

Bledsoe, 1964

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A Terminal Problem Presented
for the
Degree of Bachelor of Landscape Architecture
University of Georgia
Athens, Georgia
June, 1964

H.B. Owens Resource Center
School of Environmental Design
Caldwell Hall
University of Georgia

DEVELOPMENT FOR LEAS STAR CAMPS
 RENDERSOYHILL
 NORTH CHADLINE
 136

Robert W. Blodgett
 and
 William T. Scott

A Technical Problem Presented
 for the
 Degree of Bachelor of Landscape Architecture
 University of Georgia
 Athens, Georgia
 June, 1964

M.S. Owen Research Center
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INTRODUCTION

The design of a landscape development plan for the expansion of Blue Star Camps, near Hendersonville, North Carolina, was used as our Terminal Problem for Landscape Architecture 355. It was a challenging project which involved the location of camping facilities for three hundred campers, in a beautiful situation at the base of a towering mountain. In the shadows of this peak, Mt. Pinnacle, and in the center of the area to be developed, is a beautiful eight-acre lake which is between two ridges.

This report represents the results of our four years and one additional quarter at the University and serves as a true representation of the influence and forces that provided the knowledge and skills which make it possible to arrive at a solution for this camp-site expansion at the request of Messrs. Harry and Herman Popkin.

With deep gratitude to the several instructors who have awakened and sharpened our interests in Landscape Architecture, we herewith submit the following solution for our Terminal Problem which is herewith presented as a requirement for the Degree of Bachelor of Landscape Architecture.

HISTORICAL SKETCH

In the Blue Ridge Mountains of Southwestern North Carolina, Herman and Harry Popkin selected a site for Blue Star Camps, located in the shadows of Mt. Pinnacle, which has an elevation of 3750 feet. There is abundant water from artesian springs, and the terrain is picturesquely rugged and well suited for camping.

The camps were built as the applications increased each summer. Some attempt was made to cluster cottages into children's age groups, but no professional planning was followed.

Twenty acres of undeveloped land with an eight acre lake is now proposed. The site consists of virgin shrubs and timbers located in a valley, and the slopes approach 40° on either side of the lake which has already been sited.

The seven parts of Blue Star Camps were developed over a period of years, as the need arose due to an increase of applicants from summer to summer. The first unit was built in 1949.

In the Blue Ridge Mountains of southwestern North Carolina, near the town of Hendersonville, a site for Blue Star Camp, located in the shadow of Mt. Pisgah, which has an elevation of 3756 feet. There is abundant water from mountain springs, and the terrain is picturesque and well suited for camping. The camp was built as the applications increased each summer. Some attempt was made to winter convert into children's age groups, but no professional planning was followed. Twenty acres of undeveloped land with an eight acre lake is now proposed. The site consists of virgin spruce and timber located in a valley, and the slopes approach 40° on either side of the lake which has already been staked. The seven parts of Blue Star Camp were developed over a period of years, as the need arose due to an increase of applicants from summer to summer. The first unit was built in 1949.

STATEMENT OF PROBLEM

Nature itself demonstrates an excellent example of regional adaptation by evolving forms of life which are in harmony with their environment, balanced with their tissue materials and adapted to all external and internal forces to which they are exposed.

Man, throughout his cultural and technical evolution, is basically subjected to the very same interplay and must respond to beneficial or adverse variations of his surroundings. Therefore, it is the aim of this problem to create a more harmonious environment between man and nature, an area which will be both enjoyable and fulfilling to the individual.

The site for an addition to Blue Star Camp consists of 20 acres located 6.5 miles southwest of Hendersonville, North Carolina, via Crab Creek Road, situated between two mountain ranges, and adjacent to the existing Blue Star Camp area.

Program

A selected portion of the area is to be developed into three well defined groups: (a) senior boys, (b) senior girls, and (c) dance group, with the accompanying facilities to serve all the campers. Within each area housing for a total of 100 persons to be housed in groups of sixteen per cabin is desired, with additional quarters for staff members and

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DESIGN

A selected portion of the site is to be developed into three well defined groups: (a) senior boys, (b) senior girls, and (c) dance group, with the accompanying facilities to serve all the groups. Within each area housing for a total of 100 persons to be housed in groups of sixteen per cabin is desired, with additional quarters for staff members and

caretaker. All sanitary and shower facilities are to be placed for use.

Other facilities to be included are: active and passive recreational areas, an outdoor-indoor theater suitable for ballet and dramatic productions, including parking and ticket office, an open air pavilion, and dining hall for 300 persons.

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The primary consideration in the design of any camp is the harmonious unity between man and nature. With this as a guideline, the

The natural beauty and vegetation of the site are of such character, entire area should be designed as a unified part of the natural features.

a minimum of plant augmentation is required.

In analyzing the problem, consideration must be given to the different groups and a satisfactory solution worked out to meet each need before incorporating the ideas into the final design.

The Camp should consist of three distinct groups as follow:

1. Girls' Group

2. Boys' Group

3. Dance Group

The first two Groups may be considered together as they serve the same functions. The Boys' and Girls' Groups are comprised of teen-agers which will be housed in separate areas and will use other facilities together. The third area will be comprised of a Dance Group, which will lease the area for the summer. This Group will be separated entirely from the other areas but will use many of the same facilities together such as the Dining Hall and Playing Fields. Nature has provided a natural valley as a distinctive point of separation for this Group.

In view of the fact that this Camp is to be used by young people, it was decided that as much open space as possible should be provided

for organized sports. Since much excavation has already taken place, it

is felt that the borrow pits should be renovated and used for these open spaces, therefore eliminating a greater intrusion upon the site.

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ANALYSIS OF PROBLEM

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PRESENTATION AND JUSTIFICATION OF THE PROBLEM

This area presented a unique problem in that the site consists of slopes in excess of 40 per cent. To retain as much of the natural beauty as possible the cottages for the campers are sited near the summit of the ridges thereby eliminating the expense of excessive grading or the use of retaining walls. The roads and paths follow the existing contour of the land. The varied space relations are a compromise between nature and man-made design.

The lake serves as the dominant feature of the project. All the cottages and facilities are grouped around it.

The Dance Group is located on a slope to the north of the lake. There exists a natural topography feature which definitely defines this area from the remaining portion of the Camp. This area is near the county road and is adjacent to the Dining Hall and Amphitheater.

The Dining Hall is centrally located on the west end of the lake and is serviced by a perimeter road which connects to the county road. Nearby are quarters for the Kitchen Staff and an Arts and Crafts Studio. On the ground floor of the Dining Hall are the First Aid Station and three rooms which can be used for Arts and Crafts Classes.

The docks and swimming area are located on the shallow end of the lake at a fairly central point between the cottages and the Dining Hall.

The Boys' and Girls' Cottages are located on the south side of the lake. Existing and proposed trees will separate the two areas. A Pavilion is located in each area to serve the need for large group functions.

The Recreation Hall is adjacent to the Boys' Cottages and near the Tennis Courts and Softball Field for easy access.

The Red Barn will remain for the present time but in the future it will be relocated.

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The docks and swimming area are located on the shallow end of the lake at a fairly central point between the cottages and the Dining Hall.

SPECIFICATIONS AND DRAWINGS

The drawings and specifications are intended to be explanatory and complete, and all work called for by one, even if not by the other is to be fully executed. In the event there is a difference between the drawings and the specifications, either in the figures, in the drawings, or in the specifications the matter will be promptly submitted to the Landscape Architect, who shall promptly make a determination in writing.

Spirit and Intent of Specifications

It is the spirit and intent of these specifications, and of the drawings forming part of them, to provide that work and all parts thereof will fully be completed and suitable in every way for the purpose for which they were designed.

Measurements

Before ordering any materials or doing any work, the contractor will verify all measurements at the site and shall be responsible for same. Any difference which may be found will be submitted to the Landscape Architect for consideration prior to the beginning of work.

Materials

If for any reason the contractor wishes to substitute designated materials, he will do so by stating in written form the substitution and the reason for the substitution to the Landscape Architect. Any authorized changes must be secured from the Landscape Architect in written form prior to ordering materials.

SPECIFICATIONS FOR LAWNS AND PLANTING

Scope

The work covered by this specification consists in furnishing all plants, labor, equipment, appliances and materials, and in performing all operations in connection with landscape work complete for lawns and planting, and other miscellaneous related work, in strict accordance with this specification and the applicable drawings, and subject to the terms and conditions of the Contract, and as indicated on the landscape plan accompanying and made a part of these specifications.

Materials

Samples of materials listed below shall be submitted to the Landscape Architect for inspection and approval. Samples of one (1) cubic yard of cattle manure, one (1) yard of burlap, one (1) pound of grass seed mixtures specified, and one (1) cubic yard of top soil from each source of supply to be used shall be submitted prior to the beginning of operations under this Contract.

- (1) In order to obtain adequate tests, sample of grass mixtures specified shall be submitted at least 40 days prior to anticipated delivery of the approved material.

REQUIREMENTS FOR LAWNS AND PLANTING

The work covered by this specification consists in furnishing all plants, labor, equipment, appliances and materials, and in performing all operations in connection with landscape work complete for lawns and planting, and other miscellaneous related work, in strict accordance with this specification and the applicable drawings, and subject to the terms and conditions of the Contract, and as indicated on the landscape plan accompanying and made a part of these specifications.

Supplies of materials listed below shall be submitted to the Landscape Architect for inspection and approval. Samples of one (1) cubic yard of cattle manure, one (1) yard of bark, one (1) pound of green sand mixture specified, and one (1) cubic yard of top soil from each source of supply to be used shall be submitted prior to the beginning of operations under this Contract.

(2) In order to obtain adequate tests, samples of green manure specified shall be submitted at least 45 days prior to anticipated delivery of the approved material.

- (2) Delivery of materials may begin only after samples have been approved. All materials furnished for the work shall conform in every respect to the approved sample.

Top soil for lawns and planting operations included in this Contract shall be fertile, friable, natural loam containing a liberal amount of humus, and shall be capable of sustaining vigorous plant growth. It shall be free of admixture of subsoil and shall be reasonably free of stone, lumps, clods of hard earth, plants or their roots, sticks, and other extraneous matter. It shall not be used for planting operations while in a frozen or muddy condition.

- (1) Top soil shall be subject to inspection and approval at the sources of supply or upon delivery. Before any top soil is delivered, the Contractor shall furnish to the Landscape Architect a written statement giving:

- (a) Location of all properties from which the top soil is to be obtained and approximate quantity available from each.
- (b) The names and addresses of the owners of the various properties.
- (c) The depth to which the soil is to be taken.
- (d) The crops grown on the soil during the past few years.

Sludge fertilizer shall be an organic-activated sludge fertilizer and shall contain the following percentage by weight:

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Sludge fertilizer shall be an organic-activated sludge fertilizer

and shall contain the following percentage by weight:

5% minimum of nitrogen

3% phosphoric acid

The sludge fertilizer shall be delivered as specified in standard-size

bags, showing weight, analysis, and name of processor, and shall be

stored in a weatherproof storage place in such a manner that it will be

kept dry and its effectiveness will not be impaired.

Cattle or horse manure shall be well rotted unleached manure, free

from harmful chemicals and other injurious substances, and shall be free

of sawdust, shavings, and refuse of any kind, and shall not contain more

than 25% of straw, leaves, or other material acceptable for planting use.

Commercial fertilizer shall be a complete fertilizer, part of the elements of which are derived from organic sources. It shall contain the following percentages by weight:

10% of nitrogen

8% of phosphoric acid

6% of potash

Fertilizer shall be delivered mixed as specified in standard-size bags,

showing weight, analysis, and name of manufacturer, and shall be stored

in a weatherproof storage place in such a manner that it will be kept dry

and its effectiveness will not be impaired.

Staking and Wrapping Material

(1) Stakes for supporting trees shall be of sound wood of uniform

the nitrogen of nitrogen

3% phosphoric acid

The large fertilizer shall be delivered as specified in standard-size bags, showing weight, analysis, and name of processor, and shall be stored in a weatherproof storage place in such a manner that it will be kept dry and the effectiveness will not be impaired.

Fertilizer or phosphate shall be well rotted unincorporated manure, free from harmful chemicals and other injurious substances, and shall be free of sawdust, shavings, and refuse of any kind, and shall not contain more than 3% of straw, leaves, or other material acceptable for planting use.

Commercial fertilizer shall be a complete fertilizer, part of the elements of which are derived from organic sources. It shall contain the following percentages by weight:

10% of nitrogen

3% of phosphoric acid

3% of potash

Fertilizer shall be delivered mixed as specified in standard-size bags, showing weight, analysis, and name of manufacturer, and shall be stored in a weatherproof storage place in such a manner that it will be kept dry and the effectiveness will not be impaired.

Stakes and Wire

(1) Stakes for erecting trees shall be of sound wood of uniform

size, free of knots and holes, creosoted half their length, and capable of standing in the ground at least two years. They shall be nominal 2" x 2" square. Stakes shall not be less than 9 feet in length.

(2) Wire for tree bracing and guying shall be pliable No. 10 gage galvanized-steel wire.

(3) Hose for covering wire shall be new or used black or red two-ply fibre-bearing garden hose, not less than 1/2" inside diameter. Seconds rejected by factory are acceptable. Seconds and used hose must be approved by the Landscape Architect.

(4) Wrapping material for tree trunks shall be new, clean, plain burlap, first quality, at least 8 ounces in weight and not less than 6 inches wide. It shall be free of breaks and tears.

Lawn Materials

(1) Grass seed shall be fresh, clean, and new crop seed, Zoysia Myer and shall be seeded at the rate of 5 pounds to every 1000 square feet.

(2) Seed shall be mixed by dealer. The Contractor shall furnish minimum shall be determined by dealer. The Contractor shall furnish dealer's guaranteed statement of composition of mixture and percentage of purity and germination of each variety.

(3) Grass seed shall not be delivered to the site until samples have been approved in writing by the Landscape Architect. Approval of sample, however, shall not affect the Landscape Architect's right to reject seed upon or after delivery.

Plant Materials

(1) All plants shall be nursery grown except flowering trees.

Flowering trees (specimen) may be collected from open fields.

(a) Nursery-grown plants shall have been grown in accordance with good horticultural practice.

(b) Collected plants shall be in good vigorous condition and shall have been grown in favorable locations where sub-grade prevents the formation of tap roots, and encourages the development of fibrous roots.

(c) All plants shall have been grown under climatic conditions similar to those in the locality of the Project for at least two years. Plants shall have been transplanted or root pruned at least once in the three years.

(d) All plants shall be freshly dug. No healed-in plants nor plants from cold storage will be accepted. All plants shall be typical of their species, or variety, and shall have a normal habit of growth. They shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, their eggs or larvae. They shall have healthy, well developed root systems.

(e) Trees shall have straight trunks and all old abrasions and cuts shall be completely callused over.

(2) **Measurements:** All trees and shrubs shall be measured when their branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch or root tip to tip. The lower branches of a tree need not be the height specified for branching, if they are such a height that the required branching height may be obtained by pruning after delivery without affecting the shape and form of the trees, or causing large, unsightly scars. Caliper of trees up to 4 inches shall be taken 6 inches above the ground level and shall be the determining measurement for trees. Trees over 4 inches shall be calipered one foot above the ground level. Number of canes specified for shrubs shall be the minimum acceptable. A cane shall be considered a primary stem which starts from or close to the ground, or at a point not higher than one-fourth the height of the plant. No trees which have had their leaders cut, or so damaged that cutting is necessary, will be accepted.

(3) **Size:** All plants shall conform to the measurements specified in the plant list shown on the drawings. Exceptions are as follows:

- (a) Plants larger than specified in the plant list may be used if approved by the Landscape Architect, but use of such plants shall not increase the contract price. If the use of larger plants is approved, the spread of roots or ball of earth shall be increased in proportion to the size of the plant.

(3) Measurement: All trees and shrubs shall be measured when their branches are in their natural position. Height and spread dimensions specified refer to the main body of the plant and not from branch or root tip. The lower branches of a tree need not be the height specified. If they are such a height that the required branching height may be obtained by pruning after delivery without affecting the shape and form of the tree, or causing large, unsightly scars. Caliper of trees up to 4 inches shall be taken 8 inches above the ground level and shall be the determining measurement for trees. Trees over 4 inches shall be collected one foot above the ground level. Number of canes specified in shrubs shall be the minimum acceptable. A cane shall be considered a primary stem which starts from or close to the ground, or at a point not higher than one-fourth the height of the plant. The trees which have had their leaders cut, or so damaged that cutting is necessary, will be rejected.

(4) Size: All plants shall conform to the measurements specified in the plan that shown on the drawings. Exceptions are as follows:

(a) Plants larger than specified in the plan may be used if approved by the Landscape Architect, but one of each plant shall not increase the contract price. If the use of larger plants is approved, the spread of roots or half of each shall be increased in proportion to the size of the plant.

Bare root plants furnished in sizes greater than specified shall be balled and burlapped when required by the Landscape Architect.

(b) Up to 10 per cent of undersize plants in any one variety or grade may be used, provided there are sufficient plants above size to make the average equal to or above

specified grade, and provided that undersize plants are larger than the average size of the next smaller grade.

(4) Pruning: Plants shall not be pruned prior to delivery, except upon special approval of the Landscape Architect.

(5) Inspection: Plants shall be subject to inspection and approval at place of growth, or upon delivery for conformity to specification requirements as to quality, size, and variety. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work, for size and condition of balls or roots, diseases, insects, and latent defects or injuries. Rejected plants shall be removed immediately from the site.

(a) All trees selected shall be inspected, approved, and sealed by the Landscape Architect at their place of growth before they are dug.

(b) Typical samples, three of each, of all other varieties and sizes of plants shall be submitted for approval at the site.

These samples, if approved, shall be planted and maintained as standards for comparison with plants furnished.

(c) Certificates of inspection of plant materials shall be furnished as may be required by federal, state, or other authorities to accompany shipments.

(6) Digging and Handling: No plants, other than the required samples, shall be dug or delivered to the site until the required inspections have been made, and the plants or samples approved.

(a) Dig bare rooted plants (br) with a spread of roots not less than the diameter specified, and of sufficient depth to insure full recovery and development of the plants. Roots of these plants shall be covered with a uniformly thick coating of mud being puddled immediately after they are dug.

(b) Dig balled and burlapped (BB) plants with firm, natural balls of earth, of diameter not less than that specified and of sufficient depth to include all the fibrous and feeding roots. No plant moved with a ball will be accepted if the ball is cracked or broken before or during planting operations, except on special approval.

(c) Roots or balls of all plants shall be adequately protected at all times from sun and/or drying winds.

- (d) All balled and burlapped plants which cannot be planted immediately on delivery shall be set on the ground and shall be well protected with soil, wet moss or other acceptable material. Bare rooted plants, which cannot be planted immediately shall be planted or heeled-in trenches immediately upon delivery. No material heeled-in more than one week may be used. Bundles of plants shall be opened and the plants separated before the roots are covered. Care shall be taken to prevent air pockets among the roots. During planting operations, bare roots shall be covered with canvas, hay or other suitable material.
- (e) No plant shall be bound with wire or rope at any time so as to damage the bark or break branches.

(7) Substitutions will not be permitted. If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of nearest equivalent size or variety with an equitable adjustment of contract price. Such proof shall be submitted in writing and substantiated by the Landscape Architect.

(8) Plant List: The Contractor shall furnish and plant all plants shown on the Drawings, as specified and in quantities as shown. The quantities are included for the convenience of the Contractor only and the Contractor shall be required to furnish all individual plants in quantities

- These samples, if approved, shall be planted and maintained as standards for comparison with plants furnished.
- (b) Certification of inspection of plant materials shall be furnished as may be required by letter, note, or other authorities to accompany shipments.
- (c) Digging and Handling: No plants, other than the required samples, shall be dug or delivered to the site until the required inspections have been made, and the plants or samples approved.
- (d) Dig bare rooted plants for with a spread of roots not less than the diameter specified, and of sufficient depth to insure full recovery and development of the plants. Roots of these plants shall be covered with a uniformly thick coating of mud being packed immediately after they are dug.
- (e) Dig balled and burlapped (BB) plants with firm, natural balls of earth, of diameter not less than that specified and of sufficient depth to include all the fibrous and feeding roots. No plant moved with a ball will be accepted if the ball is cracked or broken before or during planting operations, except on special approval.
- (f) Roots or balls of all plants shall be adequately protected at all times from sun and/or drying winds.

actually located on the drawing.

Installation

Time of planting shall be as follows:

(1) The spring season for planting of trees, shrubs, and vines shall be from as soon as the ground can be worked to not later than May 15, and the fall season for such planting shall be from October 1 to December 15. Only upon written approval of the Landscape Architect may planting begin earlier or continue later than the dates specified.

(2) The spring season for planting lawns shall be from the time the ground can be worked to May 15, and in the fall from August 15 to November 15. Only upon written approval of the Landscape Architect may the Contractor begin earlier or continue later than the dates specified.

Plant pits shall be excavated with vertical sides in accordance with the following outline for sizes:

(1) Tree pits shall be at least 3 feet greater in diameter than the specified diameter of ball or spread of roots, and at least six inches below depth of ball.

(2) Shrubs shall be planted in pits or holes of top soil 18 inches deep, below finished grade, or as much deeper as necessary to properly set the plant at finished grade. Shrubs with balls shall be planted in pits with at least 12 inches greater diameter of ball, and to a depth at least 6 inches

(d) All balled and wrapped plants which cannot be planted

immediately on delivery shall be set on the ground and

shall be well protected with soil, wet moss or other

acceptable material. Balled and wrapped plants, which cannot be

planted immediately shall be planted or balled-in trenches

immediately upon delivery. The material balled-in must

then be well covered with soil. Balled-in plants shall be

opened and the plants separated before the roots are

covered. Care shall be taken to prevent air pockets among

the roots. During planting operations, bare roots shall

be covered with canvas, hay or other suitable material.

(e) No plant shall be found with roots or top at any time so as

to damage the park or break branches.

(f) Substitutions will not be permitted. If proof is submitted that

any plant specified is not obtainable, a proposal will be considered for

use of nearest equivalent size or variety with an equitable adjustment of

contract price. Such proof shall be submitted in writing and substantiated

by the Landscape Architect.

(g) Plant list: The Contractor shall furnish and plant all plants

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quantities are included for the convenience of the Contractor only and the

Contractor shall be required to furnish all individual plants in quantities

deeper than bottom of ball.

(3) Pits for vines shall be 24 inches below finished grade and 12 inches greater diameter of ball which in some instances may require removal of subsoil over total area of a particular planting bed.

At least one bushel of cattle manure shall be apportioned to each planting space and mixed thoroughly with the backfill topsoil.

(4) All pits shall be circular in outline, except for ground cover, and have vertical sides. Excavated material of a subsoil classification or containing extraneous matter shall be removed, and may not be disposed of on the premises unless approval in writing has been obtained from the Landscape Architect.

(5) When topsoil is placed in pits around roots or balls, it shall be thoroughly mixed with organ-activated sludge fertilizer as specified, or equal, in the following proportions: Two pounds in shrub pits, and five pounds in all tree pits. The depth of planting beds and pits shall be adjusted as necessary to permit a minimum of six inches of topsoil under balls or roots of all plants.

Obstructions Below Ground

In the event that rock or underground construction work or obstructions are encountered in the excavation of plant pits, alternate locations shall be selected by the Landscape Architect. Moving of tree to altern

locations shall not entail additional costs to the Owner.

Planting Operations

(1) Stake tree locations, shrubs, and vine pits, and secure approval of the Landscape Architect before starting excavation of same, making any adjustments necessary. Locate no trees or shrubs closer than 72 inches to pavement or structures. Ground covers may be planted up to structures or curbs.

(2) Plant pits shall not be backfilled with topsoil until they have been approved by the Landscape Architect. If pits are prepared and backfilled with topsoil to grade prior to planting, they shall be so marked and recorded on the plans, that when planting proceeds, they can be readily located.

(3) Set plants in center of pits, plumb, and straight, and at such a level that after settlement, the crown of the plant will be at the finished grade.

(a) When balled and burlapped trees are set, compact topsoil around base of ball to fill all voids. All burlap, ropes, or wires shall be removed from the sides and tops of balls.

(b) Roots of bare root plants shall be properly spread out and topsoil carefully worked in among them. Cut off, with a clean cut, all broken or decayed roots.

...shall not entail additional costs to the Owner.

Planting Operations

(1) Stake tree locations, shrubs, and other plants, and secure approval of the Landscape Architect before starting excavation of same, making any adjustments necessary. Locate no trees or shrubs closer than 12 inches to pavement or structures. Ground covers may be planted up to structures or curbs.

(2) Plant pits shall not be backfilled with topsoil until they have been approved by the Landscape Architect. If pits are prepared and backfilled with topsoil to grade prior to planting, they shall be so marked and marked on the plans, that when planting proceeds, they can be readily located.

(3) Set plants in center of pits, plumb, and straight, and at such a level that after settlement, the crown of the plant will be at the finished grade.

(4) When balled and burlapped trees are set, compact topsoil around base of ball to fill all voids. All burlap, ropes, or wires shall be removed from the sides and tops of balls. Roots of bare root plants shall be properly spread out and loosely carefully worked in among them. Cut off, with a clean cut, all broken or decayed roots.

(4) Topsoil around roots or ball shall be thoroughly compacted and watered. Immediately after plant pit is backfilled, a shallow basin slightly larger than the pit shall be formed with a ridge of soil to facilitate watering. Where curbing occurs around plant pits, the basin shall be omitted. After planting, cultivate the soil in the shrub beds between shrubs, rake smooth and neatly outline.

Staking and Wrapping

(1) Staking and wrapping of trees shall be done immediately after they are planted. Plants shall stand plumb after staking, which shall be done as shown on Landscape Plan.

(a) All balled and burlapped specimen tree-like shrubs will not be staked.

(2) The trunks of all trees except tree-like shrubs shall be wrapped spirally from bottom to top with burlap as specified, and shall be securely tied with suitable cord at top and bottom and at two-foot intervals along the trunk. The wrapping shall overlay and entirely cover the trunk from the ground to the height of the second branches, and shall be neat and snug. Overlap of burlap shall be approximately 2 inches. Trees shall be inspected for injury to trunks, evidence of insect infestation, and improper pruning before wrapping.

(4) Topsoil around roots or ball shall be thoroughly compacted and immediately after plant is backfilled, a shallow basin slightly larger than the pit shall be formed with a ridge of soil to facilitate watering. Where watering occurs around plant pits, the basin shall be filled. After planting, cultivate the soil in the shrub beds between plants, like smooth and neatly outline.

Pruning and Wrapping

(1) Wrapping and wrapping of trees shall be done immediately after they are planted. Plants shall stand plant after standing, which shall be done as shown on Landscape Plan.

(2) All barked and barked specimen tree-like shrubs will not be staked.

(3) The trunk of all trees except tree-like shrubs shall be wrapped evenly from bottom to top with burlap as specified, and shall be securely tied with suitable cord at top and bottom and at two-foot intervals along the trunk. The wrapping shall overlap and entirely cover the trunk from the ground to the height of the second branches, and shall be neat and snug. Overlap of burlap shall be approximately 2 inches. Trees shall be inspected for injury to trunks, evidence of insect infestation, and proper pruning before wrapping.

Pruning and Mulching

(1) Each tree and shrub shall be pruned in accordance with standard horticultural practice to preserve the natural character of the plant and in the manner fitting its use in the landscape design, as approved by the Landscape Architect.

- (a) All dead wood or suckers and all broken or badly bruised branches shall be removed by thinning and shortening branches.
- (b) Pruning shall be done with clean, sharp tools.
- (c) Cuts over 3/4 inch diameter shall be painted with an approved tree paint. Paint shall cover all exposed cambium as well as other living tissue. Paint shall be waterproof, adhesive and elastic, antiseptic, free from kerosene, coal-tar, creosote, or any other material injurious to the life of the tree, and shall be approved before it is used.

(2) Immediately after planting operations are completed, all tree and shrub pits shall be covered with a layer of mushroom manure 2 inches deep. The limit of this mulch for trees shall be the diameter of the tree hole, and shrubs in beds—the entire area of the shrub bed.

(2) All dead wood or stumps and all broken or badly bruised branches shall be removed by thinning up and shortening branches. Pruning shall be done with clean, sharp tools.

(c) Cuts over 3/4 inch diameter shall be painted with an approved tree paint. Paint shall cover all exposed cambium as well as other living tissue. Paint shall be waterproof, adhesive and elastic, antiseptic, free from kerosene, coal-tar, creosote, or any other material injurious to the life of the tree, and shall be approved before it is used.

(3) Immediately after planting operations are completed, all tree and shrub pits shall be covered with a layer of mushroom manure 2 inches deep. The limit of this mulch for trees shall be the diameter of the tree hole, and for shrubs in beds—the entire area of the shrub bed.

Grades

Finished grades shall be the proposed final grades shown on the architectural site grading plans furnished on request by the Owner. Lawns shall be finish graded to meet walks and adjoining surfaces after settling in a uniform way so no water pockets or ridges will be left.

Lawns

- (1) Plant grass seed in all areas indicated on the plans.
- (2) In all lawn areas, the topsoil shall be loosened to a depth of 4 inches and all stones over 1 1/2 inches in any dimension, sticks, roots, rubbish, and other extraneous matter removed. Grade the surface so that, when settled, the surface is free of depressions, ridges, and conforms to the required finished grade.
- (3) On all lawn areas use a fertilizer combination mixed proportionally at the rate of three (3) parts (by weight) sludge to one (1) part (by weight) commercial fertilizer, and apply at the rate of 40 pounds per 1000 square feet and work into the top 2 inches of soil at least 2 days before sowing grass seed.
- (4) The surface shall be smooth and loose and uniformly fine texture immediately before seeding. Prepare only enough ground that can be seeded within 24 hours thereafter.
- (5) On lawn areas sow seed at the rate of 5 pounds to 1000 square

feet of area. Equal quantities of seed shall be sown in two directions at right angles to each other to produce an even distribution of seed over the entire area.

(a) No seeding shall be done when wind velocities exceed 5 miles per hour.

(b) No seeding shall be done after a rain, or if the surface has become compacted, without first loosening the surface of ground.

(6) Rake the seed lightly into the ground, roll with a 200 pound roller, and water thoroughly with a fine spray.

Protection of Work: Occupancy

(1) Occupancy of the project shall not relieve the Contractor of any of the obligations outlined in these specifications.

(2) The Contractor shall provide adequate protection, including the installation of approved temporary fences, at all times for all planted and seeded areas against trespassing and damage, including erosion.

Maintenance

(1) Maintenance shall begin immediately after each plant and each portion of lawn is planted, and shall continue in accordance with the following requirements:

of seed. Equal quantities of seed shall be sown in two directions at right angles to each other to produce an even distribution of seed over the entire area.

(a) No seeding shall be done when wind velocities exceed 2 miles per hour.

(b) No seeding shall be done after a rain, or if the surface has become compacted, without first loosening the surface of ground.

(c) Rake the seed lightly into the ground, roll with a 200 pound roller, and water thoroughly with a fine spray.

Protection of Work: Occupancy

- (1) Occupancy of the project shall not relieve the Contractor of any of the obligations outlined in these specifications.
- (2) The Contractor shall provide adequate protection, including the installation of approved temporary fences, at all times for all planted and seeded areas against trespassing and damage, including erosion.

Maintenance

- (1) Maintenance shall begin immediately after each plant and each portion of lawn is planted, and shall continue in accordance with the following requirements:

(a) Lawns planted during the spring planting season shall be maintained for at least 60 days from the end of planting season, and as much longer as necessary to establish over the entire lawn a close stand of grass of the varieties specified, free of weeds and undesirable coarse, native grasses.

(b) Lawns planted during the fall planting season shall be maintained in the same manner as for spring planting, but shall not be acceptable until the following June first, provided a lawn of a close stand of grass of varieties specified, free of weeds and undesirable, coarse, native grasses, is established.

(c) Plants shall be maintained until lawns are accepted, or if installed subsequent to lawn operations or lawn maintenance, until all planting operations, including mulching, are accomplished and approved.

(2) Maintain lawns by watering, weeding, reseeding, rolling, mowing, trimming, and other operations necessary.

(a) Mowing shall begin as soon as the grass has reached a height of 2 inches. Grass shall be mowed at least once a week while lawns are under Contractor's maintenance.

Written report of maintenance shall be submitted to the Landscape Architect at least 10 days prior to the anticipated inspection date.

- (a) Lawns planted during the spring planting season shall be maintained for at least 60 days from the end of planting season, and as much longer as necessary to establish over the entire lawn a close stand of grass of the varieties specified, free of weeds and undesirable coarse, native grasses.
- (b) Lawns planted during the fall planting season shall be maintained in the same manner as for spring planting, but shall not be acceptable until the following June first, provided a lawn of a close stand of grass of varieties specified, free of weeds and undesirable coarse native grasses, is established.
- (c) Plants shall be maintained until lawns are accepted, or if installed subsequent to lawn operations or lawn maintenance, until all planting operations, including mowing, are accomplished and approved.
- (3) Maintain lawns by watering, weeding, reseeding, rolling, mowing, trimming, and other operations necessary.
- (a) Mowing shall begin as soon as the grass has reached a height of 3 inches. Grass shall be mowed at least once a week while lawns are under Contractor's maintenance.

- (b) Lawns shall be kept watered with sprinklers or other approved methods during dry weather or whenever necessary for proper growth.
- (c) Seed used in reseeding shall be the same as mixture specified.
- (3) Maintain plants in a vigorous, thriving condition by watering, cultivating, weeding, pruning, spraying, and other operations necessary. No trees or shrubs will be accepted unless they are healthy and show satisfactory foliage conditions.
- (a) Maintenance shall include, in addition to the above, cleaning, edging, repairs to stakes, wire and wrappings, repair of erosion, and all other necessary work of maintenance.
- (b) The Contractor may at his own option use an acceptable weed killer in lawn areas, such as 2, 4-D, but no additional cost shall be added to the Contract price.
- (4) Sidewalks and other paved areas shall be kept clean when planting and maintenance operations are in progress.

Final Inspection and Warranty

Inspection of work of lawns and planting will be made at conclusion of maintenance period required.

Written notice requesting inspection shall be submitted to the Landscape Architect at least 10 days prior to the anticipated inspection date.

(b) Lawns shall be kept watered with sprinklers or other approved methods during dry weather or whenever necessary for proper growth.

(c) Seed used in reseeding shall be the same as mixture specified.

(3) Maintain plants in a vigorous, thriving condition by watering,

cutting, weeding, pruning, spraying, and other operations necessary.

No trees or shrubs will be accepted unless they are healthy and show satisfactory foliage conditions.

(a) Maintenance shall include, in addition to the above, cleaning,

edging, repairs to stakes, wire and weepings, repair of

erosion, and all other necessary work of maintenance.

(b) The Contractor may at his own option use an acceptable

weed killer in lawn areas, such as 2, 4-D, but no additional

cost shall be added to the Contract price.

(4) Sidewalks and other paved areas shall be kept clean when

planting and maintenance operations are in progress.

Final Inspection and Warranty

Inspection of work of lawn and planting will be made at conclusion

of maintenance period required.

Written notice requesting inspection shall be submitted to the

Landscape Architect at least 15 days prior to the anticipated inspection date.

Acceptance

Final acceptance. The work under this Contract will be accepted for the Owner by the Landscape Architect upon the satisfactory completion of

all work, including maintenance, but exclusive of the replacement of plant materials.

Guarantee and Replacement

(1) When installation of plants is accomplished during the fall planting season, guarantee plants until the following June 15; when installation of plants is accomplished during the spring planting season, guarantee plants until the following October 1.

(a) Any delay in the completion of any item of work in the

planting operations which extends the planting into more than one planting season shall extend the guarantee period

in accordance with the season of completion given above.

(2) Replace, as soon as weather conditions permit, all dead plants and all plants not in a vigorous, thriving condition noted at the end of the guaranty period.

(3) Plants used for replacement shall be of the same size and variety specified in the plant list. Plants shall be furnished, planted, staked, wrapped, and mulched as specified.

(4) Replaced plant material shall be removed from the site.

PLANTING

Final acceptance. The work under this Contract will be accepted for

the Owner by the Landscape Architect upon the satisfactory completion of

all work, including maintenance, but exclusive of the replacement of plant

materials.

Guarantee and Replacement

(1) When installation of plants is accomplished during the fall

planting season, guarantee plants until the following June 1st; when

installation of plants is accomplished during the spring planting season,

guarantee plants until the following October 1st.

(a) Any delay in the completion of any item of work in the

planting operations which extends the planting into more

than one planting season shall extend the guarantee period

in accordance with the season of completion given above.

(2) Replace, as soon as weather conditions permit, all dead plants

and all plants not in a vigorous, thriving condition noted at the end of the

guarantee period.

(3) Plants used for replacement shall be of the same size and variety

specified in the plant list. Plants shall be furnished, planted, staked, wrapped,

wrapped, and matched as specified.

(4) Replaced plant material shall be removed from the site.

SPECIFICATIONS FOR GRADING AND SUB-GRADE PREPARATION

Scope of Work

This division includes furnishing all materials, equipment, and

labor necessary for preparation of final subgrades. The Contractor shall

be responsible for the following: (1) protection of existing trees and

shrubs to be retained and tree removal, (2) stripping and storing of existing

topsoil for reuse, (3) materials used for fill, and (4) rough grading of

subgrade to a point approximately three inches below finished grade.

Topsoil Stripping

In cases where a General Building Contractor has already been stripped within the work

area. However, on extensions to existing walks, etc., it will be necessary

to strip the topsoil to a depth of 4 to 6 inches, either by machine or by

hand. All topsoil and sod excavated by hand will be loaded on trucks and

carried to locations as directed by the Landscape Architect.

Grading

When excess excavation is encountered, Contractor is to cut to

finished subgrade. Materials which cannot be used on the site shall be

removed from the site by the Contractor or will be used somewhere on the

34 GRADING AND SUB-GRADE PREPARATION

This division includes furnishing all materials, equipment, and labor necessary for preparation of final subgrades. The Contractor shall be responsible for the following: (1) protection of existing trees and shrubs to be retained and tree removal, (2) stripping and storing of existing topsoil for reuse, (3) materials used for fill, and (4) rough grading of subgrade to a point approximately three inches below finished grade.

Topsoil Stripping

In most cases, topsoil will have already been stripped within the work area. However, on extensions to existing walks, etc., it will be necessary to strip the topsoil to a depth of 4 to 6 inches, either by machine or by hand. All topsoil and sod excavated by hand will be loaded on trucks and carried to locations as directed by the Landscape Architect.

Grading

When excess excavation is encountered, Contractor is to cut to finished subgrade. Materials which cannot be used on the site shall be removed from the site by the Contractor or will be used somewhere on the

property. All activities shall be coordinated with the Owner at all times.

Where fill material is required, the material will be supplied in the following manner:

- To be supplied from on site excavation carried out by Contractor.
- Contractor to supply fill sand, of a quality acceptable to the Owner. Contractor must retain truck slips for payment.

In all cases, all grading for construction work by the Contractor, will be done by the Contractor. When fill earth is hauled by Owners' trucks, fill will be dumped on site, and leveling and spreading will be done by Contractor.

In cases where a General Building Contractor has established subgrade outside the building, the Owner assumes no responsibility for the accuracy of the subgrade profile, and Contractor must clear all discrepancies with the General Contractor.

Sand Fill

Any material cut below the true subgrade profile must be replaced with sand by the Contractor at his own expense. While sand fill is not generally required under all walks and curbs, the sand fill allowance for the job has been figured on the basis of 4 inches underneath all walks and curbs and this amount will be the total allowable for the job. Contractor

PROPERTY. All activities shall be coordinated with the Owner at all

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Where full material is required, the material will be supplied in the

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- (a) To be supplied from on site excavation carried out by Contractor.
- (b) Contractor to supply fill sand, of a quality acceptable to the Owner. Contractor must retain truck slips for payment.
- In all cases, all grading for construction work by the Contractor, will be done by the Contractor. When fill earth is hauled by Owner, trucks, fill will be dumped on site, and leveling and spreading will be done by Contractor.

In cases where a General Building Contractor has established subgrade outside the building, the Owner assumes no responsibility for the accuracy of the subgrade profile, and Contractor must clear all discrepancies with the General Contractor.

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Any material cut below the true upgrade profile must be replaced with sand by the Contractor at his own expense. White sand fill is not generally required under all walks and curbs, the sand fill allowance for the top has been figured on the basis of 4 inches underneath all walks and curbs and this amount will be the total allowable for the job. Contractor

will not be paid for any amount of sand fill in excess of this amount. Should the Contractor exceed the job allotment for sand fill before completing the project, he will still be required to furnish a sand bed where necessary, but he will do so at his own expense.

Mountain Laurel

Decoding Language

Cataglyphis floridanus

PLANT LIST

Botanical Name	Common Name	Size	Quantity
Abbott, Robert W. <i>Landscaping, Contractors and Specifications</i>. John Wiley and Sons, Inc., New York, 1962. <u>Trees</u> Imsey, G. G. and Sleeper, H. R. <i>Architectural Garden Book</i>. John Wiley and Sons, Inc., New York, 1962. Wiggin, Brooks R. <i>Trees and Shrubs for the Landscape</i>. University of Georgia Press, Athens, Georgia, 1963. <u>Shrubs</u> Williams, T. G. <i>Louisiana Plant Materials for Landscaping</i>. Louisiana State University, Baton Rouge, Louisiana, 1962.			
<i>Cornus florida</i>	Dogwood	3'-4' BB 10'-15'	65
<i>Pinus strobus</i>	White Pine	5' BB 10'-15'	27
<i>Hydrangea quercifolia</i>	Oakleaf Hydrangea	24" 5'-7'	23
<i>Kalmia latifolia</i>	Mountain Laurel	24" BB 5'-6'	110
<i>Leucothoe catesbaei</i>	Drooping Leucothoe	18"-24" BB 4'-5'	260
<i>Rhododendron catawbiense</i>	Catawba Rhododendron	24" BB 7'-8'	60
<i>Rhododendron maximum</i>	Rosebay	30"-36" BB 8'-10'	67
<u>Grass</u>			
<i>Zoysia myer</i>	Zoysia Myer		Seed
	Creeping Fescue		Seed

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- Ramsey, C. G. and Sleeper, H. R. Architectural Graphic Standards, John Wiley and Sons, Inc., New York, 1962.
- Seelye, Elwyn E. Data Book for Civil Engineers, John Wiley and Sons, Inc., New York, 1962.
- Wigginton, Brooks E. Trees and Shrubs for the Southeast, University of Georgia Press, Athens, Georgia, 1963.
- Williams, T. G. Landscape Plant Materials for Georgia, Cooperative Extension Service, University of Georgia, Athens, Georgia, 1963.