Seeler, 1964

Landscape Design
for
The Whitehead Elementary School
Athens, Georgia

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by
David Eric Seeler
and
Raymond Edwin Jefferson

A Terminal Problem Presented For
Degree of Bachelor of Landscape Architecture

Department of Landscape Architecture
University of Georgia
Athens, Georgia
May, 1964

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

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PROBLEM STATEMENT

Members of the Board of Education of the Clarke County School District, in session on April 8, 1964, voted to secure professional assistance in the preparation of a landscape development plan for the grounds of Whitehead Elementary School. Professor Sam Wood, Superintendent of Clarke County Schools, has employed this firm of landscape architects to render this service.

The site is located in Northwest Athens, approximately one-third of a mile west of the Jefferson Road one block from the Whitehead Road. A single row of residential housing exists between Whitehead Road and the school property. Directly west of the school is an open area of approximately 2.5 acres surrounded by a dense pine forest. North of the school is an existing road which will eventually be paved and connected to the existing school entrance.

Following conference with Professor Wood and Miss Allea Betts, Principal of Whitehead Elementary School, and a careful study of the site, it was decided to include the following special features in the landscape plan, in addition to the usual items such as drives, walks, parking areas, etc: (a) an outdoor recreation area divided in two parts, one for children in the first, second and third grades, and one for students enrolled in the fourth, fifth, and sixth grades; (b) an outdoor assembly area to meet requirements for various outdoor

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group activities and meetings; (c) school garden plots, consisting of planting beds for the students to study the fundamentals of plant growth, basic horticulture and for simple scientific experiments.

This proposed plan will include:

1. Location of existing and proposed buildings.
2. Vehicular and pedestrian circulation.
3. Parking facilities for faculty, visitors and service trucks.
4. Outdoor assembly area.
5. Outdoor recreation areas.
6. Open lawns, tree shaded areas, shrub groupings and ground covers.
7. Garden plots for each grade.
8. Design of interior court west of Cafetorium.

We propose to prepare the following drawings and other documents:

1. Site analysis sheet.
2. Master plan.
3. Grading and staking plan.
4. Construction details (to be selected).
5. Planting plan.
6. Planting details (to be selected).
7. Scaled model of area.
8. Typewritten, bound, comprehensive report including a historical sketch, analysis of the problem, justification of the solution, plant list,

specifications for selected portions of the development, cost estimates, and photographs of the above listed drawings, and of the buildings and site.

A Brief History of Whitehead Road School

During the 1950's Clarke County experienced a rapid growth of school population which necessitated a careful study by the Board of Education of the needs that would have to be met in order to provide adequate facilities for all students. One of these needs was for an elementary school in the fast-growing northern section of the county. A beautiful tract of land was purchased, and planning for the school was initiated.

In the summer of 1959 plans for the Whitehead Road School had progressed to the point where a motion was presented to the Board of Education at its July meeting that an architect be employed to prepare preliminary plans for an elementary school on Whitehead Road, the school to be built when funds were available. The firm of Heery and Heery, Architects, was retained to draw up the plans. In 1960 the State Board of Education approved an application for funds for a twenty room school to be located off Whitehead Road.

The area in which Whitehead Road School is located grew so rapidly that it was necessary to provide for the children a temporary basis while construction of the new plant was underway.

Construction moved slowly, but by the spring of 1963, every one felt confident that the Whitehead Road Group could move into its new quarters before the end of the school year. However, the building was not released until August, and the move was made before the opening of the 1963-64 school.

Whitehead Elementary School

Introduction

In the last decade, the development of child psychology has played a major role in creating an interesting play environment for elementary school children. In the past, recreation was considered unimportant in elementary schooling. Today, however, school authorities, including child psychologists, agree that recreation greatly contributes to child development.

The landscape architect is responsible for the development of outdoor space. Since a major part of recreational activities occur outdoors, a great deal of emphasis should be placed on spacial development. The service of a landscape architect is rendered to develop these spaces into a utilitarian and pleasing design so that they will contribute to the development of character and imagination of children.

The Whitehead Elementary School was chosen as a senior terminal problem design project. The school building advanced is of pleasing contemporary design, and is the first in Georgia to use wood beams in construction. The school consists of approximately fourteen acres of land which allows for adequate recreational development, drives, automobile parking, etc.

In designing an area of this nature, the landscape architect must consider many factors which include

circulation, drainage, recreational facilities, automobile and parking facilities, maintainence, orientation, and plant materials. Each of these factors are important in themselves, but one cannot supercede the other in importance. Each factor must work with the other to form a unity of expression.

General Analysis

The landscape architect must consider the existing conditions on a site before any design conclusions can be made. The existing environment will disclose many solutions to design problems. The existing plantings, the circulation problems, existing recreational facilities, and the maintainence problems are among many conditions that must be studied.

The site of the Whitehead Elementary School consists of approximately fourteen acres of sparsely wooded land. The basic foliage types consist of loblolly pine, white oak, and assorted shrubs and wild grasses. On the west and northwest corners of the property there are large clumps of pine which flow into a naturalistic landscape. Two small clumps of oak are located off the northwest corner of the school building. The oak clumps are in good condition with the exception that some tree work is necessary to allow for good growth.

The soil types range from clay to clay-loam. The present condition of the soil is poor since it forms a sea of mud in the rainy season and a rough playing surface when dry. Since the area is not completely graded, drainage problems are evident. When the recreational facilities are located, the problem of reducing surface water will be eliminated. At present the drainage water runs to the limit of work line and dispurses over a large area of the property.

The Whitehead School is orientated in a north-south direction to allow for adequate sunlight in classrooms. The sunlight is sufficient in the winter months, but in late spring, late summer, and early autumn, the heat and glare is almost unbearable! Therefore, steps should be taken to provide shade during these months.

Recreational facilities are inadequate at the present time. The school has constructed some play equipment west of the lower grade wing which temporarily has reduced the need for recreation for the lower school level. The fourth, fifth, and sixth grade pupils are in greatest need of facilities and have very little to work with until some plan for recreation is adopted. Students in these grades attempt to play baseball on the grounds, but there is a genuine need for an organized arrangement for playing fields.

The parking facilities for service vehicles, buses, and automobiles are sufficient. The parking area in the southwest corner of the property is rather open in appearance and lacks trees and plantings of any type. Approximately fifty students ride bicycles to school. Bicycle parking has not been accounted for and needs immediate attention. The service area is large enough to accommodate overflow parking on special occasions.

Since the landscape architect must incorporate many phases of movement, circulation is one of the most

important design problem at the Whitehead Elementary School. Bicycle, automobile, service vehicle, bus, and pedestrian circulation comprise items which need attention. The parking facilities are well located since they segregate the automobiles from the student traffic. It is recommended that the school authorities abandon plans for connecting the service area with the road to the north of the school. This connection will encourage through-traffic and defeat the purpose of having a safe environment for school children. Such a connecting drive is not included on the proposed landscape plan. In view of the fact a great deal of student travel is to the north of the school building, a walk in this area is necessary. The students who travel home to the south of the school building presently use the roadway which is dangerous. A sidewalk should be installed.

The Whitehead School has two courtyards which are well suited for some type of passive studying and reading areas. The courtyards provide an excellent opportunity to bring nature closer to the classroom.

The Whitehead School is contemporary in design. This circumstance affords an excellent opportunity for the landscape architect to develop interesting contemporary spaces for children which will help to develop their character and imagination through visual and active participation in outdoor activities in an attractive setting.

Justification and Design Conclusions

After careful consideration of the existing site, the landscape architect must formulate certain design decisions. Certain areas that exist must be changed for the betterment of the total design. Justification for changes must be viewed on a total, rather than singular, study of an area.

This proposed design for the Whitehead School has many interesting and logical aspects. The land is molded to create spaces in the play areas which provide shelter as well as a feeling of spatial freedom. The sheltered areas are used basically for the utilization of passive studying and reading areas. In most schools today, a student rarely has the opportunity to sit away from his fellow students and study the outdoors. During regular class sessions, these passive areas can be utilized for outdoor classrooms.

When children go to school, they seek the opportunity to "get away" from the classroom. The recess period affords this opportunity. This scheme shows the possibilities for the student to do what he desires the most. If he seeks quiet, the passive areas are available; if he seeks active recreation such as softball, the facilities specified on the plan amply supply his needs.

Few School Boards seem to consider the needs of school children on a personal basis. It appears that

the Board members merely assume what the student likes and dislikes on the basis of what they can remember from their own childhood. In this design an attempt has been made to apply many features that the students requested by submitting questionnaires to the students. Questionnaires were also circulated to the faculty members of Whitehead School.

Based on the knowledge received from the questionnaires, it was realized that the students had a great desire to be outdoors, but had little knowledge of animals that existed there. The students were quite familiar with tree types. They wanted school gardens, and many of them had planted seeds in the past at home. The natural areas massed with trees will provide an opportunity for the student to see and experience a touch of nature. These tree masses will serve as needed cover for birds and small animals because the surrounding residential areas are developing so rapidly.

At the present time, the students traveling by bicycle must use the main entrance of the school to gain access. A bicycle path to the east of the parking lot has been provided to take care of this type of traffic. This will allow safe travel for the students while on the school grounds. The parking area has been planted with trees to provide a more pleasant area visually.

The recreational facilities are adequate to accommodate the needs of the students. The low

maintenance consists of mowing grass, and minimum plant bed care. Room for expansion is easily available on the site. We have allowed for three baseball fields, a large multi-purpose area, basketball area that can be converted to volleyball for the girls, hop-scotch, shuffleboard, marbles, and a play sculpture area. The softball, multi-purpose area, and the play sculpture areas will be grass surfaced. All other areas of recreation mentioned above will have an asphalt surface. These asphalt surface spaces can be covered with a soluable wax and used for special occasions, such as dances or outdoor PTA meetings.

A bicycle parking area is located north of the service area. This parking space will create an organized method of parking bicycles.

The school gardens are located along the walk by the north entrance to the school. The gardens will consist of plants which will be easily maintained, such as bulbs, perrenials, and early flowering annuals. The gardens will give the students a knowledge of how plants grow. The students will take pride in the flowers and vegetables their particular class grows, and competition between classes will add to the unifying spirit of the class.

Masses of trees have been planted around the perimeter of the property to provide a separation and buffer strips from the residential areas. The trees are inexpensive since they are pine and are visually more

effective than a cyclone fence. The tree masses are especially effective to the west where they flow into the naturalistic landscape and contribute to the land forms.

The two courtyards are of special interest at the Whitehead Elementary School. These spaces are designed to serve as passive areas. The courtyards are not currently being used because the presence of people in the courts would be a disturbing factor to classrooms. We have designed the area so that classroom activities can be conducted in these outdoor spaces without disturbing others. The area will appear as small islands to students looking out to the courtyard. The plantings are surrounded by grass and will appear as a river. Note Plan Detail Sheet.

The smaller courtyard located adjacent to the Cafetorium will be used more for its visual quality more than for actual use. The court can be used on special occasions such as meetings or for student displays.

In the outdoor sitting areas designated on the Master Plan, the student comes in contact with nature. These areas help to enlighten the student in the wonders of nature. The area located on the west portion of the property will consist of fallen trees for benches, wild trees, and shrubs, wild flowers and an assortment of the typical wild life as it is pictured today.

This design has a great deal to offer the elementary grade student. It relates to what the students

requested as revealed in the questionnaire, and has a character of freedom which children seek at this age level. What more could a student desire in recreation than a plan that brings him closer to the thing he loves the most...Nature.

WHITEHEAD ELEMENTARY SCHOOL RESEARCH TEST

(Boy)
(Girl)

1. Which do you like to do best?

   a. swing
   b. slide
   c. climb a tree

2. What do you like to do best

   a. play ball
   b. fish
   c. play in the woods
   d. play with dolls

3. What do you like best in school?

4. Would you like to grow vegetables and flowers as part of your school work? Yes No

5. Have you ever helped to plant a tree? Yes No

6. Have you ever planted seeds? Yes No

7. Do you like to grow gardens? Yes No

8. What kind of tree do you like best?

9. Do you like flowers? Yes No

10. Do you like to go to the park? Yes No

11. What is your favorite animal?

12. Does your mother grow plants inside your house? Yes No

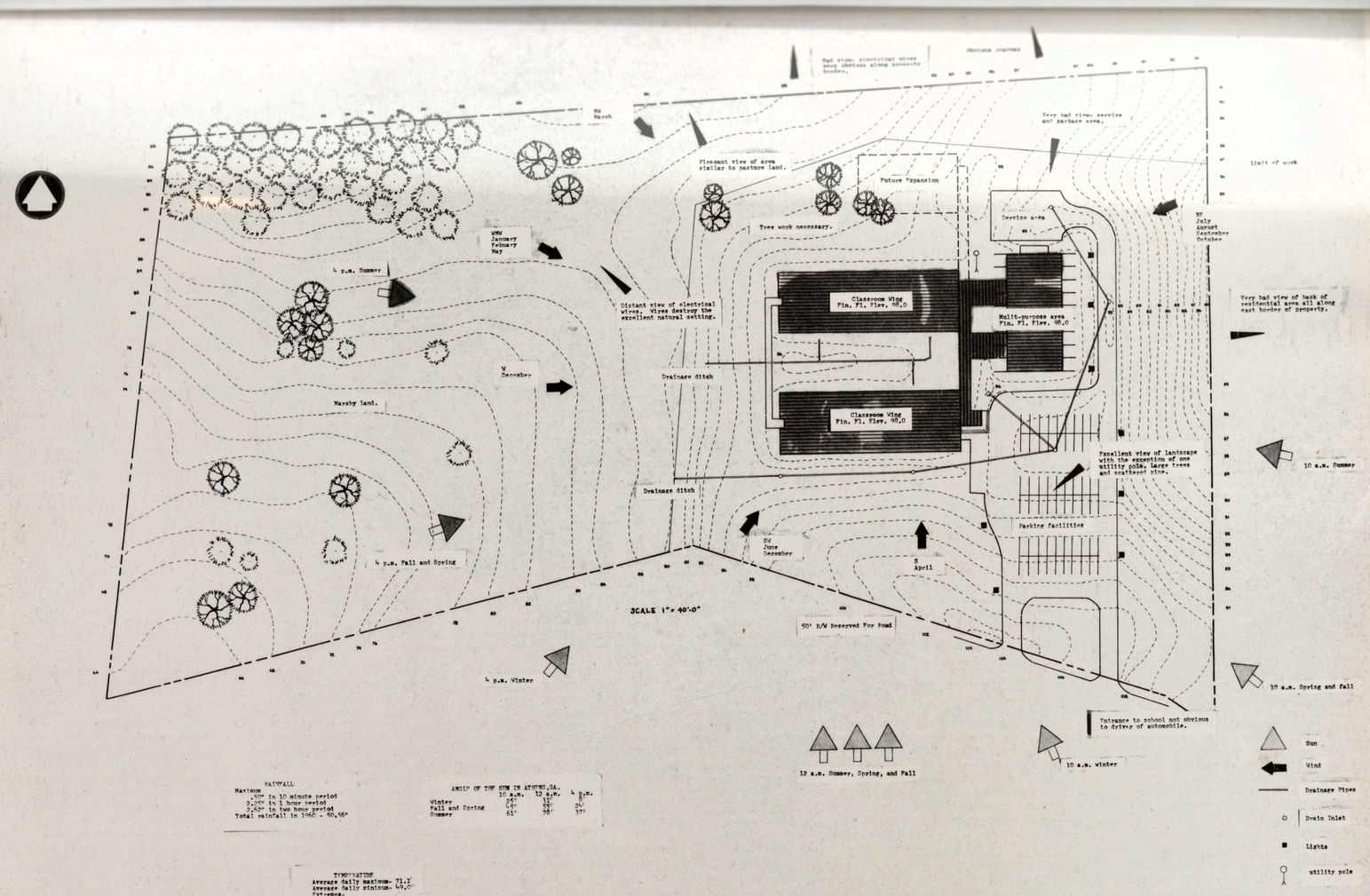
13. Which do you like best

    a. grass
    b. trees
    c. flowers

14. Where do you like to play best

    inside outside

15. Why do you like spring?



RAINFALL

Maximum
.40" in 10 minute period
2.25" in 1 hour period
2.62" in two hour period
Total rainfall in 1960 - 60.46"

ANGLE OF THE SUN IN ATHENS, GA.

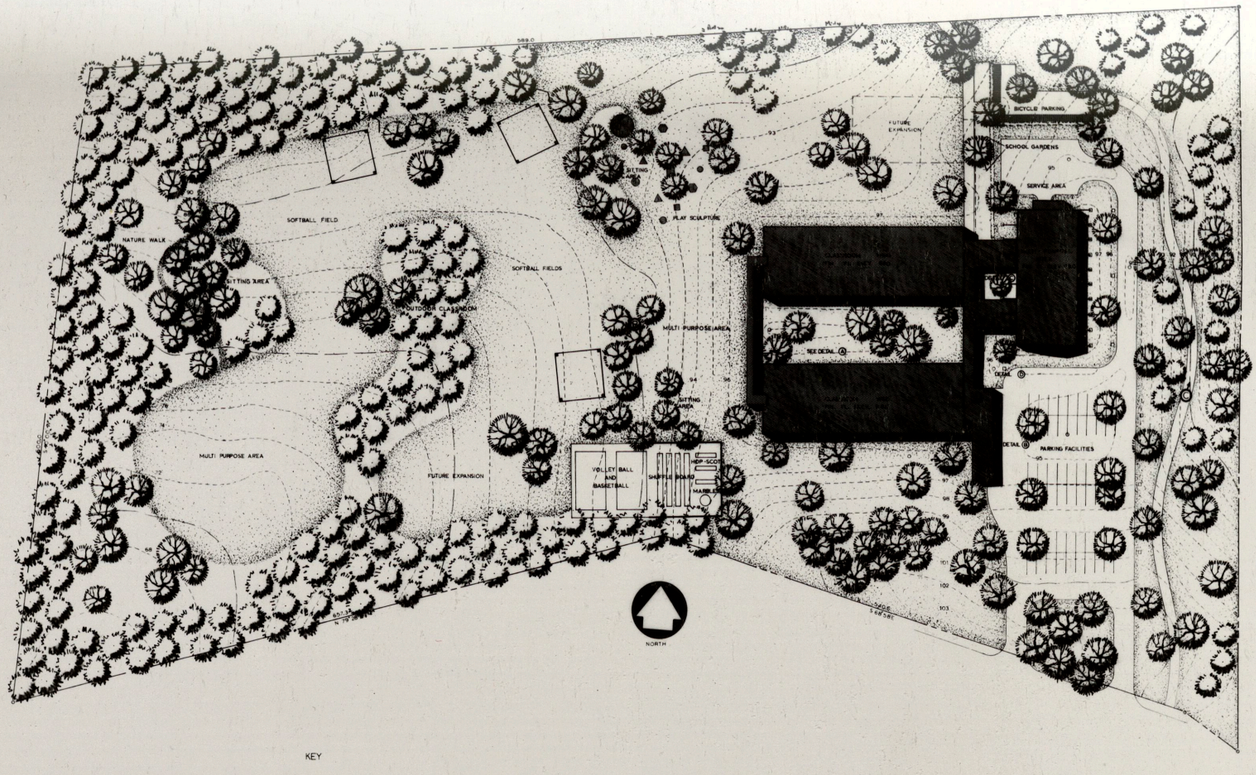
	10 a.m.	12 a.m.	4 p.m.
Winter	26°	31°	
Fall and Spring	49°	56°	20°
Summer	61°	98°	17°

TEMPERATURE

Average daily maximum- 71.1°
Average daily minimum- 47.0°
Extreme.
Highest - 99° F.
Lowest - 0° F.

WHITEHEAD ELEMENTARY SCHOOL

D. SEELER R. JEFFERSON SITE ANALYSIS



KEY

DECIDUOUS TREES

CONIFERS

WHITEHEAD ELEMENTARY SCHOOL

scale $\frac{1}{40}$" = 1'-0"

MASTER PLAN

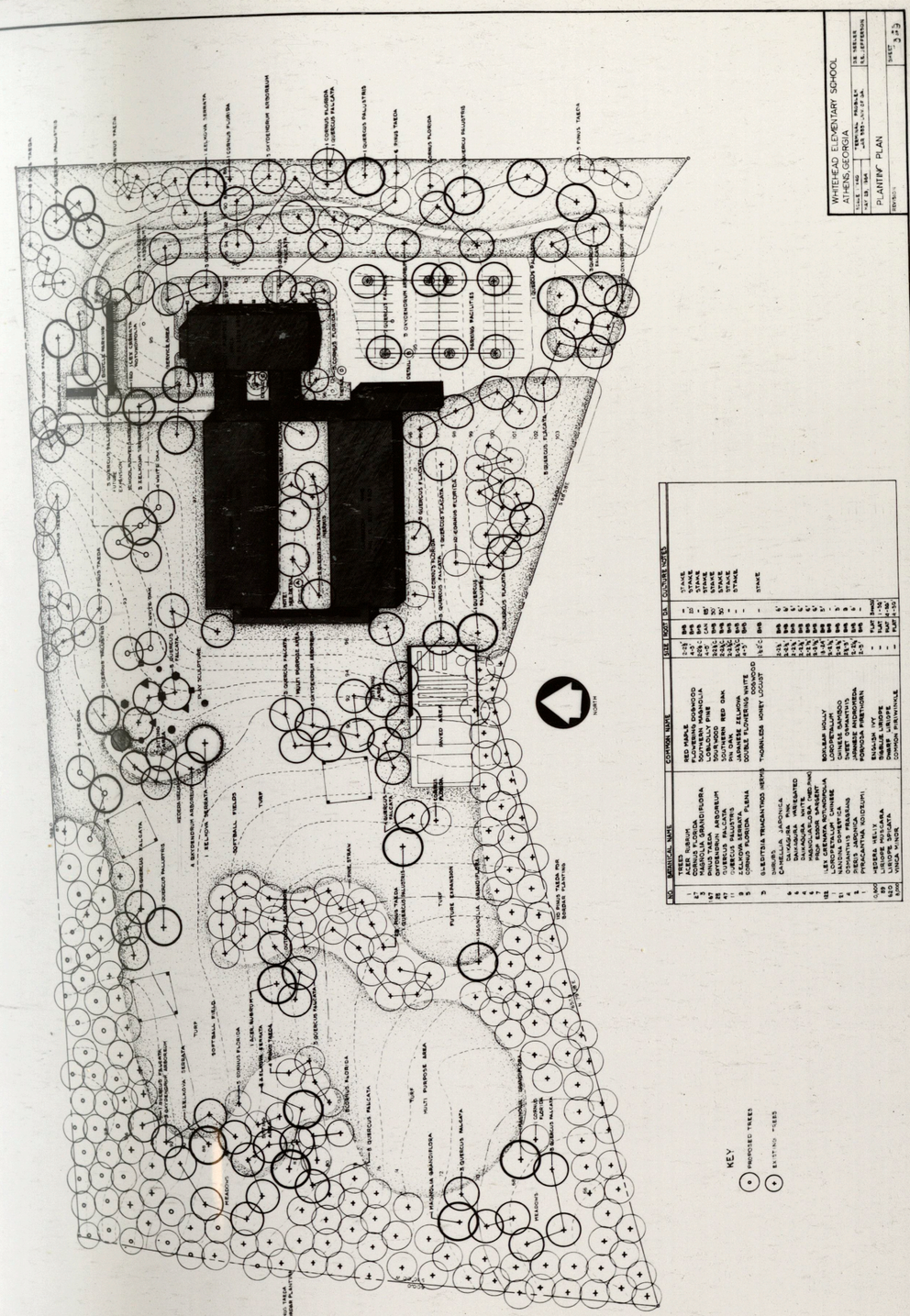
D.E. SEELER R.E. JEFFERSON

TERMINAL PROBLEM - SPRING 1964

sheet 1 of 9

COORDINATE COMPUTATIONS

STA	LINE	BEARING	DISTANCE	LATITUDES +	LATITUDES -	DEPARTURES +	DEPARTURES -	COORDINATES NORTH	COORDINATES EAST
A								5000.000	5000.000
B	B-C	N 0°00'00"E	48.58	48.58		0.00		5048.580	5000.000
C	C-D	N 74°-30'E	127.36	33.45		122.99		5082.033	5122.990
D	D-E	S 8°-18'E	86.29		85.39	12.39		4996.643	5135.379
E	E-A	S 81°-30'W	71.89		9.52		71.26	4987.123	5064.119
A	A-B	N 0°00'00"E	51.78	51.78		0.00		5038.903	5064.119
F	F-G	S 85°-15'E	185.40		15.40	184.68		5023.503	5248.799
G	G-H	S 8°-18'E	86.29		85.39	12.39		4938.113	5261.189
H	H-I	S 81°-30'W	185.40		24.59		183.50	4914.523	5077.689
I	I-J	S 0°-00'00"E	51.78		51.78	0.00		4862.743	5077.689
J	J-K	S 81°-30'W	71.89		9.52		71.26	4853.223	5006.429
K	K-A	S 8°-18'E	137.36		135.93	19.78		4717.293	5026.209
A								5000.000	5000.000


WHITEHEAD ELEMENTARY SCHOOL
ATHENS, GEORGIA
PLANTING PLAN
SHEET 3 of 3
KEY
PROPOSED TREES
EXISTING TREES
NORTH

WHITEHEAD ELEMENTARY SCHOOL
ATHENS, GEORGIA

DETAILS FOR BENCH & SITTING WALL

S-3

WHITEHEAD ELEMENTARY SCHOOL
ATHENS, GEORGIA

SCALE		DRAWN BY	R. E. HEISER
DATE	1/68	CHKD BY	C.E. JEPPESON

DETAILS FOR FORM WORK

DESIGNED	SHEET
	4-9

SPECIFICATIONS

1. PLYWOOD MARKED TO BE USED - EXTERIOR TYPE PLYWOOD GRADE-B- SIZE 4'x8'x 3/4".
2. STUDS AND WALERS TO BE 2"x4".
3. BRACING SYSTEM TO BE CONSTRUCTED WITH 8'x4" USED 4x4 NAILS
4. PLYWOOD PANELS TO BE CLEANED AND OILED AFTER USE WITH 00-GRADE OIL.
5. ALL NAILS WITH THE EXCEPTION OF THOSE IN PLYWOOD SHALL BE DOUBLE HEADED NAILS.
6. CONCRETE MIX TO BE 1:2:3 WITH APPROXIMATELY 3"SLAG, PEA GRAVEL AND CEMENT
7. CURATIVE METHOD USED TO CONSIST OF A 12in. LAYER(OR MORE) OF STRAW AND BARREL. BEFORE THE TILE SYSTEM IS TO BE LAID THE STRAW IS TO BE REMOVED AND THE WALL TILE LAID ON SAND BASE WITH A LARGE AMOUNT OF WATER FROM CENTRAL POINT OF THE WALL TILE TO FLOOR.
8. ½" DIAMOND EXPANSION JOINTS TO BE USED IN THE TWO JOINTS LAID WITH OPEN JOINTS

CROSS SECTION OF TYPICAL FORM
SCALE 1"=1'

3"x4" BRACING SYSTEM
5'-7" TRAPEZOIDAL BODY LAID ON TOP TWO 7/8 BOOK AND FASTENED WITH WIRE
WELL COMPACTED SOIL
SEE DETAIL FOR BALANCE
1½" REBAR POINT
7/8 BOOK
2"x6" SPREADERS
WIDE TOP FLAT-UP SPREADERS
3"x4" BRACING SYSTEM
3 BRACING BODY TO THE 7/8 BOOK, DOUBLE LINE BOOK WHICH ARE PLACED IN BETWEEN THE BOD TRACING

ELEVATION OF TYPICAL FORM PANEL
SCALE 1"=1'

3"x4" WALERS
2"x4" WALERS
WALER JOINT
1" OVERLAPS ON ADJOINING PANELS
4'-0"
16in.
16in.
16in.
16in.

PLAN VIEW OF ENTIRE RETAINING WALL
SCALE ¼"=1'

70'-0"

PLAN VIEW OF FORM
SCALE ¾"=1'

¾" PLYWOOD
2"x4" STUDS
2"x4" BRACE
2"x4" BRACE
2"x4" FOOTING

PLAN VIEW
PLYWOOD JOINT FABRICATION

PLYWOOD PANEL #1
PLYWOOD PANEL #2
STUD-A
STUD-B
STUD-C

NOTES
PANEL-1 LABS ONLY TO CENTERS OF STUD A
PANEL-2 LABS TO INSIDE FACE - ON STUD A
BUT SHORT NAILED TO A" STUD B THE EDGE
STUD ON PANEL 1 ½", LESS ½ CENTER THAN
STUDS. WALE IS NAILED TO C AND A
NAILS TWOOUGH TO B WITH DOUBLE HEADED NAILS

¾" PLYWOOD PANELS

ISOMETRIC OF FORM SECTION
SCALE 1"=1'

2"x4" SLEEPERS - ONE ON EACH SIDE
3/4"x2" NOTING FOAM
3"x4" BRACING SYSTEM
KEY AT EXPANSION JOINTS ANGLE OF 4.5" WITH A ½" TAPER TO THE INSIDE
2"x4" CROSS BRACING 1'-0" BRACE

WHITHEAD ELEMENTARY SCHOOL
ATHENS, GEORGIA

SITE IMPROVEMENT DETAILS

SCALE: —	C. E. FEDERA
DRAWN: EB	CHECKED: RCB/LBW
DATE: 23 JAN 1964	CHIEF OF BR.
REVISIONS:	SHEET 6 of 9

PLAN OF PAVED PLAY AREA

YARD LIGHT STANDARD

SECTION OF DROP INLET

PLAN AT PIPE JUNCTION

GRADING
TREE ON SLOPE

SECTION

STAKING MAJOR TREES

SECTION

STAKING MINOR TREES

SECTION

TREE GUARD

PLAN A-A

PLAN B-B

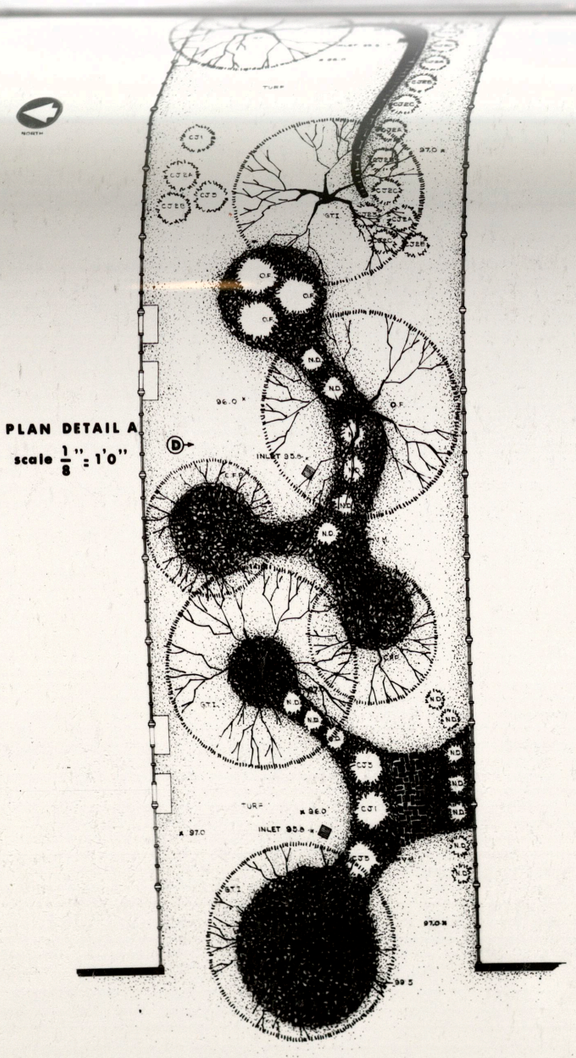
SECTION OF MANHOLE

SECTIONS

BASKETBALL FOOTING

VOLLEYBALL FOOTING

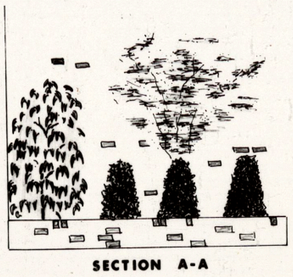
LAYOUT FOR
PAVING, DRAINAGE AND FOOTINGS



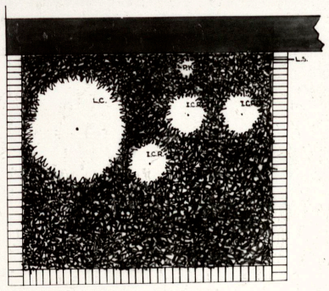
PLAN DETAIL A
scale $\frac{1}{8}$" = 1'0"

PASSIVE AREA VIEW D

KEY	BOTANICAL NAME
	TREES
CFP	CORNUS FLORIDA PLENA
GT	GLEDITSIA TRIACANTHOS INERMIS
SV	SORBUS VILMORINI
	SYRINGA
	CAMELLIA JAPONICA
CJSA	DAINASURA PINK
CJSD	DAINASURA VARIEGATED
CJSC	DAINASURA WHITE
CJS	MAGNOLIAFLORA RED PINK
CJS	PROFESSOR SARGENT
ICR	ILEX CRENATA ROTUNDIFOLIA
LC	LORAPETALUM CHINESE
ND	NANDINA DOMESTICA
OF	OSMANTHUS FRAGRANS
PA	PYRACANTHA KOIDZUMI
	GROUND COVER
LM	LIRIOPE MUSCARA
LS	LIRIOPE SPICATA
VM	VINCA MINOR



SECTION A-A



PLAN DETAIL B
scale $\frac{1}{2}$" = 1'-0"

WHITEHEAD ELEMENTARY SCHOOL

scale as indicated — D.E. SEELER — R.E. JEFFERSON — sheet 7 of 9

PLAN DETAILS — TERMINAL PROBLEM - SPRING 1964

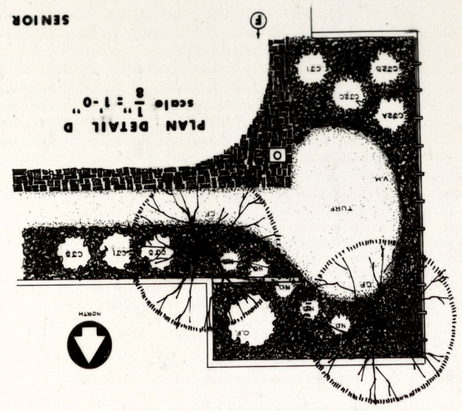
PLAN

DETAILS

WHITEHEAD ELEMENTARY
SCHOOL

sheet 8 of 9

SPRING GTR. 1964 D.E. SEELER
SENIOR TERMINAL PROBLEM R.E.JEFFERSON



PERSPECTIVE SKETCHES

WHITEHEAD ELEMENTARY SCHOOL

sheet 9 of 9

SPRING QTR. 1964 D.F. SEELER

SENIOR TERMINAL PROBLEM R.E. JEFFERSON

BICYCLE PATH VIEW B

NATURALISTIC SITTING AREA VIEW A

PLAY AREA VIEW C

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for

WHITEHEAD ELEMENTARY SCHOOL

ATHENS, GEORGIA

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for

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SPECIFICATIONS FOR

LABOR AND MATERIALS REQUIRED AND TO BE FURNISHED

FOR

WHITEHEAD ELEMENTARY SCHOOL

Whitehead Road
Athens, Georgia

Date May 29, 1964

Dave Eric Seeler and
Raymond Edwin Jefferson
Landscape Architects
University of Georgia
Athens, Georgia

PLANTING PLAN
dated May 29, 1964

Approved by:

Professor Sam Wood
Superintendent of Schools
Athens, Georgia

NOTICE TO BIDDERS

Professor Sam Wood
Superintendent of Schools
Athens, Georgia

Notice is hereby given for installation of plant materials at the Whitehead Elementary School. The site is located on Whitehead Road, Athens, Georgia. Sealed bids shall be received by Professor Sam Wood, Superintendent of Schools, on Friday, June 26, 1964 at 3 o'clock Eastern Standard Time, in the Conference Room at the Board of Education Building, Milledge Ave. Athens, Georgia.

The work will comprise the following:

SUPPLYING AND INSTALLING ALL PLANT MATERIALS, ESTABLISHING FINISHED GRADE AND LAWN, CONSTRUCTION OF PAVED AREAS, BENCHES, RETAINING WALL, AND DRAINAGE SYSTEM.

The Contract shall be awarded to the lowest responsible bidder, subject, however, to the discretionary right reserved by the Owner to waive any informalities in, reject any or all proposals and to request new proposals, if, in his opinion the best interest of Whitehead Elementary School shall thereby be promoted.

Each bidder must deposit with his bid, security in an amount not less than five (5%) percentum of the bid, in the form and subject to the conditions provided in the Information to Bidders.

Date June , 1964

INFORMATION FOR BIDDERS

FOR THE
PLANTING WORK
FOR
WHITEHEAD ELEMENTARY SCHOOL
ATHENS, GEORGIA

1. RECEIPT AND OPENING OF BIDS

(a) Professor Sam Wood, Superintendent of Schools, Athens, Georgia, (herein after called the Owner) invites separate sealed bids for the:

SUPPLY AND INSTALLATION OF ALL PLANT MATERIAL, ESTABLISHING FINISHED GRADE AND LAWN, CONSTRUCTION OF PAVED AREAS, BENCHES, RETAINING WALL, AND DRAINAGE SYSTEM.

at the Whitehead Elementary School.

(b) Bids shall be received by Professor Sam Wood, Superintendent of Schools, Athens, Georgia on Friday, June 26, 1964 at Three O'Clock Eastern Standard Time, in the Conference Room at the Board of Education Building, Milledge Avenue, Athens, Georgia.

(c) Any bids received after the time and date specified will not be considered. No bids will be withdrawn pending the decision of the Owner.

2. PREPARATION OF PROPOSAL

(a) Proposals must be submitted on the prescribed form, two copies of which are attached hereto, all blanks filled by printing, in ink, in both words and figures. The Contractor shall remove proposal from Specifications, and submit as his bid one copy, and keep the other copy for his records.

(b) All proposals must be submitted in sealed envelopes, bearing on the outside the name of the Bidder, his address, the name of the project, and the Contract bid upon.

(c) Proposals so enclosed shall be delivered to the aforementioned place on or before the hour and the date noted above.

3. OBLIGATION OF BIDDERS

(a) At the time of the opening of bids, each Bidder shall be presumed to have inspected the site and to have examined and to be thoroughly familiar with the drawing. General Conditions, General Requirements of the Contract, and Specifications (including all addenda thereto). The failure of or omission of any Bidder to receive or examine any drawings, form, instruction or document shall in no wise relieve such Bidder from any obligation in respect to his bid.

(b) Each Bidder shall, by careful examination of the site, satisfy himself as to the location of the work, the character, the quality and quantity of the work to be performed and materials to be furnished, the character of equipment and facilities needed preliminary to and during prosecution of the work, the general and local conditions and all other matters which in any way effect the work specified herein.

(c) After the contract has been entered into, no consideration shall be given for any misunderstanding as to work and materials set forth herein and shown on any of the accompanying drawings, details and schedules, it being mutually understood that the tender of a bid carries with it an agreement to this and other obligations set forth in the Contract or Specifications, and further implies a full understanding of the Specifications, Drawings and Details, notes, indications and requirements.

4. AWARDS

Contract will be awarded to the lowest responsible Bidder, subject, however, to the discretionary right

reserved by the Owner to waive any informalities in or to reject any or all proposals and to advertise for new proposals if, in his opinion, the best interests of Whitehead Elementary School shall thereby be promoted.

5. ADDENDA AND INTERPRETATION

(a) Bidders are expressly notified that their proposals shall be based upon materials, products, and methods specified. For the purpose of estimate, no deviation from the drawings and specifications will be considered, except as provided. No interpretation of the meaning of the drawings, specifications, or other Contract documents shall be made to any Bidder orally. Every request for such interpretation should be in writing addressed to Professor Sam Wood, Superintendent of Schools, Board of Education Building, Milledge Avenue, Athens, Georgia, and to be given consideration must be received at least five (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental drawings which, if issued, shall be mailed to all prospective Bidders (at the respective addresses furnished for such purposes) not later than three (3) days prior to the date fixed for the opening of bids. Failure of any Bidder to receive any such addends or interpretation shall not relieve any bidder from any obligation, under his bid as submitted.

6. TIME FOR COMPLETION

The Contractor shall state in the bid form the number of days required for him to complete the project.

7. BID SECURITY

Each bid must be accompanied by the certified check of the Bidder, or by a Bid Bond duly executed by the Bidder as principal, and having as surety thereon a surety company approved by the Owner, in an amount not less than five (5) percentum of the amount of the bid. Such check or Bid Bond shall be returned to all except the successful Bidder within 48 hours after the Owner

and the accepted Bidder have executed the Contract, or if no Contract has been executed within fifteen (15) days after the opening of bids, upon demands of the Bidder, or anytime thereafter, so long as he has not been notified of the acceptance of his bid.

8. SECURITY OF FAITHFUL PERFORMANCE

(a) Simultaneously with the delivery of the executed Contract, the successful Bidder must deliver to the Owner an executed Performance Bond of a corporate surety licensed to do business in the State of Georgia in the amount of one hundred percent (100%) of the accepted bid for the faithful performance of the terms, covenants, and conditions of the Contract and a further separate labor and material payment Bond, in the amount of fifty percent (50%) of the accepted bid guaranteeing the prompt payment of all indebtedness incurred by the Contractor or Sub-contractor for supplies, materials or labor furnished, used or consumed in connection with or in or about the construction of the project, including fuels, lubricants, power, etc. The forms of both Performance Bond and Labor and Material Payment Bond shall be as per form No. 107 (AIA)

(b) The Broker for the Bond and the Surety Company shall be approved by the Owner.

(c) The premium on all bonds shall be paid for by the Contractor.

9. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

(a) The successful Bidder, upon failure to enter into or refusal to execute the Contract, and the Bond required within eight (8) days after he has received notice of the acceptance of his bid, shall forfeit to the Owner as liquidated damages for such failure or refusal, the security with bond.

10. INSURANCES

(a) The successful Contractor shall not commence work or allow his sub-contractors to commence work until the following insurances have been obtained, approved and certificates delivered to the Owner.

(b) Workmans' Compensation Insurance.

(c) Public Liability Insurance shall be furnished in amounts of $100,000/300,000, and Property Damage Insurance in amounts of $50,000.

(d) Before final payment is made, this Contractor will provide an affidavit stating all costs for labor and materials have been paid, and that the Owner is indemnified against any lien.

GENERAL CONDITIONS

Art. I. Definitions.

(a) The Contract Documents consist of the Agreement, the General Conditions of the Contract, the Drawings, and Specifications, including all modifications thereof incorporated in the documents before their execution. These form the Contract.

(b) The term Subcontractor as employed herein, includes only those having a direct contract with the Contractor and it includes one who furnishes material worked to a special design according to the plans or specifications of this work, but does not include one who merely furnishes material not so worked.

(c) The term "work" of the Contractor or Subcontractor includes labor or materials or both.

Art. II. Execution, Correlation, and Intent of Documents. The Contract Documents will be signed in duplicate by the Owner and the General Contractor. The Contract is complementary, and what is called for by anyone will be as binding as if called for by all. The intention of the documents is to include all labor and materials, equipment, and transportation necessary for the proper execution of the work. Recognized standards will apply to materials or work with well-known technical or trade meaning.

Art. III. Detail Drawings and Instructions. If necessary the Architect will furnish additional instructions, by means of drawings or otherwise, for the proper execution of the work. The work will be executed in conformity with the drawings and instructions. The Contractor will do no work without proper drawings and instructions.

Art. IV. Copies Furnished. Unless otherwise provided in the Contract Documents, the Architect will furnish to the Contractor, free of charge, all copies of drawings and specifications necessary for the execution of the work.

Art. V. Drawings and Specifications on the work. The Contractor will keep one copy of drawings and specifications on the work, in good order, available to the Architect.

Art. VI. Ownership of Drawings. The drawings and specifications furnished by the Architect are his property. They are not to be used on other work and are to be returned to him on request, at the completion of the work.

Art. VII. Materials, Appliances, Employees. Unless otherwise stipulated, the Contractor will provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary for the execution and completion of the work.

Art. VIII. Surveys, Permits, and Regulations. The Owner shall furnish all surveys unless otherwise specified. Permits and licenses of a temporary nature necessary for the prosecution of the work will be secured and paid for by the Contractor. Permit, licenses, and easements for permanent structures or permanent changes in existing facilities will be secured and paid for by the Owner, unless otherwise specified.

Art. IX. Protection of Work and Property. The Contractor will maintain adequate protection of all his work from damage and will protect the Owner's property from injury or loss arising in connection with the Contract. He will make good any such damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employees of the Owner. He will adequately protect adjacent property as provided for by law.

The Contractor will take all necessary precautions for the safety of employees on the work, and will comply with all applicable provisions of Federal, State, and Municipal safety laws to prevent accidents or injury to person on, about, or adjacent to the premises where the work is being performed. He will erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards for the protection of workmen and the public.

Art. X. Inspection of Work. The Architect will at all times have access to the work wherever it is in progress, and the Contractor will provide proper facilities for such access and for inspection. Re-examination of questioned work may be ordered by the Architect, and if so order the work must be uncovered by the Contractor. The Contractor will pay the cost of re-examination and replacement if such work is not in accordance with the Contract Documents.

Art. XI. Superintendence: Supervision. The Contractor will keep on his work, during its progress, a competent superintendent, satisfactory to the Architect.

The Contractor will give efficient supervision to the work, using his best skill and attention. He will carefully study and compare all drawings, specifications and will at once report to the Architect any error, inconsistency, or omission which he may discover, but he will not be held responsible for their existence or discovery.

Art. XII. Changes in the Work. The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to, or deducting from the work, the Contract sum being adjusted accordingly. All such work will be executed under the conditions of the original Contract. In giving instructions, the Architect will have authority to make minor changes in the work not involving extra cost.

The value of any extra work or change will be determined in one of the following ways:

(a) By estimate and acceptance in a lump sum.
(b) By unit prices named in the contract or subsequently agreed upon.
(c) By cost and percentage or by cost and fixed fee.

Art. XIII. Claims for Extra Cost. If the Contractor claims that any instructions by drawings or otherwise involve extra cost under this contract, he will give the Architect written notice thereof within a reasonable time after the receipt of such instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property, and the procedure will then be as provided for changes in the work.

Art. XIV. Correction of Work Before Final Payment. If the Contractor does not remove from the premises all work condemned by the Architect as failing to conform to the Contract within a reasonable time, fixed by written notice, the Owner may remove it and may store the material at the expense of the Contractor. If the Contractor does not pay the expenses of such removal within ten days' time thereafter, the Owner may, upon ten days' notice, sell such materials at auction or at private sale and shall account for the net proceeds thereof, after deducting all the cost and expenses that should have been borne by the Contractor.

Art. XV. Correction of Work after Final Payment. Neither the final certificate nor payment nor any provision in the Contract Documents will relieve the Contractor of responsibility for faulty materials or workmanship, and, unless otherwise specified, he will remedy any defects due thereto, and pay for damage to other work resulting

therefrom, which will appear within a period of one year from the date of substantial completion. The Owner will give notice of observed defects with reasonable promptness. All questions arising under this article will be decided by the Architect subject to arbitration.

Art. XVI. The Owner's Right to Do Work. If the Contractor should neglect to prosecute the work properly or fail to perform any provisions of this contract, the Owner, after three days' written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor, provided, however, that the Architect will approve both such action and the amount charged to the Contractor.

Art. XVII. Owner's Right to Terminate Contract. If the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse or should fail to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances, or the instructions of the Architect, or otherwise be guilty of a substantial violation of any provision of the contract, then the Owner, upon the certificate of the Architect that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor seven days' written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools, and appliances thereon and finish the work by whatever method he may deem expedient. In such case the Contractor will not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expense of finishing the work including compensation for additional managerial and administrative services, such excess will be paid to the Contractor. If such expenses shall exceed such unpaid balance, the Contractor will pay the difference to the Owner. The expense incurred by the Owner as herein provided, and the damage incurred through the Contractor's default, will be certified by the Architect.

Art. XVIII. Contractor's Right to Stop Work or Terminate Contract. If the work should be stopped under an order of any court, or other public authority, for a period of

three months, through no act or fault of the Contractor or of anyone employed by him, or if the Architect should fail to issue any certificate for payment within seven days after it is due, or if the Owner should fail to pay to the Contractor within seven days after of its maturity and presentation, any sum certified by the Architect or awarded by arbitrators, then the Contractor may, upon seven days' written notice to the Owner and the Architect, stop work or terminate this contract and recover from the Owner payment for all work executed and any loss sustained upon any plant or materials and reasonable profit and damages.

Art. XIX. Applications for Payment. The Contractor will submit to the Architect an application for each payment, and, if required, receipts or other vouchers, showing his payments for materials and labor, including payments to subcontractors as required by article XXXI.

If payments are made on valuation of work done, such application will be submitted at least ten days before each payment falls due, and, if required, the Contractor will, before the first application, submit to the Architect a schedule of values of the various parts of the work, including quantities, aggregating the total sum of the divided so as to facilitate payments to subcontractors in accordance with article XXXI (e), made out in such form as the Architect and the Contractor may agree upon, and, if required, supported by such evidence as to its correctness as the Architect may direct. This schedule, when approved by the Architect, will be used as a basis for certificates of payment, unless it be found to be in error. In applying for payments, the Contractor will submit a statement based upon this schedule, and, if required, itemized in such form and supported by such evidence as the Architect may direct, showing his right to the payment claimed.

If payments are made on account of materials delivered and suitably stored at the site , but not incorporated in the work, they will, if required by the Architect, be conditional upon submission by the Contract of bills of sale or such other procedure as will establish the Owner's title to such material or otherwise adequately protect the Owner's interest.

Art. XX. Certificates of Payments. If the Contractor has made application as above, the Architect will, not later than the date when each payment falls due, issue to the Contractor a certificate for such amount as he decides to be properly due, or state in writing his reasons for withholding a certificate.

No certificate issued nor payment made to the Contractor, nor partial or entire use or occupancy of

the work by the Owner, will be an acceptance of any work or materials not in accordance with this contract. The making and acceptance of the final payment will constitute a waiver of all claims by the Owner, other than those arising from unsettled liens, from faulty work appearing after final payment or from requirement of the specifications, and of all claims by the Contractor, except those previously made and still unsettled.

Should the Owner fail to pay the sum named in any certificate of the Architect or in any award by arbitration, upon demand when due, the Contractor will receive, in addition to the sum named in the certificate, interest thereon at the legal rate in force at the place of building.

Art. XXI. Payments Withheld. The Architect may withhold or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate to such extent as may be necessary to protect the Owner from loss on account of:

(a) Defective work not remedied.
(b) Claims filed or reasonable evidence indicating probable filing of Claims.
(c) Failure of the Contractor to make payments properly to subcontractors or for material or labor.
(d) A reasonable doubt that the contract can be completed for the balance then unpaid.
(e) Damage to another Contractor.

When the above grounds are removed, payment will be made for amounts withheld because of them.

Art. XXII. Contractor's Liability Insurance. The Contractor will maintain such insurance as will protect him from claims under workmen's compensation acts and from claims for damages because of bodily injury, including death, which may arise from and during operations under this Contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. This insurance will be written for not less than any limits of liability specified as part of this contract.

Art. XXIII. Owner's Liability Insurance. The Owner will be responsible for and at his option may maintain such insurance as will protect him from his contingent liability to others for damages because of bodily injury, including death, which may arise from operations under this contract, and any other liability for damages which the Contractor is required to insure under any provision of this contract.

Art. XXIV. Fire Insurance. The Owner will effect and maintain fire insurance on all structures on property that the work of this contract is to be done to 100 per cent of the insurable value, including items of materials connected therewith whether in or adjacent to the structure insured, materials in place or to be used as part of the permanent construction including surplus materials in place or to be used as part of the work, and such structures, miscellaneous materials and supplies incident to the work. The loss, if any, is to be made adjustable with and payable to the Owner as Trustee for the insureds as their interests may appear, except in such cases as may require payment of all or proportion of said insurance to be made to a mortgagee as his interests may appear.

The Contractor and all subcontractors shall be named or designated in such capacity as insured jointly with the Owner in all policies. If the Owner fails to effect or maintain insurance as above and so notifies the Contractor, the Contractor may insure his own interest and that of the subcontractors and charge the cost thereof to the Owner.

Art. XXV. Guaranty Bonds. The Owner will have the right, prior to the signing of the Contract, to require the Contractor to furnish bond covering the faithful performance of the Contract and the payment of all obligations arising thereunder, in such form as the Owner may prescribe and with sureties as he may approve. If such bond is required by instructions given previous to the submission of bids, the premium will be paid by the Contractor; if subsequent thereto, it will be paid by the Owner.

Art. XXVI. Damages. If either to this Contract should suffer damage in any manner because of any wrongful act or neglect of the other party or of anyone employed by him, then he will be reimbursed by the other party for such damage, provided the Owner will be responsible for and at his option insure against loss of use of any of his existing property, due to fire or otherwise, however caused.

Claims under this clause will be made in writing to the party liable within a reasonable time of the first observance of such damage and not later than the time of final payment, except as expressly stipulated otherwise in the case of faulty work or materials, and will be adjusted by agreement or arbitration.

The Contractor is relieved of responsiblility for damages to the work due to causes beyond the control of and without fault or negligence of the Contractor.

Art. XXVII. Liens. Neither the final payment nor any part of the retained percentage will become due until the Contractor, if required, will deliver to the Owner a complete release of all liens arising out of this Contract, or receipts in full lieu thereof, and, if required in either case, an affidavit that so far as he has knowledge or information the releases and receipts include all the labor and material for which a lien could be filled; but the Contractor may, if any subcontractor refuses to finish a release or receipt in full, furnish a bond satisfactory to the Owner, to indemnify him against any lien. If any lien remain unsatisfied after all payments are made, the Contractor will refund to the Owner all money that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorn's fee.

Art. XXVIII. Assignment. Neither party to the Contract will assign the Contract or sublet it as a whole without the written consent of the other, nor will the Contractor assign any money due or to become due to him hereunder, without the previous written consent of the Owner.

Art. XXIX. Mutual Responsibility of Contractors. Should the Contractor cause damage to any separate contractor on the work the Contractor agrees, to settle with such contractor by agreement or arbitration, if he will so settle. If such separate contractors sue the Owner on account of any damage alleged to have been so sustained, the Owner will notify the Contractor, who will defend such proceedings at the Owner's expense, and, if any judgment against the Owner arise therefrom, the Contractor will pay or satisfy it and pay all costs incurred by the Owner.

Art. XXX. Separate Contracts. The Owner reserves the right to let other contracts in connection with this work. The Contractor will afford other contractors reasonable opportunity for introduction and storage of their materials and the execution of their work, and will properly connect and coordinate his work with theirs.

Art. XXXI. Subcontractors. The Contractor will as soon as practicable after the execution of the contract, notify the Architect in writing of the names of subcontractors proposed for the principal parts of the work and for such others as the Architect may direct and will employ any that the Architect may within a reasonable time object to as incompetent or unfit.

If the Contractor has submitted before execution of the contract a list of subcontractors and the change of any name on such a list is required in writing by the Owner after such execution, the contract price will be increased or diminished by the difference in cost occasioned by such changes.

The Architect will, on request, furnish to any subcontractor, wherever practicable, evidence of the amounts certified on his account.

The Contractor agrees that he is as fully responsible to the Owner for the acts of his subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

Nothing contained in the contract document will create any contractual reaction between any subcontractor and the Owner.

Art. XXXII. Relations of Contractor and Subcontractor. The Contractor agrees to bind every Subcontractor and every Subcontractor agrees to be bound by the terms of the Agreement, the General Conditions, the Drawings, and Specifications as far as applicable to his work, including the following provisions of this article.

The Subcontractor agrees--

(a) To be bound to the Contractor by the terms of the Agreement, General Conditions, Drawings, and Specifications, and to assume toward him all the obligations and responsibilities that he assumes toward the Owner.

(b) To submit to the Contractor applications for payment in such reasonable time as to enable the Contractor to apply for payment under Art. XIX of the General Conditions.

(c) To make claims for extras to the Contractor in the manner provided in the General Conditions for like claims by the Contractor upon the Owner, except that the time for making claims for extra cost is one week.

The Contractor agrees--

(d) To be bound to the Subcontractor by all the obligations that the Owner assumes to the Contractor under the Agreement, General Conditions, Drawings, Specifications and by all the provisions thereof affording remedies to the Contractor from the Owner.

(e) To pay the Subcontractor, upon the payment of certificates, if issued under the schedule of values in Art. XIX of the General Conditions, the amount allowed to the Contractor on account of the Subcontractor's work to the extent of the Subcontractor's interest therein.

(f) To pay the Subcontractor, upon the payment of certificates, if issued otherwise than as in (e), so that at all times his total payments will be as large in proportion of the value of the work done by him as the total amount certified to the Contractor is to the value of the work done by him.

(g) To pay the Subcontractor to such extent as may be provided by the Contract Documents or the subcontract, if either of these provides for earlier or larger payments than the above.

(h) To pay the Subcontractor on demand for his work or materials as far as executed and fixed in place, less the retained percentage, at the time the certificate is issued.

(i) To pay the Subcontractor a just share of any fire insurance money received by him, the Contractor.

(j) To make no demand for liquidated damages or penalty for delay in any sum in excess of such amount as may be specified in the contract.

(k) That no claim for services rendered or materials furnished by the Contractor to the Subcontractor will be valid unless written notice thereof is given by the Contractor to the Subcontractor during the first ten days of the calendar month following that in which the claim originated.

(l) To give the Subcontractor an opportunity to be present and to submit evidence in any arbitration involving his rights.

(m) To name as arbitrator as provided for in the General Conditions the person nominated by the Subcontractor, if the sole cause of dispute is the work, materials, rights, or responsibilities of the Subcontractor.

The Contractor and Subcontractor agree--

(n) In the matter of arbitration, their rights and obligations and all procedure will be analogous to those set forth in this contract. Nothing in this article will create any obligation on the part of the Owner to pay or to see to the payment of any sums to any subcontractor.

Art. XXXIII. Architect's Status. He is the agent of the Owner as provided in the Contract Documents. The Architect will side neither with the Owner nor with the Contractor, but will use his power under the contract to enforce its faithful performance by both.

Art. XXXIV. Architect's Decisions. The Architect will, within a reasonable time, make decisions on all claims of the Owner or Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract Documents.

Art. XXXV. Arbitration. All disputes, claims, or questions subject to arbitration under this contract will be submitted to arbitration in accordance with the provisions, then obtaining, of the Standard Form of Arbitration Procedure of The American Institute of Architects.

Art. XXXVI. Cash Allowances. The Contractor will include in the contract sum all allowance named in the Contract Documents and will cause the work so covered to be done by such contractors and for such sums as the Architect may direct, the contract sum being adjusted in conformity therewith.

The Contractor will not be required to employ for any such work persons against whom he has a reasonable objection.

Art. XXXVII. Use of Premises. The Contractor will confine his apparatus, the storage of materials, and the operations of his workmen to the limits indicated by law, ordinances, permits, or directions of the Architect and will not unreasonably encumber the premises with his materials.

Art. XXXVIII. Cleaning Up. The Contractor will dispose of, on the site or as directed by the Architect, all subsoil excavated from his work. All other debris including branches, paper and rubbish resulting from his work will be removed from the site as work proceeds.

All areas will be kept in a neat and orderly condition at all times. Prior to final acceptance the Contractor will clean up his work areas to the satisfaction of the Architect.

DIVISION PL - 1

PLANTING WORK

PL 1.1 GENERAL

(a) Work under this division is indicated on drawings entitled "Landscape Planting Plan" prepared by Dave Eric Seeler and Raymond Edwin Jefferson, Landscape Architects, Athens, Georgia.

(b) Each Bidder will familiarize himself with the Contract documents and shall visit the site of proposed work to acquaint himself with existing conditions pertinent to the execution of all work described herein.

(c) Should a Bidder find a discrepency or omission in the Specifications, or should he be in doubt as to the meaning of any portion of them, he shall notify the Architect who shall then instruct all Bidders in the matter by an Addendum.

(d) This Contractor shall protect, and guard against damage to existing work. Any work already completed, that is disturbed or in any way damaged or changed shall be replaced to original condition, or as shown on the drawings.

PL 1.2 WORK INCLUDED

(a) The work covered by this Specification consists of furnishing all labor, materials, equipment and appliances necessary for Planting of Major and Minor Plants, as shown on drawings and schedules and as

(b) specified herein, including but not limited to the following:

Excavating for all tree shrub and ground cover pits and beds.

Furnishing and preparing of topsoil for backfilling of all shrub trees and ground cover pits and beds.

Furnishing and incorporating fertilizer and peat.

PL 1.5

(a) Fertilizer for trees, shrubs, and lawn area shall be complete, shall bear

Furnishing and planting trees and plants as shown.

Furnishing and spreading topsoil, as needed beyond that furnished on site.

Mulching.

(b) Maintenance inspection.

Replacements of unsatisfactory plant material.

Installation of lawn area.

(b) All labor, materials, and equipment necessary in establishing lawn areas, as specified herein, include but not limited to the following:

Testing soil for content.

Furnishing and incorporating fertilizer and soil conditioner.

Establishing a grade.

Furnishing and installing sprigs.

Watering area as specified in PL 1.9.

PL 1.3 PROTECTION OF EXISTING UTILITIES

(a) The Contractor shall ascertain the location of all electrical cables, utility lines, cesspools, and supply lines.

(b) The Contractor shall be held responsible for any damage to existing utilities incurred during the process of work under this Contract.

PL 1.4 INSPECTION

(a) Plants shall be subject to inspection and approval at place of growth, or upon delivery, for quality, size, variety, and health.

PL 1.5

(a) Fertilizer for trees, shrubs, and lawn area shall be complete, shall bear

manufacturer's guaranteed statement of analysis, and will meet the following minimum requirements:

(Six) 6% Nitrogen

(Twelve) 12% Super Phosphae

(Twelve) 12% Potash

(b) Commercial fertilizer shall be thoroughly incorporated with topsoil and loam planting mixture at the rate of three (3) lbs. per inch caliper of tree (approximately three shovels per tree.)

(c) Fertilizer shall be applied on lawn areas at the rates that follow:

(1) Six (6), Twelve (12), Twelve (12) fertilizer shall be applied at the rate of thirty (30) pounds per thousand (1000) square feet.

(2) Ammonium Nitrate shall be applied at the rate of three (3) pounds per thousand (1000) square feet every six (6) weeks during the growing season.

(d) Contractor shall provide weather-proof storage space for fertilizer until its use.

(e) The Contractor shall use a fine mist when watering.

(f) These specifications are based on warm season plantings. Adjustments will be necessary for earlier and later plantings, temperature and rainfall variations.

PL 1.6 SOIL CONDITIONER

(a) Peat moss shall be domestic, incorporated into soil planting mixture to sufficient quantity to provide a friable planting mixture.

(b) Agriculture limestone, dolemetric limestone recommended, shall be incorporated into the fifty soil mixture for lawn area

at the rate of fifty (50) pounds per thousand (1000) square feet.

PL 1.7 TOPSOIL AND LOAM

(a) Mixture to be used in plantings shall consist of 50% clean topsoil and 50% clay loam. 50% of clay loam will consist of clay. To this mixture add prescribed amounts of peat moss and fertilizer.

PL 1.8 SPRIG LAWN INSTALLATION

(a) Tifton 57 utility lawn shall be installed by using the broadcasting method.

(b) The rate of application shall be five (5) bushels of chopped planting material per thousand (1000) square feet.

(c) The soil shall be disturbed by discing.

(d) Lime and fertilizer shall be applied and mixed into soil before planting aforementioned.

PL 1.9 WATERING

(a) The contractor shall not allow freshly planted grass to go more than two (2) hours without applying water after planting.

(b) The contractor shall make three (3) light waterings per day at the rate one-eighth (1/8) inch per day.

(c) If soil is dry at planting time the contractor shall apply one-half (½) of water the first day.

(d) After a period of four (4) days the frequency of applications of water may be cut in half. As the grass gets established the irrigation frequency can again be reduced, but the amount of water per application should be increased.

PL 1.10 GUARANTEE OF PLANT GROWTH

(a) All plants shall be typical of their species or variety and shall have a normal habit of growth.

(b) All plants and plant material shall be guaranteed by the Planting Contractor to be true to name and size, and in vigorous growing condition. All plant material shall be guaranteed for at least one year after acceptance. Replacements shall be made at the beginning of the first succeeding planting season.

PL 1.11 EXCAVATION, HANDLING AND PLANTING OPERATIONS

(a) All plants shall be handled so that roots are adequately protected at all times. During shipment they shall be protected by tarpaulin or other suitable covering. All balled and burlapped plants which cannot be planted immediately upon delivery shall be set on the ground and be well protected with soil.

(b) All trees shall be planted as shown on the plan according to the standards of the Georgia State Nurserymen's Association.

(c) No planting shall be done during unfavorable weather conditions.

PL 1.12 PREPARATION OF TOPSOIL FOR PLANT PITS AND BEDS

(a) Topsoil for planting pits and beds, except ericaceous plants shall be prepared by mixing with peat moss in the proportions of one (1) of peat moss to seven (7) of topsoil by volume. The mixture will be thoroughly blended before use.

(b) Topsoil for beds of ericaceous plants shall be prepared by mixing topsoil with peat moss in the proportion of one (1) of peat to five (5) parts topsoil by volume, thoroughly mixed.

PL 1.13 MULCHING

(a) A 2" mulch of peat shall be applied on all planting beds, tree pits and shrub pits after planting.

(b) All evergreens, broadleaved evergreens, ground cover plants and ericaceous material shall be mulched to a depth of 2" with a mixture consisting of 50% leaf mold, and 50% peat moss. A portion of this will be scratched into the top 1½" of soil

01.1.14 PLANTING SEASON

(a) Planting of plant materials shall be done during the season or seasons which are normal for such work as determined by weather conditions and by accepted practice in the locality.

(b) At the option of and on responsibility of the Contractor, planting of plant material may be done under unseasonable conditions, without extra compensation, subject to approval as to time or work and methods of operation.

01.1.15 STAKING, BUYING, WRAPPING

(a) All trees over 3" caliper shall be guyed by wire guys encased in water hose at the trunk. Guys will be securely staked or anchored to "dead men" or otherwise secured in an approved manner. All wire will be pliable iron of ga. shown on guying sketches.

(b) Stakes for supporting trees shall be of sound wood of uniform size, capable of standing in ground at least two years. They will be at least 2" actual dimension and not less than 8' in length, unless otherwise specified.

(c) Stakes shall be placed a minimum of 12" from the trunk of the tree, taking care to clear the roots. They shall be driven into the ground to the depth shown.

(d) Wrapping material shall be first quality burlap or water-proofed crepe paper not less than 6" or more than 10" in width, and of suitable length.

(e) The Trunks of all trees of three inch caliper or greater shall be wrapped, and the material securely tied at top and bottom, and at two foot intervals. Bandaging will start at base, and will cover the entire surface of the trunk to the first branches.

(f) All guying, staking and wrapping shall be done immediately after planting. All plants shall stand plump after guying and staking.

PL 1.16 MAINTENANCE OF PLANTING UNTIL ACCEPTANCE

(a) Areas around trees shall be kept cultivated, free of weeds and grass, and properly watered until acceptance. Replacement will be done as soon as dead material appears. If any tree, shrub or plant bed settles more than three (3) inches below the established grade, it shall be raised to the proper level, and not merely filled with additional topsoil.

PL 1.17 CLEANING UP

(a) The Contractor shall dispose of, on the site or as directed by the Architect, all subsoil excavated from his work. All other debris including branches, paper and rubbish resulting from his work shall be removed from the site as work proceeds.

(b) All areas shall be kept in a neat and orderly condition at all times. Prior to final acceptance the Contractor will clean up his work areas to the satisfaction of the Architect.

PL 1.18 INSPECTION FOR ACCEPTANCE

(a) Inspection by the Architect shall be made upon completion of all work, at the notification of the contractor.

(b) Payment shall be made after acceptance by the Architect. Such payment shall not relieve Contractor of responsibility of guarantees, or of conformance with provisions for plant replacement as specified below. (1.19)

PL 1.19 GUARANTEE OR WARRANTY

(a) This Contractor warrants that all work executed under this division shall be free from defective plant material or workmanship for a period of one year after Architect's acceptance of the work.

(b) This Contractor shall guarantee to replace all defective plants and workmanship by approved methods and at his own expense

whensoever such defects may appear prior to the conclusion of this guarantee.

PL 1.20 REPLACEMENTS

(a) Any trees, shrubs or vines not found to be in a healthy growing condition at any time during the period of guarantee, shall be removed from the site and replaced, as soon as weather and seasonal conditions permit, as determined by the Architect.

(b) Plant replacements shall be the same kind and size as specified in the itemized plant list, all replacements shall be furnished, planted, and mulched as specified, at the Contractor's expense.

(c) The Contractor shall be liable for any damage to property including lawns, sprinkler systems, pavements, curbs, etc. caused by replacing operations.

PL 1.21 COOPERATION

(a) This Contractor shall agree to complete cooperation and coordination with the General Contractor engaged in all adjacent work.

PL 1.22 SEQUENCE OF THE WORK

(a) The Contractor shall do the work specified in the following order:

(1) Sub. grade (1-2 inches)
(2) Construction work and Planting work
(3) Spread topsoil
(4) Spreading of seed

DIVISION PL - 2

CONSTRUCTION WORK

PL 2.1 GENERAL

(a) Refer to PL 1.1 under Planning Work for information concerned with general provisions.

PL 2.2 WORK INCLUDED

(a) The work covered by this specification consist of furnishing labor and materials, equipment and appliances necessary for establishing finished grade and for construction of paved areas, benches, retaining wall, and drainage system as specified herein, including but not limited to the following:

(1) General excavation of the site.
(2) Grading and establishing base for paved areas.
(3) Furnishing materials used in base.
(4) Furnishing lumber, thread rods, concrete bench supports, steel bench supports, and all other necessary materials for the construction of benches.
(If Contractor constructs cast concrete supports, the necessary ingredients shall be furnished by the Contractor)
(5) Furnishing Asphalt for surface coarse.
(6) Furnishing forms, temperature rods, reinforcement rods, tie rods, concrete bricks and all other materials necessary for the construction of the retaining wall.
(If Contractor constructs forms, the necessary materials shall be furnished by Contractor)
(7) Furnishing drainage tile for drainage system.
(8) Furnishing the necessary materials for the construction of manholes.
(9) Furnishing concrete for footings and galvanized pipe for the support of volleyball nets and basketball backboards.

PL 2.3 CONCRETE

(a) All cement shall be Portland cement and shall be dry and shall be in its original container.

(b) Fine aggregate shall consist of clean washed sand, ninety-five (95) percent which shall pass through a number four (4) seive. Not less than fifty (50) percent

shall be retained on a number thirty (30) seive, and not more than five (5) percent shall pass a one hundred (100) mesh seive.

(c) Coarse aggregate shall consist of well graded, uniformly mixed broken stone, crushed gravel, screened gravel, or broken slag.
Coarse aggregate coated with or containing mud, clay, dirt, stone dust, or other objectionable materials shall be washed to the satisfaction of the Landscape Architect.
Coarse aggregate shall consist of a mixture of number one (1) and number (2) size particles, provided that not more than fifty (50) per cent or less than thirth (30) percent shall be of number one (1) size and more than seventy (70) percent or less than fifty (50) percent shall be of number two (2) size.

(d) All water used shall be clean filtered drinking water containing no alkalines, acids, vegetable matter or other chemicals objectionable to concrete.

(e) All concrete shall have an ultimate compressive strength of three thousand (3000) pounds per square inch at the end of twenty-eight (28) days.

PL 2.4 REINFORCED STEEL

(a) All rods for concrete reinforcement shall be perpormed rods, rolled of new brillet steel, conforming to the specifications of the American Society for Testing Materials.

PL 2.4 MASONARY WORK

(a) All bricks used shall be new, sound and hard, burned throughout, and of uniform size and quality.

(b) Masonary units shall be laid in the best manner, well bonded with the joints and corners true and laid in a full bed of mortar with joints slushed full. Care must be taken during the course of work to keep this work free from injurious strains. After completion of masonary work, all exposed work shall be washed

down and left clean and in everyway acceptable to the Owner.

PL 2.6 EARTH WORK

(a) The Contractor shall excavate or fill, as the case may be, to grades as shown on the drawings.

(b) Excavation for walks, walls, and footings shall be cut full size as shown on the drawings.

PL 2.7 PAVED AREAS

(a) The Contractor shall construct paved areas as shown on the drawings as follows:

(1) The Contractor shall have the responsibility of installing Asphalt walks, bicycle parking area, and play area according to the Asphalt Institute Specifications 1(SS-1) Asphalt Institute, College Park, Maryland, March 1962.

PL 2.8 RETAINING WALL

(a) The Contractor shall construct a retaining wallsfacing paved play area as shown on drawings as follows:

(1) Concrete structure shall be five (5) feet long, twelve (12) inches below finished grade; horizontal base will be twelve (12) inches long, two (2) feet-five (5) inches wide, and cover a distance of two hundred and thirty (230) feet; vertical slab will be four feet long, one(1) foot wide at top, one (1) foot-six (6) inches wide at the base, and cover a distance of two hundred and thirty (230) feet.

(2) The concrete used for the construction of the retaining wall shall be mixed in the proportions of one (1) part of Portland cement, three (3) parts sand, and five (5) parts gravel or crushed stone.

(3) Form work shall be constructed as shown on drawings.

below finish grade, three (3) inches thick, one (1) foot five (5) inches wide on top, with a two by two (2x2) inch recess on each edge tapering to one (1) foot at finish grade.

(6) Form work plans shall be submitted by contractor and approved by Landscape Architect before being used on the work, no special remuneration shall be made for form work, the cost of such work being included in the price tendered for concrete.

(7) The concrete shall be mixed in the proportions of one (1) part Portland cement, two (2) parts sand and (3) parts gravel or crushed stone.

(8) Number three (3) reinforcement rods shall be placed in bench supports as shown on drawings.

(9) After all forms have been removed, all exposed surfaces shall be rubbed with carborundum bricks and clean water only to a uniform color and finish satisfactory to the Landscape Architect.

(10) After the cast standards have been removed from the forms, they shall be cured for a period of at least seven (7) days before being removed from the original pallet. Curing shall be done in a closed room which can be maintained at an even temperature. Cast standards shall be moistened every four (4) hours during the curing period.

(11) Contractor shall not commence quantity production on the cast bench standards until a finished sample has been approved by Landscape Architect.

(c) Benches facing the paved play area as shown on the drawings shall be constructed as follows:

(1) Top of bench shall be constructed as specified in PL 2.9 (b) - (1),(2), (3).

(2) Bench supports shall be two (2) inch steel strips formed as shown on drawings.

(3) Bench supports shall be fastened to retaining wall by three eights (3/8's) inch thread rods as shown on drawings.

(4) A piece of steel two (2) inches square shall be welded to steel supports as shown on drawings.

PL 2.6 MANHOLES

(a) The Contractor shall build manholes of the size called for on the plans, where indicated on the plans or ordered by the Landscape Architect, in accordance with the plans and specifications, and the directions of the Landscape Architect.

(b) The Contractor shall construct manholes as follows:

(1) The concrete shall be mixed in the proportions of one (1) part Portland cement, two (2) parts fine aggregate and four (4) parts coarse aggregate, with the maximum size of stone limited to one (1) inch.

(2) Mortar shall be composed of one (1) part Portland cement and two (2) parts fine aggregate, with not more than five (5) percent of the cement content of hydrated lime or lime putty.

(3) Ladder rungs for manhole shall be constructed of wrought iron and shall be hot-dipped galvanized after bending.

(4) Frames and covers shall be of the type shown on plans or as directed by Landscape Architect.

(5) Frames shall be adjusted to the final grades by the use of cement mortar or by brick masonary set in cement mortar.

(6) The Contractor shall furnish materials for and do all incidental work to complete the structure, including the

work of setting and adjusting frames and plastering.

No additional payment will be allowed for the aforesaid, but the cost thereof will be deemed to have been included in all the prices bid for all the items, for which prices are named in the contract.

FORM OF PROPOSAL FOR THE

PLANTING WORK

at

WHITEHEAD ELEMENTARY SCHOOL

Whitehead Road
Athens, Georgia

TO:
Professor Sam Wood
Superintendent of Schools
Board of Education Building
Milledge Avenue
Athens, Georgia

Dear Sir:

Pursuant to and in compliance with plans and specifications and documents related thereto, the undersigned hereby offers to furnish all labor, materials, supplies, equipment and other facilities and things necessary and proper for or incidental to the completion of the work as required by and in strict accordance with the applicable provisions of the Contract Documents, including the Drawings, the Specifications and all Addenda issued by the Owner prior to the date of the opening of bids, whether received by the undersigned or not, for the following sum:

_____

_____Dollars, ($_____)

TIME OF COMPLETION

If awarded the Contract, the undersigned agrees to complete the work within _____ Calendar days from the date of the award of the Contract.

COST ESTIMATE

David Eric Seeler and Raymond Edwin Jefferson
Landscape Architects
University of Georgia
Athens, Georgia

PROJECT: Whitehead Elementary School
Athens, Georgia

COMPUTED BY: David Eric Seeler & Raymond Edwin Jefferson

CHECKED BY: David Eric Seeler & Raymond Edwin Jefferson

JOB DESCRIPTION: To landscape the entire property for the ultimate design of the said school.

PLANT MATERIALS:

Quan.	Botanical and Common Name	Size	Unit Price	Total
	Large Trees			
1	*Acer Rubrum Red Maple	2-2½cal	$ 9.75	$ 9.75
3	*Gledistsia Tricanthis Inermis Thornless Honey/Locust	1½-2"cal	10.00	30.00
3	*Magnolia Grandiflora Southern Magnolia	5-6'	15.00	45.00
167	*Pinus Taeda Loblolly Pine	4-5'	1.50	260.50
23	*Oxydendron Arboreum Sourwood	2-2½"cal	10.50	241.50
52	*Quercus Falcata Southern Red Oak	2-2½"cal	10.50	546.00
11	*Quercus Palustris Pin Oak	2-2½"cal	10.50	115.50
9	*Zelkova Serrata Japanese Zelkova	2-2½"cal	10.00	90.00
	Small Trees			
27	*Cornus Florida Flowering Dogwood	4-5'	2.75	74.25

Quan.	Botanical and Common Name	Size	Unit Price	Total
3	*Cornus Florida Plenia Double Flowering White Dogwood	4-5'	$ 4.75	$ 14.25
	Shrubs			
	*Camellia Japonica	2-2½'	5.00	30.00
	*Daikagura Pink	2-2½'	5.00	30.00
	*Daikagura Variegated	2-2½'	5.00	20.00
	*Daikagura White	2-2½'	5.00	30.00
	*Magnoliaflora	2-2½'	5.00	35.00
	*Professor Sargent	2-2½'	5.00	183.00
122	*Ilex Crenate Rotundifola Boxleaf Holly	18-24"	1.50	183.00
1	*Loropetalum Chinese Lorofetalum	2-2½'	1.50	1.50
21	*Nandina Domestica Chinese Bamboo	2-2½'	1.50	31.50
4	*Osmanthus Fragans Sweet Osmanthus	2½-3'	3.00	12.00
2	*Pieris Japonica Japanese Andromeda	2-2½'	3.00	6.00
1	*Pyracantha Kgidzumi Formosa Firethorn	2-3'	1.75	1.75
	Ground Cover			
10,800	-Hedera Helix English Ivy	-	40/1000	440.00
59	-Liriope Muscara Bigblue Liriope	-	2.00/100	14.00
620	-Liriope Spicata Dwarf Liriope	-	4.00/100	24.80
8,000	-Vinca Minor Common Periwinkle	-	2.50/100	200.00
	Grass			
2,000 bu	Tifton 57 Utility Lawn, BR,		1.00/bu.	2000.00

Note: * is balled and burlapped, + is canned,
- is flat.

Special Equipment

Material List	Unit Cost	Total Quantity	Cost
6-12-12 Fertilizer	$4.00/100	14,500	$580.00
Ammonium Nitrate	$3.75/100	1,200 lb	45.00
Agri. Lime Stone	$1.00/80lbs.	20,000 lb	$250.00
Tree Wrap	$ .70.roll	10	$ 7.00
Rubber Hose (for staking)	.09/ft.	270'	$ 10.80
Wire	.01/ft.	750'	$ 7.50
Stakes	.04/stake	300	$ 18.00
Auger Bit and Tractor	$50/day	4	$200.00
Tractor and Disc	$50/day	2	$100.00
Rototiller	$5.00/day	2	$ 10.00

*Excavation of soil for trees, shrubs, and beds to be relocated on property.

Labor

Installation of trees, shrubs and ground cover.

Classification	No.	Rate	Unit Hours	Total Cost
Foreman	1	$3.00	200	$600.00
Labor	7	$1.25	1400	$1750.00
Tractor Operator	1	$1.75	48	$ 84.00

Installation of Lawn

Planting service is offered by Southern Turf Nurseries for purchase of over 400 bushles.

TOTALS

Items	Sub-totals	Grand Totals
Contingencies	$ 229.30	
Overhead	$ 917.20	
	$1,904.00	
Totals	$3,050.50	$3,050.50
1. Planting Materials	$4,638.50	
2. Soil	$1,075.00	
3. Special Equipment	$1,218.00	
4. Labor	$2,434.30	
Sales Tax	212.38	$9,576.10
Total	$9,576.10	
Grand Total		$12,626.60

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