

RECOMMENDATIONS FOR FUTURE DEVELOPMENT

VIRGINIA POLYTECHNIC INSTITUTE

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TABLE OF CONTENTS

Page No.	Section No.	Subject
1	I	INTRODUCTION
3	II	ADMINISTRATION & ASSEMBLY
4	III	INSTRUCTIONAL ACTIVITIES
7	IV	MEN'S DORMITORIES AND DINING HALLS
11	V	WOMEN'S DORMITORIES AND DINING HALLS
13	VI	FACULTY HOUSING
15	VII	PHYSICAL EDUCATION, OUTDOOR RECREATION AND ORGANIZED ATHLETICS
18	VIII	RECREATION AND WELFARE
20	IX	SERVICE DEPARTMENTS
21	X	CIRCULATION AND PARKING
25	XI	MISCELLANEOUS CONSIDERATIONS
27	XII	LAND ACQUISITION
28	XIII	CONCLUSION

APPENDIX

- a. Tabulation of approximate requirements
- b. Photostat of "Plan for Future Development" (750' - 1")

I INTRODUCTION

General

The general policy of the Virginia Polytechnic Institute is to provide technical education for qualified students at a cost compatible with the financial capabilities of the students. The present male enrollment of approximately 5000 exceeds that of any of the other Virginia colleges.

The general expansion of the Institute will follow the trend of the nation as a whole, plus an allowance for the deficiency in educational facilities which now exists in Virginia. The engineering school will probably grow at a faster rate than the remainder of the Institute.

In accordance with the contract dated May 10, 1949 the general architects have been instructed to further develop the Site Plan to accommodate a minimum student capacity of 10,000. In so doing, serious consideration must be given to an anticipated expanded capacity well beyond this figure.

Site Plan

A Site Plan entitled "Plan for Future Development" at a scale of one inch equals two hundred feet, revised to meet these new conditions and hereafter referred to as the "Plan" is submitted with this report.

Purpose

A threefold purpose has guided the study of the Plan:

1. To preserve and enhance the natural and architectural beauty and inspirational quality of the existing campus and buildings.
2. To develop a scheme for expansion that would be a natural and logical growth of the existing plan and would provide adequate, unified and flexibly planned accommodations for an ever-expanded enrollment.
3. To provide for the proposed immediate construction so as to fit into the foregoing program with the minimum disturbance of present and future facilities.

Capacity

This plan and report contemplate a minimum male enrollment of 10,000, with 400 - 600 women students and an allowance for faculty and employees of approximately 10 percent of the total number of students.

Expansion beyond a capacity of 10,000 male students will probably take place so far in the future that it will be generally impracticable at present to make definite provision for such an intangible situation. The way to ultimate development has not, however, been closed. It is of great importance to avoid blocking expansion at any point. For this reason areas and axes have been left open wherever there seems to be a reasonable possibility of expansion beyond the facilities shown on the Plan.

Main Aspects of the Scheme

The dominating element of the present Institution is the Oval established by Mr. Manning on two axes, a short axis running approximately northwest by southeast, and a long axis at right angles to it. The architects of the buildings now bordering the Oval have recognized the importance of this element in their successful arrangement of Burruss Hall and Memorial Hall on this short axis. This axis has been extended and emphasized in the development outlined in this report.

The Oval has been preserved as the center of the design and the numerous buildings have been arranged in groups according to their related functions. Each group has been subordinated to the whole, and contributes to the unity of the scheme by radiating from the Oval so as to focus on Burruss Hall. Each group has been planned to allow as far as possible flexible expansion within itself, without encroachment on unrelated activities.

Approach

The Mall, now about to be realized, will provide a dignified and straightforward approach to the heart of the Institution. The vista thus created will be terminated by the new War Memorial. Both sides of the Mall should be appropriately landscaped to form an avenue which will effectively frame this vista. The Mall and the Memorial should be designed as an architectural entity.

In order further to emphasize and beautify the main entrance to the Institute, an imposing entrance gateway will eventually be called for. This feature should also be integrated with the Mall and the Memorial.

Thought should be given to widening and straightening Main Street opposite the entrance, in order to avoid traffic congestion and to create a feeling of spaciousness in conformity with the size and importance of the Institution.

II ADMINISTRATION & ASSEMBLY



It is assumed that central administration will continue in Burruss Hall, within the existing floor area. Inasmuch as the present assembly hall will accommodate less than one-third of the ultimate student body, the proposed new Field House, discussed in a later section of this report, offers possibilities for housing the occasional gathering too large for Burruss Hall.

III INSTRUCTIONAL ACTIVITIES



Engineering

The location allotted to engineering has been established by the existing buildings of that department. The New Engineering Building has been located far enough from the center line of Burruss Hall to preserve the feeling of openness along the walks leading northwest from the Oval.

A new wing of the Mineral Industries Building corresponding in appearance and arrangement to that existing, could house offices, classrooms and small laboratories. The present laboratories for electronics and allied work, for which an expensive system of wiring has been installed, can remain in the Mineral Industries Building and expand within that location. A second story addition to the existing one story portion of the Mineral Industries Building is proposed.

The Power Laboratory, now in the basement of Patton Hall, can remain and perhaps be expanded under a new terrace to the northwest. Any other means of extending Patton Hall are undesirable, as the view from the Parade Ground toward Burruss Hall and the McBryde Building should be preserved.

The sloping terrain permits future engineering buildings to be built with the basement floor at ground level.

Architecture and Graphics

These activities, especially the former, are related both to engineering and to the humanistic studies centered in the General Library. The proposed location of the new building for Architecture and Graphics expresses this relationship.

The new building for these departments is limited in area by the need for circulation between it and the McBryde Building. Also, the view of the original Institute Buildings from the Mall should remain unimpaired. It may, therefore, be necessary to allow some of the divisions of Architecture or Graphics to remain in their present quarters in Patton Hall.

General Library

This building, facing the Oval, is reasonably accessible from classrooms and laboratories. Of even greater importance in determining its location is the fact that it is convenient to the majority of the dormitories and is near the centers of student and faculty recreation and extra-curricular activity. Its proximity to the border of campus and town renders it available for the use of the community.

The Library will be a prominent feature of the campus, since it flanks the War Memorial at the end of the Oval. It will balance the Architecture and Graphics Building across the Mall. Both of these buildings should be designed with restraint, so as not to compete for attention with each other or with the War Memorial, which will form the central element of the composition.

Agriculture

Because of the limitations imposed by the Men's Dormitories on the east, and the Women's Dormitory to the southwest, expansion in this department will take place naturally toward the south and southeast. Laboratories and classrooms for the School of Veterinary Medicine are included in this group.

Facing the Women's Group is a wing of the Agricultural School assigned to Home Economics.

Buildings for Adult Education are separated from under-graduate quarters, and are easily accessible to students from out of town. Allowance has been made for housing approximately 240 persons in single or double rooms about 9'6" by 16'9", each with private bath, and for conference rooms and dining hall. Kitchen services would be in the basement on the southwesterly side. Consideration should be given to possible need for garage accommodations for students in this department.

Also related to the Agricultural Department, but requiring separation because of the outdoor activities connected with each of them, are the Greenhouses and the Meat Animal and Poultry Processing Building. The Greenhouses have been placed as close as possible to the main buildings, on a slope where good air drainage can be obtained. Orientation is in accordance with suggestions made by the Agricultural Department staff. Location of the Meat Animal and Poultry Processing Laboratory is proposed about elevation 2070, just over the brow of the ridge, on the southerly side, away from the Institute buildings. This will avoid interference with the view, especially from the Women's group, and will provide some additional insurance against occasional odors being carried back by a shift in the wind. Drainage into the existing sewer system will still be possible without excessively deep trenching.

Buildings for the study of Animal Pathology are remote from the Meat Animal and Poultry Processing Laboratory and from living quarters, but are easily accessible from Route 685.

New dairy barns, to replace those which will be abandoned after the extension of Washington Street, have been located southwest of the campus.

College

The scientific and general studies conducted by this department bear a close relation to engineering and to agriculture. As an example: the courses in biology for agriculture are under the auspices of the College. The College Group is a logical expansion from Davidson Hall, and its functions are well served in this strategic location.

A building to balance Patton Hall is desirable to complete the architectural composition fronting the Oval. This structure should form a unit of the College.

Military Science

This subject is expected to receive less emphasis in the future than in the past. Location in the existing Commerce Hall, near the Military Barracks, is proposed.

IV MEN'S DORMITORIES AND DINING HALLS



Hill Group

The location and size of the existing dining hall and of the existing stone dormitories make this group the logical nucleus for the largest housing group (designated hereafter as the "Hill Group"). With the same ratio of space per student used in the existing stone dormitories, the units have been arranged

parallel to axes radiating from Burruss Hall, the logical center of interest. Since future growth along such axes was happily anticipated by the architects of the stone dormitories, the principal walks giving access to the new buildings have been established by the archways facing the Oval which now exist in the stone dormitories.

The new dormitories are located in convenient relation to the present dining hall. A series of terraces, more or less level, separated by flights of steps and stone-faced retaining walls, recognize the considerable rise in elevation south of the Parade Ground. These changes in level give opportunity for views over the roofs of lower buildings toward the tower of Burruss Hall and the magnificent scenery of the hills beyond. Dormitory buildings have been set with their ends toward the street, so as to create open courts and minimize traffic noise in the rooms.

The total capacity of the "Hill Group" is approximately 4100, including all of the existing stone dormitories and the proposed new dormitories shown on the Plan. This number can be accommodated in two sittings in the existing dining hall.

Brick Group

North of the Mall stand the historic, original buildings of the Institute. Their associations make it well worth while to preserve and renovate them. The brickwork, in our opinion, should be cleaned and restored to its original unpainted condition. A colonnaded walk has been shown connecting the old Academic Buildings with the dormitories surrounding the Quadrangle. A similar colonnade, replacing the present porch, has been indicated along the southeast front of Building #1. The existing tennis courts behind Building #1 should be removed and the area planted as a lawn. In order to avoid time-consuming travel to and from the existing main dining hall and to relieve congestion there caused by the expanded student body, a new dining hall on the site of the present Mechanical Engineering Laboratory has been shown heading the Quadrangle. This building and colonnaded walk, while not part of the original construction, can serve to unify the group if they are sympathetically designed as they might have been built at the time of the founding of the Institute.

Total capacity of the dormitories which are grouped about the original brick institute buildings, including those recently constructed and the two academic buildings to be converted into dormitories, is approximately 2200. Further expansion of dormitories in this vicinity is not recommended. Land to the west and northwest is needed for the engineering department and for recreation, and land to the east is needed for faculty housing. Since feeding of the military students housed in the "Brick Group" is a regimented procedure, it is suggested that the dining hall to be built as part of the group be large enough to allow all students to be accommodated in one sitting. Space limitations imposed by existing buildings will require dining halls on two levels if this is to be accomplished.

North Group

On the assumption that 80% of the total student body of 10,000 will be housed on the campus, of which 6300 are provided for in the Military Barracks and the "Hill Group," additional quarters will have to be found for 1700 students. The far-sighted land-acquisition policy followed by the Institute in recent years has made available all of the land south of Pepper Street and State Route No. 685. It is proposed that the area northwest of Burruss Hall beyond the College and Engineering buildings be assigned to a third dormitory group.

This area is low-lying with a stream running through it. This stream could be contained and the present small pond be converted into a reflecting pool in the center of this dormitory group. The character of this new group would be quite different from that of the other two. The famous "Backs" of Cambridge University are suggestive of the successful use of water in this respect.

The dining hall for this "North Group" of dormitories would head the main axis of the group and of the entire Institute campus, on the slightly rising ground northwest of the stream. Here it is central with respect to the dormitories and easily reached by a short service drive from the public road.

Married Students

Quarters for married students, consisting of 1 and 2 room housekeeping apartments for 200 couples, have been provided adjoining the North Dormitory Group. Locating the married students on the fringe of the campus offers a degree of segregation and facilitates the problem of grocery and other deliveries, which services do not belong on the campus. The Institute authorities should determine whether accommodations are to be provided in the dining hall for married couples, or for the sale of cooked or prepared food for their consumption at home.

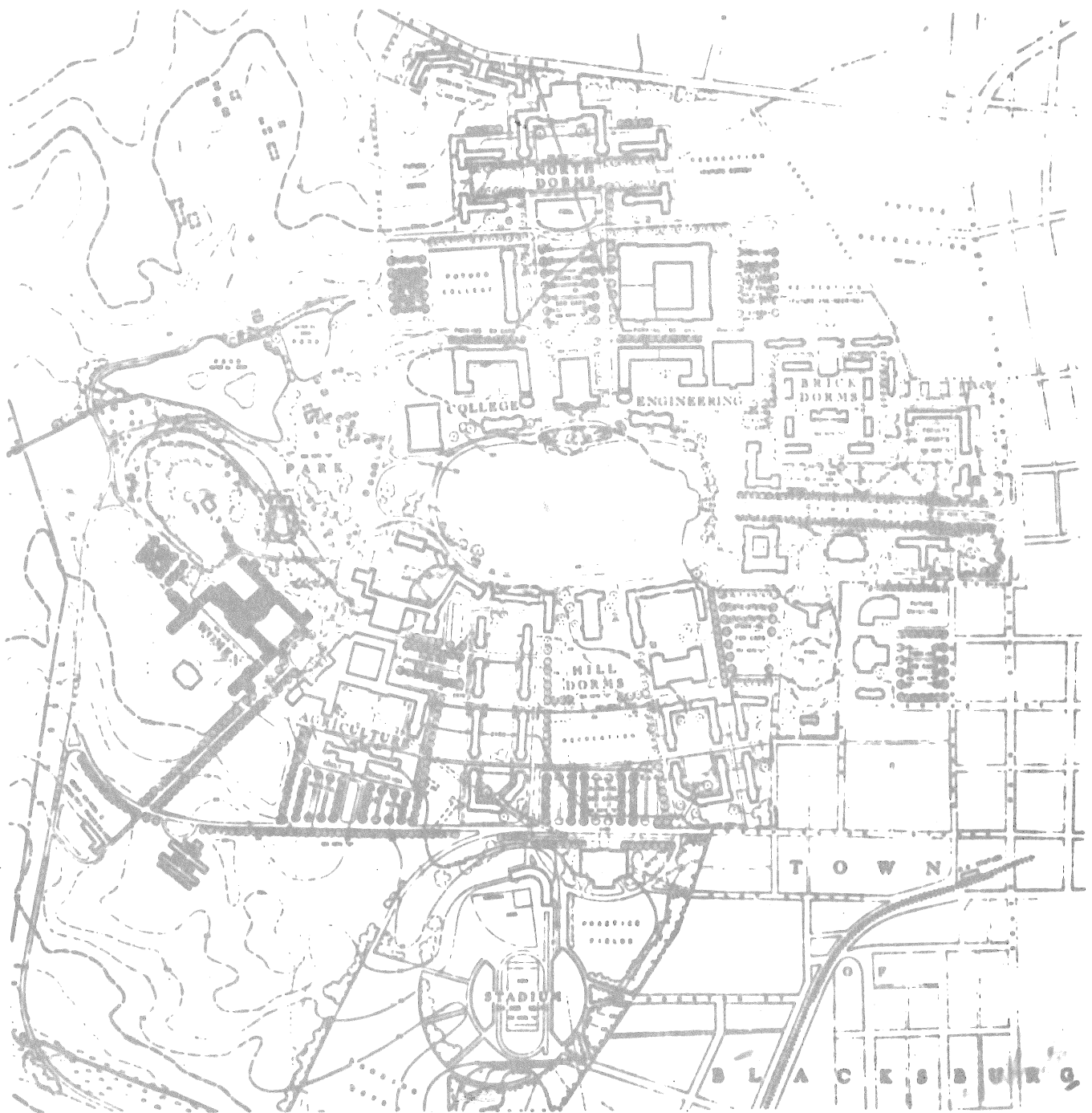
Dining Halls

The present trend in the larger universities is toward the smaller dining room integrated with the dormitory. However, the large separate dining hall has the advantage of greater efficiency and economy of operation. Where dormitories form closely integrated groups with the dining hall as a central feature, as we have planned them, it is feasible and even desirable to retain the traditional separate dining hall. Enlargement of the student body, however, and decreased emphasis on military training will probably result in wider variation in the tastes and habits of students than has prevailed in the past. Experience of other institutions comparable to VPI has led to providing dining halls of different sizes, and both waiter and cafeteria service. Future policy in regard to food service should be considered from this point of view, especially in regard to the Women's Department.

Summary

We now have three dormitory groups housing a total of 8000 students, each conveniently located with respect to the academic buildings, and each with its own dining hall. Each group would have a markedly individual character, evolving naturally from the factors determining its growth. The austerity of the Brick Group reflects the original strongly military function of the Institute. The more picturesque appearance of the Hill Group is the outcome of terracing the buildings to suit the steeply sloping ground southeast of the Oval. The more serene character of the North Group results from building on more level ground, and from the repose suggested by gently flowing water.

V WOMEN'S DORMITORIES AND DINING HALLS



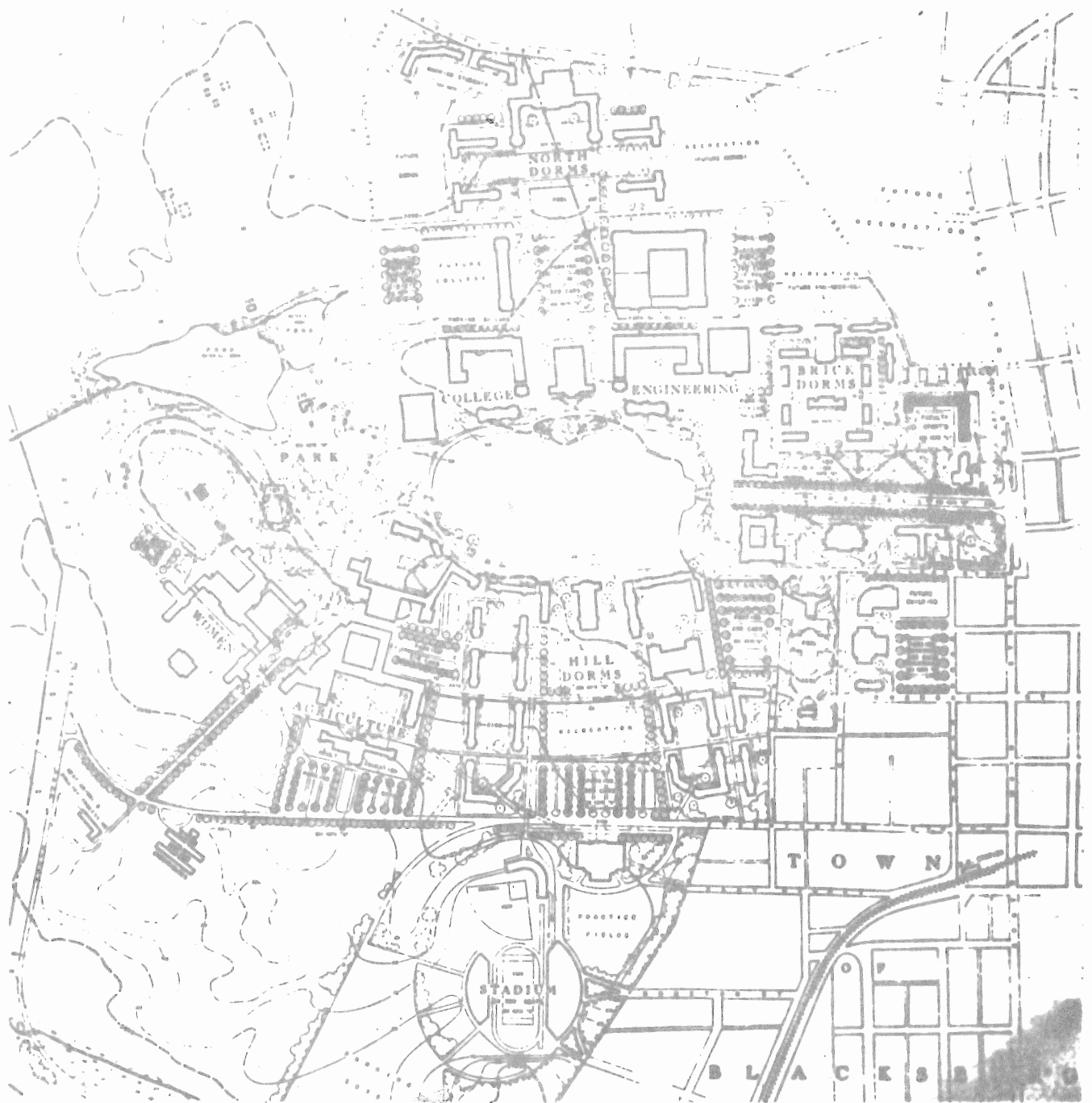
Policy in regard to women students has not been determined. In view of the expanded facilities contemplated at Radford the probabilities indicate little or no expansion at VPI beyond present capacity. Should the need for increase arise, additional accommodations for 400 to 600 women can be provided adjoining the present Women's Dormitory.

One or more dining rooms would be served from a central kitchen accessible through a service court to the west.

These buildings, grouped about an open, south-facing court, achieve a certain amount of self-sufficiency, but retain their relation to the Institute as a whole by the arrangement of the entrance court, which faces the home economics department of the Agricultural Group.

In the event that an unexpectedly large increase in the number of women students should occur, the rising ground west of the ponds is available for their use. This land is well drained and has a pleasant outlook. It is separated by the Park from the rest of the campus. At the same time, it is not too far from the buildings of the College, which may be expected to attract more women students than other departments.

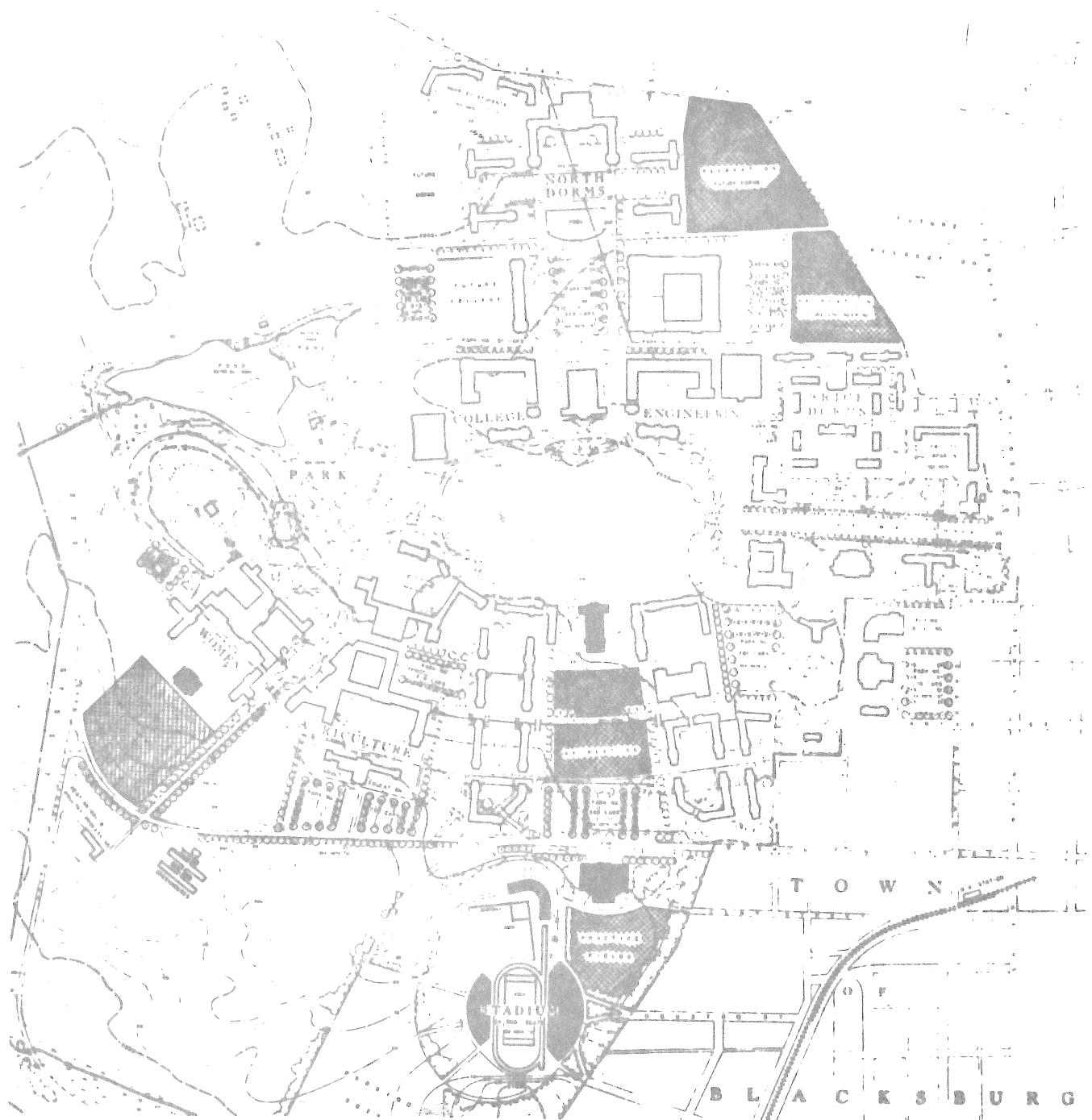
VI FACULTY HOUSING



Institute policy is to encourage faculty members to become resident citizens of the town of Blacksburg. For that reason only the president and a limited number of young instructors will be housed on Institute property. The present location of the President's house, on a knoll surrounded by fine old trees, is considered desirable. It is convenient but uncrowded, and affords an agreeable outlook away from the Institute buildings.

Short term housing for approximately 50 families in 3 to 4 room apartments is provided in walk-up buildings on the block of land bounded by Turner and Main Streets, and not yet acquired by the Institute. Garages accessible from Turner Street adjoin the apartments. These quarters belong on the fringe of the reservation and not on the campus, in order to encourage normal community living.

VII PHYSICAL EDUCATION, OUTDOOR RECREATION & ORGANIZED ATHLETICS



General

These three functions are closely related, but at the same time require a separation of facilities. It is assumed that sufficient space will be available in the existing gymnasium for the headquarters of the physical education department. The space now used as lodgings for visiting alumni might in the

future be needed for office space. The proximity of this building to student housing and to the hospital makes it the natural future center for routine and instructional activities, corrective exercise classes, physical examinations, and minor sports.

Outdoor Recreation

Areas for outdoor recreation and minor outdoor sports such as tennis, have been provided near the dormitories. Two such recreational areas are proposed. One adjoins the "Brick" and "North" Dormitory Groups, south of Pepper Street (where it forms a buffer zone between the public street and the Institute buildings). The great increase of student population in the "Hill" Group indicates a need for a separate recreational area in this vicinity. The existing Miles Stadium cannot continue to expand in its present location. The area now occupied by the stadium has therefore been assigned to student recreation.

In connection with outdoor recreation it should be emphasized that the area containing the ponds should be kept free of all buildings and should be considered and developed permanently as a Park. It is well suited to passive recreation and outdoor study and creates a restful and inviting view from many parts of the campus. With its natural beauty and open sweep it has a very different character from the campus and it forms a graceful transition from the formal lines of the Oval to the strictly rural character of the farm lands to the west. The continual increase in the number of students and buildings will give ever added importance to this area.

Field House

As the present gymnasium is considered inadequate for a student body of 10,000, it is recommended that the Field House serve the dual purpose of providing for this deficiency and supplying the necessary functions in connection with the stadium and practice fields. Here, or in spaces under the grandstands, will be housed the lockers and showers for visiting and home teams, the administrative office in connection with the management of intercollegiate sports, storage of field equipment, etc.

A thorough survey of the situation should be made to determine the future needs of the Institute for an Armory or Field House with special reference to the following:

- a. Drill hall for military training.
- b. Storage of military equipment.
- c. Spectator attendance at basketball and other indoor games including swimming meets.

- d. Temporary seating for assemblage of large numbers of students beyond the capacity of Burruss Hall.
- e. Indoor track.
- f. Swimming pool.
- g. Handball.
- h. Squash courts.
- i. Indoor tennis, etc.

The new Field House, on the main axis of the Institute, would occupy a commanding location adjacent to the stadium, baseball diamond, and practice fields.

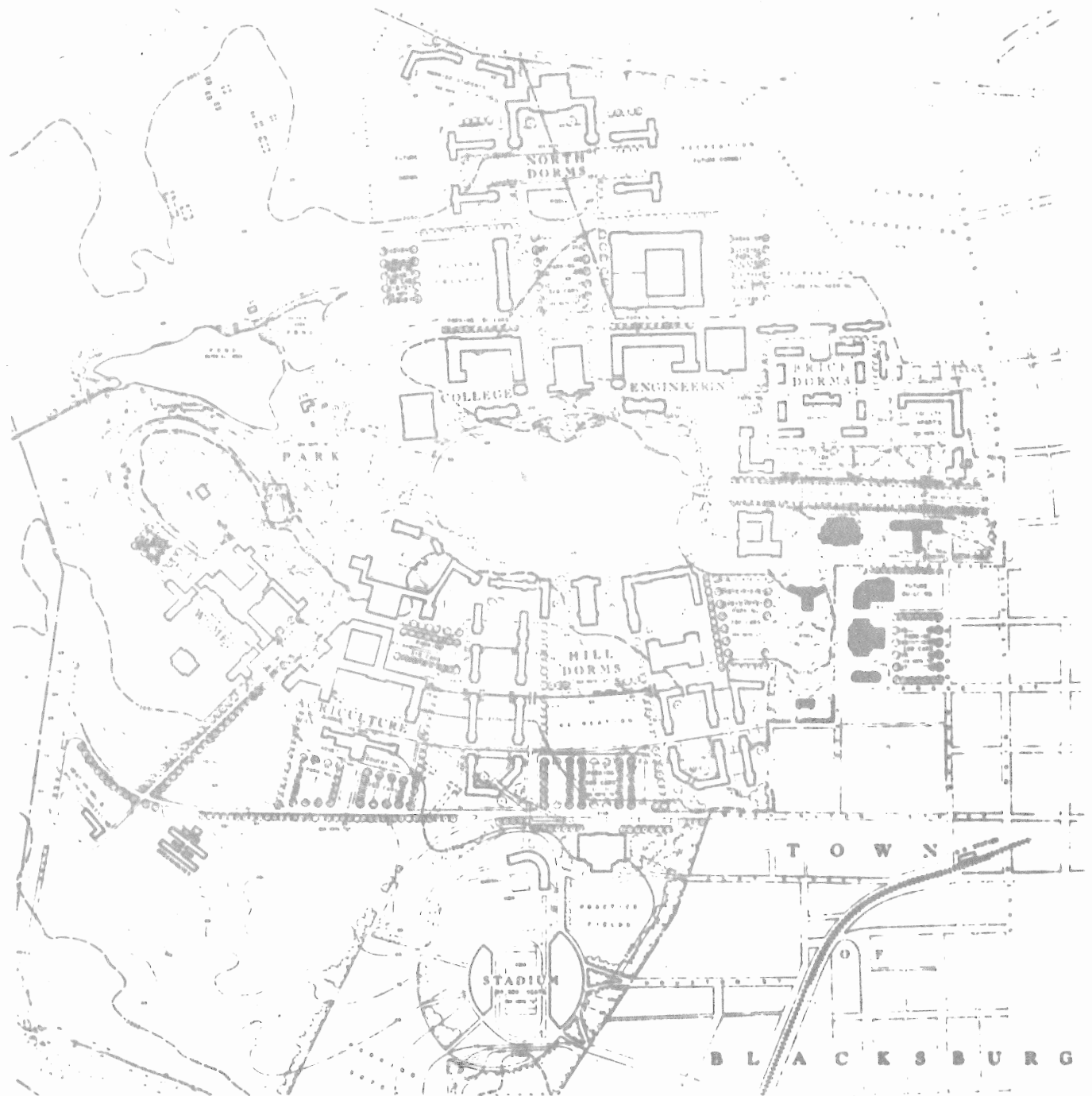
Stadium

Location of the stadium has been studied in relation to vehicular and pedestrian circulation (which will be discussed later in this report) and also with respect to topography and orientation. Team practice and intramural sports will occur much more frequently than intercollegiate contests. The stadium has therefore been placed far enough south to allow practice fields and baseball diamond to be placed between the stadium and the Field House. Seating for 24,300 persons has been provided.

Orientation of the stadium is in accordance with established principles for football. No sacrifice in relation to topography has been made, however. The stadium has been designed and placed so as to provide the maximum number of desirable seats and to minimize the amount of earth to be moved. The larger stand, for local spectators, will be pleasantly framed by the wooded slope behind it, and will face the warm afternoon sun.

The baseball diamond is at the same level as the football field and running track. This arrangement provides a broad expanse for assembly and maneuver of players and spectators, and helps to preserve the unity of the composition. The pitcher's box faces due north, away from the sun.

VIII RECREATION & WELFARE



Extra-curricular Activities

As the student body grows toward 10,000 and beyond, additional quarters for non-athletic, extra-curricular activities for students will probably be needed. Expansion of the canteen now housed in the basement of the Student Union; dining facilities for faculty and graduate students; assembly space for students and

faculty; hotel accommodations for visitors, parents and alumni, stores and cafes of various kinds, which might be managed as concessions or on a co-operative basis, are some of the activities which may be considered, and which have been placed on land southeast of College Street, as discussed later in this report. In this connection, the pool and gardens now located almost out of sight behind the faculty building, might become the focus of future development for this area.

Hospital

It is understood that it is the policy of the Institute to provide a hospital for students only and that faculty, employees, and townspeople will be served elsewhere, at least for the present. It is also understood that nurses will not be housed on Institute property.

According to the project reports by the local building committee of VPI (1945) (Page 119) the total normal capacity of a hospital to serve a student population of 6000 will be 66 patients. A proportionate capacity for 10,000 students would be 110. In drawings for the hospital, prepared by Alfred Hopkins & Associates, under a previous contract, all facilities in the present project which serve the plant as a whole, such as kitchens, store rooms, etc., are sized for a hospital of 100 beds.

The sketches for ultimate development of the hospital, made in 1947, show a scheme which would allow five nursing units of 22 beds each to be attached to the hospital wing for which working drawings are now being prepared by Carneal and Johnston. This would provide the 110 beds previously mentioned, with a theoretical 10 percent overload on kitchens and other services. It would appear, therefore, that hospital facilities for 10,000 students can be provided within the area shown on the Plan. In preparing working drawings for immediate or future hospital construction, consideration should therefore be given to providing columns and foundations capable of carrying three stories of nursing units.

IX SERVICE DEPARTMENTS

Service departments, including power house, maintenance shops, laundry and tailor shop, occupy land which is needed for the recreational facilities for the adjacent dormitory groups. The present location of the service departments also requires trucking of all fuel and supplies from the railroad. Location of these facilities, on land now owned by the Institute southeast of the campus is proposed. A new railway spur has been shown for direct delivery of supplies.

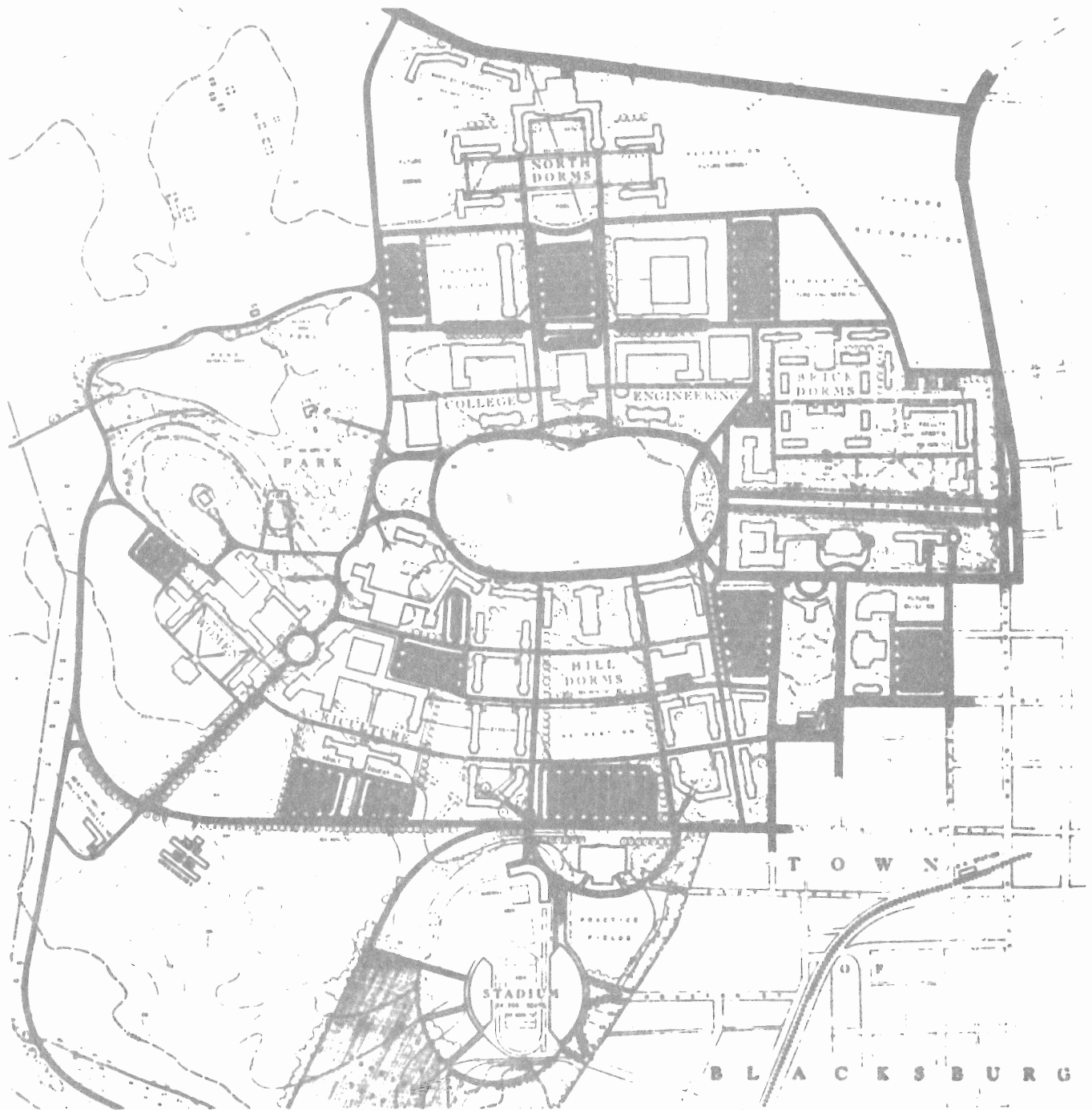
This proposal has obvious advantages for long term development. The track does not interfere with stadium traffic and residential development. The location is at a low elevation and is therefore inconspicuous from the town and from the campus.

The present power house installation, however, represents a large investment and in all likelihood will be adequate for many years.

It is therefore recommended that consideration be given to relocating service and storage buildings on the proposed site at the earliest opportunity, and discontinuing new construction and improvements to the present power plant. It is conceivable that future technical advances may make advisable the installation of decentralized heating plants.

The incinerator has been located near the west corner of the Institute property, as far as possible from other buildings, and where prevailing winds will carry smoke and odors well away from the campus.

X CIRCULATION AND PARKING



General

Traffic may be divided into five categories:

- a. "Front door" vehicular access by visitors, faculty and limited groups of students.

- b. "Back door" vehicular service traffic.
- c. Pedestrian traffic.
- d. Occasional motor service traffic.
- e. Public motor access to athletic stadium.

Each of these classes of traffic should interfere as little as possible with the others. To organize traffic the roadway system has been planned to radiate from the Oval and to serve the various groups of buildings. A secondary entrance by way of Washington Street leads directly to the Stadium, Field House, and adjacent parking spaces. When many visitors are expected, traffic may be speeded by establishing one way circulation entering both roadways of the Mall, passing around each side of the Parade Ground, and out by the North and South Service Roads.

Visitors, Faculty, etc.

Visitors and faculty would use the Mall and the Oval as well as the connecting roads to reach any part of the campus. Connecting roads would also be used by students in the Agriculture and Adult Education Departments to reach outlying barns and experiment stations.

Service Traffic

The most frequent service traffic will probably be delivery of food and collection of garbage at dining hall kitchens. The dining halls, while convenient to the dormitory groups, are all near the edge of the campus and can be reached without driving through any central areas. This applies in slightly less degree to the service traffic to greenhouses, laboratories, etc. The North and South Service Roads form an outer belt which supplements the public streets in providing service access to the campus.

Pedestrian Traffic

The connecting roads divide the campus into large areas which correspond generally to functional divisions; academic, dormitory, women's department, etc. Within each of these areas pedestrians can circulate without crossing lines of vehicular traffic. Pedestrian traffic between campus and stadium will be heaviest just at the time when vehicular traffic to stadium parking area is at its maximum. Where these lines of traffic cross, a pedestrian underpass below the extension of Washington Street is suggested. A pedestrian artery also passes through the existing underpass in Burruss Hall.

In determining exact location of principal walks, consideration should be given to the routing of steam lines, and vice-versa. The suggestion that steam distribution tunnels be combined with paved walks is endorsed.

Occasional Motor Service Traffic

A fourth class of traffic has great importance, although it is relatively light and occurs only at intervals. Examples are the collection and delivery of sheets and towels, the maintenance of grounds, delivery of heavy luggage, and emergency access by fire apparatus. To provide wide heavy-duty roadways for this service, however, is extravagant and would disfigure the campus with large areas of pavement. A solution which has proved satisfactory in other institutions is to arrange the system of footpaths so that every building is accessible by a paved walk of sufficient width and strength to stand occasional use by motor vehicles.

Stadium Traffic

The location of the new stadium south of the Washington Street extension allows the occasional but very heavy traffic of spectators at athletic competitions to be channelled entirely outside the campus proper. The "South Gate Drive" could accommodate many spectators who would not even need to enter the town.

Parking

Parking along traffic arteries is obviously undesirable. A limited amount of parallel parking along the Mall and Oval may have to be allowed, as a temporary measure, until permanent facilities can be provided. In locating parking facilities it has been assumed that students generally will not use automobiles on the campus. Among possible exceptions are the Agricultural and Adult Education students. Consideration should also be given to providing storage for buses for transporting these two classes of students. Married students might justify the use of a car for marketing or for weekend visits to families. It can readily be seen that if 6,000 to 10,000 additional parking spaces were to be provided within the central area of the campus, it would be transformed into a vast parking lot, with little space remaining. If general student parking is to be permitted at all, it would be necessary to assign areas (not shown on the Plan) in outlying portions of Institute property, where there will be no interference with campus development.

Paved parking space has been provided for a total of approximately 2300 cars, distributed as follows:

- 1430 near classroom, laboratory and library buildings (for faculty and employees numbering 1000).
- 200 near hospital and student and faculty recreation and activity buildings.
- 250 near adult education building.
- 360 near Field House.
- 60 near Women's Dormitories.

Parking has been planned on the basis of 9' x 20' for each car, placed diagonally on each side of roads in certain places, and in concentrated areas in strategic locations. The suggestion is made that these areas be planned with the rows of cars separated by strips of grass, trees, or shrubbery. This arrangement has been used successfully before, and avoids the barren effect of unbroken areas of pavement. The planting strips also enforce orderly parking and help to control the flow of traffic.

For the occasional parking by numerous spectators at the stadium, paved and planted parking spaces would be an extravagance. The parking area shown is assumed to be planted with grass, with proper sub-soil drainage to stabilize the soil during heavy rains. The assumption has been made that if the stadium be filled to capacity, some 12,300 spectators will arrive in cars holding an average of four persons each. Parking space has therefore been allowed for 3075 cars at the customary rate of 165 cars per acre. The remaining 12,000 spectators have been assumed to originate locally and not to require parking facilities.

Traffic Control

Long dead-end roads have been avoided, and belt traffic around the edges of the campus has been facilitated. A cut-off road (over land not now owned) has been shown in connection with the "South Gate Drive" in order to provide direct access to the stadium parking field and to avoid an awkward bend in the road. Within the built up area of the campus, however, the discouragement of fast motor traffic will become more and more important as students increase in number. Bends or islands have, therefore, been preserved and have been added to interior roads at both ends of the parking space behind Burruss Hall and between the Women's Group and the Agricultural Department.

XI MISCELLANEOUS CONSIDERATIONS

Exterior Facing Materials

In order to preserve the harmonious appearance of the campus, we recommend that red brick be used as the chief exterior facing material for all buildings beyond a line formed by the Old Brick Dormitories and the Student Activities Building. This is in accordance with present conditions, except for buildings scheduled to be demolished. The Field House and other buildings north of Washington Street (except the Women's Campus) would be continued in stone. The Women's Campus would naturally be continued in brick. Buildings facing the Parade Ground would, of course, be designed to harmonize in appearance with existing buildings. It is suggested, however, that as the engineering and dormitory buildings recede from the center of the campus, their design be approached in a contemporary spirit. This would be in better accord with their function, would give better lighting, and would probably result in economy of construction.

Existing Memorial

The present insignificant treatment of the existing World War I Memorial should be redesigned for the purpose of giving emphasis and dignity to its setting.

Airport

Development of the Airport is outside the scope of this report.

Planting Plans

It is recommended that a landscape architect, experienced in handling projects of this size, be employed to prepare detailed planting plans in general accordance with the "Plan for Future Development."

Topography and Grading

Differences in ground elevation add greatly to the problems of planning the VPI campus, and to the interest of the result. The finished contours, at ten foot intervals, shown on the Plan, indicate approximately the main features of grading necessary to carry out the scheme.

Grading in connection with the Hill Group of dormitories will probably result in an excess of cut. This material can be used to fill the low areas along Strouble's Creek between Burruss Hall and the North Dormitories. The extension of Washington Street has been carried as far as possible along the top of the ridge until it meets the South Service Road. This will allow views in both directions and facilitates access to the Greenhouses and the Meat and Poultry Processing Laboratory. The Washington Street extension has been graded to avoid sharp dips and rises and to allow the Field House to occupy the highest elevation along the extension road.

The connecting road between the Agricultural and Women's groups has been graded to reduce the steep slope down toward the Oval. The North Service Road meets State Route 685 at a high point and is located so that the ground slopes generally away from it. Grading of the parking area near the Stadium can be adjusted so as to absorb any excess of fill or cut caused by the operations previously described.

Sources of Information

Indications on the Plan of existing features such as roads, buildings, contours, etc., have been taken generally from the following drawings furnished by VPI authorities.

- a. "College and Surrounding Property - VIRGINIA POLYTECHNIC INSTITUTE, Blacksburg, Virginia," showing College, Smithfield and Whitethorne. Scale 1" equals 200'. (Dated September 1935, revised January 1937, revised and reissued March 9, 1950.)
- b. "Map of the Town of Blacksburg." Scale 1" equals 200'. (Dated January 26, 1935.)
- c. "General Map of VPI Airport, Blacksburg, Virginia." Scale 1" equals 200'. (Dated December 1941.)

XII LAND ACQUISITION

Extension into areas not now owned by the Institute has been mentioned previously in connection with the North Group of dormitories, faculty housing, the South Gate Drive, and possible future expansion of Women's dormitories. Control by the Institute of all land between the present campus boundary and Pepper and Turner Streets is essential to safeguard development of facilities adequate for 10,000 students.

Study of area requirements for the Engineering Department and for the North Group of dormitories indicates that expansion into the area north of Pepper Street will not be required until after the 10,000 mark will have been passed. At some time in the future, however, Route 685 (Pepper Street) may be extended in a northeasterly direction until it meets the bend in North Main Street, and all of the land included between North Main Street and Pepper Street may be acquired by the Institute.

The facilities for student and faculty recreation and welfare, properly located at present in the vicinity of College Street and the east end of the campus, can expand very little on property now owned. The eventual acquisition of the so-called "Academic Lot," now occupied by a public school and playground, is therefore recommended.

XIII CONCLUSION

An institution such as VPI is much more than an assembly of diverse elements, connected by roads and pipe tunnels. It must be designed as an organic whole. To give visible and worthy expression to this unity of purpose is one of the most important functions of the architect. For this reason the Oval and the Mall were created. The designers of the scheme for development submitted herewith have kept this principle constantly in mind. In this connection attention is directed especially to two features of the scheme.

- a. The acquisition of land along North Main Street does more than allow space for faculty housing. It permits widening of the street to provide an adequate approach to the Mall; an appropriate setting for whatever gateway may sometime be placed at the principal entrance to the Institute, and a dignified and inviting "facade" on the principal street of the town and an important highway of the state, from which many persons will form their first and perhaps their only impression of the Institute.
- b. The North Group of dormitories occupies an important position at the head of the main axis of the campus of which it should form an integral part. This conception, however, can be appreciated only on paper or from the air, unless it is realized in three dimensions. To this end means have been taken to unify this dormitory group with the rest of the composition.

The two main walks at the sides of Burruss Hall radiate from the Oval and form arteries of pedestrian circulation. In order to avoid crowding the vistas thus created, ample space should be left beside these walks and between Burruss Hall and adjoining buildings. This open space will lead the eye from one area to another and will induce the feeling of continuity and ease of circulation. Ample space surrounding Burruss Hall is also needed to contribute to its importance as the physical and administrative focus of the institution. The northwest facade of this building, at present a sheer wall of masonry, could form an impressive background for a future memorial facing toward the pool and the dormitories.

The Virginia Polytechnic Institute has a rare and enviable opportunity to create for its students and faculty an environment conducive to physical and mental health and spiritual inspiration. Its buildings need not be crowded or scattered through city streets. They have a setting of natural beauty. To preserve and enhance an atmosphere of orderly and unhampered growth for individuals and for the institution is, in the broadest sense, the objective of all our efforts.

The foregoing report is respectfully submitted by the general architects,
ALFRED HOPKINS & ASSOCIATES.

June 10, 1950

Partner

APPENDIX

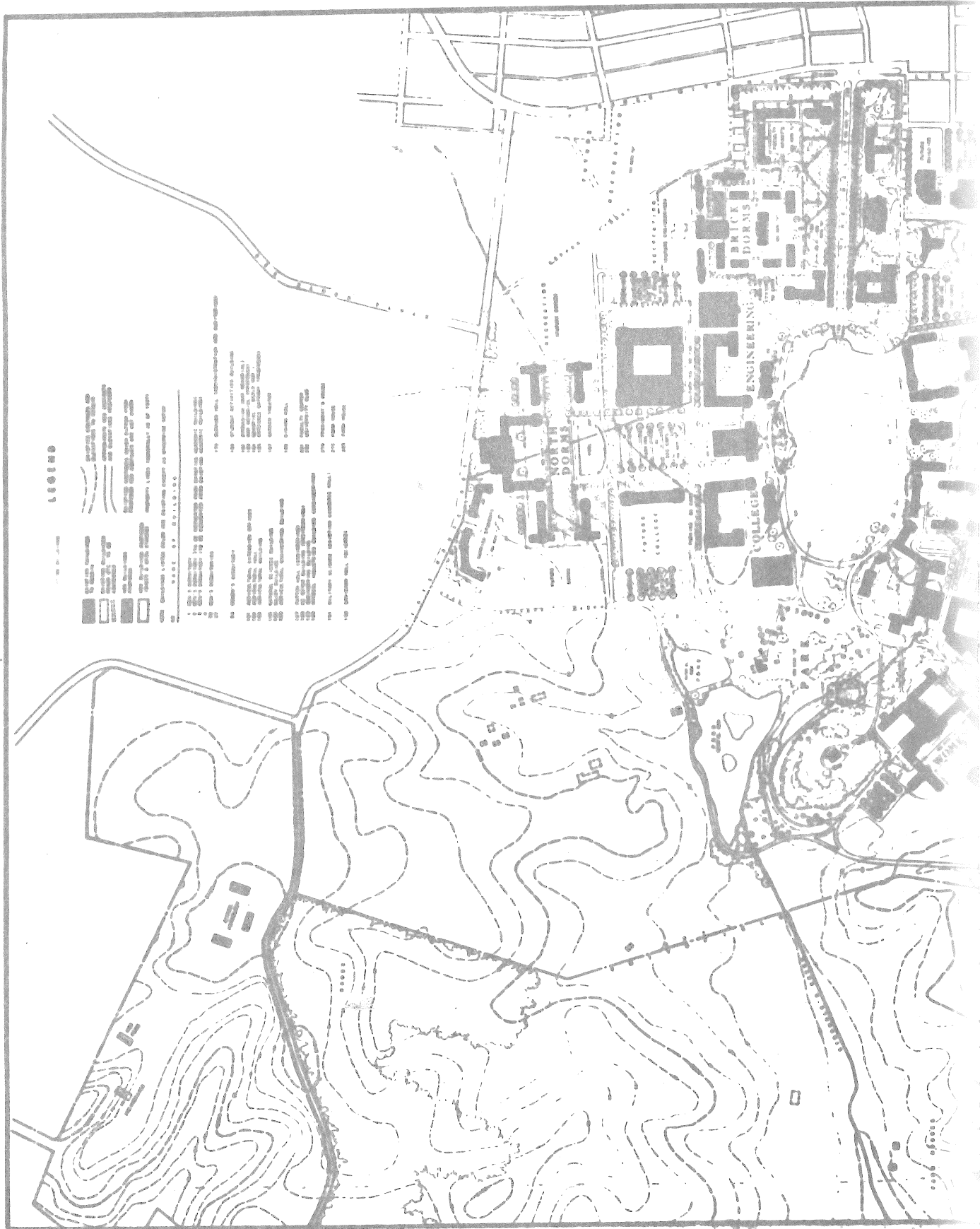
TABULATION OF APPROXIMATE REQUIREMENTS

	A	B	C	D	E
	Capacity of Existing Permanent Buildings	Capacity of Buildings Planned or Under Construction	Capacity Required for 6000 Male Students	Capacity Required for 10000 Male Students	Capacity in Future Buildings (Additional to Col. B)
Engineering	143,000	--	283,000	472,000	--
Agricultural	--	--	173,000	289,000	--
College	75,000	0	160,000	267,000	192,000
Physical Ed.	0	0	1,880	3,000	3,000
Men's Dorms	2,960 (7) (Beds)	0	4,800	8,000	5,040 (Beds)
Men's Dining	4,100(4)	0	4,800	8,000	3,900
Women's Dorms	90 (Beds)	--	300-400	400-600	410-510 (Beds)
Women's Dining	90 (Seats)	--	300-400	400-600	410-510 (Seats)
Women's Gym.	--	--	--	--	--
Hospital	39 (Beds)(5)	44 (Beds)	66 (Beds)	110 (Beds)	66 (Beds)
Nurses' House	6 (Beds)(5)	0	0	0	0
Library	5,200(6)	0	82,000	--	--
Field House	0	0	76,000	--	--
Electric Serv.	--	0	9,600	--	--

	A	B	C	D	E
	Capacity of Exist- ing Per- manent Buildings	Capacity of Build- ings Planned or Under Con- struction	Capacity Required for 6000 Male Stu- dents	Capacity Required for 10000 Male Stu- dents	Capacity in Future Buildings (Additional to Col. B)
Laundry	--	0	13,400	--	--
Tailor Shop	--	0	13,400	--	--
Plumbing Dept.	--	0	12,000	--	--
Bldg. & Grounds	--	0	12,000	--	--
Central Garage	0	0	11,000	--	--
General Storage	--	0	40,000	--	--
Central Supply	0	0	13,000	--	--
Heating Plant	--	--	--	--	--

Notes

- (1) Requirements are stated (except as otherwise noted) in net square feet of floor area (excluding toilets, circulation and mechanical space).
- (2) Requirements for 6000 students (Column C) are taken from the report "Recommendations for Future Development" submitted May 3, 1946.
- (3) Requirements for 10,000 students (Column D) are derived, unless otherwise noted, by a proportionate increase from the requirements for 6000 students.
- (4) Capacity of Men's Dining Halls is stated as maximum number of students served per meal. In the existing Dining Hall two sittings will be required.
- (5) Existing Infirmary (with Nurses' Quarters) to be demolished.
- (6) Existing Library to be demolished.
- (7) Does not include new brick dormitories (Bldgs. Nos. 8, 12, 13).



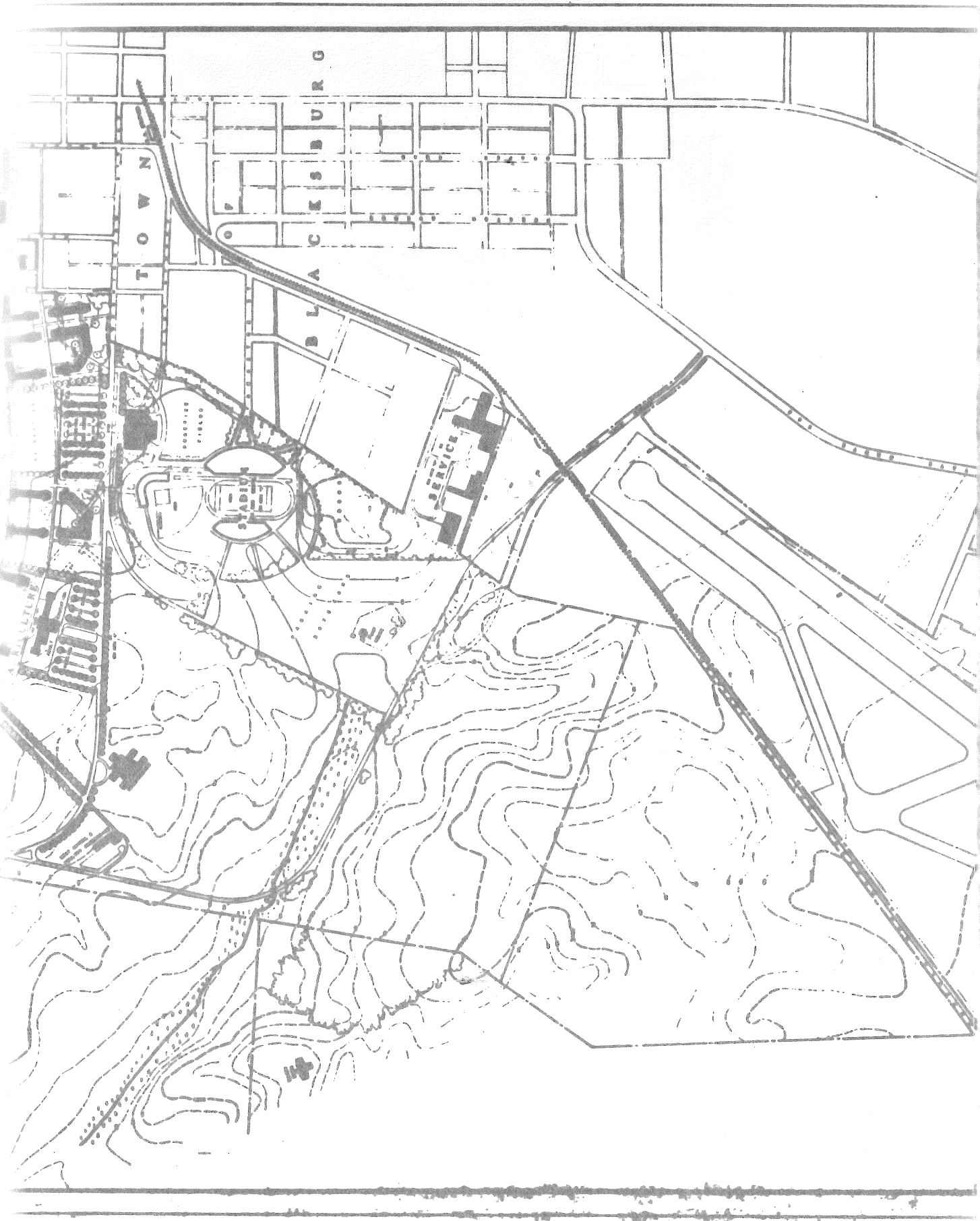
LEGEND

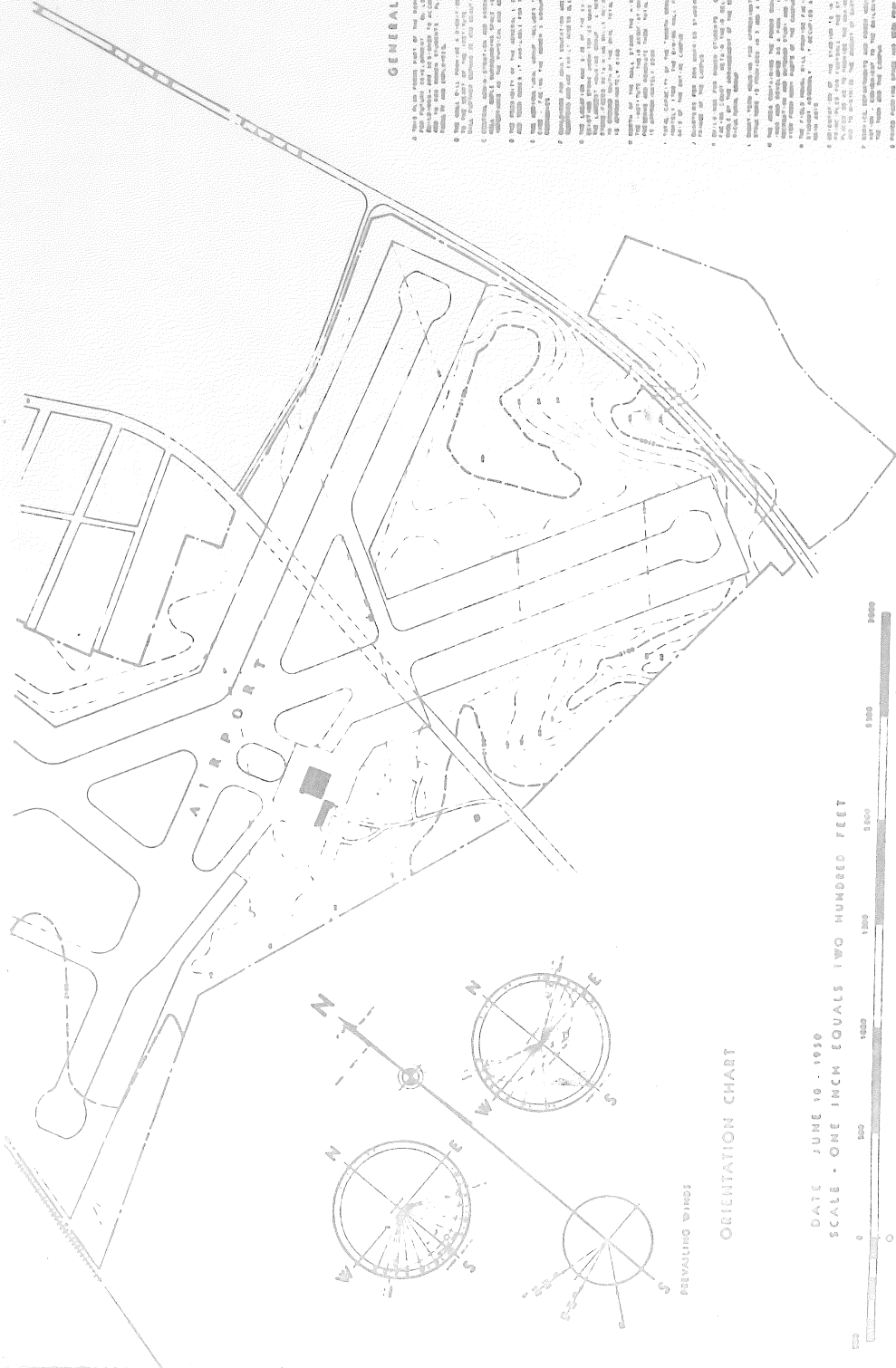
- 1. Contour interval 10 feet
- 2. Contour interval 20 feet
- 3. Contour interval 30 feet
- 4. Contour interval 40 feet
- 5. Contour interval 50 feet
- 6. Contour interval 60 feet
- 7. Contour interval 70 feet
- 8. Contour interval 80 feet
- 9. Contour interval 90 feet
- 10. Contour interval 100 feet
- 11. Contour interval 110 feet
- 12. Contour interval 120 feet
- 13. Contour interval 130 feet
- 14. Contour interval 140 feet
- 15. Contour interval 150 feet
- 16. Contour interval 160 feet
- 17. Contour interval 170 feet
- 18. Contour interval 180 feet
- 19. Contour interval 190 feet
- 20. Contour interval 200 feet
- 21. Contour interval 210 feet
- 22. Contour interval 220 feet
- 23. Contour interval 230 feet
- 24. Contour interval 240 feet
- 25. Contour interval 250 feet
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- 29. Contour interval 290 feet
- 30. Contour interval 300 feet
- 31. Contour interval 310 feet
- 32. Contour interval 320 feet
- 33. Contour interval 330 feet
- 34. Contour interval 340 feet
- 35. Contour interval 350 feet
- 36. Contour interval 360 feet
- 37. Contour interval 370 feet
- 38. Contour interval 380 feet
- 39. Contour interval 390 feet
- 40. Contour interval 400 feet
- 41. Contour interval 410 feet
- 42. Contour interval 420 feet
- 43. Contour interval 430 feet
- 44. Contour interval 440 feet
- 45. Contour interval 450 feet
- 46. Contour interval 460 feet
- 47. Contour interval 470 feet
- 48. Contour interval 480 feet
- 49. Contour interval 490 feet
- 50. Contour interval 500 feet
- 51. Contour interval 510 feet
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- 58. Contour interval 580 feet
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- 60. Contour interval 600 feet
- 61. Contour interval 610 feet
- 62. Contour interval 620 feet
- 63. Contour interval 630 feet
- 64. Contour interval 640 feet
- 65. Contour interval 650 feet
- 66. Contour interval 660 feet
- 67. Contour interval 670 feet
- 68. Contour interval 680 feet
- 69. Contour interval 690 feet
- 70. Contour interval 700 feet
- 71. Contour interval 710 feet
- 72. Contour interval 720 feet
- 73. Contour interval 730 feet
- 74. Contour interval 740 feet
- 75. Contour interval 750 feet
- 76. Contour interval 760 feet
- 77. Contour interval 770 feet
- 78. Contour interval 780 feet
- 79. Contour interval 790 feet
- 80. Contour interval 800 feet
- 81. Contour interval 810 feet
- 82. Contour interval 820 feet
- 83. Contour interval 830 feet
- 84. Contour interval 840 feet
- 85. Contour interval 850 feet
- 86. Contour interval 860 feet
- 87. Contour interval 870 feet
- 88. Contour interval 880 feet
- 89. Contour interval 890 feet
- 90. Contour interval 900 feet
- 91. Contour interval 910 feet
- 92. Contour interval 920 feet
- 93. Contour interval 930 feet
- 94. Contour interval 940 feet
- 95. Contour interval 950 feet
- 96. Contour interval 960 feet
- 97. Contour interval 970 feet
- 98. Contour interval 980 feet
- 99. Contour interval 990 feet
- 100. Contour interval 1000 feet

NORTH
DORRIS

COLLEGE
ENGINEERING

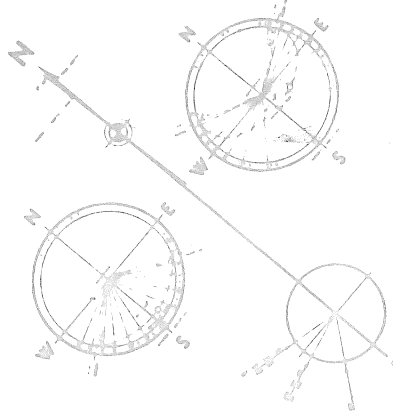
BRUCE
DORRIS





GENERAL NOTES

1. This plan is based on the topographic map of the Blacksburg, Virginia, area, published by the U.S. Geological Survey, 1928, and on the aerial photographs of the same area, taken in 1930.
2. The plan is based on the assumption that the terrain shown on the map is correct, and that the contour lines are accurate.
3. The plan is based on the assumption that the roads and paths shown on the map are correct, and that the widths and curves are as indicated.
4. The plan is based on the assumption that the buildings and structures shown on the map are correct, and that the dimensions and locations are as indicated.
5. The plan is based on the assumption that the utility lines shown on the map are correct, and that the locations and depths are as indicated.
6. The plan is based on the assumption that the water bodies shown on the map are correct, and that the depths and currents are as indicated.
7. The plan is based on the assumption that the proposed development is feasible, and that the necessary permits and approvals have been obtained.
8. The plan is based on the assumption that the proposed development is in accordance with the applicable laws and regulations.
9. The plan is based on the assumption that the proposed development is in accordance with the applicable zoning and subdivision laws.
10. The plan is based on the assumption that the proposed development is in accordance with the applicable fire and safety codes.
11. The plan is based on the assumption that the proposed development is in accordance with the applicable health and sanitation codes.
12. The plan is based on the assumption that the proposed development is in accordance with the applicable environmental laws and regulations.
13. The plan is based on the assumption that the proposed development is in accordance with the applicable transportation laws and regulations.
14. The plan is based on the assumption that the proposed development is in accordance with the applicable utility laws and regulations.
15. The plan is based on the assumption that the proposed development is in accordance with the applicable building and construction laws and regulations.



ORIENTATION CHART

DATE JUNE 10, 1930

SCALE - ONE INCH EQUALS TWO HUNDRED FEET



PLAN FOR FUTURE DEVELOPMENT

VIRGINIA POLYTECHNIC INSTITUTE

BLACKSBURG - VIRGINIA

ALFRED HOPKINS & ASSOCIATES - GENERAL ARCHITECTS