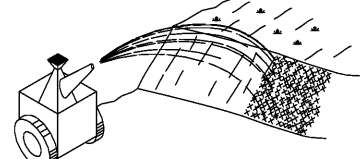


A TEMPORARY COVER OVER BASE AREAS TO PREVENT EROSION AND REDUCE RUNOFF; TO CONSERVE MOISTURE; TO PREVENT SURFACE COMPACTION OR CRUSTING; TO CONTROL UNDESIRABLE VEGETATION; TO MODIFY SOIL TEMPERATURE AND TO INCREASE BIOLOGICAL ACTIVITY IN THE SOIL.

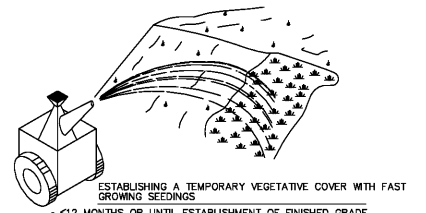


• ≤ 6 MONTHS OR WHEN SEEDING DOES NOT HAVE A SUITABLE GROWING SEASON

MATERIAL	RATE
STRAW OR HAY	2" to 4" DEEP
WOOD WASTE, CHIPS,	2"-3" DEEP (ABOUT 8 TO 9 TONS/ACRE)
SAWDUST OR BARK	6 TO 9 TONS/ACRE
POLYETHYLENE FILM	COMPLETELY COVER AREA

• MAY BE NECESSARY TO ANCHOR

**(Ds1) DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)**



- ≤ 12 MONTHS OR UNTIL ESTABLISHMENT OF FINISHED GRADE OR PERMANENT VEGETATION
- SITE PREPARATION
  - GRADING AND SHAPING
  - SEED BED PREPARATION
  - APPLY LIME AND FERTILIZER
  - PLANT SEEDING, SELECT SPECIES BY SEASON AND REGION
  - APPLY MULCHING MATERIAL IF NEEDED
  - IRRIGATE IF NEEDED BUT NOT AT A RATE TO CAUSE EROSION
- PLANTING DATES DEPEND ON SPECIES AND REGION (MOUNTAIN, PIEDMONT OR COASTAL)

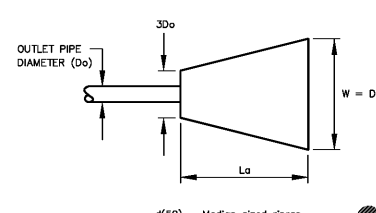
**PLANTING RATES AND PLANTING DATES FOR TEMPORARY COVER**

SPECIES	RATE PER 1,000 SQ. FT.		PLANTING DATES		
	PER ACRE	PER ACRE	MOUNTAINS	PIEDMONT	COASTAL
RYE	3.9 LB.	3 BU. (180 LBS)	7/15-12/1	8/15-1/1	9/1-3/1
RYEGRASS ANNUAL	0.9 LB.	40 LBS.	8/1-5/1	8/1-4/15	8/15-4/1
ANNUAL LESPEDEZA	0.9 LB.	40 LBS.	2/1-5/1	2/15-5/1	1/15-3/15
WEeping LOVEGRASS	0.1 LB.	4 LBS.	3/15-6/15	3/15-6/15	2/15-6/15
SUDANGRASS	1.4 LB.	60 LBS.	3/1-9/1	3/1-9/1	3/1-8/15
BROWN TOP MILLET	0.9 LB.	40 LBS.	4/1-7/1	4/1-7/15	4/1-7/15
WHEAT	4.1 LB.	3 BU. (180 LBS)	9/1-1/1	9/1-1/1	9/15-2/1

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

**(Ds2) DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDINGS)**

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 fullwater depth or to the top bank, whichever is less.
4. A filter blanket or filter fabric should be installed between the riprap and soil foundation.
5. The median sized stone for riprap,  $d(50)$ , shall be determined from curves provided in the latest edition of the "Manual For Erosion and Sediment Control in Georgia".



**(St) STORM DRAIN OUTLET PROTECTION**

ESTABLISHING A PERMANENT VEGETATIVE COVER AS A DISTURBED AREA



- APPLICABLE ON HIGHLY ERODIBLE OR SEVERELY ERODED AREAS, SOMETIMES CALLED "CRITICAL AREAS" INCLUDING:
  - CUT OR FILL SLOPES
  - EARTH SPILLWAYS
  - BORROW AREAS
  - CHANNEL BANKS
  - BERMS
  - ROADSIDES
  - SPOIL AREAS
  - GULLIED LANDS
- GRADING AND SHAPING REQUIRED WHERE FEASIBLE AND PRACTICAL
- SEED BED PREPARATION
  - NOT REQUIRED IF USING HYDRAULIC SEEDING AND FERTILIZING WHEN REQUIRED
- SLOPE SEED BED
  - 3:1 OR FLATTER 2" to 4" DEEP
  - 2:1 TO 3:1 1" TO 4" DEEP
  - 2:1 OR STEEPER 6" TO 8" APART WITH HAND TOOL
- HAVE SOIL ANALYZED FOR LIME AND FERTILIZER RATE
- MULCH ALL SLOPES STEEPER THAN 3% AND IN BOTTOM OF SPILLWAYS AND ON ROADSIDES
- ANCHOR MULCH IMMEDIATELY

PERMANENT GRASSING

GRASS SEED ON LEVEL OR SLIGHTLY SLOPING GROUND SHALL CONSIST OF THE FOLLOWING FOR THE PLANTING DATES SPECIFIED:

(A) MARCH 1 TO JUNE 30	COMMON BERMUDEA (HULLED)	10 LBS/ACRE
	TALL FESCUE	50 LBS/ACRE
(B) AUGUST 1 TO NOVEMBER 1	TALL FESCUE	50 LBS/ACRE
	COMMON BERMUDEA (UNHULLED)	10 LBS/ACRE
(C) NOVEMBER 1 TO MARCH 1	COMMON BERMUDEA (UNHULLED)	10 LBS/ACRE

PERMANENT GRASSING

GRASS SEED ON LEVEL OR SLOPES 3:1 OR STEEPER AND INFREQUENTLY MOWED AREAS SHALL CONSIST OF THE FOLLOWING FOR THE PLANTING DATES SPECIFIED:

(A) MARCH 1 TO JUNE 15	WEeping LOVEGRASS	5 LBS/ACRE
	SERICA LESPEDEZA (SCARIFIED)	60 LBS/ACRE
(B) AUGUST 1 TO NOVEMBER 1	TALL FESCUE	50 LBS/ACRE
	SERICA LESPEDEZA (UNSCARIFIED)	75 LBS/ACRE
(C) NOVEMBER 1 TO MARCH 1	COMMON BERMUDEA (UNHULLED)	10 LBS/ACRE
	SERICA LESPEDEZA (UNSCARIFIED)	75 LBS/ACRE

WHEN AS DIRECTED BY THE ENGINEER, SEED OF AN APPROVED QUICK GROWING SPECIES OF GRASS, SUCH AS RYE, ITALIAN RYE, MILLET OR OTHER CEREAL GRASS, SHALL BE APPLIED AT A RATE OF 30 LBS/ACRE IN CONJUNCTION WITH AND IN ADDITION TO THE SEED MIXTURE SPECIFIED ABOVE.

FERTILIZER

COMMERCIAL FERTILIZER SHALL COMPLY WITH THE STATE FERTILIZER LAWS AND SHALL BE OF AN ACCEPTED AND APPROVED COMMERCIAL BRAND. FERTILIZER SHALL BE A READY MIXED MATERIAL CONTAINING THE SOIL NUTRIENTS AS SPECIFIED AND IN A SUITABLE FORM COMPATIBLE WITH THE EQUIPMENT USED TO ACHIEVE UNIFORM DISTRIBUTION OF THE FERTILIZER. THE FERTILIZER MIXTURE SHALL CONTAIN THE FOLLOWING NUTRIENTS EXPRESSED IN PERCENT OF THE TOTAL WEIGHT: 6% NITROGEN, 12% AVAILABLE PHOSPHORIC ACID, AND 12% WATER SOLUBLE POTASH (6-12-12) ANALYSIS. CONTAINER TAGS SHALL HAVE THE NAME AND ADDRESS OF THE MANUFACTURER, THE BRAND NAME, NET WEIGHT, AND CHEMICAL COMPOSITION OF ANALYSIS. FERTILIZER SHALL BE APPLIED AT THE RATE OF 1,500 LBS PER ACRE AT THE TIME OF SEEDING.

LIME

AGRICULTURAL DOLOMITE LIME SHALL BE A PULVERIZED LIMESTONE HAVING A CALCIUM CARBONATE EQUIVALENT CONTENT OF NOT LESS THAN 90% OF THE TOTAL MATERIAL SHALL PASS A 10-MESH SIEVE AND AT LEAST 25% SHALL PASS A 100-MESH SIEVE. LIME SHALL BE APPLIED AS INDICATED BY THE SOIL TEST, OR THE RATE OF 1 TO 2 TONS PER ACRE.

WATER

THE WATER USED IN THE GRASSING OPERATIONS MAY BE OBTAINED FROM ANY APPROVED SPRING, POND, LAKE, STREAM, OR MUNICIPAL WATER SYSTEM. THE WATER SHALL BE FREE OF EXCESS AND HARMFUL CHEMICALS, ACIDS, ALKALIZES, OR ANY SUBSTANCE WHICH MIGHT BE HARMFUL TO PLANT GROWTH.

CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PROPER MOISTURE CONTENT OF THE SOIL TO INSURE ADEQUATE PLANT GROWTH UNTIL A SATISFACTORY STAND OF GRASS IS OBTAINED. WATERING SHALL BE PERFORMED TO MAINTAIN AN ADEQUATE WATER CONTENT IN THE SOIL.

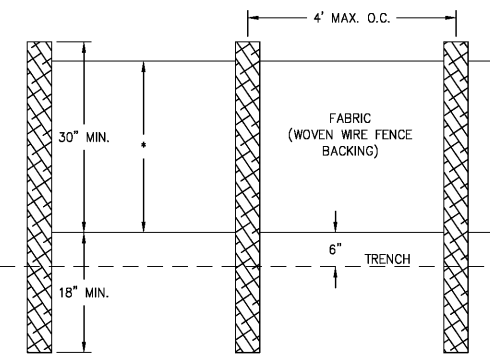
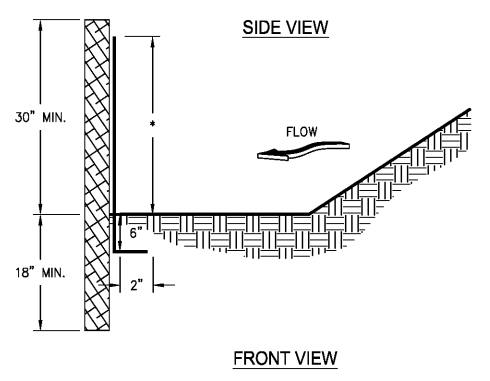
THE CONTRACTOR SHALL MOW AND MAINTAIN ALL SEED AREAS WITHOUT ADDITIONAL PAYMENT UNTIL FINAL ACCEPTANCE OF THE WORK BY THE OWNER, AND ANY REGRASSING, RESEEDING, OR REMULCHING SHALL BE DONE AT HIS OWN EXPENSE. SEEDING WORK SHALL BE REPEATED IN DEFECTIVE AREAS UNTIL A SATISFACTORY UNIFORM STAND OF GRASS IS COMPLETED. DAMAGE RESULTING FROM EROSION, SLIDING, WASHING, OR SETTLEMENT SHALL BE REPAIRED BY FILLING WITH TOPSOIL, COMPACTION, AND RESEEDING THE SEEDING WORK AT HIS EXPENSE.

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENT CONTROL WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION.

ON INSTALLATION EROSION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.

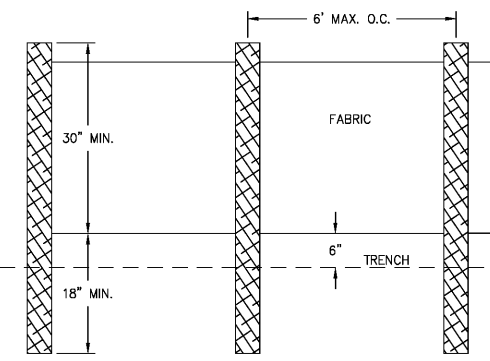
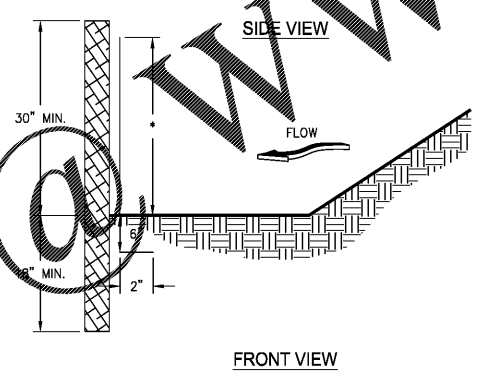
**(Ds3) DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)**

**SILT FENCE - TYPE SENSITIVE**



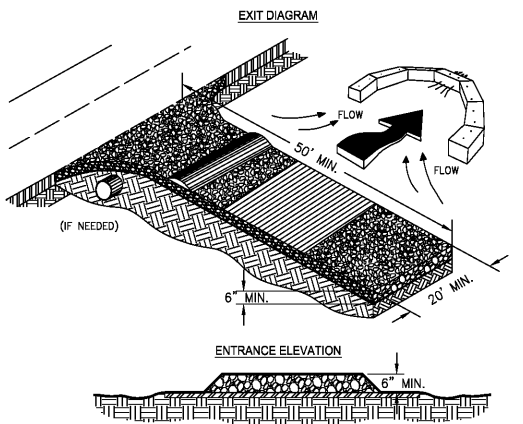
- NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
  2. HEIGHT (\*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

**SILT FENCE - TYPE NON-SENSITIVE**



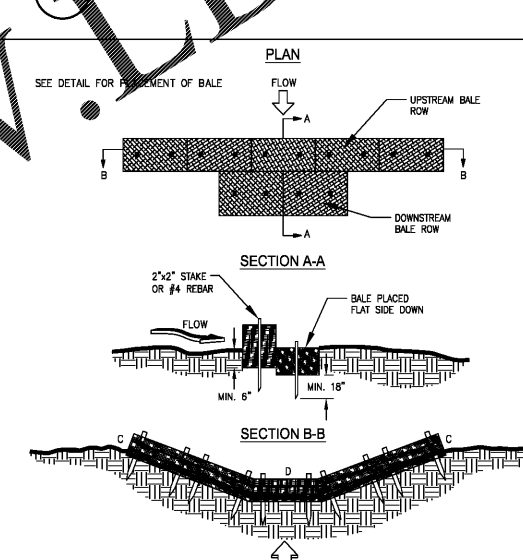
- NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
  2. HEIGHT (\*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

**(Sd1) SEDIMENT BARRIER (Sd1-S) TYPE SENSITIVE (Sd1-NS) TYPE NON-SENSITIVE**



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

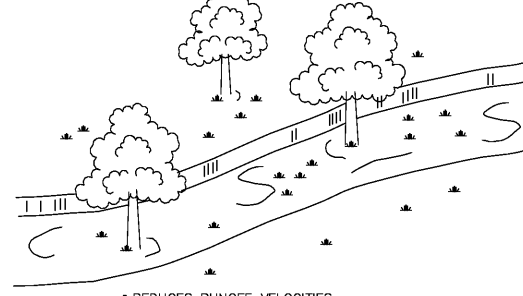
**(Ct) TEMPORARY CONSTRUCTION EXIT**



- NOTES:
1. BALES SHOULD BE BOUND WITH WIRE OR NYLON STRING AND SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHTLY ADJUTING THE ADJACENT BALES.
  2. REMOVE #4 REBAR AFTER STRAW BALES ARE NO LONGER IN PLACE.
  3. POINT C OF SECTION B-B SHOULD ALWAYS BE HIGHER THAN POINT D.

**(Cd1b) HAY BALE CHECK DAM**

UNDISTURBED STRIP OR "GREEN BELT" SURROUNDING SITE OR BORDERING STREAMS.



- REDUCES RUNOFF VELOCITIES
- FILTERS SEDIMENT FROM RUNOFF
- ACTS AS A SCREEN FOR "VISION POLLUTION"
- REDUCES CONSTRUCTION NOISE
- IMPROVES AESTHETICS OF LAND DISTURBED

**(Bf) BUFFER ZONE**

**Best Management Practices (BMPs) Heavy Equipment & Earth-Moving Activities**

Heavy Equipment Operation Problems

Soil excavation and grading operations often contribute to urban runoff pollution. By loosening large amounts of soil and sediment, earth-moving activities can cause sediment to flow into gutters, storm drains and streams. Sediment is the most common pollutant washed from worksites, creating multiple problems once it enters the stream. Sediment clogs the gills of fish, blocks light transmission and increases stream water temperature, all of which harm life, disturbing the food chain upon which both fish and people depend upon.

Sediment also carries with it other worksite pollutants such as pesticides, cleaning solvents, cement wash, asphalt and/or fluids like motor oil, grease and antifreeze. Poorly maintained vehicles and heavy equipment leaking fuel and oil at the construction site, also contribute to ocean pollution.

**Solutions**

Best Management Practices (BMPs) such as handling, storing, and disposing of materials properly can prevent pollutants from entering the storm drains.

**General Business Practices**

Schedule excavation and grading work for dry weather. Use as little water as possible for dust control.

**Spills & Soils**

Never hose down "dirty" pavement or impermeable surfaces where fluids have spilled. Use dry cleanup methods (sawdust, kitty litter, and/or rags) and dispose of properly. Sweep spilled materials immediately. Never attempt to bury them or "wash them away" with water. Clean up spills on dirt areas by digging up and properly disposing of contaminated soil. Report significant spills to the appropriate spill response agencies immediately.

**Vehicle & Equipment Maintenance**

Maintain all vehicle and heavy equipment in good working order and inspect frequently for leaks. Conduct all vehicle/equipment maintenance and refueling at one location—away from storm drains. Perform major maintenance, repair jobs and vehicle/equipment washing off-site. Use gravel approaches where truck traffic is frequent to reduce soil compaction and limit the tracking of sediment into streets. Use drip pans or drop cloths to catch drips and spills if you drain and replace motor oil, radiator coolant or other fluids on site. Collect all used fluids, store in separate containers and recycle whenever possible; otherwise make certain they are disposed of properly. Do not use diesel oil to lubricate equipment or parts. Washout of the drum at the construction site is prohibited.

**Erosion Prevention**

After clearing, grading or excavating, exposed soil poses a clear and immediate danger for stormwater pollution. Revegetation (permanent or temporary) is an excellent form of erosion control for any site. Avoid excavation and grading activities during wet weather. Construct diversion dikes to channel runoff around the site. Line channels with grass or roughened pavement to reduce runoff velocity. Cover stockpiles and excavated soil with secured tarps or plastic sheeting. Remove existing vegetation only when absolutely necessary. Large projects should be conducted in phases. Consider planting temporary vegetation for erosion control on slopes or where construction is not immediately planned. Plant permanent vegetation as soon as possible, once excavation and grading activities are complete.

**Vehicle fueling**

**Description and Purpose**

Vehicle equipment fueling procedures and practices are designed to prevent fuel spills and leaks, and reduce or eliminate contamination of stormwater. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.

**Suitable Applications**

These procedures are suitable on all construction sites where vehicle and equipment fueling takes place.

**Limitations**

Onsite vehicle and equipment fueling should only be used where it is impractical to send vehicles and equipment offsite for fueling. Sending vehicles and equipment offsite should be done in conjunction with Co, Stabilized Construction Entrance/Exit.

**Implementation**

Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.

Discourage "lopping-off" of fuel tanks.

**Spill Response Agencies**

GA EPD - 912-254-7284  
NRC - 800-424-8502

**Concrete Waste Management**

**Description and Purpose**

Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

**Suitable Applications**

These procedures are suitable on all construction sites where concrete work takes place.

**Implementation**

- < Store dry and wet materials under cover, away from drainage areas.
- < Avoid mixing excess amounts of fresh concrete or cement on-site.
- < Perform washout of concrete trucks off-site or in designated areas only.
- < Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- < Do not allow excess concrete to be dumped on-site, except in designated areas.
- < When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water into a bermed or level area.
- < Train employees and subcontractors in proper concrete waste management.
- < Washout of the drum at the construction site is prohibited.



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BID READY	10.18.2019

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CHECKED BY: \_\_\_\_\_

NORTHGATE HIGH SCHOOL  
SANITARY SEWER  
COWETA COUNTY WATER AND SEWERAGE AUTHORITY

CATL190025

EROSION AND SEDIMENTATION CONTROL DETAILS

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