PERMANENT MULCHING PLAN

Mulching Materials and Application Rates

Material	Rate Per Acre	Quality	Notes
Organic Mulches			
Straw	1-2 tons	Dry, unchopped, unweathered; avoid weeds.	Should come from wheat or oats; spread by hand or machine; must be tacked down.
Wood chips	5-6 tons	Air dry	Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handler, or by hand. Not for use in fine turf.
Wood fiber	0.5-1 tons		Also referred to as wood cellulose. May be hydroseeded. Do not use in hot, dry weather.
Bark	35 cubic yards	Air dry, shredded or hammer-milled, or chips.	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack.
Corn stalks	4-6 tons	Cut or shredded in 4-6 in. lengths.	Apply with mulch blower or by hand. Not for use in fine turf.
Sericea lespedeza seed-bearing stems	1-3 tons	Green or dry; should contain mature seed.	
Nets and Mats[1]			
Jute net	Cover area	Heavy, uniform; woven of single jute yarn.	Withstands waterflow. Best when used with organic mulch.
Fiberglass net	Cover area		Withstands waterflow. Best when used with organic mulch.
Excelsior (wood fiber) mat	Cover area		Withstands waterflow.
Fiberglass roving	0.5-1 tons	Continuous fibers of drawn glass bound together with a non-toxic agent.	Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 25-35 gal/1,000 sq ft.
Chemical Stabilizers[2]			
Aquatain, Aerospray, Curasol AK, Petroset SB, Terra Tack, Crust 500, Genaqua 743, M-145	follow manufacturer's specifications		Not beneficial to plant growth.

[1]Refer to Practice No. 6.30, *Grass Lined Channels.*

[2]Use of trade names does not imply endorsement of product.

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PERMANENT SODDING PLAN

	Varieties	Region of Adaptation
Cool Season Grasses:		
Kentucky blugrass blend[1]		Mountains
Tall fescue blend	Adventure, Brookston, Falcon, Finelawn, Galway, Houndog, Jaguar, Olympic, Rebel	Mountains and Piedmont
Tall fescue/Kentucky bluegrass		Mountains and Piedmont
Warm Season Grasses:		
Hybrid Bermudagrass	Vamont, Tifway, Tifway II & Tifgreen	Piedmont and Coastal Plain
Zoysiagrass	Emerald, Meyer	Piedmont and Coastal Plain
Centipedegrass	No improved varieties	Piedmont and Coastal Plain
St. Augustinegrass	Raleigh	Piedmont and Coastal Plain

[1]A large number of varieties exist—consult suppliers and your local Agricultural Extension office for recommendations.

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GENERAL CONSERVATION NOTES AND SPECIFICATIONS (SOURCE: NORTH CAROLINA STATE NOTES)

I. GENERAL INFORMATION

A. THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE SITE.
B. NO SEDIMENT OR SEDIMENT LADEN WATER MUST BE ALLOWED TO LEAVE THE SITE WITHOUT FIRST BEING PROPERLY FILTERED.
C. ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF THE DAY.
D. DISTURBED AREAS ON WHICH EARTHMOVING ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY, EITHER TEMPORARILY OR PERMANENTLY, INCLUDING THE RESTORATION OF DRIVEWAYS, STOCKPILES, OFF-SITE UNDERGROUND UTILITY LINES AND GRADED PERIMETER AREAS. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES. CRUSHED STONE ON PAVEMENT SUBGRADES IS CONSIDERED ADEQUATE PROTECTION.
E. AREAS THAT FAIL TO GERMINATE MUST BE RE-SEEDED OR MULCHED.
F. WHERE DISTURBED AREAS ARE DIFFICULT TO STABILIZE, NETTING SHOULD BE USED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT AROUND WATERCOURSES, IN SWALES AND AREAS OF CONCENTRATED FLOWS, STEEP SLOPES.
G. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING, AND RE-NETTING, MUST BE PERFORMED IMMEDIATELY.
H. IF AT ANY TIME PRIOR TO SITE STABILIZATION ANY E&SP PROBLEMS OCCUR WHICH REQUIRE ADDITIONAL CONTROLS, IMMEDIATE ACTION MUST BE TAKEN TO CORRECT THE PROBLEMS.
I. THE CONTRACTOR MUST DEVELOP AND COORDINATE WITH OWNER AND HAVE APPROVED BY THE NCDENR, A SEPARATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN FOR EACH SPOIL, BORROW OR OTHER WORK AREA NOT DETAILED ON THE PERMITTED PLANS, WHETHER LOCATED WITHIN OR OUTSIDE OF THE LIMITS OF CONSTRUCTION.
J. CONTRACTOR SHALL NOTIFY THE NCDENR OF DISPOSAL METHOD AND LOCATION OF MATERIALS (IF ANY) TO BE REMOVED FROM SITE.
K. STANDARD FOR DISPOSAL OF MATERIALS
ALL MATERIALS TO BE RECYCLED OR DISPOSED OF MUST DO SO IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS. STOCKPILES TO BE HAULED OFF SITE MUST HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN AT THE DESTINATION LOCATION.

II. STANDARD FOR LAND GRADING

A. DEFINITION: RESHAPING THE GROUND SURFACE BY GRADING TO PLAN GRADES, WHICH ARE DETERMINED BY TOPOGRAPHIC SURVEY AND LAYOUT.
1. PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FULL SLOPES.
2. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.
B. INSTALLATION REQUIREMENTS
1. TIMBER, LOGS, BRUSH, RUBBISH, ROCKS, STUMPS AND VEGETABLE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OR FILL AREAS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH STANDARD FOR DISPOSAL OF MATERIALS.
2. FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE FILLS.
3. ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
4. ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION.
5. (SEE I. D.)

III. STANDARD FOR UTILITY TRENCH EXCAVATION

A. LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
B. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY. DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR A MAX. OF SIX DAYS FOR CERTAIN CASES REQUIRING TESTING OF THE INSTALLED PIPE.
C. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING TO A FACILITY FOR REMOVAL OF SEDIMENT (SEDIMENT FILTER BAG, SEE DETAIL) BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS.
D. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES / FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE IMMEDIATELY.
E. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
F. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

IV. STANDARD FOR TEMPORARY STABILIZATION

A. STANDARD FOR TEMPORARY STABILIZATION WITH MULCH
1. MULCHING IS MOST APPLICABLE TO THOSE AREAS SUBJECT TO PERIODIC DISTURBANCE AND REWORKING. IN ADDITION, STABILIZATION WITH MULCH SHALL BE USED DURING NON-GERMINATION PERIODS.
2. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
3. GRADE AS NEED AND FEASIBLE. SEE STANDARD FOR LAND GRADING.
4. PROTECTIVE MATERIALS TO BE USED:
A. UNROTTED SMALL-GRAIN STRAW OR HAY AT 3.0 TONS PER ACRE SPREAD UNIFORMLY AT 135 POUNDS PER 1000 SQUARE FEET AND ANCHORED WITH LIQUID MULCH BINDER OR; WOOD-FIBER OR PAPER-FIBER MULCH AT A RATE OF 1500 POUNDS PER ACRE MAY BE APPLIED BY A
B. HYDROSEEDER OR HYDROMULCHER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL. LIQUID MULCH BINDERS: APPLY IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. EMULSIFIED ASPHALTS (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1 AND CRS-2), APPLY 0.04 GAL./SQ. YD. OR 194 GAL./ACRE ON FLAT SLOPES LESS THAN 8' HIGH. ON SLOPES 8' OR MORE HIGH USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE.

B. STANDARD FOR TEMPORARY STABILIZATION WITH SEED
1. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDED AND MULCHED IMMEDIATELY WITH A TEMPORARY COVER.
2. SEEDBED PREPARATION
A. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
B. APPLY GROUND LIMESTONE AT A RATE OF 1 TON/AC.
C. APPLY 10-10-10 FERTILIZER A RATE OF 150 LB/AC.
D. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF FOUR (4) INCHES.

C. SEEDING
1. SEED MIXTURE TEMPORARY: WINTER RYE SHALL BE APPLIED AT A RATE OF 178 LB/ACRE
2. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SLURRY FORM), MAY BE LEFT ON THE SOIL SURFACE. SOIL CONSERVATION DISTRICT CAN REQUIRE SPECIFIC TECHNIQUES FOR HYDROSEEDING AND/OR HYDROMULCHING IN AREAS WITH DROUGHTY CONDITIONS. FOR MULCHING REQUIREMENTS SEE STANDARD FOR STABILIZATION WITH MULCH.

V. STANDARD FOR PERMANENT STABILIZATION

A. SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER
1. SITE PREPARATION
A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.
B. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL PH TO 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
C. IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION, THE SURFACE SHOULD BE SCARIFIED TO PROVIDE A GOOD BOND WITH THE TOPSOIL.
2. APPLYING TOPSOIL
A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
B. ALL DISTURBED TOPSOIL ON-SITE IS TO BE REDISTRIBUTED ON-SITE IN AREAS NOT COVERED BY IMPERVIOUS SURFACES. NO REMOVAL OF TOPSOIL IS ALLOWED UNLESS APPROVED BY THE TOWNSHIP. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS RECOMMENDED. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE.
3. SEEDBED PREPARATION
A. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
B. APPLY 10-20-10 OR EQUIVALENT RATED FERTILIZER AT A RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1000 SQUARE FEET.
C. APPLY 300 POUNDS 38-0-0 PER ACRE OR EQUIVALENT OF SLOW RELEASE NITROGEN.
D. APPLY PULVERIZED DOLOMITIC LIMESTONE AT A RATE OF 1/3 TONS PER ACRES OR 15 POUNDS PER 1000 SQUARE FEET.
E. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED.
F. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION, REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.
G. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RE-TILLED AND FIRMED AS ABOVE.
4. SEEDING
A. SEED MIXTURE PERMANENT: SAHARA BERMUDA GRASS AT A RATE OF 275 LB/ACRE IN ADDITION TO TEMPORARY SEEDING (SEE ABOVE)
1. SEEDING DATES 3/1 TO 5/15 8/15 TO 10/1
2. SEED MIX SHALL HAVE A PURE LIVE SEED (PLS) RATING OF 60% OR GREATER
B. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SCURRY FORM), WHICH ARE MULCHED, MAY BE LEFT ON THE SOIL SURFACE. SOIL CONSERVATION DISTRICT CAN REQUIRE SPECIFIC TECHNIQUES FOR HYDROSEEDING AND/OR HYDROMULCHING IN AREAS WITH DROUGHTY CONDITIONS. FOR MULCHING REQUIREMENTS SEE STANDARD FOR STABILIZATION WITH MULCH: PROTECTIVE MATERIALS TO BE USED.
C. UNROTTED SMALL-GRAIN STRAW OR HAY AT 3.0 TONS PER ACRE SPREAD UNIFORMLY AT 135 POUNDS PER 1000 SQUARE FEET AND ANCHORED WITH LIQUID MULCH BINDER OR; WOOD-FIBER OR PAPER-FIBER MULCH AT A RATE OF 1500 POUNDS PER ACRE MAY BE APPLIED BY A
5. IRRIGATION - (WHERE FEASIBLE)
IF SOIL MOISTURE IS DEFICIENT AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER, A MINIMUM OF 1/4" TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED, ESPECIALLY WHEN SEEDING IS PERFORMED IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

B. STANDARD FOR PERMANENT STABILIZATION WITH SOD
1. METHODS AND MATERIALS
A. CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. SPECIFY "CERTIFIED SOD," OR OTHER HIGH QUALITY CULTIVATED SOD.
B. SOD SHOULD BE FREE OF WEEDS AND UNDESIRABLE COARSE WEEDY GRASSES.
C. SOD SHOULD BE OF UNIFORM THICKNESS, APPROXIMATELY 5/8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING. (EXCLUDES TOP GROWTH).
D. SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 10% OF THE STRIP. BROKEN PADS OR TORN AND UNEVEN ENDS WILL NOT BE ACCEPTABLE.
E. FOR DROUGHTY SITES A SOD OF KENTUCKY 31 TALL FESCUE AND BLUEGRASS IS PREFERRED OVER A STRAIGHT BLUEGRASS SOD.
F. ONLY MOIST, FRESH UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS.
2. SITE PREPARATION
SEE SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER.
3. APPLYING TOPSOIL
SEE SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER.
4. SEEDBED PREPARATION
SEE SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER.
5. SOD PLACEMENT
A. SOD STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP. ON STEEP SLOPES, THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
B. PLACE SOD STRIPS WITH SNUG EVEN JOINTS THAT ARE STAGGERED. OPEN SPACES INVITE EROSION.
C. ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLID CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY IN ORDER TO PREVENT VOIDS, WHICH WOULD CAUSE DRYING OF THE ROOTS.
D. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES, OR SPLIT SHINGLES (8 TO 10 INCHES LONG BY 3/4 INCH WIDE).
E. SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE, BUT A CAPPING STRIP OF HEAVY JUTE OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER-CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL WORK.
F. IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS.
6. TOP DRESSING
IF SLOW RELEASE NITROGEN (300 POUNDS 38-0-0 PER ACRE OR EQUIVALENT) IS USED IN ADDITION SUGGESTED FERTILIZER, THEN A FOLLOW-UP OF TOP DRESSING IS NOT MANDATORY.
A. SPRING INSTALLATION OF SOD WILL REQUIRE AN APPLICATION OF FERTILIZER SUCH AS 10-20-10 EQUIVALENT AT 400 POUNDS PER ACRE OR 10 POUNDS PER 1,000 SQUARE FEET BETWEEN SEPTEMBER 1 AND OCTOBER 15.
B. FALL INSTALLATION OF SOD WILL REQUIRE THE ABOVE BETWEEN MARCH 15 AND MAY 1.

NCDEQ EROSION AND SEDIMENT CONTROL NOTES

1. ON-SITE BURIAL PITS ARE NOT ALLOWED AT ANY LOCATION WITHIN THE CITY OF LEXINGTON.
2. ANY GRADING BEYOND THE LIMITS OF CONSTRUCTION SHOWN ON THIS PLAN IS SUBJECT TO A FINE.
3. GRADING 1 ACRE OR MORE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION AND SUBJECT TO A FINE.
4. GROUND STABILIZATION MUST OCCUR WITHIN 7 DAYS ON PERIMETER AREAS AND SLOPES GREATER THAN 3:1, AND GROUND STABILIZATION MUST OCCUR WITHIN 14 DAYS ON OTHER AREAS.
5. BASIN OUTLET STRUCTURES WITH DRAINAGE AREAS EQUAL OR GREATER THAN ONE ACRES MUST WITHDRAW WATER FROM THE SURFACE.
6. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY THE NCDENR EROSION CONTROL INSPECTOR.
7. ALL ELEVATIONS ARE IN REFERENCE TO THE SURVEYORS BENCHMARK WHICH MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
8. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPT. OF AGRICULTURE, AND ANY APPLICABLE LOCAL LAWS AND CODES.
9. PERMANENT CUT AND FILL SLOPES PLACED ON A SUITABLE FOUNDATION SHOULD BE CONSTRUCTED AT 2:1(HORIZONTAL TO VERTICAL) OR FLATTER. PERMANENT SLOPES OF 3:1 SHOULD BE CONSTRUCTED WHERE MOWING IS DESIRABLE AND AS INDICATED. IF FILL MATERIAL IS BROUGHT ONTO THE PROPERTY OR IF WASTE MATERIAL IS HAULED FROM THE PROPERTY THEN THE CONTRACTOR SHALL DISCLOSE THE LOCATION OF ANY ON-SITE AND/OR OFF-SITE BARROW LOCATION AND/OR WASTE BURIAL LOCATION TO THE EROSION CONTROL INSPECTOR.
10. ANY REPORT SUBMITTED TO NCDENR MUST ALSO BE SENT TO THE CITY OF LEXINGTON ENGINEERING DEPARTMENT ATTENTION DIRECTOR INCLUDING ANY SELF INSPECTION REPORTS.
11. LIMITS OF CLEARING SHOWN ARE BASED ON CUT AND FILL SLOPES OR OTHER GRADING REQUIREMENTS.
12. CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES AS INDICATED PRIOR TO GRADING OPERATIONS. NO DEVICE MAY BE REMOVED WITHOUT APPROVAL OF EROSION CONTROL COORDINATOR.
13. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY WITH EXISTING CONTOURS.
14. ALL DISTANCES ARE HORIZONTAL GROUND.
15. TOTAL DENUDED AREA = 1.25 AC
16. ANCHOR SILT FENCE WITH COMPACTED BACKFILL ON TREE PROTECTION ZONES. DO NOT BURY.
17. ALL EROSION CONTROL DEVICES SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM EVENT. IF ANY FAILURES ARE FOUND, THEY SHOULD BE REPAIRED AS SOON AS POSSIBLE.
18. ANY ASSOCIATED DEMOLITION PERMITS AND METHODS OF DEMOLITION ARE TO BE OBTAINED AND ARRANGED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
19. SEDIMENT TRAPS AND BASINS NEED TO BE STABILIZED IMMEDIATELY AFTER INSTALLATION.
20. STONE OUTLETS SHOULD BE INSTALLED AT LOW POINTS OF THE SILT FENCING, BASED ON FIELD CONDITIONS.
21. EFFECTIVE OCTOBER 1, 2010, PERSONS RESPONSIBLE FOR LAND DISTURBING ACTIVITIES MUST INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. SELF-INSPECTION REPORTS ARE REQUIRED. A SAMPLE SELF-INSPECTION REPORT, AS WELL AS DETAILS OF THE SELF-INSPECTION PROGRAM, CAN BE FOUND ON THE LAND QUALITY WEBSITE. IF YOU HAVE QUESTIONS OF THE SELF-INSPECTION PROGRAM, PLEASE CONTACT (704) 663-1699.

TEMPORARY SEEDING PLAN

Seeding mixture

Species	Rate (lb/acre)
Rye (grain)	120
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

Seeding dates
Mountains—Above 2500 feet: Feb. 15 - May 15
Below 2500 feet: Feb. 1 - May 1
Piedmont—Jan. 1 - May 1
Coastal Plain—Dec. 1 - Apr. 15

Soil amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Seeding mixture

Species	Rate (lb/acre)
German millet	40

In the Piedmont and Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.

Seeding dates
Mountains—May 15 - Aug. 15
Piedmont—May 1 - Aug. 15
Coastal Plain—Apr. 15 - Aug. 15

Soil amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Seeding mixture

Species	Rate (lb/acre)
Rye (grain)	120

Seeding dates
Mountains—Aug. 15 - Dec. 15
Coastal Plain and Piedmont—Aug. 15 - Dec. 30

Soil amendments
Follow soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extent temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.

HAZARDOUS MATERIAL MANAGEMENT & SPILL REPORTING

ANY HAZARDOUS OR POTENTIALLY HAZARDOUS MATERIAL THAT IS BROUGHT ONTO THE CONSTRUCTION SITE SHALL BE HANDLED PROPERLY TO REDUCE THE POTENTIAL FOR STORMWATER POLLUTION. ALL MATERIALS USED ON THIS CONSTRUCTION SITE SHALL BE PROPERLY STORED, HANDLED, DISPENSED AND DISPOSED OF FOLLOWING ALL APPLICABLE LABEL DIRECTIONS. FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE STORED AND HANDLED ACCORDING TO APPLICABLE REGULATIONS, AND, AT A MINIMUM, ACCORDING TO 29 CFR 1926.152. ONLY APPROVED CONTAINERS AND PORTABLE TANKS SHALL BE USED FOR STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.

MATERIAL SAFETY DATA SHEETS (MSDS) INFORMATION SHALL BE KEPT ON SITE FOR ANY AND ALL APPLICABLE MATERIALS. HOWEVER, MSDS MAY ALSO BE ACCESSED VIA TELEPHONE OR OTHER ELECTRONIC MEANS OR APPARATUS.

IN THE EVENT OF AN ACCIDENTAL SPILL, IMMEDIATE ACTION SHALL BE TAKEN BY THE GC TO CONTAIN AND REMOVE THE SPILLED MATERIAL. THE SPILL SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IN THE REQUIRED TIME FRAMES. AS REQUIRED UNDER THE PROVISIONS OF THE CLEAN WATER ACT, ANY SPILL OR DISCHARGE ENTERING WATERS OF THE UNITED STATES SHALL BE PROPERLY REPORTED.

ALL HAZARDOUS MATERIALS, INCLUDING CONTAMINATED SOIL AND LIQUID CONCRETE WASTE, SHALL BE DISPOSED OF BY THE CONTRACTOR IN THE MANNER SPECIFIED BY FEDERAL, STATE AND LOCAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS.

THE GC SHALL PREPARE A WRITTEN RECORD OF ANY SPILL AND ASSOCIATED CLEAN-UP ACTIVITIES OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF 1 GALLON OR REPORTABLE QUANTITIES, WHICHEVER IS LESS, ON THE DAY OF THE SPILL. THE GC SHALL PROVIDE NOTICE TO OWNER IMMEDIATELY UPON IDENTIFICATION OF ANY SPILL.

ANY SPILLS OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF REPORTABLE QUANTITIES AS DEFINED BY EPA OR THE STATE OR LOCAL AGENCY REGULATIONS, SHALL BE IMMEDIATELY REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1-800-424-8802) AND THE CITY OF LEXINGTON.

THE STATE REPORTABLE QUANTITY FOR PETROLEUM PRODUCTS IS:
IF THE PETROLEUM DISCHARGED, RELEASED OR SPILLED:
IS 25 GALLONS OR MORE,
CAUSES A SHEEN ON NEARBY SURFACE WATER, OR
IS 100 FEET OR LESS FROM SURFACE WATER BODY,
THEN THE PERSON OWNING OR HAVING CONTROL OVER THE OIL MUST IMMEDIATELY TAKE MEASURE TO COLLECT AND REMOVE THE DISCHARGE, AND REPORT THE DISCHARGE TO NCDENR WITHIN 24 HOURS OF DISCHARGE, AND BEGIN TO RESTORE AREA AFFECTED BY DISCHARGE.

IF THE PETROLEUM RELEASED OR SPILLED:
IS LESS THAN 25 GALLONS OR MORE,
DOES NOT CAUSES A SHEEN ON NEARBY SURFACE WATER, AND
IS MORE THAN 100 FEET OR LESS FROM SURFACE WATER BODY,
THEN THE PERSON WHO OWNS OR HAS CONTROL OVER THE OIL MUST IMMEDIATELY TAKE MEASURE TO COLLECT AND REMOVE THE DISCHARGE. IF IT CANNOT BE CLEANED UP WITHIN 24 HOURS OF THE DISCHARGE OR CAUSE A SHEEN ON NEARBY SURFACE WATER, THE PERSON MUST IMMEDIATELY NOTIFY NCDENR.

IF THE PETROLEUM RELEASED OR SPILLED IN ANY CIRCUMSTANCES DOES NOT MEET ONE OF THE ABOVE REQUIREMENTS, OR IS NOT PERMITTED BY GS 143-215.1, OR IT IS NOT PURSUANT TO A RULE ADOPTED BY THE ENVIRONMENTAL MANAGEMENT COMMISSION OR, A REGULATION OF USEPA, IT MUST BE REPORTED TO NCDENR IMMEDIATELY.
THE REPORTABLE QUANTITY FOR HAZARDOUS MATERIALS CAN BE FOUND ON 40 CFR 302 AND WWW.NCGA.STATE.NC.US/STATUTES/STATUTES_IN_HTML/CHP1430.HTML

TO MINIMIZE THE POTENTIAL FOR A SPILL OF PETROLEUM PRODUCT OR HAZARDOUS MATERIALS TO COME IN CONTACT WITH STORMWATER, THE FOLLOWING STEPS SHALL BE IMPLEMENTED:

1) ALL MATERIALS WITH HAZARDOUS PROPERTIES, SUCH AS PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS, SOAPS, DETERGENTS, CONSTRUCTION CHEMICALS, ACIDS, BASES, PAINTS, PAINT SOLVENTS, ADDITIVES FOR SOIL STABILIZATION, CONCRETE, CURING COMPOUNDS AND ADDITIVES, ETC., SHALL BE STORED IN A SECURE LOCATION, UNDER COVER AND IN APPROPRIATE, TIGHTLY SEALED CONTAINERS WHEN NOT IN USE.
2) THE MINIMUM PRACTICAL QUANTITY OF ALL SUCH MATERIALS SHALL BE KEPT ON THE JOB SITE AND SCHEDULED FOR DELIVERY AS CLOSE TO TIME OF USE AS PRACTICAL.
3) A SPILL CONTROL AND CONTAINMENT KIT (CONTAINING FOR EXAMPLE, ABSORBENT MATERIAL SUCH AS KITTY LITTER OR SAWDUST, ACID, BASE, NEUTRALIZING AGENT, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, PLASTIC AND METAL TRASH CONTAINERS, ETC.) SHALL BE PROVIDED AT THE CONSTRUCTION SITE AND ITS LOCATION(S) SHALL BE IDENTIFIED WITH LEGIBLE SIGNAGE AND SHOWN ON SITE MAPS.
a. THE SPILL CONTROL AND CONTAINMENT KIT SUPPLIES SHALL BE OF SUFFICIENT QUANTITIES AND APPROPRIATE CONTENT TO CONTAIN A SPILL FROM THE LARGEST ANTICIPATED PIECE OF EQUIPMENT AND FROM THE LARGEST ANTICIPATED QUANTITIES OF PRODUCTS STORED ON THE SITE AT ANY GIVEN TIME.
b. CONTENTS SHALL BE INSPECTED DAILY DURING THE DAILY STORMWATER INSPECTION.
4) ALL PRODUCTS SHALL BE STORED IN AND USED FROM THE ORIGINAL CONTAINER WITH THE ORIGINAL PRODUCT LABEL. CONTAINERS MUST BE STORED IN A MANNER TO PROTECT THEM FROM THE ELEMENTS AND INCIDENTAL DAMAGE.
5) ALL PRODUCTS SHALL BE USED IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL.
6) THE DISPOSAL OF EXCESS OR USED PRODUCTS SHALL BE IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL AND REGULATIONS.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 046241 WYATT L. BONE 3/22/19

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DATE:	3-22-19
REVISION DATE:	
REVISION DATE:	

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PROJECT No.:	NCR182158	SCALE:	AS NOTED
DRAWN BY / CHECKED BY:	CB/WLB	CAD I.D.:	NCR182158-SDP-0

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