EROSION AND SEDIMENTATION CONTROL NARRATIVE

PROJECT DESCRIPTION
The purpose of this project is for the construction of a Hardee's Restaurant.
The project is owned by Boddie-Noell Enterprises Inc. The site is currently a retired sit-down restaurant.

Approximately 1.64 acres will be disturbed during construction.

The project is scheduled to begin construction in Fall 2017 with project completion and final stabilization by Fall 2018. The erosion and sediment control program for this project will include the installation of a suitable construction entrance, silt fence, inlet protection with seeding.

ADJACENT PROPERTY
The adjacent property is commercial.

SOILS
The soil at this site is a sandy clay.

EROSION AND SEDIMENT CONTROL MEASURES
All vegetative and structural erosion and sediment control practices shall be constructed and maintained by the contractor according to these plans and specifications and the minimum standards of the Dept. of Environmental Management, Land Quality Section and City of Wilson. The contractor shall also follow any additional requirements as outlined by the Project Engineer.

Structural Practices
1. Vehicle wheels shall be clean when leaving the site to prevent the tracking of mud on paved roads.
2. Construction Road Stabilization: Construction traffic shall be limited to stabilized areas. At a minimum, a temporary gravel construction entrance shall be provided as shown on this drawing.
3. Silt Fence: Silt fences shall be provided where shown and as needed on the site plan. These barriers shall be used to contain sediment.
4. Rip Rap/Gravel Filter Sediment Basins: Construct basin to the shape and dimensions shown in the details. The basin is to be placed below the existing ditch flow line by 2' with the berm built above as dimensioned.

Vegetative Practices (Ground Stabilization)

Site Area Description:	Stabilization Time Frame:	Stabilization Time Frame Exceptions:
Perimeter dikes, swales, ditches & slopes.	7 Days	None
High Quality Water (HQW) Zones.	7 Days	None
Slope steeper than 3:1	7 Days	None
Slopes 3:1 or flatter.	10 Days	7 Days for slopes greater than 50 feet in length.

Seeding Schedule

Ongoing Activity. Land left exposed shall be planted or otherwise provided with temporary ground cover, devices, or structures sufficient to restrain erosion within the applicable time period after completion of any phase of grading or period of inactivity as follows: seven (7) days for steep slope or inclination. Ten (10) days for a moderate slope, fourteen (14) days for land with no slope or inclination. For purposes of this section, a moderate slope means an inclined area, the inclination of which is less than or equal to three (3) units of horizontal distance to one (1) unit of vertical distance; and a steep slope means an inclined area, the inclination of which is greater than three (3) units of horizontal distance to one (1) unit of vertical distance. No other criteria apply.

Completed Activity. For any area of land-disturbing activity where grading activities have been completed, temporary or permanent ground cover sufficient to restrain erosion shall be provided as soon as practicable, but in no case later than seven (7) days after completion of grading.

Management Strategies
1. Perimeter measures are to be installed prior to grubbing or grading.
2. Toll Ditches shall be stabilized immediately following their construction. As an alternate, rock check dams may be provided at their outlets and/or the terminal downstream end of disturbance until ground cover is implemented.
3. Stockpile and/or waste areas must be maintained within the limits of the areas protected by the proposed measures and otherwise temporarily seeded if to be left stockpiled over 15 days.
4. Construction shall be planned so that grading operations can begin and end as quickly as possible.
5. Silt Fences shall also be installed prior to or as a first step in construction.
6. The Contractor shall be responsible for the installation and maintenance of all erosion and sediment control practices.

Vegetative Ground Cover
Immediately following grading, all areas shall receive either permanent or temporary seeding, as applicable, as follows:

TEMPORARY SEEDING SPECIFICATIONS

BETWEEN MAY 1 AND AUGUST 15, ADD 40 LB/ACRE GERMAN MILLET. PRIOR TO MAY 1 OR AFTER AUGUST 15, ADD 120 LB/ACRE RYE (GRAIN).

FALL IS BEST FOR TALL FESCUE AND LATE WINTER FOR LESPEDEZAS. OVERSEEDING OF KOBE LESPEDEZAS OVER THE FALL SEEDED TALL FESCUE IS VERY EFFECTIVE. USE UNHULLED BERMUDAGRASS SEED IN FALL.

SOIL AMENDMENTS
APPLY LIME AND FERTILIZER ACCORDING TO TESTS, OR APPLY 2,000 LB/ACRE GROUND AGRICULTURE LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER

MULCH
APPLY 4,000 LB/ACRE GRAIN STRAW, OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCHING MATERIAL. ANCHOR MULCH BY TACKING WITH ASPHALT, ROVING OR NETTING. NETTING IS THE PREFERRED ANCHORING METHOD ON STEEP SLOPES.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

PERMANENT SEEDING SPECIFICATIONS

FESCUE – 200 Lbs./Ac.
CENTIPEDE – 20 Lbs./Ac.

SOIL AMENDMENTS
APPLY LIME AND FERTILIZER ACCORDING TO SOIL TEST.

MAINTENANCE
IF GROWTH IS LESS THAN FULLY ADEQUATE, REFERTILIZE THE SECOND YEAR. ACCORDING TO SOIL TESTS OR TOPDRESS WITH 500 LB/ACRE 10-10-10 FERTILIZER. MOW AS NEEDED.
REPLACE, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY.

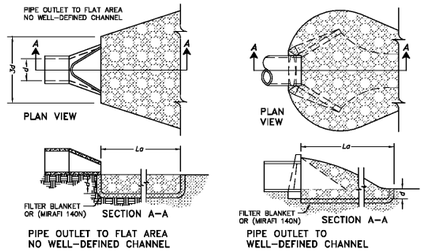
Maintenance
1. Reseed and mulch bare spots larger than 9 square feet (limited to 5% maximum of site area.)
2. Maintain all seeded areas until uniform stand is acceptable.
3. If growth is not established by final project inspection, continue specified attention until the stand is acceptable.
4. Correct and repair all undue settling and erosion within 1 year after final inspection.
5. Remove from the site, all erosion control structures after complete stabilization at end of construction period.
6. Remove silt from sediment pits and from behind check dams when silt is within half depth of the pit or spillway. Dispose of in an area where silt will not re-enter pit / trap.

Calculations
The practice utilized for the proposed site did require formal calculations. Calculations have been provided.

OWNER
Boddie-Noell Enterprises, Inc.
PO Box 1908
Rocky Mount, NC 27802-1908
252.937.2800

Maintenance Notes:
1. Follow chart for timeline of when to apply temporary seeding.
2. Maintain all erosion control measures daily and reseed disturbed areas as needed.
3. Inspect all erosion control measures weekly and after each rainfall event. Repair as needed.

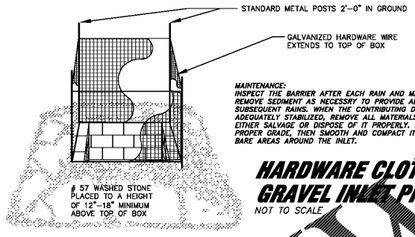
GENERAL NOTES:
1. Stockpile areas shall be a minimum of 100' away from surface waters and inside the perimeter EC Measures.
2. Concrete Washout areas shall be a minimum of 100' away from surface waters and inside the perimeter EC Measures.
3. If any off-site soil spoil or borrow site is utilized, then the disturbed area for the spoil/borrow site must be included in the land-disturbance plan and permit unless the spoil/borrow site already has a land-disturbance permit.



GENERAL NOTES:
1. La = THE LENGTH OF THE RIP RAP 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 RIP RAP AND SOIL FOUNDATION.
5. FLARED END SECTION IS OPTIONAL. SEE PLANS FOR REQUIREMENT.
6. SEE PLAN AND PROFILES FOR ACTUAL DIMENSIONS.

PIPE OUTLET PROTECTION

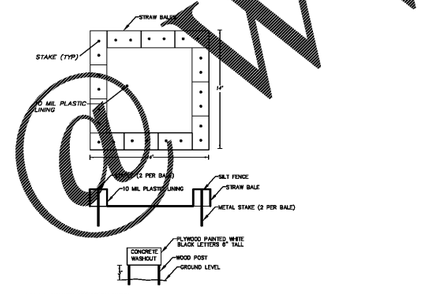
SCALE: N.T.S.



MAINTENANCE:
INSPECT THE BARRIER AFTER EACH RAIN AND MAKE REPAIRS AS NEEDED. REMOVE SEDIMENT AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR SUBSEQUENT RAINS. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN ADEQUATELY STABILIZED, REMOVE ALL MATERIALS AND ANY UNSTABLE SOIL, EITHER SALVAGE OR DISPOSE OF IT PROPERLY. BRING THE DISTURBED AREA TO PROPER GRADE, THEN SMOOTH AND COMPACT IT. APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET.

HARDWARE CLOTH & GRAVEL INLET PROTECTION

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:
1. CONCRETE WASHOUT SIGN SHALL BE INSTALLED NO FURTHER THAN 25' FROM THE FACILITY AND SHALL BE VISIBLE TO ALL CONSTRUCTION TRAFFIC.
2. POLYETHYLENE SHEETING SHALL BE 10 MILS FREE OF HOLES, TEARS, OR LEAKS.

MAINTENANCE:
FACILITY SHALL NOT BE FILLED MORE THAN 12" FROM THE TOP BEFORE DISPOSING OF CONCRETE. CONCRETE SHALL BE DISPOSED OF IN THE SAME MANNER AS OTHER NON-HAZORDOUS MATERIALS FROM THE SITE OR MAY BE BROKEN UP AND USED AS FILL IN NON-STRUCTURAL AREAS.

CONCRETE TRUCK WASHOUT

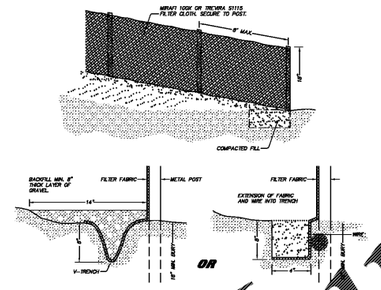
NOT TO SCALE

Construction Sequence

1. Schedule and hold a pre-construction conference prior to beginning any land-disturbing activities. This conference should be attended by a representative of the financially responsible party and/or the general contractor, grading sub-contractor, erosion control sub-contractor and the Engineer.
2. Obtain Land Disturbing Permit and placard, and post the placard on site.
3. Obtain an approved (stamped) S&E control plan and keep it on site, either in the inspection box, construction office or with the contractor.
4. Install construction egress/exit, silt fencing, check dams, and other initial erosion control measures as specified in the plan. Remove only trees and ground cover necessary to install these devices.
5. Notify the City of Wilson S&E site inspector after measures have been installed and project has started.
6. Begin demolition, clearing, grubbing and grading of site in accordance with the approved S&E control plan.
7. Provide all disturbed areas with ground cover as per ground stabilization table or after completion of any phase of clearing, grubbing or grading. The seeding, seedbed preparation, mulch and/or rolled erosion control product installation must be in accordance with the seeding schedule provided in this S&E plan.
8. At the conclusion of building or if land-disturbing activity is stopped temporary or permanent vegetative cover shall be installed in accordance with ground stabilization table.
9. Remove all erosion control measures after the City of Wilson S&E office approval of permanent stabilization.

SILT FENCE

NOT TO SCALE

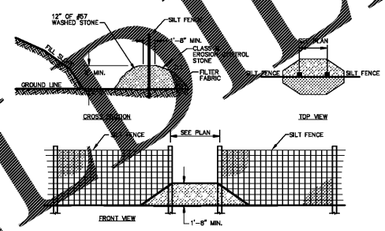


CONSTRUCTION SPECIFICATIONS:
1. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
3. CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 6 FEET MINIMUM OVERLAP TO THE NEXT POST.
4. SUPPORT STANDARD FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, IF USED, ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIPPERS SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIPPERS SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
7. EXCAVATE A TRENCH APPROXIMATELY 8 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
8. PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
9. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.
10. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

MAINTENANCE:
INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. USE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

SILT FENCE OUTLET

NOT TO SCALE

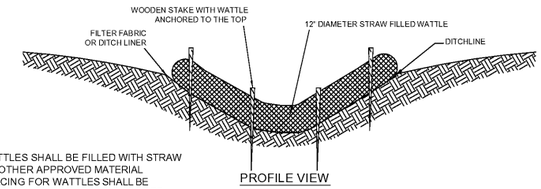


CONSTRUCTION SPECS:

1. *CLEAR & GRUB THE AREA AROUND THE SILT FENCE OUTLET AND PROPERLY DISPOSE OF DEBRIS.*
2. *PLACE GRAVEL TO THE SPECIFIC GRADE AS SHOWN PER THE DETAIL.*
3. *PROPERLY OVERLAP STONE BEYOND EDGES OF SILT FENCE OPENING.*

MAINTENANCE:

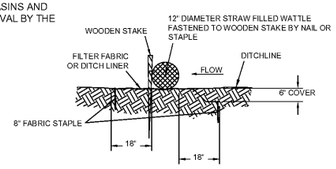
INSPECT OUTLETS WEEKLY AND AFTER EACH RAIN EVENT. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR AS NEEDED. CAREFULLY CHECK OUTLETS FOR EROSION AND REPAIR IMMEDIATELY. ENSURE THERE IS NO SCOURING APPARENT DOWNSTREAM OF OUTLET. IMMEDIATELY STABILIZE ANY AREAS THAT NEED REPAIR.



NOTES:
1. WATTLES SHALL BE FILLED WITH STRAW OR OTHER APPROVED MATERIAL
2. SPACING FOR WATTLES SHALL BE DETERMINED BY THE SITE ENGINEER.
3. WATTLES MAY BE USED FOR PROTECTION OF CATCH BASINS AND DROP INLETS WITH APPROVAL BY THE ENGINEER.

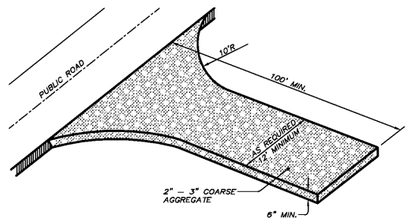
NCDOT WATTLE

NOT TO SCALE



CONSTRUCTION ENTRANCE

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:
1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

MAINTENANCE:
MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

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NORTH CAROLINA PROFESSIONAL SEAL 19843 ENGINEER J. MICHAEL STOCKS
7/14/17

EROSION NOTES/DETAILS

REVISIONS

FILE NO.	2017-013
HORZ. SCALE:	1"=20'
VERT. SCALE:	NONE

D-01