia Department of Transportation
2 Capitol Square, S. W.
Atlanta, GA 30334

RE: NPDES General Permit
Construction Activities

Dear Mr. Danchetz:

The Georgia Environmental Protection Division (EPD) has received and reviewed your October 16, 2000 correspondence. This correspondence provides additional information to support a request made on July 13, 2000 that an alternate licensed professional be allowed to conduct the initial inspection of the BMPs after their installation on all Georgia Department of Transportation (DOT) projects. This correspondence explains that DOT's Chief Engineer affixes his Georgia Professional Engineer seal to all DOT Erosion, Sedimentation and Pollution Control Plans, and the Chief Engineer is assuming all responsibilities as the design professional associated with said Plans. Having provided this explanation, the Chief Engineer or his duly authorized representative is hereby approved for the purpose of conducting this initial inspection as required by the general NPDES permit.

Should you have any questions on this matter, please contact Mr. Drew Zurow or Mr. Will Salter at the reply address.

Sincerely,



Lawrence W. Hedges
Program Manager
NonPoint Source Program

LWH:ws

cc: District and Regional Managers

RECEIVED

NOV 02 2000

CHIEF ENGINEER'S OFFICE

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

OFFICE Construction

DATE February 2, 2012

FILE

FROM Marc Mastronardi, CPESC, CPSWQ, CISEC
State Construction Engineer

TO District Construction Engineers

SUBJECT "7 Day" letters and Sampling

This memo is to reaffirm the importance of our Project Engineer's delegated responsibility for performing certain inspections on behalf of the Chief Engineer as well as to provide direction on sampling per the GA EPD's GAR100002 permit.

As we discuss in the WECS training and weave into the GSWCC classes, our Project Engineers have been approved as the alternate design professional responsible for meeting Part IV.A.5 of the above mentioned permit. The permit states in part;

"... and EPD has agreed to an alternate design professional, to inspect the installation of the initial sediment storage requirements and perimeter control BMPs which the design professional designed within seven (7) days after installation. The design professional shall determine if these BMPs have been installed and are being maintained as designed. The design professional shall report the results of the inspection to the primary permittee within seven (7) days and the permittee must correct all deficiencies within two (2) business days of receipt of the inspection report from the design professional unless weather related site conditions are such that additional time is required."

This inspection was supported with forms that the Construction Office provided a few years ago to record the key elements needed to document the inspection. Those key elements are; has the BMP been installed per plan, including its location, proper construction/installation of the BMP and is it being maintained properly? The next step is to then be certain any deficiencies found are corrected accordingly or the work shall stop until the corrections are made. Being an inspection we chose to require the certification statement per Part V.G. of the permit be attached to the documents as well.

I want to emphasize that this important responsibility is GDOT's Project Engineer's acting on behalf of the Chief Engineer and it cannot be delegated further. This function is also very important in that it establishes 1/3 of the BMP defense by being able to certify the BMP was properly installed initially. Please ensure our Project Engineers are following the instructions in the WECS manual and Forms package and clarify this matter as necessary.

Our approach to representative sampling will soon be changing to reflect its intended application. In brief, the reason for the change is that we were not always applying the expected analysis to select representative receiving waters in the past. As a result of the change you will soon see plans that have multiple monitoring sites that will appear as individual sites to monitor and not "alternate" sites to choose from. This will mean the amount of samples we set up in a contract will change as well. More information will follow from this Office and the Office of Design Policy and Support in the near future.

From recent conversations with the GA EPD there seems to be a need to clarify and ensure consistency on our part when reviewing sampling results. **Be mindful that if a turbidity reading exceeds either the allowable upstream and downstream difference in a receiving water, or the value required for an outfall sampling location *and* we have determined this occurred as a result of a failure to properly design, install or maintain a BMP, we must report the failing turbidity results to the GA EPD as a violation in accordance with Part II.D.3 and 4 of the Permit.**

The correspondence attached to the failing turbidity analysis that we send to EPD will include what actions were undertaken in response to the failing result such as; any results found from a review of the condition and performance of BMPs within the contributing drainage area to the sampling location, a review of the storm intensity preceding the discharge to verify if a 25 year storm event had been exceeded, a review of the status of any BMP maintenance required from current inspections to verify BMP maintenance was not outstanding, etc. We want to make an effort to demonstrate within the correspondence that we assessed the site conditions and took immediate corrective measures if they were needed.

If the failing turbidity is associated with receiving waters sampling and it has been determined that it occurred as a result of a failure to properly design install or maintain a BMP, the Permit requires corrective action be designed and implemented within two business days. Per the Permit additional sampling must also then be performed for each successive qualifying event until a passing reading is obtained or it has been determined that the BMPs are indeed properly designed, installed and maintained or final stabilization occurs within that entire drainage area. (The Permit does not require continued sampling where outfall monitoring results exceed design values.)

Our Project Engineers are encouraged to enlist the aid of the Environmental Compliance Bureau, the appropriate Design Project Manager, or the Erosion and Sediment Control Liaisons from this Office whenever an ESPCP's performance is in question.

Please distribute this memo to your Area Engineers and Office staff today. Thanks in advance for your attention to these matters and feel free to contact this Office if you have any questions.

MAM/mam

Cc; Gerald Ross, Thomas Howell, Tony Collins, Monica Flournoy, Melissa Harper, Kenny Whitworth, Jimmy Smith, David Millen, Joe Sheffield, Karon Ivery, Kent Sager, Bryant Poole, Brent Story, Brad Ehrman, Lisa Myers, Eugene Hopkins

RECEIVED
MAR 12 2012
MOUNTAIN DISTRICT OFFICE
ENVIRONMENTAL PROTECTION DIV.

MEMORANDUM OF AGREEMENT
BETWEEN
THE GEORGIA DEPARTMENT OF TRANSPORTATION
AND THE GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Whereas, in the interest of good government, the Georgia Department of Natural Resources and the Georgia Department of Transportation wish to work in cooperation to protect the environment and eliminate duplication of efforts; and,

Whereas, the Georgia Department of Natural Resources (GDNR) Environmental Protection Division (EPD) issues the GAR100002 permit regulating stormwater discharges associated with infrastructure construction activities has recognized the continuing efforts of the Georgia Department of Transportation (GDOT) to internally monitor its land disturbing activities; and,

Whereas, the GDOT has demonstrated it has the technical expertise on staff to identify and correct matters of non-compliance relevant to the GAR100002 permit; and

Whereas, the EPD has sought a commitment from GDOT to utilize its currently available inspection resources toward improving GAR100002 compliance; to include the verification of the removal of sediments deposited in State Waters,

NOW THEREFORE in accordance with the above intentions, the Georgia Department of Natural Resources Environmental Protection Division and the Georgia Department of Transportation agree to the following;

GDOT shall ensure that sedimentation that has occurred in State Waters as a result of non-compliance with GAR100002 has been properly removed and disposed of by using GSWCC certified personnel.

If during GDOT's inspection an ambiguity relevant to the need for sediment removal is encountered, GDOT is required to contact EPD for additional consultation and an agreed direction to pursue.

GDOT will provide a summary to the appropriate EPD District Office within 14 days of discovery of the violation as stated in Part III D.2 of the permit to include; the probable cause of the violation, an estimate of the amount of sediment removed, the sediment removal process utilized, and how the material was either disposed of or stabilized within the site, including the signatory requirements of GAR100002 at Part V.G.2 wherein the certification statement shall accompany each summary.

GDOT shall make every effort to expeditiously perform such reviews or inspections as necessary to make determinations, take actions and provide reporting consistent with the timeframes for identifying and reporting violations contained within GAR100002.

Memorandum of Agreement for:
Sediment removal verification by GDOT
Page 2 of 2

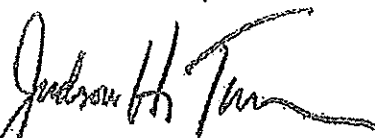
GDOT will only utilize properly credentialed Department staff in performing the above actions until such time that GDOT and EPD jointly agree other properly credentialed resources may be utilized. At such time this agreement shall be rewritten to reflect such development.

This MOA is effective immediately upon signature of both parties and will continue in effect until modified or revoked by agreement of both parties or revoked by either party alone upon 30 days written notice.



Keith Golden, P.E.
Commissioner
Georgia Department Transportation

Date 2-21-12



Judson H. Turner,
Director
Environmental Protection Division
Georgia Department of Natural Resources

Date 4-2-2012

MEMORANDUM OF AGREEMENT

Georgia Department of Transportation & Georgia Environmental Protection Division Solid Waste Handling and Disposal from NPDES Permitted Sites

THIS MEMORANDUM OF AGREEMENT is made the 9th day of April, 2012 by and between the Georgia Department of Transportation, an agency of the State of Georgia, hereinafter referred to as "GDOT", and the Georgia Environmental Protection Division, an agency of the State of Georgia, hereinafter referred to as "GA EPD".

WHEREAS, GA EPD is responsible for regulation of the State's NPDES General Storm water Construction Permits and the Georgia Comprehensive Solid Waste Management Act; and

WHEREAS, GDOT conducts construction activities subject to the terms of the aforementioned Permits and Acts; and

WHEREAS, GDOT through its contractors and employees has need of obtaining sites where common fill is needed; and

WHEREAS, it is in the best interest of the State and both agencies that solid waste generated from GDOT construction sites is handled in the proper and agreed upon manner; and

WHEREAS, upon both parties' signature of this document, the previous document known as the GDOT – GAEPD Solid Waste Memorandum of Agreement 1993 will be no longer in effect having been replaced by this document;

NOW, THEREFORE, upon mutual agreement of both parties, and in fulfillment of the terms of Consent Order EPD-SW-2461 between GDOT and GA EPD for the purpose of recording the specific procedures, documentation, and definitions to ensure the proper disposal of solid waste, the Parties hereto do mutually agree as follows:


1. From the Effective Date as herein defined forward all solid waste generated from GDOT funded construction contracts will be handled in the following manner, and GDOT will include these requirements in all contract documents:
 - A. Common fill is defined as soil, rock, brick, concrete without reinforcement, concrete with reinforcement where the reinforcement has been removed flush with the surface of the concrete and cured asphalt, provided that such material does not contain hazardous waste constituents above background levels and the material results from GDOT funded construction contracts. Such fill is not subject to Georgia Comprehensive Solid Waste Management Act of 1990 and the Solid Waste Management Rules when used as fill material on GDOT funded construction contracts or GDOT property, or when used as fill material on property not owned by GDOT and all requirements of this document are fully met. Common fill may be placed:
 - a. At a permitted landfill (municipal, C&D, or inert) fully meeting all requirements of the Solid Waste Rules and Act and any other applicable laws or ordinances.

- b. At an off-site engineered fill location with a Georgia registered professional engineer of record certifying and documenting compaction rates, waste description including average particle size, and the depth of clean earthen fill lying above the engineered fill, and comply with the applicable GDOT specifications reflecting this agreement and further found at section 201.3.05.E.3 of GDOT's specifications. These records must be maintained in the project files in accordance with GDOT's Records Retention Policy requirements.
 - c. Placed on-site as compacted fill documented and approved, prior to disposal by a GDOT engineer. Records of the exact locations, amounts disposed at each location, waste description including average particle size, compaction rates, and the depth of clean earthen fill lying above the composite materials shall be maintained in the project files and comply with the applicable GDOT specifications reflecting this agreement and further found at section 201.3.05.E.3 of GDOT's specifications. The documentation shall be further maintained in accordance with GDOT's Records Retention Policy requirements.
- B. Inert waste is defined as organic debris such as stumps, limbs and leaves, cured asphalt, and any of the aforementioned fill items that do not meet GDOT minimum compaction specifications when placed into an excess materials pit. The disposal of such material in this manner will require an inert waste landfill permit in accordance with EPD Rules. Additionally, inert waste may only be disposed at a permitted landfill (municipal, C&D, or inert) fully meeting all requirements of the Solid Waste Rules and Act and any other applicable laws or ordinances.
- C. Construction/demolition waste is defined as construction forms, barrels, scrap metal, and other such by-products of construction not specifically listed above as either common fill or inert waste. Construction/demolition waste must be disposed of at a permitted landfill (municipal or C&D) fully meeting all requirements of the Solid Waste Rules and Act and any other applicable laws or ordinances.
- D. Solid waste handling and disposal documentation requirements:
 - a. Waste disposed at a permitted municipal or C&D landfill – all tipping receipts generated by the receiving landfill
 - b. Waste disposed at inert landfill – a copy of the landfill's Permit By Rule notification, and for landfills exceeding one acre, a copy of the landfill's NPDES General Storm water Permit Notice of Intent (NOI) and any local jurisdiction Land Disturbing Activity Permit if applicable.
 - c. Any necessary documentation regarding a disposal site's permit status must be obtained and verified by GDOT and/or its contractors before any common fill, inert waste, or other solid waste is allowed to leave the GDOT site.
 - d. The documentation listed herein shall be maintained on-site in the project files and at any other location GDOT deems necessary until a valid NPDES Notice of

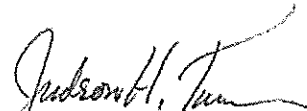
Termination is filed and granted, and after that point in a manner consistent with GDOT's Records Retention Policy requirements.

E. With the exception of those instance noted herein, all types of waste shall be handled in full compliance with the following:

- a. The Georgia Solid Waste Management Rules, as amended (391-3-4)
 - b. Georgia Comprehensive Solid Waste Management Act of 1990, as amended (O.C.G.A. 12-8-20)
 - c. The E&S Act applicable local and state requirements and the General Permits of the Ga. Water Quality Control Act
 - d. Any other applicable Federal, State, or Local rules or laws
 - e. This Memorandum of Agreement
 - f. Recyclable materials must be separated from all waste materials and shall be properly stored in containers when practicable.
2. Under this MOA where GDOT is only providing funding, in whole or in part, to the contract, construction contracts, and or project and does not have any role in the contract administration or responsibility for construction oversight of the work being undertaken, GDOT shall require compliance by such funding recipient with the applicable requirements of this MOA. If such compliance is satisfactorily required, GA EPD herein agrees that enforcement actions arising from non-compliance by the funding recipient with the above stipulations, to include non-compliance with any supporting GDOT specifications included in such contracts, will not be brought against GDOT.
3. This MOA is effective 60 (sixty days) after signature of both parties ("Effective Date") and will continue in effect until modified or revoked by agreement of both parties or revoked by either party alone upon 30 days written notice.



Keith Golden, P.E.
Commissioner
Georgia Department of Transportation



Judson H. Turner
Director
Georgia Environmental Protection Division

Date: 5-21-12

Date: 6/11/12

Georgia Department of Natural Resources

2 Martin Luther King, Jr., Drive, S.E, Suite 1152, East, Atlanta, Georgia 30334-9000

Chris Clark, Commissioner
Environmental Protection Division
F. Allen Barnes, Director
Phone: (404) 656-4713

MEMORANDUM

September 20, 2010

TO: Mr. Gerald Ross, P. E. Chief Engineer Georgia Department of
Transportation

FROM: Jim Ussery, Assistant Director, EPD

RE: Buffer variance issues

This memorandum expands and supercedes the June 8, 2006 memorandum from Bert Langley regarding these issues.

The issue addressed in this memorandum is how do the buffer variance requirements apply when a roadway drainage structure is installed across a stream. A subset of this is the situation where the stream or a tributary makes a bend such that the stream or tributary runs parallel to the roadway and the cleared right of way encroaches into the buffer. At what point does a buffer variance become necessary.

General Permit GAR100002 at part IV(i) authorizes the construction of drainage structures and roadway drainage structures without the necessity of obtaining a variance from EPD. The first issue, is at what point does a roadway drainage structure such as a bridge begin and end. The structure obviously includes some amount of approach road. This is of particular concern in the situation described above where the stream turns and runs parallel to the roadway drainage structure. At what point is the cleared right of way exempt from the variance requirements because of the drainage structure and at what point do the buffer variance requirements become applicable.

Discussions with GDOT representatives have indicated that for structures such as a bridge, GDOT specifications require additional compaction along the traveled way beginning one hundred feet from the actual structure and that this would be a reasonable way to determine the beginning and end for a bridge. Likewise a culvert requires additional compaction for fifty feet.

EPD agrees that for future projects the land disturbing activities along the traveled way within 100 feet of bridges and 50 feet of culverts will be considered part of the roadway drainage structure and no buffer variance would be required. However any buffer intrusion along the traveled way, outside these areas could be subject to the buffer variance requirements. This is represented in Figure 1 below.

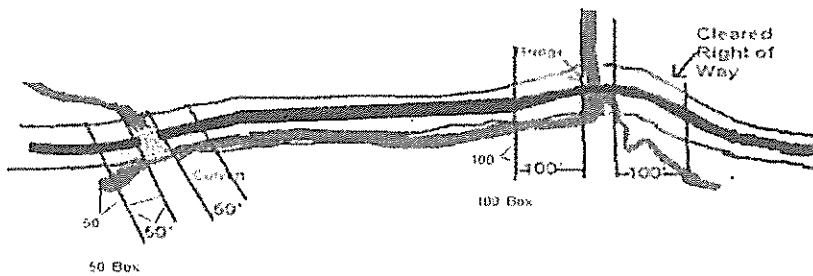


Figure 1

The areas on either side of the bridge or culvert identified in yellow would be considered part of the structure and no variance would be required for the sections of stream running parallel to the roadway. However, the areas outside the yellow with the stream running parallel to the roadway and within 25' (50' for a trout stream) would be subject to the buffer requirements.

The second part of this question is how much area at right angles to the traveled way can be considered necessary for the construction of a roadway drainage structure.

EPD has conducted extensive discussions with GDOT regarding the amount of disturbance necessary to construct roadway drainage structures, particularly bridges. GDOT, in preparing construction plans assumes that the entire cleared right of way may be necessary for the activities associated with constructing any roadway drainage structure.

For future projects EPD agrees that the roadway drainage structure exemption will include the cleared right of way for 50' x 50' along the traveled way for culverts and 100' x 100' for bridges. Construction activities within this 'box' would be part of the activities necessary to construct the roadway drainage structure and no buffer variance would be needed. Obviously, disturbance should be kept to a minimum and only the areas actually necessary for construction activities should be disturbed.

There will be specific situations where installation or construction of a roadway drainage structure may require disturbance that exceeds that described in this memo. In cases where the stream needs to be rerouted, a buffer variance is required. In those cases where GDOT exceeds the cleared right of way for 50' x 50' along the traveled way for culverts and 100' x 100' for bridges, GDOT should document the necessity, along with an explanation, for the extra disturbance. This should be submitted in writing to the Nonpoint Source Program, Watershed Protection Branch for concurrence. A copy of the concurrence letter will be forwarded to the appropriate District Office. GDOT should not initiate the additional land disturbance before receiving final concurrence from the Nonpoint Source Program. In addition, a copy of the concurrence letter should be retained on site within the appropriate GDOT records.

Diversions and De-watering Activities

Unless the plans indicate otherwise, the ESPCP does not contain approved diversion plans or approved methods to de-water. The use of mechanical pumps to divert State waters/streams or to de-water areas within the project shall require the submission of a plan for review by the Engineer prior to commencing.

De-watering

Any pumped flow associated with de-watering from within the site, i.e., pumping from a cofferdam, excavation, vertical sag area, etc which consist of removing; pooled, ponded, standing groundwater, intermittent groundwater flows or otherwise collected stormwater shall either be pumped into an equal or greater volume excavated sump area for infiltration, a suitable container for recycling, (e.g. water truck for dust control and watering of vegetation), or routed through a properly designed, installed and maintained sediment basin, silt filter bag, filter ring or rock filter dam onto stabilized or natural ground.

Increased visual monitoring is required when pumped discharges will not be captured for containment or reuse. Discharges shall be reviewed as often as necessary to ensure increased water “discoloration” or increased water “cloudiness” do not exist following passage through the above BMPs. The purpose of the intake and outflow comparison is to detect degradation in water clarity and trigger a reevaluation of the pumping plan. Detection of increased water discoloration or cloudiness requires the pumping operation cease until an evaluation of the plan occurs and appropriate additional structural BMP measures or pumping alterations are implemented. Documentation of these actions and installation of additional plan measures will aid in the application of a “BMP defense” should turbid discharges continue to occur following plan improvements. Failure to monitor, amend and clearly document a pumping plan may result in DNR enforcement action being taken.

If the pumped flow will discharge into State waters the Contractor shall ensure the post BMP treated discharge results in sheet flow. Failure to create sheet flow and/or the observation of post BMP discharges that are visibly less clear than the receiving State water, shall require the Contractor to perform water quality sampling of their pumped discharges. If water quality sampling is necessary, the contractor shall also prepare and execute sampling plans per the current GAR100002 NPDES permit utilizing a Certified Design Professional as defined within the same permit. No additional payment will be made for water quality sampling of pumped discharges.

Diversions

Excluding temporary stream channel diversions performed in strict adherence to the details contained in the GSWCC Manual for Erosion and Sediment Control and, if detailed, any diversions included in the approved ESPCP plans, all State water/stream diversions require plan preparation by the Contractor utilizing a GAR100002 defined Certified Design Professional. The Department recommends the Contractor work closely with the Design Professional preparing the plan to coordinate and consider work area, access, delivery needs, terrain and diversion length with respect to the practice of minimizing any temporary stream impacts.

The following suggested alternatives are offered for consideration in the development of site specific diversion plans. Alternatives are not limited to the examples presented below, nor do these suggestions imply or confer a Design Professional's seal of approval.

Diversion Alternate #1: The normal stream flow of non-trout water streams flowing on uniform beds having a grade of less than 2%, being between 1' and 6' wide across the water surface by no more than 1' deep at the stream's deepest depth in this location may be temporarily stopped while work is taking place in the channel by placing temporary sand bags in the channel upstream of the work area. Monitoring of the stopped inflow to prevent damage to private property or create safety concerns shall dictate the ability to continue operations. At a minimum of once per every 8 hours the stoppage shall be removed to allow for normal stream flow to resume for a minimum duration of 1 hour. Under no conditions shall the stoppage continue uninterrupted for more than 8 hours. Release of impounded water shall occur following the removal of all construction debris and the stabilization of all bare areas exposed by excavation or other construction activities.

Diversion Alternate #2: A diversion pump may be used as necessary to convey stream flow around the work area. The pump intake must be situated in manner that prevents ingestion of streambed materials. The pump outlet must be discharged onto a stable, non-erodible material such as rip rap downstream of the work area.

Diversion Alternate #3: Temporary Sand bags may be placed as necessary in the channel to divert the stream flow into one barrel of a multi-barrel box culvert thereby allowing work to take place on one side of the channel or culvert. The flow scenario can be reversed to allow work on the opposite side as necessary.

Regardless of diversion implemented, if the flow downstream of the diversion and work area appears visually discolored or exhibiting increased "cloudiness" in comparison to the stream flow upstream of the work area, all work must cease while the cause of the discoloration is evaluated, and corrected resulting in no visible difference between the upstream and downstream flows.

Design Considerations;

If flow seepage continues from the work area where a box culvert is being constructed, a Rock Filter Dam shall be placed across the channel below the outlet of the culvert. Accumulated sediments shall be removed daily and before restoring normal stream flow through the work area. Porous bags filled with 57 stone may be used as an alternate to the stone filter berm.

If rain or storm flows are expected all construction in the channel/streambed shall be stopped. All loose soils, material and debris shall be removed from the channel and culvert work area. The stream banks shall be temporarily stabilized as necessary with plastic sheeting, mats or sand bags as necessary.

De-watering the work area when a Diversion is in place

De-watering of the work area shall be considered during the Diversion plan preparation and included when anticipated or added to the plan by amendment if conditions prove it necessary.

Generally, a mechanical pump and silt filter bag may be used to de-water the work area. The pump intake must be situated in manner that prevents ingestion of streambed materials. The volume of the silt filter bag shall be commensurate with the anticipated pumping rate and volume. (Adhere to manufacturer guidelines to avoid containment failure.) The silt filter bag should be placed on a bed of 57 stone with a berm and surrounded by two rows of Type C Silt Fence and one run of hay bales. It is also common to route the pumped flow into a sediment basin. If however the pumped flow will discharge into State water, the Contractor shall ensure the post BMP treated discharge results in sheet flow. Failure to create sheet flow and/or the observation of post BMP discharges that are visibly less clear than the receiving State water, shall require the Contractor to review and amend their pumping plan and perform water quality sampling of their pumped discharges. If water quality sampling is necessary, the contractor shall also prepare and execute sampling plans per the current GAR100002 NPDES permit utilizing a Certified Design Professional as defined within the same permit. No additional payment will be made for water quality sampling of pumped discharges.

Notification

A requirement of either activity is the notification of the Engineer if reduced water clarity develops as a result of de-watering or diversion activities so that he/she may contact our Environmental Compliance Bureau.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

OFFICE Construction

DATE May 18, 2015

FILE

FROM  Marc A. Mastronardi, P.E.
State Construction Engineer

TO District Construction Engineers

SUBJECT Monthly Project Weather Reconciliation

Effective June 1, 2015 please implement the following in order to improve our efficiency surrounding the analysis of weather related Time Extensions.

On a monthly basis the Project Engineer and the Contractor's Superintendent shall meet to go over apparent days lost to weather over the previous month. The purpose of the meeting is to discuss and reach agreement on the day(s) in question and whether or not the controlling item of work was impacted by inclement weather. A weather related time extension will continue to follow the guidance within the Construction Manual, e.g., not be processed until the very final stages of work to account for days gained by favorable weather. However, with this approach a running tally will be created as work progresses. A brief letter summarizing the outcome of the meeting should be sent to the contractor copying the file and the State Construction Office.

Attached are the current weather charts identifying the number of days expected to be lost to weather per month for roadway and bridge projects for use in this effort.

Shifting to this approach should eliminate the arduous task of searching through project records months or years later by instead recording outcomes in a timely fashion.

Please contact me if there are any questions regarding this directive.

(Attachment)

Cc: Meg Pirkle, Jeff Baker, Melissa Harper, Bayne Smith

GA Weather Stations and Divisions by National Oceanic and Atmospheric Administration (NOAA)
with GDOT Weather Zones

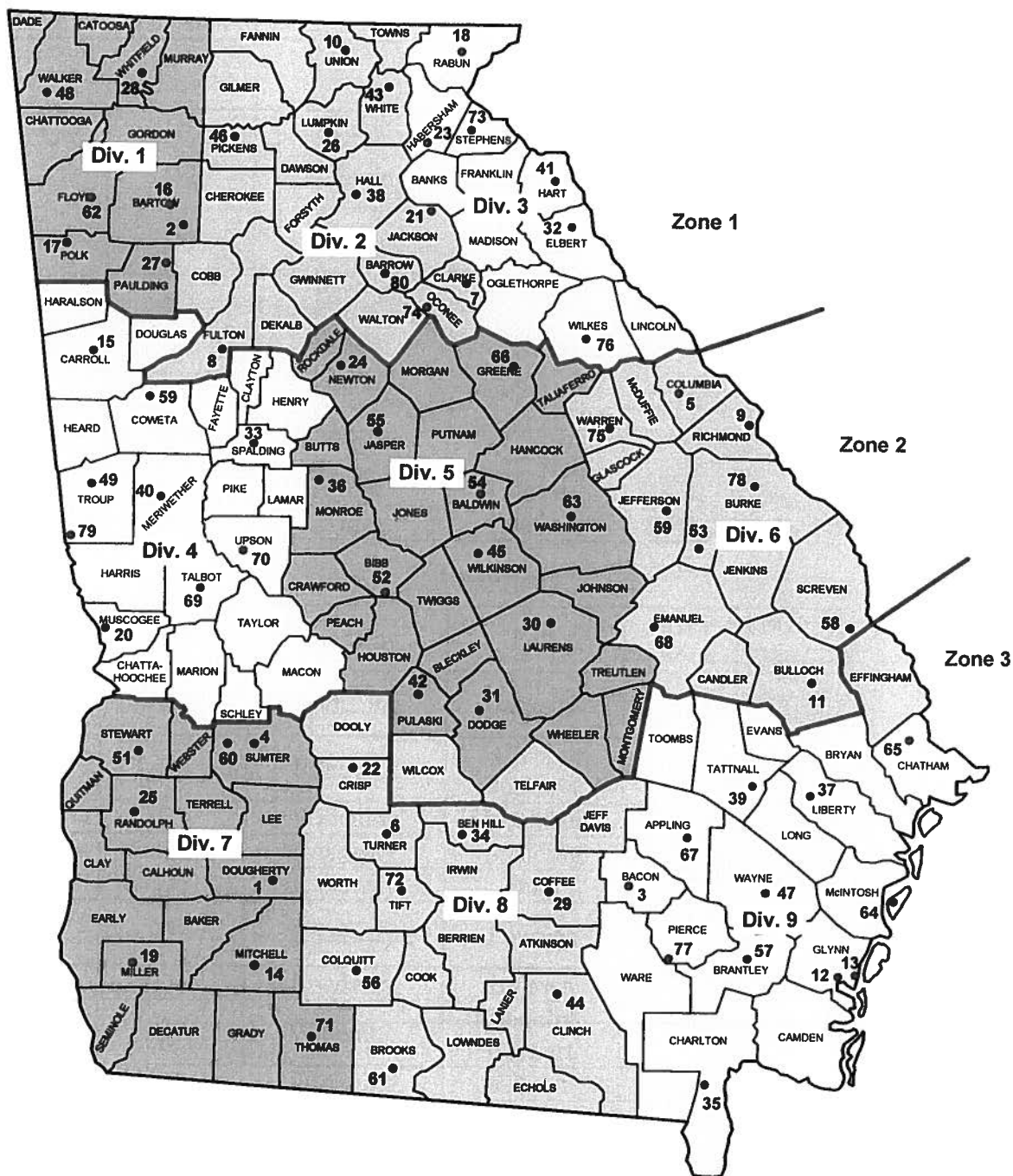


FIGURE 1 GDOT Weather Zones and NOAA Weather Stations and Divisions.

Task 5. Creating Revised Weather Map and Charts

The thresholds for rainfall and temperature were entered as limits into the NOAA data for qualified weather stations. The Roadways and Bridges non-working days were determined by zones from the NOAA data based on established thresholds and criteria. The working days were then determined, as shown in the following revised, available working days charts.

Revised Weather Charts for Roadway Construction

The following weather charts were developed for roadway construction in each of the three zones.

Zone 1 (Northern Zone)

Month	Calendar Days	Weekends	Rain Days	Cold Days	Wet Days	Holidays	Available Work Days
January	31	9	3	5	1	2	11
February	28	8	3	4	1	-	12
March	31	9	3	2	1	-	16
April	30	9	2	1	1	1	16
May	31	9	2	-	1	1	18
June	30	9	2	-	1	-	18
July	31	9	2	-	1	1	18
August	31	9	2	-	1	-	19
September	30	9	2	-	1	1	17
October	31	9	2	1	1	1	17
November	30	9	2	2	1	3	13
December	31	9	2	5	1	2	12
Total	365	107	27	20	12	12	187

Zone 2 (Central Zone)

Month	Calendar Days	Weekends	Rain Days	Cold Days	Wet Days	Holidays	Available Work Days
January	31	9	3	3	1	2	13
February	28	8	3	2	1	-	14
March	31	9	3	1	1	-	17
April	30	9	2	-	1	1	17
May	31	9	2	-	1	1	18
June	30	9	3	-	1+(- 2)	-	19
July	31	9	3	-	1+(-3)	1	20
August	31	9	3	-	1+(-1)	-	19
September	30	9	2	-	1	1	17
October	31	9	1	-	1	1	19
November	30	9	2	1	1	3	14
December	31	9	2	2	1	2	15
Total	365	107	29	9	6	12	202

Note: Days shown in parentheses with a minus sign are the "Negative" Wet Days.

Zone 3 (Southern Zone)

Month	Calendar Days	Weekends	Rain Days	Cold Days	Wet Days	Holidays	Available Work Days
January	31	9	3	2	1	2	14
February	28	8	3	1	1	-	15
March	31	9	3	0	1	-	18
April	30	9	2	0	1	1	17
May	31	9	2	0	1 + (-2)	1	20
June	30	9	3	0	1 + (-2)	-	19
July	31	9	4	0	1 + (-2)	1	18
August	31	9	3	0	1 + (-3)	-	21
September	30	9	3	0	1 + (-1)	1	17
October	31	9	2	0	0	1	19
November	30	9	2	0	0	3	16
December	31	9	2	1	1	2	16
Total	365	107	32	4	0	12	210

Note: Days shown in parentheses with a minus sign are the "Negative" Wet Days.

Revised Weather Charts for Bridge Construction

The following weather charts were developed for bridge construction for each of the three zones.

Zone 1 (Northern Zone)

Month	Calendar Days	Weekends	Rain Days	Cold Days	Holidays	Available Work Days
January	31	9	3	3	2	14
February	28	8	3	2	-	15
March	31	9	3	1	-	18
April	30	9	2	-	1	18
May	31	9	2	-	1	19
June	30	9	2	-	-	19
July	31	9	2	-	1	19
August	31	9	2	-	-	20
September	30	9	2	-	1	18
October	31	9	2	-	1	19
November	30	9	2	1	3	15
December	31	9	2	3	2	15
Total	365	107	27	10	12	209

Zone 2 (Central Zone)

Month	Calendar Days	Weekends	Rain Days	Cold Days	Holidays	Available Work Days
January	31	9	3	2	2	15
February	28	8	3	2	-	15
March	31	9	3	1	-	18
April	30	9	2	-	1	18
May	31	9	2	-	1	19
June	30	9	3	-	-	18
July	31	9	3	-	1	18
August	31	9	3	-	-	19
September	30	9	2	-	1	18
October	31	9	1	-	1	20
November	30	9	2	1	3	15
December	31	9	2	2	2	16
Total	365	107	29	8	12	209

Zone 3 (Southern Zone)

Month	Calendar Days	Weekends	Rain Days	Cold Days	Holidays	Available Work Days
January	31	9	3	2	2	15
February	28	8	3	1	-	16
March	31	9	3	0	-	19
April	30	9	2	0	1	18
May	31	9	2	0	1	19
June	30	9	3	0	-	18
July	31	9	4	0	1	17
August	31	9	3	0	-	19
September	30	9	3	0	1	17
October	31	9	2	0	1	19
November	30	9	2	0	3	16
December	31	9	2	1	2	17
Total	365	107	32	4	12	210