Fellheimer, 1962

ATHLETIC FIELD
FOR THE
UNIVERSITY OF GEORGIA
ATHENS, GEORGIA

BY - Morris M. Fellheimer

"A Thesis Presented for the Degree of Bachelor of Landscape Architecture, Department of Landscape Architecture, University of Georgia, Athens, Georgia."

December, 1962

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

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INTRODUCTION AND HISTORICAL SKETCH
OF ATHLETIC FIELD FOR THE
UNIVERSITY OF GEORGIA

The first urban renewal project with which Athens, Georgia, was concerned, aided the growth of the University of Georgia through the construction of dormitories. The College Avenue Urban Renewal Project was the second of such embarkment. The third project was the building of a coliseum on the University campus. With the expansion of the University in its area and student body, it is therefore in need of an athletic area to be used by the Varsity Teams and the Physical Education Department of the University of Georgia. The area in consideration borders Lumpkin Street on the west, Pinecrest Street on the south, Ag. Drive on the east, and Carlton Street on the north.

At ~~the~~ present the area has four two story frame apartment buildings, housing approximately forty families. When relocated, these families will live in a new project designed specifically for ~~married~~ quarters of married couples who attend the University.

Twenty years ago, the 53.2 acre tract was farm land or an undeveloped wooded area. With the growth of

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the University, it is to the best interest of both the University and the citizens of Athens, to have an athletic field for the University students and the citizens of Athens.

STATEMENT OF THE PROBLEM

The University of Georgia currently has under construction a 3 million dollar, 13,000 seating capacity coliseum located on the South Campus on land formerly used as the Varsity Baseball Field. Upon completion of the multi-purpose coliseum, the Athletic Association activities and offices will be moved into this building. It is to the best interest of the University to have a landscape architect do a preliminary study and plan for the part of the physical education program including intermural football, baseball and tennis - and for the varsity, sports of track practice and football fields, varisty and freshman baseball and tennis expansion, parking, access and general landscape development. The area in mind borders Lumpkin Street on the west, Pinecrest on the south, Ag. Drive on the east and Carlton Street on the north. The landscape architect must consider access from the proposed housing areas, parking, traffic, play areas, courts, as relocated in relation to the City of Athens and the University.

Facilities to be included are:

A. All weather track (asphalt composition)

1. track - paces and hurdles

(a) 440 yard

(b) 880 yard

(c) mile

(d) 2 mile

B. Shot Put

C. High Jump

D. Discus

E. Pole Vault

F. Broad Jump

G. Javelin

NOTE: The multi-purpose feature referred to above, will be used for football in the center of the track area.

H. Varsity Baseball Diamond

I. Freshman Baseball Diamond

J. Intermural Baseball and Football

K. Physical Education and Varsity Tennis

L. Existing Practice Field to remain

M. Basketball Courts

N. Handball Courts

ANALYSIS OF THE PROBLEM

The primary consideration in the design of any tract of land is the people and their specific interest in the land.

In the entire city of Athens there is only one location which can be used as an athletic field for the University sports program. The area in mind is located within the Navy School located approximately two miles from the University campus; but this area can not be used by the University all year long.

Due to the fact that the University is currently going through a program of relocating many of its old buildings by building new ones in different locations and by the present construction of the coliseum, it was decided that a new athletic field should be located close to the coliseum. Upon completion of the coliseum, the University will be able to hold some of its sports activity indoors.

The coliseum is located next to the Football Practice Field, which is surrounded by a 6-foot wall. This area is of the most vital area to the Varsity Teams. The Varsity Baseball Field is also within the walled off Field. The only other baseball diamond which was on

the campus was located where the coliseum is being constructed.

The entire area devoted to the new athletic field is sloped from the southwest to the northeast. Using different levels for the different activities, the entire area can be utilized.

Recreation is an important part of a college student as his scholastic studies is. If given the opportunity to play ball, most college students might even increase their attitude toward their school work. Thus, the athletic area can be a teaching area for the sports-minded students and also for the neighboring residents.

Parking for the coliseum is a major factor to be considered. Thus, much of the land will be used primarily as a parking lot. This parking lot will accommodate not only parking for the coliseum but also will accommodate the necessary parking for the athletic field.

JUSTIFICATION AND PRESENTATION OF THE SOLUTION

This particular tract of land was a unique problem in the fact that the site consisted of a few dwellings used by some of the married students, an existing tennis court, present construction of the multi-million dollar coliseum. The land consist of 53.2 acres which slopes in a northeastern direction toward Ag. Drive.

After a thorough investigation of the area and the future development of other areas on the University campus, it was determined that the track field which is now located between the areas of Stegeman Hall, Memorial Hall, Army ROTC Building, and Lumpkin Street will be turned into a huge parking lot, meaning that the track field had to be relocated. Since the Physical Education Department will move its offices into the new coliseum, it was decided to build the new track and field event area as close as possible to the coliseum. The area for the track field was located on the Practice Football Field Area, because the walled area was large enough to also accommodate such a field. The new track field will be used for many of the South Eastern Track and Field competitions.

The University campus at one time had enough tennis courts to accommodate its physical education program, but now it does not. At the present time it only has six courts which are not in the best of care. These courts are located in the hub or central core of the campus and will be done away with in the very near future and probably will be replaced by parking areas. New tennis courts in the area of land for the project would be interesting from the point of aesthetics and location. The newly located courts are on different levels and therefore one can look around in different directions and enjoy the surrounding views.

Handball is a sport which is in demand all year round, especially in the South where the climate allows the sport to be played all year. At the present time there are no such courts in the entire city of Athens. Since the slope is steep along the extreme northeastern part of the tract of land, it was possible to place such courts there and at the same time, the wall would function as a retaining wall for the property beyond the wall.

Last but most important is the parking area. Since the coliseum is of a prime factor, much of the

area is devoted for parking and naturally as close as possible.

Planting was used wherever possible to increase the aesthetic qualities of the site. Wherever possible, existing trees were left as not to damage the slopes which are to be left as existing. Plantings are designed to be viewed from the air and to be effective on the ground. Informal plantings are designed to soften the architecture and relate the area to the surrounding countryside.

Economically, as well as aethetically the large open spaces, plantings and recreation facilities will increase the value of the property not only to the University but also to the city of Athens.

ATHLETIC FIELD PROPOSAL

FOR THE UNIVERSITY OF GEORGIA

ATHENS, GEORGIA

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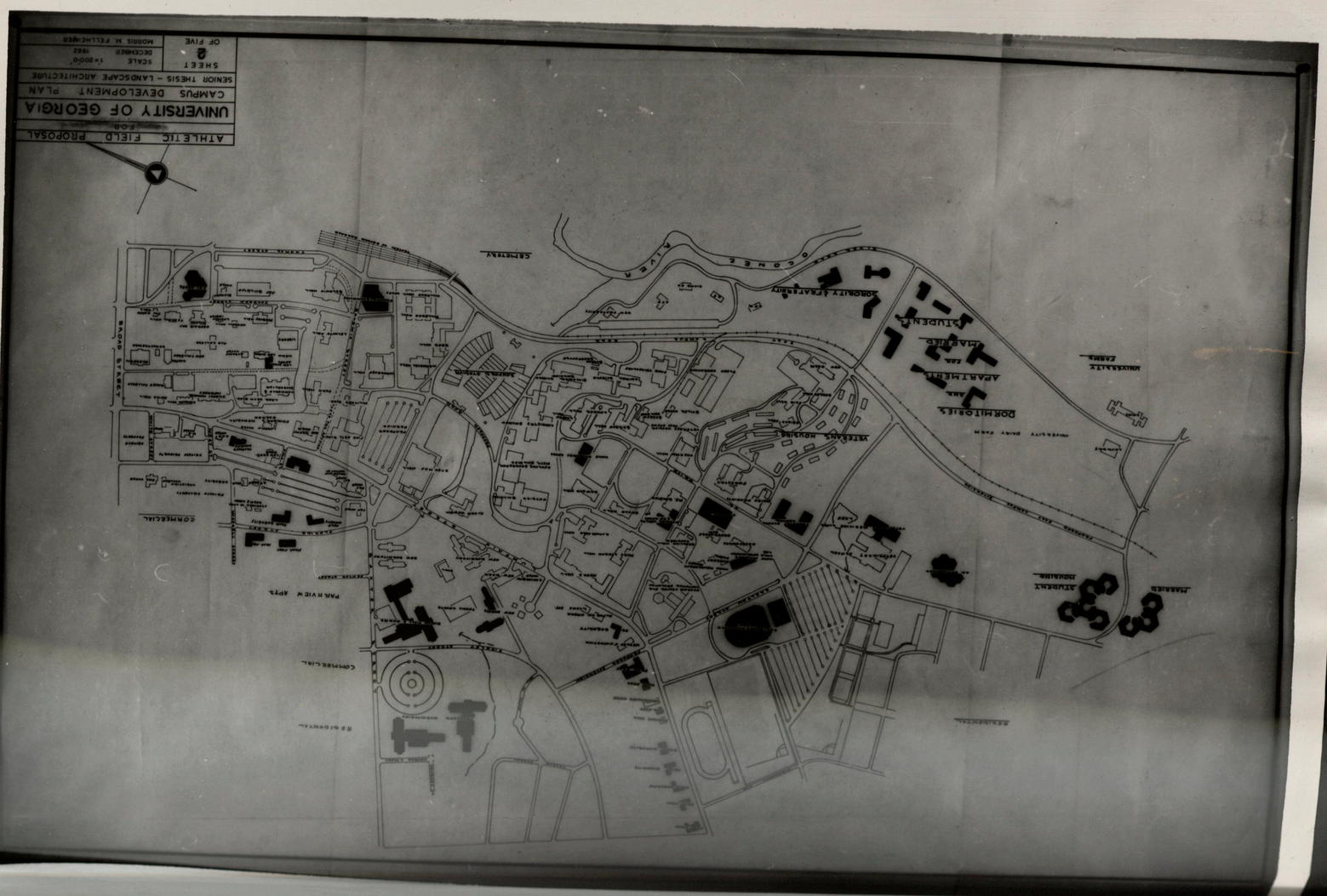
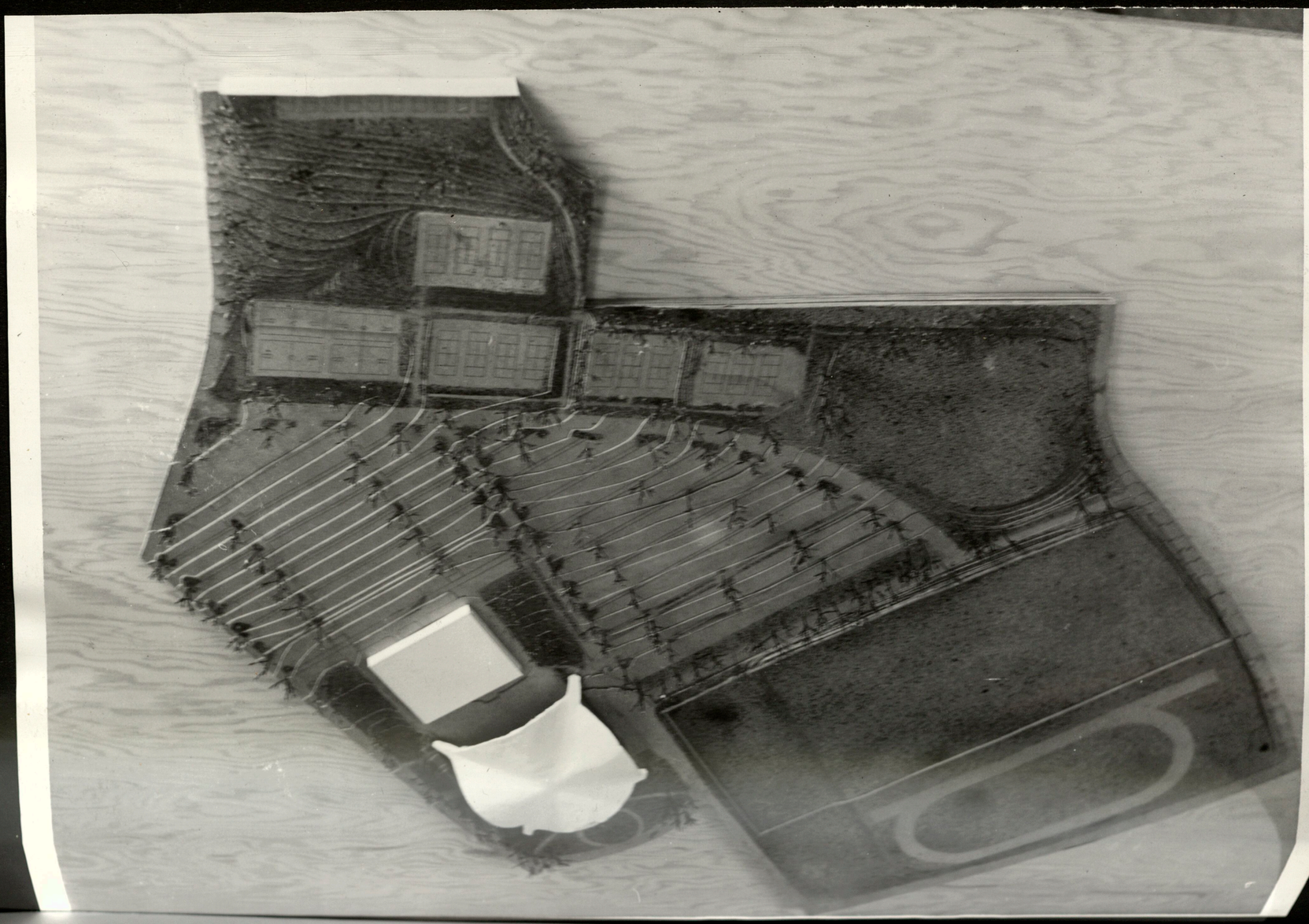
MORRIS M. FELLHEIMER

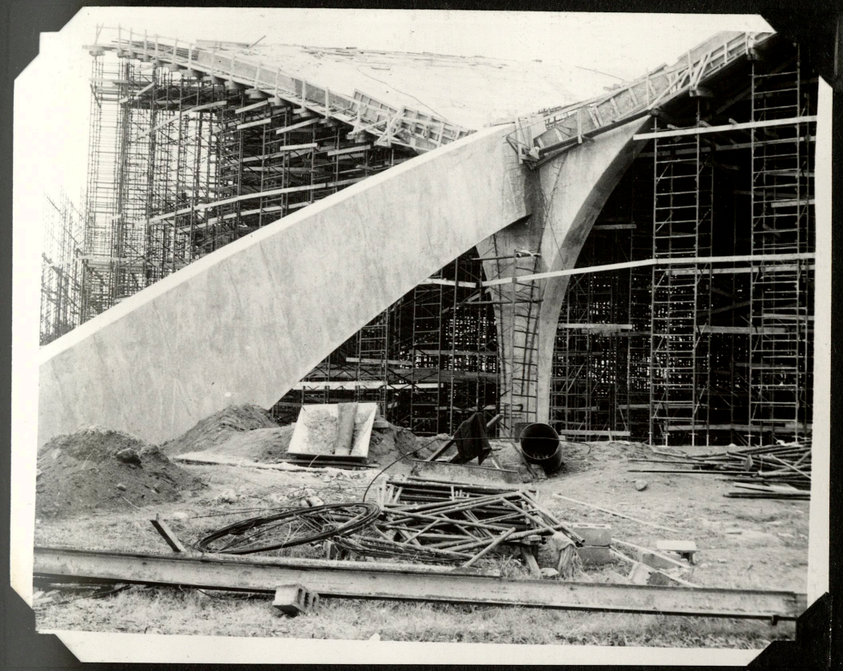

ATHLETIC FIELD PROPOSAL
FOR
UNIVERSITY OF GEORGIA
CAMPUS DEVELOPMENT PLAN
SENIOR THESIS - LANDSCAPE ARCHITECTURE
SCALE 1"=200'-0"
DECEMBER 1962
SHEET 2
OF FIVE
MORRIS M. PELLHEMER
COMMERCIAL
PARKVIEW APTS.
STUDENT HOUSING
APARTMENTS
DORMITORIES
GRADUATE
UNIVERSITY FARMS

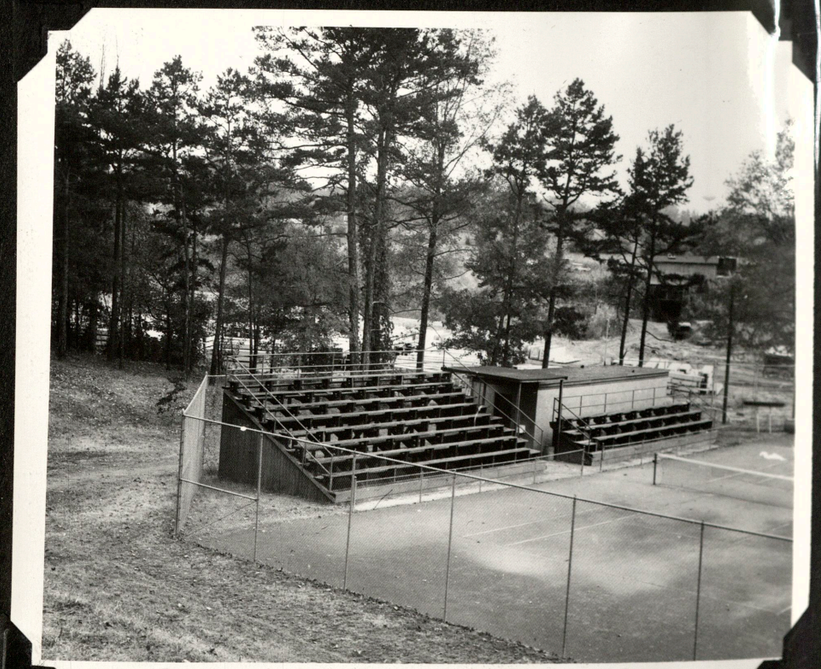
LEGEND
---- EXISTING CONTOURS 2' INTERVAL
CARLTON STREET
LIVESTOCK BARN
COLISEUM
PRACTICE FOOTBALL FIELD
VARSITY BASEBALL FIELD
PRACTICE BASEBALL FIELD
TRACK
FARRELL STREET
PINECREST STREET
ATHLETIC FIELD PROPOSAL FOR
UNIVERSITY OF GEORGIA
MASTER PLAN
SENIOR THESIS - LANDSCAPE ARCHITECTURE
SHEET 3 OF FIVE
SCALE 1"=60'
DECEMBER 1962
MORRIS H. FELLERMEIER

NOTES
FOR DETAILS & INFORMATION OF COLISEUM REFER TO PLANS OF PROJECT NO. COMMISSION 6001 28 AUG 1967.
ALL SLOPES ARE 4:1 MAX. EXCEPT ALONG THE STREAM.
ALL ISLANDS IN THE PARKING AREA HAVE A 6 INCH CURB.
ALL PAVED PLAY AREAS ARE SURROUNDED WITH FENCES
SEE ELECTRICAL DRAWINGS FOR LIGHTING
ALL WALKS HAVE A 2% SIDE SLOPE.
ALL PROPOSED STEPS HAVE 6" RISERS AND 12" TREADS.
LEGEND
CONTOUR INTERVAL AT 2 FEET
EXISTING MANHOLE TO REMAIN
PROPOSED MANHOLE
PROPOSED DRAINAGE PIPES
EXISTING DRAINAGE PIPES
SHOW INVERT ELEVATION
STEEL GRATE ELEVATION ON INLETS
EXISTING CONTOURS
PROPOSED CONTOURS
GATES & ENTRANCE
PROPOSED SPOT ELEVATIONS
PROPOSED CATCHBASIN
PROPOSED CATCHBASIN - MANHOLE
PROPOSED CURB&GUTTER INLETS
BUILDING AND OR STREET TO BE REMOVED
ROCK OUTCROP
EXISTING FIRE HYDRANT
PROPOSED FIRE HYDRANT
PROPERTY LINE
CONTINUING EDUCATION BUILDING
COLISEUM
CARLTON STREET
SLOPE
PROPERTY LINE
PROPOSED Fraternity BUILDINGS
A&S EXTENSION BUILDING
SMITH STREET
PRACTICE FOOTBALL FIELD
VARSITY BASEBALL FIELD
TRACK
SOUTH CAMPUS STREET
BROOKS STREET
P.E. FIELD
FARRELL STREET (NOT PAVED)
PROPERTY OF UNIV. OF GEORGIA
OWNED BY OTHERS
ATHLETIC FIELD PROPOSAL FOR
UNIVERSITY OF GEORGIA
GRADING PLAN
SENIOR THESIS - LANDSCAPE ARCHITECTURE
SHEET 4 OF FIVE
SCALE 1"=40'
DECEMBER 1968
MORRIS M. FELLHEIMER

ATHLETIC FIELD PROPOSAL FOR
UNIVERSITY OF GEORGIA
CONSTRUCTION DETAILS
SENIOR THESIS - LANDSCAPE ARCHITECTURE
SHEET 5 OF FIVE
SCALE AS SHOWN
DECEMBER 1982
WORDS IN PENCIL ARE HERE
ELEVATION.
TREE PIT & STAKING
SCALE 3/8"=1'0"
PLAN.
SHRUB PLANTING DETAIL
TENNIS COURT DIMENSIONS
SCALE 1/16"=1'0"
BASKETBALL DIMENSIONS
SCALE 1/16"=1'0"
END POST SECTION OF TENNIS COURT
SCALE 3/8"=1'0"
HANDBALL DIMENSIONS
SCALE 1/16"=1'0"
STEPS TYPICAL SECTION
SCALE 3/8"=1'0"
MANHOLE WITH INLET TYPICAL SECTION
SCALE 1/2"=1'0"
TRACK TYPICAL SECTION
SCALE 1/2"=1'0"
SUB-DRAIN TYPICAL SECTION
SCALE 1/2"=1'0"
EXPANSION JOINT
DUMMY JOINT
SCALE 1 1/2"=1'0"
CONCRETE WALL TYPICAL SECTION
SCALE 3/8"=1'0"
CATCHBASIN MANHOLE TYPICAL SECTION
SCALE 1/2"=1'0"
DROP INLET TYPICAL SECTION
SCALE 1/2"=1'0"
SECTION A-A
SECTION B-B
CURB DETAIL
SCALE 3/8"=1'0"
DETAILS OF GUTTER INLET
SCALE 3/8"=1'0"







SPECIFICATIONS

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3. Technical Provisions - Planting

Section B. - Special Provisions

B-01 Scope of Work: The work to be performed will consist of furnishing all materials, labor, supplies, and equipment for specified work or construction in accordance with these specifications and in conformity with the plans.

B-02 Location: The site of the proposed work borders Lumpkin Street on the west, Pinecrest on the south, Ag. Drive on the east and Carlton Street on the north, Athens, Georgia.

B-03 Specifications and Drawings: The following drawings are a part of and supplementary to these specifications.

TITLE	Drawing No.
Grading and Staking Plan	4
Construction Details	5

The drawings and these specifications are intended to be mutually explanatory and complete, and all work called for by one, even if not by the other, will be fully executed. In case of differences between drawings and specifications, the specifications will govern. In any case of discrepancy, either in the figures, in the drawings, or in the specifications, the matter will be promptly sub-

mitted to the Landscape Architect, who shall promptly make a determination in writing. Any adjustment by the contractor without this determination shall be at his own risk and expense.

B-04 Spirit and Intent of Specifications: It is the spirit and intent of these specifications, and of the drawings forming a part of them, to provide that the work and all parts thereof will be fully completed and suitable in every way for the purpose for which they are designed. Mention in these specifications or indication on the drawings of articles or materials, operations, or methods requires that the Contractor will provide each item listed of quality, or subject to qualifications noted; perform according to conditions stated, each operation prescribed, and provide therefore all necessary labor, materials, tools, equipment and incidentals necessary to complete the work.

B-05 Errors or Omissions: The contractor will not be allowed to take advantage of errors or omissions in these specifications or contract drawings as full instructions will be given if such errors

are discovered. Upon his discovery of any statement or detail which is discrepant or otherwise appears in error, the contractor will immediately call it to the attention of the Landscape Architect.

B-06 Measurements: Before ordering any material or doing any work, contractor will verify all measurements at the site and shall be responsible for correctness of same. No extra charge or compensation shall be allowed on account of difference between actual dimensions and the measurements indicated on the drawing. Any difference which may be found will be submitted to the Landscape Architect for consideration prior to beginning the work.

B-07 Examination of Site: Before submitting bids for the work, each bidder shall be held to have examined the premises and satisfied himself as to the existing conditions under which he will be pledged to operate, or that in any manner shall affect the work under this contract. No allowance shall be made subsequently in this connection in behalf of the Contractor for any error or negligence on his part.

B-08 Timing and Sequence of Work: The Contractor will

begin work the first workday after receiving the "Notice to Proceed." The Contractor shall have forty (40) calendar days in which to complete the work except for extensions approved by the Landscape Architect. The Contractor will give due and adequate notice of all work he proposes to start to those in control of the properties which may be affected by his operations. Work is to proceed in an orderly way. The organization of these specifications of Contract Drawings do not necessarily indicate the order of sequence in which the work is to be performed.

B-09 Temporary Suspension of Work: The Landscape Architect shall have the authority to suspend the work, wholly or in part, for such period as he may deem to the best interest of the owner, due to conditions which are considered unfavorable to the suitable carrying out of the work, or for failure on the part of the contractor to carry out orders given or to perform any provision of the contract. The contractor will immediately respect the written order of the owner to suspend the work wholly or in part. The contractor will not suspend work without such written

authority, and will immediately resume work when conditions are favorable or when methods have been corrected, as approved by the Landscape Architect in writing.

B-10 Other Contracts: The Landscape Architect may undertake or award other contracts for additional work, and the contractor shall fully cooperate with such other contractors and the owner or his employees and carefully fit his own work to such additional work as directed by the Landscape Architect. The contractor will not commit or permit any act which will interfere with the performance of work by any other contractor or employee of the owner.

B-11 Materials and Workmanship: Workmanship and materials will be as prescribed by these specifications and the Contract Drawings. When ever not explicitly described, all workmanship used or employed in carrying out the work will be the best of the respective grades and qualities. Where equipment, materials, or articles are referred to in the specifications as "Equal To" any particular standard, the Landscape Architect shall decide the question of equality. When required by the specifications,

or when called for by the Landscape Architect, the contractor will furnish for approval full information concerning the materials or articles which he contemplates incorporating in the work. Samples of materials will be submitted for approval when so directed. Machinery, equipment, materials, and articles installed or used without such approval will be at the risk of subsequent rejection.

B-12 Minor Modifications: The contractor will make such minor changes in the execution of the work to be done under these specifications as, in the judgment of the Landscape Architect, may be necessary or expedient to carry out the intent of the contract. No increase over the contract price will be paid to the contractor on account of such minor modifications provided that at the time the change is to be made the work involved has not already been executed. Work which materially increases the cost to the contractor will not be ordered under the provision of this paragraph.

B-13 Guarantee: The contractor will guarantee all work under this contract for one year from the date of acceptance by the Landscape Architect, except as

otherwise agreed upon in writing by the parties to the contract. Wherever work is required to be quaranteed, the contractor, when notified by the Landscape Architect must immediately

A. Place in satisfactory condition in every particular of the guaranteed work and

B. Make good all damage to the structures and grounds or equipment and contents thereof is such unsatisfactory condition or damage develops within the stipulated period and is due to the use of materials or workmanship which are inferior, defective, or not in accordance with this contract, and must make good any work or material or grounds which are disturbed in fulfilling the requirements of this guarantee.

B-14 Payment: Payment of 45 per cent of bid will be made upon submission by the contractor of certification that 50 per cent of contracted work has been completed. A second payment of 45 per cent of bid will be made upon completion of all work and approval of the Landscape Architect. The remaining 10 per cent will be held until expiration of the quarantee.

B-15 Rejection: All materials which do not meet these

specifications or the requirements of the Contract Drawings shall be rejected by the Landscape Architect and will be removed from the site and replaced by proper materials by the contractor at his own expense.

B-15 Contractor's Responsibilities: The Contractor will, without additional expense to the owner, obtain all insurances, licenses and permits required for the prosecution of the work. The contractor will provide and maintain all temporary roadways and utilities which may be authorized, and all barriers, colored lights, danger signals and other devices necessary to provide for the traffic and safety. The contractor will keep his equipment, operations, and materials confined to the limits indicated on the Contract Drawings. The contractor will restore, at his expense, any damage to any property and will take such action to insure protection of any existing materials, trees, structures, or utilities in, on, or over the site. The contractor will conduct his operations and leave the site so as to in no way endanger the health or lives of anyone. He will be responsible for all damages to persons or property that occur

as a result of his fault or negligence in connection with the prosecution of the work. He shall also be responsible for all materials delivered and work performed until completion and final acceptance. The contractor will, at all times, be responsible for the safety and conduct of his employees. The Landscape Architect may in writing require the contractor to remove from the work such employees as he deems incompetent, careless, insubordinate, or otherwise objectionable, or whose continued employment on the work is deemed by the Landscape Architect to be contrary to the owner's interest.

B-17 Space for Storage of Materials: The contractor will provide suitable storage for materials and equipment on the site and will maintain all storage space in a safe and orderly condition. The owner assumes no liability for loss or damage to materials or equipment due to improper storage, lack of protection from the elements or from any other cause. Inflamable materials will be inclosed in safe containers.

B-18 Clean Up: The contractor will remove all debris from his operation each evening of every workday to the satisfaction of the owner. All brickbats, rock, wood

debris, metal objects, and similar materials uncovered during operations will be disposed, leaving the completed work in a neat, policed manner.

Section C1 - Technical Provisions - Grading

C1-01 Clearing and Grubbing:

a. The area within the Limit Construction as shown on the Contract Drawings shall be cleared of trees indicated, brush, stumps, large roots, buried logs, and other objectionable material to a depth as follow:
For paved areas - 2' below subgrade
For lawn areas - 2' below finished grade
These materials shall be removed from the site.

b. To insure proper bond and prevent slipping between original ground and fill, the surface of the original ground shall be scarified to the necessary depth.

C1-02 Drainage Structures:

a. Drainage inlets shall consist of two types Curb and Gutter as manufactured by or equal to those of the Lembo Concrete Products Corporation, 145 West 11th Street, Huntington Station, Long Island, New York as follows:
Curb Inlet Structure 701
Gutter Type Structures 501

b. All catch basins, manholes, drain pipes shall

be installed and connected with proper outlets to provide adequate runoff of storm water as shown on Contract Drawings. All subdrains are to be 6" agricultural tile. All outlets shall be approved by the local authorities have jurisdiction.

C1-03 Earthwork:

a. Grading and drainage shalle be performed so that water will drain away from the buildings on all sides in a manner which will provide reasonable freedom from erosion.

b. Stripping and Storage of Topsoil:
Suitable topsoil on the site shall be stripped and be piled in convenient location for storage during construction and shall be used to complete finished grading operations.

c. Material for Fill:
Material used for fill shall be free from vegetable matter, wood, and other objectionable substances and shall not contain large rocks or soil lumps.

d. Placing, Spreading, and Compacting Fill Materials:
Fill material shall be placed in layers which when compacted shall not exceed 6 inches. Each layer

shall be spread evenly and shall be uniformly blade mixed during spreading to insure uniformity of material in each layer. The moisture content of fill material shall be maintained so that it can be compacted to maximum practical density. Compacting shall be by means of tamping or other types of roller equipment which shall compact the fill to the required density. All fill material in excess to that needed on the site shall be hauled away.

e. Grading Tolerance:

(1) Rough Grading: Areas to be graded by cutting and filling shall be rough graded to within 0.2 of a foot of the required elevation after necessary allowance has been made for thickness of topsoil, paved areas, and any other installations.

(2) Finished Grading: Shall be completed to conform to lines, grades, slopes, as shown on Contract Drawings. Application of topsoil shall be made where there is no paving shown on Contract Drawings and seeding shall be done on areas to be established as lawn.

f. Weather:

No fill material shall be placed, spread, or rolled while ground or fill is frozen or in any other unfavorable condition. When work is interrupted by heavy rain, fill shall not be resumed until moisture content of material is of satisfactory condition.

01-04 Final Acceptance:

Upon notification of the completion of the contract work, the Landscape Architect shall make an inspection of the site and any unsatisfactory work shall be repaired, replaced, or corrected at the expense of the contractor.

Section C2 - Technical Provisions - Sidewalk, Curb, Parking Lot Pavement, Tennis Court Pavement and Fence

C2-01 Concrete Sidewalks, Steps, and Curbs:

A. Materials:

a. Portland Cement: Portland cement shall comply with the standard specifications for Portland Cement (ASTM C 150) and shall be Type I.

b. Fine Aggregate: Fine aggregate shall consist of natural sand, manufactured sand, or a combination thereof and shall be graded within the following limits:

Sieve	% Passing 100
3/8 in	100
No 4	95 to 100
No 8	80 to 100
No 16	50 to 85
No 30	25 to 60
No 50	10 to 30
No 100	2 to 10

(1) The fine aggregate shall have not more than 45 per cent retained between any two consecutive sieves and its fineness modulus shall be not

less than 2.3 nor more than 3.1.

(2) Fine aggregate shall be free of injurious amounts of organic impurities and not darker than the standard set by the Portland Cement Association in "Design and Control of Concrete Mixture" tenth edition; Table I Limits for Deleterious Substances in Fine Aggregate For Concrete.

(3) Fine Aggregate for use in concrete that will be frequently wet shall be free of material that could react harmfully with alkalies in the cement.

c. Course Aggregate: Course aggregate shall consist of crushed stone, gravel, or air-cooled iron blast furnace slag or a combination thereof, and shall conform to the requirements prescribed in Table II - Grading requirements for Course Aggregates as published by Portland Cement Association in "Design and Control of Concrete Mixes" Tenth Edition.

(1) Course aggregate shall be clean and free of material that could react harmfully with alkalies in the cement.

(2) Course aggregate tested for abrasion shall have a loss of not more than 50 per cent.

d. Water: The water used shall be clean and free from oil, acid, and injurious amounts of vegetable matter, alkalies or other salts.

e. Metal Reinforcement: Reinforcing bars used in all steps shall be as below listed:
No 2 Bar - placed 2'-0" on center running length of steps.
No 3 Bar - placed 8'-0" on center running width of steps.
(See Detail sheet 5)
6"x6" No 16 wire mesh reinforcement shall be used between the 6" gravel subbase and the concrete walks. (See Detail Sheet 5)

f. Storage of Materials: Cement and aggregates shall be stored at the work in such manner as to prevent detericration or intrusion of foreign matter. Any material which has been damaged shall not be used and shall immediately be removed from the site.

B. Concrete Mix and Placement:

a. Concrete Mix:

(1) Concrete mix shall be a 1:2 1/4:4 mix calculated by absolute volume.

(2) No concrete exposed to the action of freezing weather shall have a water content exceeding 6 Gal. per sack of portland cement.

(3) The proportions of aggregate to cement shall be such as to produce a mixture which will work readily into the corners and angles of the forms and around reinforcement bars, but without permitting the materials to segregate or excess free water to collect on the surface.

(4) The methods of measuring concrete materials shall be such that the proportions can be accurately controlled and easily checked at any time durinf the work.

(5) During the progress of the work Slump Tests for consistency of concrete shall be made in accordance with the "Standard Method of Slump Test for Consistency of Portland Cement Concrete" and kept on

record. Not less than one test for each 250 cubic yards of concrete shall be made.

b. Mixing and Placing Concrete:

(1) Before placing concrete, all equipment for mixing and transporting the concrete shall be cleaned, all debris and ice shall be removed from the places to be occupied by the concrete, forms shall be thoroughly wetted (except in freezing weather) or oiled, and the reinforcement shall be thoroughly cleaned of ice or other coatings. Any water shall be removed from places of deposit before concrete is placed.

(2) The concrete shall be mixed until there is a uniform distribution of the materials and shall be discharged completely before the mixer is recharged.

(3) Concrete shall be conveyed from the mixer to the place of final deposit by methods which will prevent the separation or loss of the materials.

(4) Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. The concreting shall be carried on at such a rate that the concrete is at all times plastic and flows readily into the space between the reinforcement. No concrete that has partially hardened or been contaminated by foreign material shall be deposited on the work, nor shall retempered concrete be used.

(5) When concrete is once started, it shall be carried on as a continuous operation until the section is completed. When construction joints are necessary they shall be made as shown on Detail Sheet 5.

(6) All concrete shall be thoroughly compacted by suitable means during the operation of placing, and shall be thoroughly worked around reinforcement and embedded fixtures and into the corners of the forms.

(7) Provision shall be made for maintaining concrete in a moist condition for at least five days after the placement of the concrete.

(8) Adequate equipment shall be provided for protecting the concrete during freezing or near freezing weather. No frozen materials or materials containing ice shall be used. All concrete materials and all reinforcements, forms, fillers, and ground with which the concrete is to come in contact shall be free from frost. No dependence shall be placed on salt or other chemicals for the prevention of freezing.

c. Forms and Details of Construction:

(1) Forms shall conform to the shape, lines, and dimensions of the members as called for on the Contract Drawings and shall be sybstantial and sufficiently tight to prevent leakage of mortar. They shall be properly braced or tied together so as to maintain position and shape.

(2) Forms shall be removed in such a manner

as to insure the complete safety of the structure, and may be removed after 24 hours providing the concrete is sufficiently hard.

(3) Metal reinforcement, at the time concrete is placed shall be free from rust scale or other coatings that will destroy or reduce the bond. Metal reinforcement shall be accurately placed in accordance with the Contract Drawings and shall be adequately acquired in position by concrete or metal chairs and spacers. The metal reinforcement shall be protected by thickness of concrete at least equal to the diameter of round bars and one and one half times the side dimension of the square bars.

(4) Construction joints shall be made and located as to least impair the strength of the structure. Where a joint is to be made the surface of the concrete shall be thoroughly cleaned and all laitance removed.

d. Concrete Finishings:

(1) Screeding shall be done to bring the top surface to proper contour and elevation. Soon after screeding and while the concrete is still plastic, the surface shall be floated and brought to true grade. After concrete has partially hardened, floating shall be done a second time to provide a coarse finished texture.

C. Final Acceptance: At notification of completion of this phase of the contract, the Landscape Architect shall make full inspection of the work and any unsatisfactory work shall be repaired, replaced, or corrected at the expense of the contractor.

02-02 Parking Lot Pavement:

A. Description:

a. The paving mix shall be composed of mineral aggregate and asphalt thoroughly mixed in an approved plant until all aggregate particles are uniformly coated with asphalt.

b. All materails and methods of preparations

and construction shall conform with the requirements of specifications hereafter detailed. The finished pavement shall conform in all respects with lines, grades, dimensions, as shown on the Contract Drawings.

B. Materials:

a. Tests: Reports of tests of materials and trial mixes proposed for use and conforming to the latest revision of methods adopted by the American Society for Testing Materials, made at the contractor's expense shall be submitted to the Landscape Architect for approval before construction begins.

b. Paving Mix: Paving mix shall be type II b. with normal asphalt content 3.0-6.0% by weight of total mix.

c. Aggregate: Aggregate shall be hard, sound, angular crushed stone, gravel, slag and fine aggregate passing the below sieve sizes by per cent of weight:

Sieve Sizes (Square Openings)	% Passings by Weight
1 1/2 in	

1 in	
3/4in	
1/2in	100
3/8in	70-100
no 4	20-40
no 8	5-20
no 30	
no 100	
no 200	0- 4

Aggregate shall be clean and free from coatings of clay, silt or other objectionable matter and shall contain no clay balls.

C. Equipment:

a. All equipment used and furnished by the contractor shall be of approved design and shall be maintained in its best mechanical condition. Equipment shall be serviced and lubricated away from the paving site; units that drip fuel, oil, and grease shall be removed from the project until such leakage is corrected.

b. The mix shall be spread by a mechanical self-powered paver or motor patrol capable of spreading the mix true to the line,

grade, and crown indicated on the Contract Drawings. Pavers shall be capable of travelling both forward and in reverse and be capable of spreading mixes without segregation and/or tearing.

c. Rolling equipment shall consist of steel wheel and pneumatic tire rollers or a combination of both. Rollers shall be equipped with adjustable scrapers to keep the rolls clean and with efficient means of keeping the wheels wet to prevent mixes from sticking to the rolls. Rollers shall be free of flat areas, openings or projections which will mar the surface of the pavement.

d. Haul Trucks: Vehicles used for transportation of hot-mix asphalt from plant to site of work shall have tight metal bottoms and shall be free from dust, screening, petroleum oils, volatiles or other mineral spirits which may affect the mix being hauled. The truck beds shall be painted or sprayed with a limewater or soap solution at least

once a day or as often as required. After this operation, the truck bed shall be elevated and thoroughly drained.

e. Truck Scales: The hot-mix asphalt shall be paid for by the ton and shall be weighed on platform scales furnished by and at the contractor's expense. These scales shall comply with the state laws governing scales and be checked for their accuracy to the satisfaction of the Landscape Architect.

f. Hand Tools: Only lutes or rakes with covered teeth shall be used during the spreading operation and when finishing by hand. Tamping irons used to consolidate the edge of the binder and wearing courses shall be sufficient weight to compact the edges to the same degree as the body of the pavement. Tamping irons used to consolidate the material along the curbs, gutters, and other structures inaccessible to the roller shall weigh not less than 25 lbs. and shall have a bearing area not exceeding 48 square inches.

D. Weather Limitations: The placing of hot-mix asphalt shall be performed only when weather conditions are suitable. Placing of hot-mix asphalt shall not be permitted when pools of water are observed on the base court.

E. Preparation and Paving:

a. Base Course: A 4" base course with a CBR of 80 plus shall be placed and shall be primed in accordance with provisions of Asphalt Institute Specifications P-1, Asphalt Priming of Granular Type Base Courses. The prime coat shall be allowed to cure properly before any further operations are permitted on the primed area.

b. The area to be paved shall be true to line and grade having a dry and properly prepared base course free from all screenings and other loose or foreign materials. The surface of curbs, gutters, vertical faces of existing pavements, and all structures in actual contact with asphalt mix shall be painted with a thin uniform coating of asphalt material to provide a closely

bonded, water tight joint.

c. The base course shall be paved with a 3" bituminous asphalt surface of type II b. mix compacted 3/4 in to 1 1/2 in for each individual course. The completed pavement shall have a density equal to or greater than 95% of the laboratory specimen as specified in section 02-a. The final surface shall be of a uniform texture.

02-02 F. Final Acceptance: Before final acceptance of the project, the thickness of the base course and surface course shall be determined by the Landscape Architect and any unsatisfactory work shall be repaired, replaced, or corrected at the expense of the contractor.

02-03 Tennis Court Pavement:

A. Aggregate For Teniflex Surface Base:

a. Teniflex surface base aggregate shall be clean, sound crushed stone and all sand shall be free from silt, salt or clay.

b. Grading shall be as follows:

		Stone for Teniflex Surface Base	Sand for Teniflex Surface Base
Passing	2-1/2" Sieve (square)	-	-
"	1/2" " "	100	-
"	3/8" " "	90-100	-
"	1/4" " "	30- 70	100
"	no 10 " "	0-2	60-90
"	40 " "	-	20-50
"	80 " "	-	5-25
"	200 " "	-	0-2

B. Surface Base - Construction:

a. Proportioning - Aggregate for the surface base course as specified shall be mixed with emulsified asphalt binder in proportions by weight as determined by the the following formula:

P = .05A plus .55C

in which

P = % of emulsified asphalt binder (based on dry weight of the aggregate).

A = % of aggregate retained on a no 10 sieve.

B = % of aggregate passing a no 10 sieve and retained on a no 200 sieve.

C = % of aggregate passing a no 200 sieve, plus fines lost in wash test.

Where materials are to be proportioned by volume instead of by weight, the pounds of emulsified asphalt binder calculated as above shall be converted to gallons, assuming the binder to weigh 8.5 pounds per gallon.

The crushed rock, sand and limestone dust shall be combined to produce the following grading:

	% Passing		
Sieve Size	Min.	Ideal	Max.

1/2"	90	100	100
no 4	60	75	85
10	40	50	60
40	15	25	35
80	10	15	20
200 plus "Wash"	3	6	8

Typical proportions to produce the above gradation are as follows: however, the exact proportions should be determined from the sieve analysis and the formula.

Parts-by Volume	Typical Batch Proportions, 4 cu. ft. Total Aggregate
3 Stone Screening 3/8" to 1/8"	12 Gals. (1.6 Cu. Ft.)
4 Sand	16 Gals. (2.1 Cu. Ft.)
1/2 Stone Dust Filler	2 Gals. (1/4 Cu. Ft.)
1-1/3 Emusified Asphalt Binder	5-1/2 Gals.

b. Mixing: Place in a mechanical mixer Emulsified Asphalt Binder plus water required to obtain a mortar-filled composition of plastic consistency, and add the aggregates. All proportioning shall be accurate, in

measured or weight containers, and approximate methods such as counting shovelsfull will not be permitted. Mix until a uniform color is secured.

c. Screed Strips: Set to true grade rigid screed strips. 1" in height, ten feet apart in parallel lines lengthwise of the area. Block up wherever required to support firmly against sag under strike-off screed. Steel box channel is preferred for screed strips.

d. Placing Mixture: The mixture shall be shoveled into place and not dumped en masse in place. With a rigid steel-faced straightedge strike-off, first by a see-saw motion, and for final strike-off with a smooth forward motion slightly tipping the straightedge so that the front edge does not touch the surface. Use long-handled floats where required to iron out coarse texture marring uniformity.
All joints shall be finished true to grade with a steel trowel.

The laying of continuous panels is preferred, although alternate panel construction is permitted. In continuous placement, the mix-encased screed strips shall be removed immediately as soon as each length has been traversed by the strike-off, and the space shall be immediately filled with the mixture, spaded to insure against voids and later settlement, and floated to a finished level true to the surfaces of adjoining panels. In alternate panel operations all screed strips shall be removed as soon as each length has been traversed by the strike-off and the edges shall be broken down on a 45 degree slope to make a future lap joint. The fill in panels shall be struck off on thin metal strips laid upon the finished panels when these have set sufficiently to withstand displacement under feet of the workmen.

e. Compacting: Roll thoroughly when dried sufficiently not to displace or pick up under rolling. Rolling shall commence

at the outer edge of the area and shall progress toward the center. Rollers may be of power or hand-propelled type, weighing from 500 pounds to 3 tons. Rollers shall not be left standing on the area at any time.

f. Finish: Flood with water the dried and rolled surface and chalkmark outlines of all areas where water stands smore than 1/16 inch deep. Tack with dilution of one Emulsified Asphalt Binder to five water. Allow to dry. Fill depressions with surface base sand mix, leveling with a straight-edge. When dry, roll.

The completed area shall not vary more than 1/8 inch from a 10-foot straightedge and shall be smooth and uniform in texture. No irregularities are to be left for correction by the Teniflex application.

g. Repairing or Filling Depressions in Surface Course: If required to eliminate depressions more than 1/8 inch under a 10-foot straight-edge or to repair damaged areas (such as

footprints or animal tracks) the following mixture shall be used: 2 Gals. Plaster Sand, 2 gals. Teniflex surface, and 1/2 gal. Emulsified Asphalt Binder.

Spread the mix true to grade by striking off with a straightedge. Place extra material in deep areas to allow for subsidence. Steel trowel or wood float the patch so that the texture matches the surrounding area. The edges can be brushed with a damp plasterer's brush in order to obscure the line of demarkation at the edges. Allow patches to dry thoroughly.

C. Teniflex Green Surface - Resilient Seal:

a. Stirring or Mixing: The entire contents of each drum of Teniflex shall be emptied into a mortar box or placed in a concrete mixer and mixed to a uniform, free-flowing consistency. Sufficient water shall be added to obtain a semifluid consistency.

b. Method of Application: Prior to the first application of the Teniflex fog the surface with water from a hose. This will cool the

surface and leave it damp. Do not allow any free water to remain. Additional water fog may be used as the squeegee work progresses, if required, but only for the first Teniflex application. Subsequent applications should be made without water fog.

Teniflex shall be applied to the surface by pouring from a can or a wheeled container in continuous parallel lines and spreading immediately with rubber-faced squeegees or with long-handled hair brooms. The squeegee or broom shall be pulled on an angle from the line of spread so as to continually roll the materials toward the operator and not overflow or "spill" on its forward edge away from the operator. After each coat has dried, any ridges shall be removed with scrapers.

c. Quantity of Application: Two or more applications shall be made and at least 40 gallons of Teniflex, as received in the container, shall be used per 1000 sq. ft. of area. However, the controlling factor shall not be the numder of applications, nor the quantity of Teniflex used (except that 40 gallons per

1000 sq. ft. shall be a minimum), but it shall be the following specified result to be obtained:

After the final coat of Teniflex has been applied, rolled, and allowed to dry thoroughly, its surface shall be uniform, showing no evidence of coarse or uneven texture.

d. Finish: The completed and rolled surface shall not vary more than 1/8" from a 10-ft. straightedge and shall be smooth and unifrom in texture.

D. Playing Lines: 2" playing lines shall be accurately located and marked by snapping a chalked line. Aluminum line paint shall be used to paint playing lines, and no oil base paint shall be permitted. Allow 48 hours for the surface to cure before painting lines. Painters shall use soft-soled shoes and knees padded to prevent indentation of the fresh surface. Ragged lines will not be acceptable.

E. Traffic: Protect from traffic during all operations and until opening for use. Following

painting of the lines, the area shall be allowed to cure for minmum of four days before being opened to play.

C2-04 **Fencing:** Supplementing the excellent workmanship and materials which go into the installation of Teniko Royal, Teniflex and Corkturf composition tennis courts, we recommend the construction of proper and complete fencing.

This recommended fencing would be steel construction 10 ft. high, with all posts set in concrete footings on maximum 10 ft. centers.

Fence specifications would consist of 2-1/2" O.D. corner, end and gate posts; 2" O.D. line posts; 1-5/8" O.D. top rail; and no 11, 1-3/4" or no 9, 2" chain link fabric.

All fence material would be hot dipped galvanized and all ends, corners and gates would be braced with horizontal braces and truss wire. The fabric would be erected in one 10 ft. width, securely stretched and then fastened to the frame with proper post and rail ties. Walk gates as desired can be placed at given positions in the fence to opening widths as necessary.

Complete information is always given to assist the owner in the selection of the amount of fencing required.

Section E. - Technical Provisions - Planting

03-01 Materials: Samples of materials used shall be submitted to the Landscape Architect for inspection. Upon approval of samples, delivery of materials may begin.

01-1 Topsoil: All topsoil shall be fertile, friable, natural topsoil known as light or garden loam. Topsoil shall not be taken from areas on which are growing any obnoxious weeds such as Nutgrass, Morning Glory, Sorrel or Bermuda Grass. It shall be delivered without admixture or subsoil material and shall be free from rocks, sticks, roots, or other foreign materials. It shall not be delivered in a muddy condition.

01-2 Manure: Manure shall be well rotted cow manure, not less than eight months nor more than two years old. It shall be free from foreign materials and harmful chemicals. It shall not be delivered in a soggy condition.

01-3 Water: Supply of water will be furnished by owner.

01-4 Commercial Fertilizer: Commercial fertilizer shall be a complete fertilizer; it shall be uniform in composition, dry and free flowing. This fertilizer shall be delivered to the site in the original unopened containers, each bearing the manufacturer's statement of analysis and shall meet the following requirements: 8% Nitrogen; 6% Phosphoric Acid; 8% Potash.

01-5 Peat: Peat Moss shall be of a standard brand, consisting of partially decomposed vegetable matter of natural occurence. It shall be brown in color, clean, low in content of mineral and woody material, mildly acid; and may be either granulated or shredded.

01-6 Staking Material:

a. Wooden stakes for guying trees as shown on Detail Sheet 5.

b. Hose shall be new or used 2 ply reinforced rubber garden hose.

c. Wire guys shall be of no 12 guage pliable galvanized iron and the turnbuckles

shall be zinc coated.

d. Wrapping materials shall be first quality burlap at least 8 oz. in weight and 6" in width.

e. All other materials used in staking shall be of the highest quality and shall meet all specifications as listed here and shown on the Contract Drawings.

01-7 Bonemeal: Commercial raw bonemeal shall be finely ground and have a minimum analysis of 4% Nitrogen and 20% phosphoric acid, delivered in containers showing weight analysis and name of manufacturer and stored in weather-proof storage place and in such manner that its effectiveness will not be impaired.

03-02 Plant Materials: Trees-Shrubs-Groundcover:

Note: All existing trees on the property are to be protected from in jury.

02-1 Quality and Size:

a. All plants shall be freshly dug; no heeled-in plants, and no plants from

cold storage will be accepted.

b. All plants shall have a normal habit of growth and shall be sound, healthy and vigorous; they shall be free from disease, insect, insect eggs, and larvae.

c. All plants shall conform to the measurements specified in the Plant List. Such measurements shall be made in accordance to methods stated in the latest edition of "Horticultural Standards of American Association of Nursery-men, Inc." Plants that meet the requirements specified in the Plant List but which do not possess a normal balance between height and spread will not be accepted. All plants shall be sound, healthy, vigorous, well branched, and free of disease, and shall have an adequate root system. Collected stock shall have a ball of earth at least a sixth greater in diameter than specified for Nursery Grown trees. Trees for planting in rows shall be uniform in size and shape. All materials shall be

subject to approval by the Landscape Architect. Where any requirement is omitted from the Plant List, the plants furnished shall be normal for the variety. Plants shall be pruned prior to delivery only upon the approval of the Landscape Architect.

d. Plants larger in size than specified in the Plant List may be used if approved by the Landscape Architect. If the use of larger plants is approved, the ball of earth or spread of roots shall be increased in proportion to the size of the plant. If plants required to be bare-rooted are furnished in sizes greater than specified, they shall be balled and burlapped when so directed by the Landscape Architect.

02-02 02-2 Inspection: Plants shall be subject to inspection and approval at the place of growth, or upon delivery, for quality, size and variety; such approval shall not impare the right of inspection and rejection at the site

during progress of the work for size and condition of balls or roots, latent defects or injuries. Rejected plants shall be removed from the site immediately.

02-3 Digging and Handling:

a. Protect roots or balls of plants at all times from sun and drying winds; water as necessary until planting.

b. Balled and burlapped plants (BB) shall be dug with firm natural balls of soil of a sufficient size to encompass the fibrous and feeding roots of the plants. No plants moved with a ball shall be planted if the ball is cracked or broken, except upon special approval of the Landscape Architect.

c. Container stock shall be delivered to the site in first class condition. Plants shall have small stakes in containers where required to support the plants. Plants furnished in containers shall not be handled by the stems but only by the containers.

d. Bare rooted plants shall be planted or heeled-in immediately upon delivery. If heeled-in, all bundles of plants shall be opened and the plants separated before the roots are covered.

02-4 Nomenclature: Plant names used on the drawings conform to standardized plant names prepared for the American Joint Committee on Horticultural Nomenclature. Names of varieties not included herein conform generally to names accepted in the Nursery trade.

02-5 Substitutions: Substitutions will not be permitted except when proof is submitted that any plant specified is not obtainable. A proposal will then be considered for use of the nearest equivalent size or variety with an equitable adjustment of contract price.

02-6 Plant List: Quantities necessary to complete the work on the contract drawing shall be furnished. Any discrepancy in the quantities given in the Plant list shall not entitle the contractor to additional renumeration. All dimensions shall be the minimum acceptable size.

02-7 Planting Season: All actual planting of plant materials shall be done only during the periods within the seasons which are normal for such work as determined by weather conditions and by accepted practices of the area, and which are approved by the Landscape Architect.

02-8 Obstruction Below Grade:

a. Remove rock or other underground obstruction to the depths necessary to permit proper installation of plantings unless other locations are approved by the Landscape Architect.

b. If changes in location or work, or if removal of rock (as defined herein) involve additional work, the contract price will be adjusted. Rock includes stone or bolders that cannot be removed or broken by hand methods.

02-9 Planting:

a. Stake tree locations and secure approval of them from the Landscape Architect before digging pits, making any adjustments

necessary. Locate no plants closer than 2' to pavement or structures.

b. Excavate pits with vertical sides for all plants. Dig tree pits at least 1' larger in all dimensions than the ball, the container, or than the spread of the roots. Trees shall be set blumb and straight and at such a level that after settlement a normal and natural relationship of crown of the plant with the ground surface will be established. Each tree will be planted in the center of the pit. All burlap, ropes, and wires shall be removed from the sides and tops of balls, but no burlap shall be pulled out from under the balls. Pits shall be backfilled with topsoil into which 1/2 pound of bonemeal per foot of height of the tree has been added. For larger trees, two pounds of bonemeal perinch of caliper shall be used. Topsoil shall be thoroughly tamped around the ball and shall be settled by water after tamping. (See detail sheet 5) A water holding saucer shall be formed with extra topsoil.

c. Set shrubs in an upright position in the center of the pits, adjusting the depth as necessary, so that the crown on the plant will stand at finished grade. Shrub pits shall be backfilled with topsoil. Compact soil around the roots or balls of plants and water thoroughly. Form a ridge of soil around the edge of the pit to facilitate watering.

d. Each tree and shrub planted shall be pruned to preserve the natural character of the plant and in a manner appropriate to its particular requirement in the landscape design. In general, at least one third of the wood shall be removed by thinking or shortening branches, but no leaders shall be cut. Pruning in general shall be heavier on collected than on nursery grown plants. All soft wood or sucker growth and all broken or badly bruised branches shall be removed with a clean cut. All pruning cuts are to be made flush and clean, especially

where lower branches have been removed from collected trees. Pruning cuts over 3/4 inch in diameter shall be painted over with an approved tree paint to be used on all exposed cambium as well as exposed living tissues.

e. Guying, staking, and wrapping shall be done immediately after painting. Trees shall stand plumb after staking and guying in accordance with Detail Sheet 5. Trunks shall be wrapped with burlap spirally to the height of the second branches.

f. All shrubs over 6' tall shall be guyed with wire to stakes set 18" in the soil. The plants shall be protected from the wire by rubber garden hose.

g. After planting operations have been completed, the tree pits and all planted pits and shrub areas, except lawns, shall be entirely covered with a layer of manure two (2) inches deep and at the rate of 7 cubic yards per 1000 square feet

and thoroughly incorporated in the upper 3 inches of the soil.

02-10 Ground Covers:

a. In all ground cover areas, humus is to be spread and incorporated into the top three inches of topsoil atthe rate of 3 1/3 cubic yards per 1000 square feet.

b. Creeping juniper shall be planted at the rate of nine (9) plants per 100 square feet or 3 1/2 feet on center.

c. Vinca and Ivy are to be planted at the rate of one (1) plant per square foot.

d. On completion of planting, all ground cover areas are to be mulched with one inch peat moss.

03-03 Lawns:

03-1 All ground areas of the site shall be developed as lawns except as otherwise required by the Contract Drawings.

03-2 Soil Preparation and Fertilizer: All contract areas where turf is specified shall be prepared as follows: Spread 750 pounds of manure and two (2) bales of Peat Moss per 1000 square feet of lawn area; and 20 pounds of a Chemical fertilizer, chemical contect 8-6-8

per 1000 feet of lawn area. Scarify all lawn area to a depth of 6" and thoroughly incorporate the manure, peat moss, and chemical fertilizer into the soil. At a date between March 15th and June 15th, lawn shall be constructed of Emerald Zoysia and shall be planted in 1" plugs 6" on center. These 1" plugs shall be watered immediately after planting. The lawn area shall be kept reasonably free of weeds and undesirable course native grasses for a period of 60 days after planting.

C3-04 Maintenance Period: Plants shall be maintained for a period of 60 days after completion of the grass planting by watering, cultivating, pruning, spraying, and other operations found necessary.

C3-05 Final Inspection: At the conclusion of the maintenance period a final inspection of the work will be made by the Landscape Architect. Any plant not in a healthy growing condition at this time will be noted.

C3-06 Acceptance: The final acceptance will be made

by the owner upon completion of all he work, including maintenance, and clean up, but exclusive of the replacement of plant materials.

03-07 Plant Quality and Replacement:

a. Replacement: Any plant not found in a healthy growing condition at the time of the final inspection shall be removed from the site and replaced at the next planting season, as determined by the Landscape Architect.

b. Materials and Operation: All replacements shall be plants of the same kind and size as specified in the Plant List. They shall be furnished, planted, and mulched as specified under E-02-9 PLANTING, at no additional cost.

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