

KIMBALL RESIDENCE
264 VALLEY RIDGE ROAD
LL 381, DISTRICT 2, SECTION 2
WELL, FULTON COUNTY, GEORGIA 30075

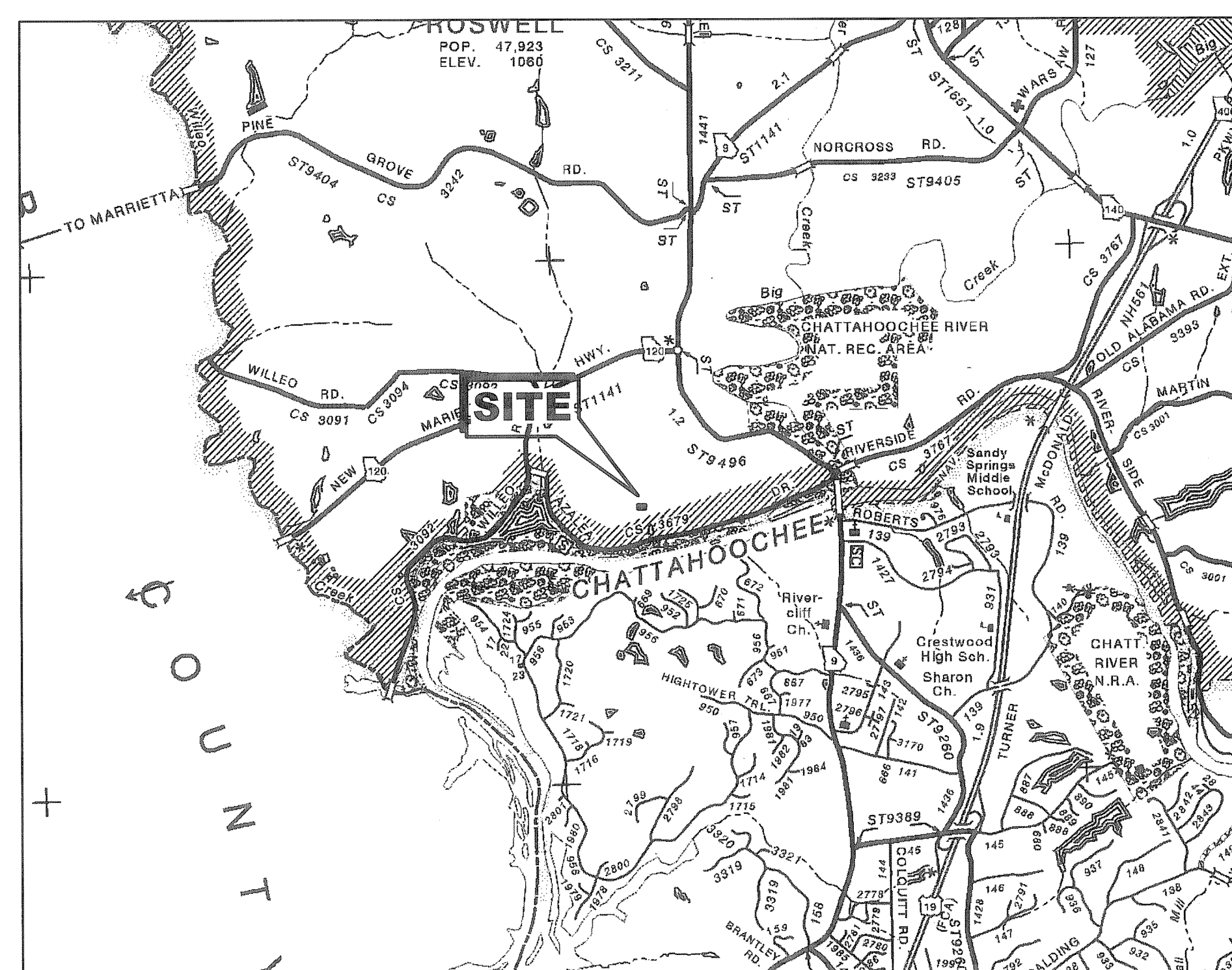
SEPTEMBER 3, 2013
REVISION 1: 10-21-13



ALEXANDER ENGINEERING, P. C.
1275 OAKDALE ROAD
ATLANTA, GEORGIA
30307-1052



TEL 404-371-9190
FAX 404-373-0571
GHALEXANDR@AOL.COM



LOCATION MAP

SCALE: 1" = 3,000'
SOURCE: GDOT COUNTY MAP

PROPERTY OWNER

ADAM & JANELLE KIMBALL
274 VALLEY RIDGE DRIVE
ROSWELL, GA 30075
TEL 678-352-9779

DEVELOPER

SDS ATLANTA
3581 HABERSHAM AT NORTHLAKE
TUCKER, GA 30084
CONTACT: JAKE GALLENBERGER
TEL: 678-469-6899

ENGINEER

ALEXANDER ENGINEERING, P.C.
1275 OAKDALE ROAD
ATLANTA, GA 30307-1052
CONTACT: GEORGE H. ALEXANDER, P.E.
TEL: 404-371-9190

THE PERSON RESPONSIBLE FOR EROSION &
SEDIMENT CONTROLS (24-HOUR CONTACT) IS:
JAKE GA;;EMBERGER
TEL: 678-469-6899



 DATE: 10/22/11
 JEAN J. FEARICK, P.E.
 CITY ENGINEER

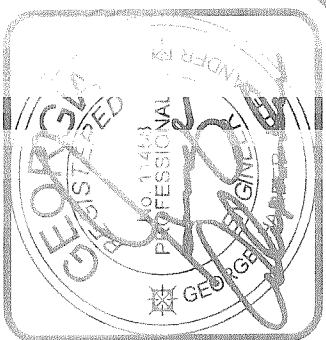

E&S Approval Only
for AEC

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ONLY THOSE PLANS INCORPORATING THE ENGINEER'S ORIGINAL SEAL AND SIGNATURE SHOULD BE CONSIDERED OFFICIAL AND RELIED UPON BY USER.

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George P. Alexander, P.E.

 Georgia P.E. No. 11458

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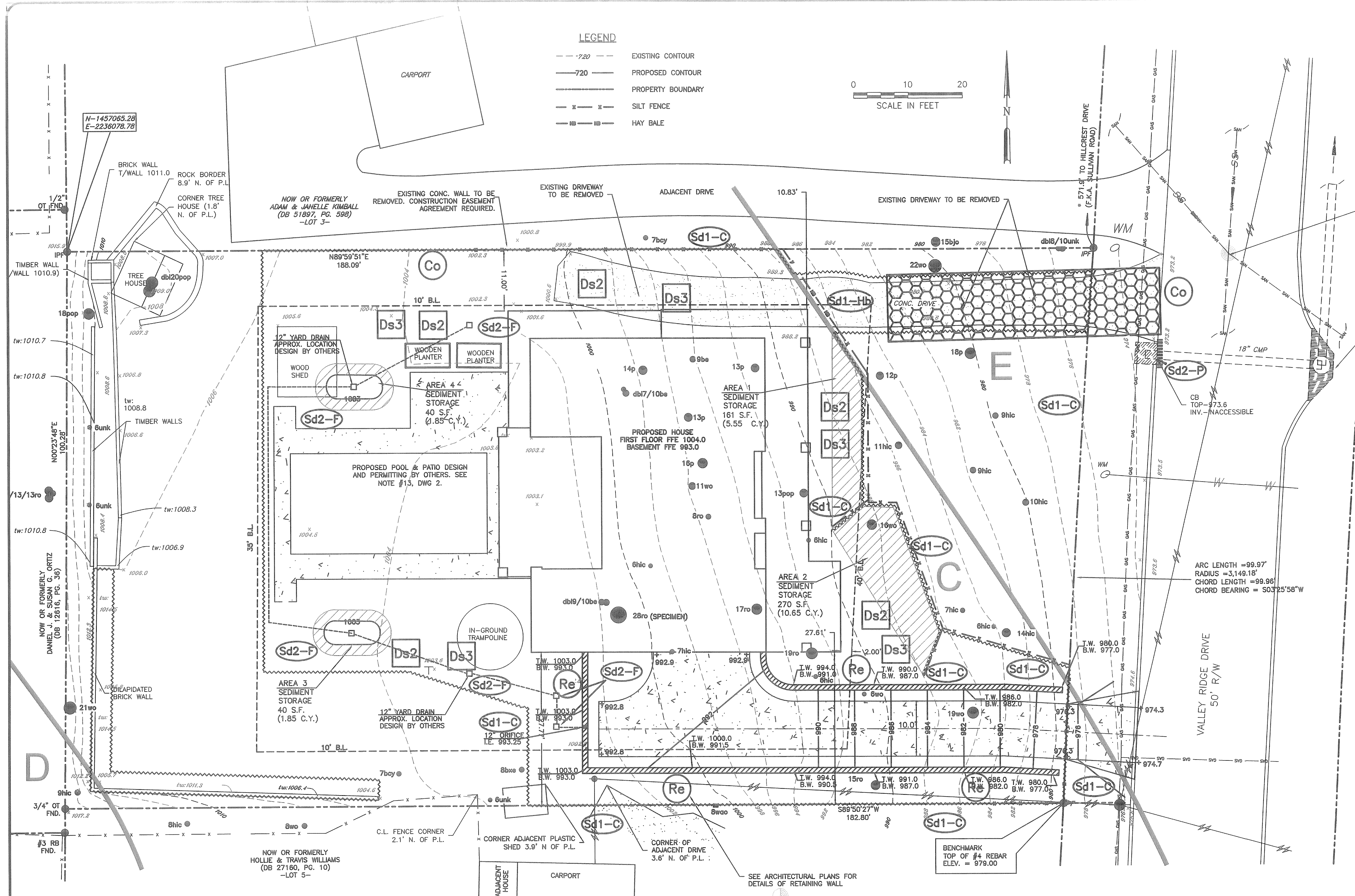
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KIMBALL RESIDENCE
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EXISTING CONDITIONS

DRAWING NO. 1



STRUCTURAL PRACTICES				
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Co	CONSTRUCTION EXIT	(label)	(label)	A crushed stone pad located at the construction exit to provide a place for removing mud from tires thereby protecting public streets.
Re	RETAINING WALL	(label)	(label)	A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Sd1	SEDIMENT BARRIER	(label)	(label)	A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, gravel or a sediment fence. The barriers are usually temporary and are expensive.
Sd2	INLET SEDIMENT TRAP	(label)	(label)	A temporary sediment barrier placed around a storm drain drop inlet to prevent sediment from entering storm drainage systems.

VEGETATIVE MEASURES				
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)	(label)	(label)	Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)	(label)	(label)	Establishing a temporary negative cover with fast growing seedlings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING)	(label)	(label)	Establishing permanent vegetation cover such as trees, shrubs, vines, sod, grasses or legumes on disturbed areas.

- CITY OF ROSWELL NOTES**
- A PRECONSTRUCTION MEETING WITH THE LAND DISTURBANCE INSPECTOR IS REQUIRED PRIOR TO RELEASE OF THE PERMIT. CONTACT ENGINEERING AT 770-594-6100 TO SCHEDULE.
 - AN ENCROACHMENT PERMIT IS REQUIRED FOR ANY WORK WITHIN THE PUBLIC RIGHT OF WAY FROM THE ROSWELL DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE. CONTACT JOHN WOOTEN FOR ENCROACHMENT PERMITS AND TRAFFIC CONTROL PLAN APPROVAL AT 770-594-6108.
 - A TREE REMOVAL PERMIT IS REQUIRED FOR ALL TREES 3-INCH CALIPER OR GREATER, IF LOT IS OVER 1-ACRE.
 - A TREE REMOVAL PERMIT IS REQUIRED FOR REMOVAL OF SPECIMEN TREES.
 - TREE PROTECTION FENCING MUST BE INSTALLED AND APPROVED BY THE CITY ARBORIST PRIOR TO ISSUANCE OF THE MINOR LDP - GRADING PERMIT. CONTACT THE CITY ARBORIST AT 770-594-6293 FOR INSPECTION WHENEVER SPECIMEN TREES, BUFFERS, OR TREE SAVE AREAS ARE LOCATED ON OR ADJACENT TO THE SITE.
 - CONSTRUCTION IS ONLY ALLOWED MON.-SAT. BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM; HOWEVER THIS DOES NOT APPLY TO ANY PERSON PERFORMING CONSTRUCTION ACTIVITY AT HIS OR HER RESIDENCE, BUT SUCH PERSONS ARE SUBJECT TO THE NOISE RESTRICTIONS SET OUT IN SUBSECTION 8.8.3(S) OF THE CITY CODE.
 - ALL CONSTRUCTION SHALL MINIMALLY COMPLY WITH THE CITY OF ROSWELL STANDARD CONSTRUCTION SPECIFICATIONS AND SUBDIVISION REGULATIONS AND THE BEST MANAGEMENT PRACTICES AS SET FORTH IN SUBSECTION 7.3.3 OF THE CITY OF ROSWELL SOIL EROSION, SEDIMENTATION AND POLLUTION CONTROL ORDINANCE.
 - CONSTRUCTION IS ONLY ALLOWED MON.-SAT. BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM; HOWEVER THIS DOES NOT APPLY TO ANY PERSON PERFORMING CONSTRUCTION ACTIVITY AT HIS OR HER RESIDENCE, BUT SUCH PERSONS ARE SUBJECT TO THE NOISE RESTRICTIONS SET OUT IN SUBSECTION 8.8.3(S) OF THE CITY CODE.
 - ALL CONSTRUCTION OF SINGLE FAMILY RESIDENCES SHALL MINIMALLY COMPLY WITH THE CITY OF ROSWELL STANDARD CONSTRUCTION SPECIFICATIONS AND SUBDIVISION REGULATIONS AND THE BEST MANAGEMENT PRACTICES AND BUFFER ZONES; AS SET FORTH IN SUBSECTION 7.3.4 OF THE CITY OF ROSWELL SOIL EROSION, SEDIMENTATION AND POLLUTION CONTROL ORDINANCE AND O.C.G.A. 12-7-6.
 - CONSTRUCTION AND DESIGN OF RETAINING WALLS SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS SECTION 3.2. A SEPARATE RETAINING WALL PERMIT IS REQUIRED FOR ALL WALLS FOUR FEET AND HIGHER.
 - ON SITES WITH STEEP SLOPES WHICH ARE TO BE MAINTAINED AND CANNOT BE MOWED: PROVIDE DURABLE SHRUBS AND GROUND COVERS (DS3) PER TABLE 6-5.3 IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA AS PART OF THE PERMANENT VEGETATION FOR ALL SLOPES STEEPER THAN 2.5:1. THE SHRUBS AND GROUND COVERS SHALL BE PLANTED AFTER THE AREA HAS BEEN MATTED (MB) AND SEEDING (DS2).
 - CONSTRUCTION AND DESIGN OF RETAINING WALLS SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS SECTION 3.2. A SEPARATE RETAINING WALL PERMIT IS REQUIRED FOR ALL WALLS FOUR FEET AND HIGHER.
 - OWNER TO PROVIDE QUALIFIED THIRD PARTY INSPECTIONS FOR ALL PHASES OF WALL CONSTRUCTION; INSPECTION REPORTS FOR EACH PHASE SHALL BE PROVIDED TO PERMIT INSPECTOR. INSPECTIONS SHALL BE CONDUCTED BY QUALIFIED PERSONNEL. ANY FIELD REVISIONS SHALL BE APPROVED BY DESIGN ENGINEER AND SUBMITTED TO PERMIT INSPECTOR.
 - ALL WORK MUST BE IN CONFORMANCE WITH AN APPROVED SITE PLAN AND APPLICABLE CITY ORDINANCES, CODES, STANDARDS AND POLICIES.
 - A SEPARATE PERMIT MUST BE ISSUED BY FULTON COUNTY FOR THE CONSTRUCTION OF PROPOSED SWIMMING POOL.
 - ALL CONSTRUCTION OF SINGLE FAMILY RESIDENCES SHALL MINIMALLY COMPLY WITH THE CITY OF ROSWELL STANDARD CONSTRUCTION SPECIFICATIONS AND SUBDIVISION REGULATIONS AND THE BEST MANAGEMENT PRACTICES AND BUFFER ZONES; AS SET FORTH IN SUBSECTION 7.3.4 OF THE CITY OF ROSWELL SOIL EROSION, SEDIMENTATION AND POLLUTION CONTROL ORDINANCE AND O.C.G.A. 12-7-6.
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 - OWNER TO PROVIDE QUALIFIED THIRD PARTY INSPECTIONS FOR ALL PHASES OF WALL CONSTRUCTION; INSPECTION REPORTS FOR EACH PHASE SHALL BE PROVIDED TO PERMIT INSPECTOR. INSPECTIONS SHALL BE CONDUCTED BY QUALIFIED PERSONNEL. ANY FIELD REVISIONS SHALL BE APPROVED BY DESIGN ENGINEER AND SUBMITTED TO PERMIT INSPECTOR.
 - PROVIDE FALL PROTECTION AND HANDRAILS AS REQUIRED.
 - PROVIDE WARRANTED TREE PROTECTION FENCE PRIOR TO ANY CLEARING OR SILT FENCE INSTALLATION.
 - CONTRACTOR TO PROVIDE FOR SURFACE WATER DRAINAGE BY INLET CONTROL OR SWALE. SWALE CANNOT EXCEED A SLOPE GREATER THAN 3:1 AND SHALL BE APPROPRIATELY LINED. OUTLET CONTROL FOR CLOSED DRAINAGE SYSTEM SHALL BE PROVIDED AND CANNOT BE CONCENTRATED ONTO ADJACENT PROPERTY. PROVIDE SILT FENCE (SD1-C) DOWNSTREAM OF AREA OF DISTURBANCE; CONCENTRATED OR LOW POINTS SHALL BE SUPPLEMENTED WITH STONE OR HAY BALES.
 - PROVIDE SILT FENCE (SD1-C) DOWNSTREAM OF AREA OF DISTURBANCE; CONCENTRATED OR LOW POINTS SHALL BE SUPPLEMENTED WITH STONE OR HAY BALES.
 - PROVIDE TEMPORARY (DS1/DS2) AND PERMANENT (DS3/DS4) VEGETATIVE COVER TO ALL DISTURBED AREAS. SLOPES GREATER THAN 3:1 SHALL BE SUPPLEMENTED WITH SOD STAPLES OR MATTING FOR MULCHED AREAS.
 - ALL WORK MUST BE IN CONFORMANCE WITH AN APPROVED SITE PLAN AND APPLICABLE CITY ORDINANCES, CODES, STANDARDS AND POLICIES.
 - ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED, IF YOU HAVE ANY QUESTIONS OR CONCERNS PLEASE CONTACT YOUR LAND DISTURBANCE INSPECTOR AT 770-594-6100.
 - ALL SILT BARRIERS AND CONSTRUCTION ENTRANCE PADS MUST BE CORRECTLY INSTALLED PRIOR TO ANY CLEARING AND/OR GRADING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION IS COMPLETE AND A GRADING PERMIT HAS BEEN ISSUED BY THE LAND DEVELOPMENT INSPECTOR.
 - DRAINS SHALL NOT BE CONCENTRATED OR DIRECTED ONTO ADJACENT PROPERTY OWNERS OR PUBLIC RIGHT OF WAY; APPROPRIATE LANDSCAPE MEASURES SHOULD BE EMPLOYED TO MITIGATE ANY IMPACT.
 - PROVIDE INLET SEDIMENT TRAP FOR YARD INLETS (SD2); PROTECT ANY ROADWAY INLETS AS WARRANTED.
 - CONTRACTOR MUST NOTIFY LAND DEVELOPMENT INSPECTOR (770-594-6100) TWENTY-FOUR (24) HOURS PRIOR TO BEGINNING CONSTRUCTION AND AT THE BEGINNING OF EACH NEW PHASE OR STARTING BACK UP AFTER A LULL IN ACTIVITY OF MORE THAN 14 DAYS.
 - PROVIDE CONSTRUCTION EXIT (CO) ALONG WITH AN APPROPRIATE ROUTE FOR RUNOFF.

CONSTRUCTION SCHEDULE

ANTICIPATED START DATE 11/15/13 - ANTICIPATED COMPLETION DATE 5/15/14

ITEM	MONTH	1	2	3	4	5	6
INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES							
CLEARING & GRUBBING							
BUILDING CONSTRUCTION							
MULCHING							
TEMPORARY GRASSING							
PERMANENT GRASSING							
DISPOSITION OF TEMPORARY SEDIMENT CONTROL MEASURES							

SUMMARY OF IMPERVIOUS AREAS (SF)	
HOUSE	3,457
PATIO	559
POOL/SPA/SEATING	594
RETAINING WALLS	187
DRIVEWAY	1,042
RELOCATED WOOD SHED	136
RELOCATED WOOD PLANTERS	115
RELOCATED IN-GROUND TRAMPOLINE	115
EXISTING WALLS/TREEHOUSE	278
TOTAL	6,346

SUMMARY OF VULNERABILITY ANALYSIS OF PROPOSED LAND USE					
VULNERABILITY CATEGORY	TOTAL AREA (SF)	PERCENT LAND DISTURBANCE	TOTAL AREA LAND DISTURBANCE (SF)	PERCENT IMPERVIOUS SURFACE	TOTAL AREA IMPERVIOUS SURFACE (SF)
C	16,224	70%	11,357	45%	7,301
D	60	50%	30	30%	18
E	2,239	30%	672	15%	336
TOTAL	18,523		12,059		7,655
APPLIED FOR:					
C	16,224	69.7%	11,303	39.1%	6,343
D	60	6.7%	4	5.0%	3
E	2,239	24.7%	554	0.0%	0
TOTAL	18,523		11,861		6,346
USED AS PART OF THIS APPLICATION:					
C	16,224	0.3%	54	5.9%	958
D	60	43.3%	26	25.0%	15
E	2,239	5.3%	118	15.0%	336
TOTAL	18,523		198		1,309
REMAINING FOR FUTURE USE:					
C	16,224				
D	60				
E	2,239				
TOTAL	18,523				

ENGINEER'S EROSION CONTROL CERTIFICATION
THIS IS TO CERTIFY THAT I AM THE PLAN DESIGNER AND THAT I HAVE VISITED THE SITE PRIOR TO THE DESIGN OF THE EROSION & SEDIMENT CONTROL PLANS.
DATE 8/30/13
GEORGE ALEXANDER
GSWCC LEVEL II CERTIFIED DESIGN PROFESSIONAL
CERTIFICATION NUMBER 8794
EXPIRES 4/11/15

THE PERSON RESPONSIBLE FOR EROSION & SEDIMENT CONTROLS (24-HOUR CONTACT) IS:
JAKE GALLENGER
PRINCIPAL, SDS ATLANTA
TEL: 678-469-6899

NEIGHBOR ENCROACHMENT
ANY ENCROACHMENT ONTO NEIGHBORING PROPERTIES SHALL REQUIRE A WRITTEN AND RECORDED CONSTRUCTION EASEMENT AGREEMENT. A COPY OF THE RECORDED DOCUMENTS SHALL BE PROVIDED TO THE CITY ENGINEER PRIOR TO ISSUANCE OF A GRADING PERMIT.

SEDIMENT STORAGE CALCULATIONS
SEDIMENT STORAGE REQ'D:
(67 CY/DISTURBED ACRE) (0.277 PROPOSED DISTURBED ACRES) = 18.55 CY STORAGE REQ'D = 501 CF STORAGE REQ'D.
SEDIMENT STORAGE PROVIDED:
PROPOSED SEDIMENT STORAGE IS PROVIDED BY USE OF TYPE C SILT FENCE. TOTAL SURFACE AREA = 431 S.F. @ 1.25' DEPTH = 539 C.F. = 19.9 C.Y. OF STORAGE. SEE STORAGE AREAS ABOVE.

- EROSION & SEDIMENT CONTROL NOTES**
- TOTAL SITE AREA = 18,523 SF (0.425 ACRES); DISTURBED AREA = 12,059 SF (0.277 ACRES).
 - EXISTING LAND USE IS A VACANT RESIDENTIAL LOT. THE PROPOSED USE OF THE SITE IS FOR THE A SINGLE FAMILY RESIDENCE.
 - THE PROPERTY OWNER IS:
ADAM & JANELLE KIMBALL
274 VALLEY RIDGE DRIVE
ROSWELL, GA 30075
TEL: 678-352-8779
 - THE DEVELOPER IS:
SDS ATLANTA
3581 HABERSHAM AT NORTHLAKE
TUCKER, GA 30084
CONTACT: JAKE GALLENGER
TEL: 678-469-6899
 - 24-HOUR CONTACT FOR EROSION & SEDIMENT CONTROL IS:
JAKE GALLENGER
TEL: 678-469-6899
 - THERE ARE NO KNOWN WETLANDS LOCATED ON THE SITE OR IMPACTED BY THE PROPOSED WORK.
 - WATER FROM THE PROJECT FLOWS TO A MUNICIPAL STORM DRAINAGE SYSTEM ON VALLEY RIDGE ROAD, THENCE TO THE CHATTAHOOCHEE RIVER.
 - THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
 - 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.
 - ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED, IF YOU HAVE ANY QUESTIONS OR CONCERNS, PLEASE CONTACT YOUR LAND DISTURBANCE INSPECTOR AT 770-594-6100.
 - ALL SILT BARRIERS AND CONSTRUCTION ENTRANCE PADS MUST BE CORRECTLY INSTALLED PRIOR TO ANY CLEARING AND/OR GRADING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION IS COMPLETE AND A GRADING PERMIT HAS BEEN ISSUED BY THE LAND DEVELOPMENT INSPECTOR.

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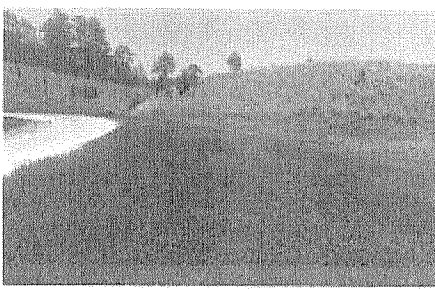
SITE PLAN/EROSION & SEDIMENT CONTROL PLAN

DRAWING NO. **2**

DATE: 8/30/13
ISSUED: 8/30/13
REV: 1
DES BY: GHA
CHK BY: GHA
APP BY: GHA

Disturbed Area Stabilization
(With Permanent Vegetation)

Ds3



DEFINITION

The planting of perennial vegetation such as trees, shrubs, vines, grasses, or legumes on exposed areas for final permanent stabilization. Permanent perennial vegetation shall be used to achieve final stabilization.

PURPOSE

- To protect the soil surface from erosion
- To reduce damage from sediment and runoff to downstream areas
- To improve wildlife habitat and visual resources
- To improve aesthetics

REQUIREMENT FOR REGULATORY COMPLIANCE

This practice shall be applied immediately to rough graded areas that will be undisturbed for longer than six months. This practice or sodding shall be applied immediately to all areas at final grade. Final Stabilization means that all soil disturbing activities at the site have been completed, and that for undisturbed areas and areas not covered by permanent structures, at least 70% of the soil surface is uniformly covered in permanent vegetation or equivalent permanent stabilization measures (such as the use of rip rap, gabions, permanent mulches or geotextiles) have been employed. Permanent vegetation shall consist of planted trees, shrubs, perennial vines, or a mix of perennial vegetation appropriate for the region, such that within the growing season a 70% coverage by perennial vegetation shall be achieved. Final stabilization applies to each phase of construction. For linear construction projects on land used for agricultural or silvicultural purposes, final stabilization shall be applied to the entire area.

Disturbance may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use. This standard is satisfied and permanent control measures and facilities are operational, interim stabilization measures and temporary erosion and sedimentation control measures shall not be removed.

CONDITIONS

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

PLANNING CONSIDERATIONS

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

Wildlife Plantings

Commercially available plants beneficial to wildlife species include the following:

Major Bearing Trees

Beech, Black Cherry, Blackgum, Chestnut, Chinquapin, Hickory, Hickory, Horned Lizard, White Oak, Perimeter, Sandhill Oak and Sweetgum.

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

Shrubs and Small Trees

Bayberry, Bicolor Lespedeza, Crabapple, Dogwood, Huckleberry or Native Blackberry, Mountain Laurel, Native Holly, Red Cedar, Red Mulberry, Sycamore, Wax Myrtle, Wild Plum and Blackberry.

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

Grasses, Legumes, Vines and Temporary Cover

Bahargrass, Bermudagrass, Grass Legume mixtures, Partridge Pea, Annual Lespedeza, Orchardgrass (for mountains), Browntop Millet (for temporary cover), and Native grasses.

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

CONSTRUCTION SPECIFICATIONS

Grading and Shaping

Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment.

When conventional seeding and fertilizing are to be done, grade and shape where feasible and practical, so that equipment can be used safely and efficiently during seedbed preparation, seeding, mulching and maintenance of the vegetation.

Concentrations of water should be avoided where excessive soil erosion shall be diverted to a safe outlet. Diversions and other treatment practices shall conform with the appropriate standards and specifications.

Lime and Fertilizer Rates and Analysis

Agricultural lime is required at the rate of one to two tons per acre unless soil tests indicate otherwise. Critical areas require lime application. If lime is applied within six months of planting permanent perennial vegetation, additional lime is not required. Agricultural lime shall be within the specifications of the Georgia Department of Agriculture.

Lime spread by conventional equipment shall be "ground limestone." Ground limestone is calcitic or dolomitic limestone ground so that 90 percent of the material will pass through a 100-mesh sieve.

Material will pass through a 10-mesh sieve, not less than 50 percent will pass through a 20-mesh sieve and not less than 25 percent will pass through a 100-mesh sieve.

Agricultural lime spread by hydraulic seeding equipment shall be "finely ground limestone." Finely ground limestone is calcitic or dolomitic limestone ground so that 90 percent of the material will pass through a 20-mesh sieve and not less than 70 percent will pass through a 100-mesh sieve.

It is desirable to use dolomitic limestone in the Sand Hills, Southern Coastal Plain and Atlantic Coast Flatwoods MLRAs (See Figure 6-4.1).

Agricultural lime is generally not required where only trees are planted.

Initial fertilization, nitrogen, topdressing, and maintenance fertilizer requirements for each species or combination of species are listed in Table 6-5.1.

Lime and Fertilizer Application

When hydraulic seeding equipment is used, the initial fertilizer shall be mixed with seed, inoculant (if needed), and wood cellulose or wood pulp fiber mulch and applied in a slurry. The inoculant, if needed, shall be mixed with the seed prior to being placed into the hydraulic seeder. The slurry mixture will be agitated during application to keep the ingredients thoroughly mixed. The mixture will be spread uniformly over the area within one hour after being placed in the hydraulic seeder.

When conventional seeding and fertilizing are to be done, lime and fertilizer shall be applied uniformly in one of the following ways:

1. Apply before land preparation so that it will be mixed with the soil during seedbed preparation.
2. Mix with the soil used to fill the holes, distribute in furrows.
3. Broadcast after steep surfaces are scarified, pitted or trenched.
4. A fertilizer pellet shall be placed at root depth in the closing hole beside each pine tree seedling.

Plant Selection

Refer to Tables 6-4.1, 6-5.2, 6-5.3 and 6-5.4 for approved species. Species not listed shall be approved by the State Resource Conservation of the Natural Resources Conservation Service before they are used.

Plants shall be selected on the basis of species characteristics, site and soil conditions, planned use and maintenance of the area, time of year of planting, method of planting, and the needs and desires of the land user.

Some perennial species are easily established and can be planted alone. Examples of these are Common Bermuda, Tall Fescue, and Weeping Lovegrass.

Other perennials, such as Bahia Grass and Sericea Lespedeza, are slow to become established and should be planted with another perennial species. The additional species will provide quick cover and ample soil protection until the larger perennials become established. For example, Common seeding combinations are 1) Weeping Lovegrass with Sericea Lespedeza (scarified) and 2) Tall Fescue with Sericea Lespedeza (scarified).

Plant selection may also include annual companion crops. Annual companion crops should be used only when the perennial species are not planted during their optimum planting period. A common mixture is Brown Top Millet with Common Bermuda in mid-summer. Care should be taken in selecting companion crop species and seeding rates because annual crops will compete with perennial species for water, nutrients, and growing space. A high seeding rate of the companion crop may prevent the establishment of perennial species.

Ryegrass shall not be used in any seeding mixture containing perennial species due to its ability to out-compete desired species chosen for permanent perennial cover.

Seed Quality

The term "pure live seed" is used to express the quality of seed and is not shown on the label. Pure live seed, PLS, is expressed as a percentage of the seeds that are pure and will germinate. Information on percent germination and purity can be found on seed tags. PLS is determined by multiplying the percent of pure seed with the percent of germination, i.e.,

PLS = % germination x % purity

EXAMPLE:

Common bermuda seed

70% germination, 80% purity

PLS = 70% germination x 80% purity

PLS = 56%

The percent of PLS helps you determine the amount of seed you need. If the seeding rate is 10 pounds PLS and the bulk seeds is 56% PLS, the bulk seeding rate is:

10 lbs. PLS/56 = 17.9 lbs/bulk

You would need to plant 17.9 lbs/bulk to provide 10 lbs/bulk of pure live seed.

Seedbed Preparation

Seedbed preparation may not be required where hydraulic seeding and fertilizing equipment is to be used. When conventional seeding is to be used, seedbed preparation will be done as follows:

Broadcast plantings

1. Tillage at a minimum, shall adequately loosen the soil to a depth of 4 to 6 inches; alleviate compaction, incorporate lime and fertilizer; smooth and firm the soil, allow for the proper placement of seed, sprigs, or plants, and allow for the anchoring of straw or hay mulch if a disk is to be used.
2. Tillage may be done with any suitable equipment.
3. Tillage should be done on the contour where feasible.
4. On slopes too steep for the safe operation of tillage equipment, the soil surface shall be pitted or trenched across the slope with appropriate hand tools to provide two places 6 to 8 inches apart in which seed may lodge and germinate. Hydraulic seeding may also be used.

Individual Plants

1. Where individual plants are to be set, the soil shall be prepared by excavating holes, opening furrows, or dibble planting.
2. For nursery stock plants, holes shall be large enough to accommodate roots without crowding.
3. Where some seedlings are to be planted, sub-soil under the row 36 inches deep on the contour four to six months prior to planting. Subsoiling should be done when the soil is dry, preferably in August or September.

Inoculants

All legume seed shall be inoculated with appropriate nitrogen-fixing bacteria. The inoculant shall be a pure culture prepared specifically for the seed species and used within the dates on the container.

A mixing medium recommended by the manufacturer shall be used to bond the inoculant to the seed. For hydraulic seeding, four times the amount of inoculant recommended by the manufacturer shall be used.

All inoculated seed shall be protected from the sun and high temperatures and shall be planted the same day inoculated. No inoculated seed shall remain in the hydraulic seeder longer than one hour.

Hydraulic Seeding

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

Conventional Seeding

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

No-Till Seeding

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

Individual Plants

Shrubs, vines and sprigs may be planted with appropriate planters or hand tools. Pine trees shall be planted manually in the subsoil furrow. Each plant shall be set in a manner that will avoid crowding the roots.

Nursery stock plants shall be planted at the same depth or slightly deeper than they grew at the nursery.

The tops of vines and sprigs must be at or slightly above the ground surface.

Where individual holes are dug, fertilizer shall be placed in the bottom of the hole, two inches of soil shall be added and the plant shall be set in the hole.

Mulching

Mulch is required for all permanent vegetation applications. Mulch applied to seeded areas shall achieve 75% soil cover. Select the mulching material from the following and apply as indicated:

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

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

Applying Mulch

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

Wood cellulose or wood pulp fiber mulch shall be applied uniformly with hydraulic seeding equipment.

Anchoring Mulch

Anchor straw or hay mulch immediately after application by one of the following methods:

1. Emulsified asphalt can be (a) sprayed uniformly onto the mulch as it is ejected from the blower machine or (b) sprayed on the mulch immediately following mulch application when straw or hay is spread by methods other than special blower equipment.

The combination of asphalt emulsion and water shall consist of a homogeneous mixture satisfactory for spraying. The mixture shall consist of 100 gallons of grade SS-1h or CSS-1h emulsified asphalt and 100 gallons of water per ton of mulch.

Care shall be taken at all times to protect state waters, the public, adjacent property, pavements, curbs, sidewalks, and all other structures from asphalt contamination.

2. Hay and straw mulch shall be pressed into the soil immediately after the mulch is spread. A special "cacker disk" or disk harrow with the disks set straight may be used. The disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disks shall be dull enough to press the mulch into the ground without cutting it, leaving mulch of it in an erect position. Mulch shall not be plowed into the soil.

Synthetic tackifiers or binders approved by GDOT shall be applied in conjunction with or immediately after the mulch is spread. Synthetic tackifiers shall be mixed and applied according to manufacturer's specifications. Refer to **Tb - Tackifiers and Binders**.

4. Rye or wheat can be seeded with Fall and Winter plantings to stabilize the mulch. They shall be applied at a rate of one-quarter to one-half bushel per acre.

Plastic mesh or netting with mesh no larger than one inch by one inch may be needed to anchor straw or hay mulch on unstable soils and concentrated flow areas. These materials shall be installed and anchored according to manufacturer's specifications.

Bedding Material

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

Material

Grass straw
Grass Hay
Pine needles
Wood waste

Irrigation

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

Topdressing

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

Second Year and Maintenance Fertilization

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

Lime and Maintenance Application

Apply one ton of agricultural lime every 4 to 5 years or as indicated by soil tests. Soil tests can be conducted to determine more accurate requirements if desired.

Mow and Manage

Mow Sericea lespedeza only after frost to ensure that the seeds are mature. Mow between November and March.

Bermudagrass, Bahargrass and Tall Fescue may be mowed as desired. Maintain at least 6 inches of top growth under any use and management. Moderate use of top growth is beneficial after establishment.

Exclude traffic until the plants are well established. Because of the final resting season, mowing should not take place between May and September.

Table 6-5.1. Fertilizer Requirements

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

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

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Table 6-5.2 - Permanent Cover - continued

PLANTS, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

Species	Broadcast Rates 1/ - PLS 2/ Per Acre	Resource Area 3/	Planting Dates by Resource Areas	Remarks
BANIA, PENSACOLA (Paspalum notatum)	80 lbs. 1.4 lb.	P	J F M A M J J A S O N D	160,000 seed per pound. Low growth. Good for erosion control. Plant with companion crop. Will spread into bermuda pastures and areas. Mix with Sericea lespedeza or weeping lovegrass.
BANIA, WILMINGTON (Paspalum notatum)	60 lbs. 1.4 lb.	M-L P	J F M A M J J A S O N D	Same as above.
BERMUDA COMMON (Cynodon dactylon)	10 lbs. 0.2 lb.	P	J F M A M J J A S O N D	1,767,000 seed per pound. Quick cover. Low growing and not forming. Full sun. Good for athletic fields.
with other perennials	6 lbs. 0.1 lb.	P	J F M A M J J A S O N D	

GSWCC (Amended - 2000)

Table 6-5.2 - Permanent Cover - continued

PLANTS, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

Species	Broadcast Rates 1/ - PLS 2/ Per Acre	Resource Area 3/	Planting Dates by Resource Areas	Remarks
LESPEDEZA, SERICEA (Lespedeza cuneata)	60 lbs. 1.4 lb.	M-L P	J F M A M J J A S O N D	350,000 seed per pound. Weedy. Adapted for maintenance. Mix with weeping lovegrass, common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate seed with EL inoculant.
uncarified	75 lbs. 1.7 lb.	M-L P	J F M A M J J A S O N D	Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons 138 lb.	M-L P	J F M A M J J A S O N D	Cut when seed is mature, but before it shatters. Add tall fescue or winter annuals.

GSWCC (Amended - 2000)

Table 6-5.2 - Permanent Cover - continued

PLANTS, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

Species	Broadcast Rates 1/ - PLS 2/ Per Acre	Resource Area 3/	Planting Dates by Resource Areas	Remarks
LESPEDEZA, SERICEA (Lespedeza cuneata)	60 lbs. 1.4 lb.	M-L P	J F M A M J J A S O N D	350,000 seed per pound. Weedy. Adapted for maintenance. Mix with weeping lovegrass, common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate seed with EL inoculant.
uncarified	75 lbs. 1.7 lb.	M-L P	J F M A M J J A S O N D	Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons 138 lb.	M-L P	J F M A M J J A S O N D	Cut when seed is mature, but before it shatters. Add tall fescue or winter annuals.

GSWCC (Amended - 2000)

Table 6-5.2 - Permanent Cover - continued

PLANTS, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

Species	Broadcast Rates 1/ - PLS 2/ Per Acre	Resource Area 3/	Planting Dates by Resource Areas	Remarks
LESPEDEZA, SERICEA (Lespedeza cuneata)	60 lbs. 1.4 lb.	M-L P	J F M A M J J A S O N D	350,000 seed per pound. Weedy. Adapted for maintenance. Mix with weeping lovegrass, common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate seed with EL inoculant.
uncarified	75 lbs. 1.7 lb.	M-L P	J F M A M J J A S O N D	Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons 138 lb.	M-L P	J F M A M J J A S O N D	Cut when seed is mature, but before it shatters. Add tall fescue or winter annuals.

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Table 6-5.2 - Permanent Cover - continued

PLANTS, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

Species	Broadcast Rates 1/ - PLS 2/ Per Acre	Resource Area 3/	Planting Dates by Resource Areas	Remarks
LESPEDEZA, SERICEA (Lespedeza cuneata)	60 lbs. 1.4 lb.	M-L P	J F M A M J J A S O N D	350,000 seed per pound. Weedy. Adapted for maintenance. Mix with weeping lovegrass, common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate seed with EL inoculant.
uncarified	75 lbs. 1.7 lb.	M-L P	J F M A M J J A S O N D	Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons 138 lb.	M-L P	J F M A M J J A S O N D	Cut when seed is mature, but before it shatters. Add tall fescue or winter annuals.

GSWCC (Amended - 2000)

Table 6-5.2 - Permanent Cover - continued

PLANTS, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

Species	Broadcast Rates 1/ - PLS 2/ Per Acre	Resource Area 3/	Planting Dates by Resource Areas	Remarks
LESPEDEZA, SERICEA (Lespedeza cuneata)	60 lbs. 1.4 lb.	M-L P	J F M A M J J A S O N D	350,000 seed per pound. Weedy. Adapted for maintenance. Mix with weeping lovegrass, common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate seed with EL inoculant.
uncarified	75 lbs. 1.7 lb.	M-L P	J F M A M J J A S O N D	Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons 138 lb.	M-L P	J F M A M J J A S O N D	Cut when seed is mature, but before it shatters. Add tall fescue or winter annuals.

GSWCC (Amended - 2000)

Table 6-5.2 - Permanent Cover - continued

PLANTS, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

Species	Broadcast Rates 1/ - PLS 2/ Per Acre	Resource Area 3/	Planting Dates by Resource Areas	Remarks
LESPEDEZA, SERICEA (Lespedeza cuneata)	60 lbs. 1.4 lb.	M-L P	J F M A M J J A S O N D	350,000 seed per pound. Weedy. Adapted for maintenance. Mix with weeping lovegrass, common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate seed with EL inoculant.
uncarified	75 lbs. 1.7 lb.	M-L P	J F M A M J J A S O N D	Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons 138 lb.	M-L P	J F M A M J J A S O N D	Cut when seed is mature, but before it shatters. Add tall fescue or winter annuals.

GSWCC (Amended - 2000)

Disturbed Area Stabilization
(With Temporary Seeding)

Ds2



DEFINITION

The establishment of temporary vegetative cover with fast growing seedlings for seasonal protection on disturbed or denuded areas.

PURPOSE

- To reduce runoff and sediment damage of down stream resources
- To protect the soil surface from erosion
- To improve wildlife habitat
- To improve aesthetics
- To improve lith, infiltration and aeration as well as organic matter for permanent plantings.

REQUIREMENT FOR REGULATORY COMPLIANCE

Mulch or temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Temporary grassing, instead of mulch, can be applied to rough graded areas that will be exposed for less than six months. If an area is expected to be undisturbed for longer than six months, permanent perennial vegetation shall be used. If optimum planting conditions for temporary grassing is lacking, mulch can be used as a singular erosion control device for up to six months but it shall be applied at the appropriate depth, anchored, and have a continuous 90% cover or greater of the soil surface. Refer to specification Ds1 Disturbed Area Stabilization (With Temporary Seeding).

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Disturbed Area Stabilization
(With Mulching Only)

Ds1



DEFINITION

Applying plant residues or other suitable materials, produced on the site if possible, to the soil surface.

PURPOSE

- To reduce runoff and erosion
- To conserve moisture
- To prevent surface compaction or crusting
- To control undesirable vegetation
- To modify soil temperature
- To increase biological activity in the soil

REQUIREMENT FOR REGULATORY COMPLIANCE

Mulch or temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Mulch can be used as a singular erosion control device for up to six months, but it shall be applied at the appropriate depth, depending on the material used, anchored, and have a continuous 90% cover or greater of the soil surface. Maintenance shall be required to maintain appropriate depth and 90% cover. Temporary vegetation may be employed instead of mulch if the area will remain undisturbed for less than six months. If an area will remain undisturbed for greater than six months, permanent vegetative techniques shall be employed. Refer to Ds2 Disturbed Area Stabilization (With Temporary Seeding), Ds3 Disturbed Area Stabilization (With Permanent Seeding), and Ds4 Disturbed Area Stabilization (With Sodding).

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CONDITIONS

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

SPECIFICATIONS

Grading and Seeding

Excessive water run-off shall be reduced by properly designed and installed erosion control practices such as closed drains, ditches, dikes, diversions, sediment barriers and others.

Seedbed Preparation

When a hydraulic seeder is used, seedbed preparation is not required. When using conventional or hand seeding, seedbed preparation is not required if the soil material is loose and not sealed by rainfall.

When soil has been sealed by rainfall or consists of smooth cut slopes, the soil shall be piled, trenched or otherwise scarified to provide a place for seed to lodge and germinate.

Lime and Fertilizer

Agricultural lime is required unless soil tests indicate otherwise. Apply agricultural lime at a rate of one ton per acre. Graded areas require lime application. Soils can be tested to determine if fertilizer is needed. On reasonably fertile soils or soil material, fertilizer is not required. For soils with very low fertility, 500 to 700 pounds of 10-10-10 fertilizer or the equivalent per acre (12-16 lbs./1,000 sq. ft.) shall be applied. Fertilizer should be applied before land preparation and incorporated with a disk, ripper or chisel.

Seeding

Select a grass or grass/legume mixture suitable to the area and season of the year. Seed shall be applied uniformly by hand, cyclone seeder, drill, culti-packer-

seeder, or hydraulic seeder (slurry including seed and fertilizer). Drill or culti-packer seeders should normally place seed one-quarter to one-half inch deep. Appropriate depth of planting is ten times the seed diameter. Soil should be "loose" lightly to cover seed with soil if seeded by hand.

Mulching

Temporary vegetation can, in most cases, be established without the use of mulch. Mulch without seeding should be considered for short term protection. Refer to Ds1 - Disturbed Area Stabilization (With Mulching Only).

Irrigation

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

When a hydraulic seeder is used, seedbed preparation is not required. When using conventional or hand seeding, seedbed preparation is not required if the soil material is loose and not sealed by rainfall.

When soil has been sealed by rainfall or consists of smooth cut slopes, the soil shall be piled, trenched or otherwise scarified to provide a place for seed to lodge and germinate.

Lime and Fertilizer

Agricultural lime is required unless soil tests indicate otherwise. Apply agricultural lime at a rate of one ton per acre. Graded areas require lime application. Soils can be tested to determine if fertilizer is needed. On reasonably fertile soils or soil material, fertilizer is not required. For soils with very low fertility, 500 to 700 pounds of 10-10-10 fertilizer or the equivalent per acre (12-16 lbs./1,000 sq. ft.) shall be applied. Fertilizer should be applied before land preparation and incorporated with a disk, ripper or chisel.

Seeding

Select a grass or grass/legume mixture suitable to the area and season of the year. Seed shall be applied uniformly by hand, cyclone seeder, drill, culti-packer-

Table 6-4.1 - Temporary Cover or Companion Crops 1/

PLANT, PLANTING RATES, AND PLANTING DATED FOR TEMPORARY COVER OR COMPANION CROPS 1/

Species	Broadcast Rates 2/ - FL S 3/ Per Acre	Resource Area 4/	Planting Dates by Resource Areas	Remarks
			Planting Dates (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.)	
			J F M A M J J A S O N D	
BARLEY (Hordeum vulgare)		M-L P		
alone	3 bu. (144 lbs.)	C		14,000 seed per pound. Winterhardy. Use on productive soils.
in mixtures	1/2 bu. (24 lbs.)			
LESPEDEZA, ANNUAL (Lespedeza striata)		M-L P C		
alone	40 lbs.	0.9 b.		200,000 seed per pound. May volunteer for several years. Use insecticide.
in mixtures	10 lbs.	0.2 b.		
LOWGRASS WEEPER (Eriogonum cicutaria)		M-L P C		
alone	4 lbs.	0.1 b.		1,000,000 seed per pound. May last for several years. Mix with Sericea lespedeza.
in mixtures	2 lbs.	0.05 b.		
MILLET BROWNTOP (Panicum fasciculatum)		M-L P		
alone	40 lbs.	C		157,000 seed per pound. Quick dense cover. Will provide too much competition in mixtures if seeded at high rates.
in mixtures	10 lbs.	0.2 b.		

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Table 6-4.1 - Temporary Cover or Companion Crops 1/ - continued

PLANT, PLANTING RATES, AND PLANTING DATED FOR TEMPORARY COVER OR COMPANION CROPS 1/

Species	Broadcast Rates 2/ - FL S 3/ Per Acre	Resource Area 4/	Planting Dates by Resource Areas	Remarks
			Planting Dates (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.)	
			J F M A M J J A S O N D	
MILLET PEARL (Pennisetum glaucum)		M-L P C		
alone	50 lbs. 1.1 b.			88,000 seed per pound. Quick dense cover. May reach 5 feet in height. Not recommended for mixtures.
OATS (Avena sativa)		M-L P C		
alone	4 bu. (128 lbs.) 1 bu. (32 lbs.)	2.9 b. 0.7 b.		13,000 seed per pound. Use on productive soils. Not as winterhardy as rye or barley.
in mixtures				
RYE (Secale cereale)		M-L P C		
alone	3 bu. (168 lbs.) 1/2 bu. (28 lbs.)	3.9 b. 0.6 b.		16,000 seed per pound. Quick cover. Drought tolerant and winterhardy.
in mixture				
RYEGRASS, ANNUAL (Lolium temulentum)		M-L P		
alone	40 lbs. C	0.9 b.		227,000 seed per pound. Dense cover. Very competitive and is not to be used in mixtures.
in mixtures				
BUGANGRASS (Sorghum sudanese)		M-L P C		
alone	60 lbs. 1.4 b.			55,000 seed per pound. Good on droughty sites. Not recommended for mixtures.

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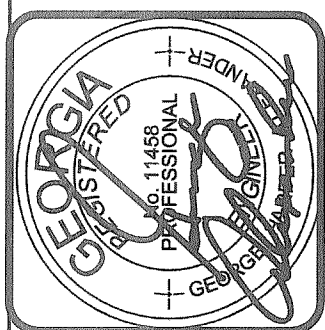
Table 6-4.1 - Temporary Cover or Companion Crops 1/ - continued

PLANT, PLANTING RATES, AND PLANTING DATED FOR TEMPORARY COVER OR COMPANION CROPS 1/

Species	Broadcast Rates 2/ - FL S 3/ Per Acre	Resource Area 4/	Planting Dates by Resource Areas	Remarks
			Planting Dates (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.)	
			J F M A M J J A S O N D	
TRITICALE (X-Triticosecale)		C		
alone	3 bu. (144 lbs.) 1/2 bu. (24 lbs.)	3.3 b. 0.6 b.		Use on lower part of Southern Coastal Plain and in Atlantic Coastal Flatwoods only.
in mixtures				
WHEAT (Triticum aestivum)		M-L P C		
alone	3 bu. (180 lbs.) 1/2 bu. (30 lbs.)	4.1 b. 0.7 b.		15,000 seed per pound.
in mixtures				

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

GA SWCC (Amended - 2000)



1	10/21/13	ADDRESS	CITY	COMMENTS
REV	DATE			
DATE OF ISSUE	9/6/13	OWN BY	CHA	DESCRIPTION
		DES BY	CHA	CHK BY
			CHA	APP BY

ALEXANDER ENGINEERING, P.C.
1200 N. FULTON ROAD
ATLANTA, GEORGIA 30307-1052

TEL 404-371-9190
FAX 404-373-0571
GHALEXANDER@AOL.COM

KIMBALL RESIDENCE
264 VALLEY RIDGE ROAD
ILL 381, DISTRICT 2, SECTION 2
ROSWELL, FULTON COUNTY, GEORGIA 30075

DETAILS

DRAWING NO.
3A



Technical drawing of a tree drip line marker, showing two views: Elevation and Plan View.

Elevation View:

- Shows a cross-section of the marker installed in the ground.
- The marker consists of a 1" x 6" x 8" board (labeled "1\" x 6\" x 8\"") and a 2" x 4" x 7" board (labeled "2\" x 4\" x 7\"").
- The 1" x 6" x 8" board is positioned 4" ABOVE GRADE.
- The 2" x 4" x 7" board is positioned 2" x 4" x 7" (labeled "2\" x 4\" x 7\"") and is secured with 7/8" W/3 (labeled "7/8\" W/3") 10d NAILS (labeled "10d NAILS").
- The total width of the marker is 8" O.C. (labeled "8\" O.C.").
- The marker is installed next to a WOOD FENCE (labeled "WOOD FENCE").
- The marker is positioned 12" (labeled "12\"") from the FURTHEST LIMB OUT DRIP LINE (labeled "FURTHEST LIMB OUT DRIP LINE").
- The marker is 10" OR LARGER (labeled "10\" OR LARGER") in diameter.

Plan View:

- Shows a top-down view of the marker.
- The marker is circular with a diameter of 10" OR LARGER (labeled "10\" OR LARGER").
- The marker is positioned 12" (labeled "12\"") from the FURTHEST LIMB OUT DRIP LINE (labeled "FURTHEST LIMB OUT DRIP LINE").
- The marker is 10" OR LARGER (labeled "10\" OR LARGER") in diameter.
- The marker is positioned 12" (labeled "12\"") from the FURTHEST LIMB OUT DRIP LINE (labeled "FURTHEST LIMB OUT DRIP LINE").

Notes:

- NOTE: SIGN ON EVERY 4th 1' x 6"
- Provide 4' high orange polyethylene laminar safety netting fastened to wood rollings

<u>DESCRIPTION</u>	<u>NUMBER</u>
6"HC	3
6"WO	1
7"HC	1
8"RO	1
9"BE	1
10"/19" BE	1
11"WO	1
13"P	2
13"POP	1
14"P	1
16"P	1
16"WO	1
19"RO	1
19"WO	1
28"RO	<u>1</u>
TOTAL	18