

AN ARTS CENTER FOR WESLEYAN UNIVERSITY

Submitted in partial fulfillment of  
the requirements for the degree of  
Bachelor of Architecture

Massachusetts Institute of Technology

23 March, 1962

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23 March, 1962

Pietro Belluschi

Dean of the School of Architecture and Planning

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Dear Dean Belluschi:

In partial fulfillment of the requirements for the degree of  
Bachelor of Architecture, I respectfully submit this thesis  
entitled:

An Arts Center for Wesleyan University.

  
John Andrews Lambert

To my father,  
Raymond Andrews Lambert  
1901 - 1962

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ABSTRACT

The following thesis project is an Arts Center for Wesleyan University, a small liberal arts college for men in Middletown, Connecticut. It will provide classroom, office, workshop, exhibition and performance facilities for the Departments of Art, Music and Drama. Major elements of the program are: a 1000 seat auditorium and concert hall, a 300 seat experimental theater, an exhibition gallery, and a library for the study of art, music and drama.

### PURPOSE OF THE PROJECT

In view of the philosophy of a liberal arts education, the primary purpose of the Arts Center at Wesleyan will be the effective introduction of a large portion of the student body to the world of the creative and performing arts. Two of the more popular courses offered at Wesleyan are the beginning courses in Art History and Music Appreciation. A large number of the students taking these courses are History, Science or English majors being exposed to the creative arts for the first time. Many of them discover talents and interests they never realized they possessed. Whether or not Wesleyan can produce graduates with an intelligent appreciation for the place of the creative arts in society depends largely upon the effectiveness of this brief exposure.

The combined facilities for the teaching of art, music and drama are intended to present the student with a more unified image of those naturally related arts. The inclusion of the 1000 seat auditorium is calculated to stimulate use of the Arts Center, particularly by those students who might otherwise find little occasion to use the facility.

A secondary purpose is, of course, the provision of adequate and badly needed facilities for the further pursuit of individual interests in the fields of Art, Music, and Drama. A major is offered in both Art History and the Practice of the Visual Arts, as well as in Music and Drama.

## BACKGROUND

### The University

Although it is officially entitled a university by virtue of a few graduate study programs, Wesleyan is actually a small liberal arts college with an enrollment of 1000 men. Founded by the Methodist Church in 1831, Wesleyan has long since dropped its religious affiliations, and ranks with Williams and Amherst as a small, privately endowed college for men.

Recent years have seen an intellectual awakening at Wesleyan, the "College Plan" for independent study being the most tangible product of this movement. Modeled after the system used by European universities, the College Plan breaks the curriculum down along broader lines than the normal departmental structure. For example, the College of Quantitative Studies includes the study of all the natural sciences, plus mathematics. Consisting mainly of seminars and informal meetings with tutors, the program is designed to promote individual work, and valuable intercourse between students concentrating in related fields within a given College. To date, enrollment in the various Colleges has been restricted to selected students on an experimental basis. All evidence points to expansion of the program, and the formation of a College of Creative Arts would be a logical next step in the process of development. Obviously, the establishment of joint facilities would be an invaluable asset to the success of such a College.

## The Town

Middletown is an industrial town of 35,000 inhabitants, located on the west bank of the Connecticut River, 15 miles below Hartford. Although its recent history has been singularly undistinguished, Middletown was once a leading seaport in the eighteenth century, and the surviving mansions of the shipping families still lend an air of dignity to the area surrounding the University. With the decline of the Clipper ships and the China trade, Middletown lost ground to the ports of Boston and New York, and was forced to turn to industry during the nineteenth century. It has since become moderately successful in the manufacture of marine hardware, rubber foot wear, and other industries employing largely unskilled or semi-skilled labor.

Although Middletown is not economically dependent on Wesleyan to the extent that many so called "college towns" are, it is almost entirely dependent on the University for what cultural life it enjoys. Although one must concede that very little rapport exists between the University and the bulk of the city's population, the business and professional leaders of Middletown are often regular subscribers to the Wesleyan Concert Series, and other cultural events sponsored by the University.



## THE CAMPUS AND SITE SELECTION

The Wesleyan campus is situated on high ground overlooking the Middletown business district and the Connecticut River beyond. High Street, the main artery of the campus, was once termed by Ralph Waldo Emerson, "the most beautiful street in America", because of its fine houses and stately elms. All of these 19th century mansions now belong to the University, with Russell House remaining one of the finest examples of the Greek Revival in New England.

Most of the academic buildings are situated along the narrow strip of land sloping up from High Street to the athletic fields. (see campus plan - appendix A) A good number of the buildings, particularly those along "Brownstone Row", are built of the same locally quarried Connecticut brownstone used in New York's brownstone houses. These were the first buildings erected by the University during the 1870's, and now house the Administration facilities, a dormitory, the Chapel and the make-shift '92 Theater.

The southern end of the campus is marked by the science quadrangle, a complex of red brick buildings in the Georgian style, designed by McKim, Mead and White during the late 1920's.

The highest concentration of student and faculty life, however, revolves around the College Book Store and "Downey House", a college-owned restaurant and coffee shop. The heavy round tables

of the Grill Room are hosts to the familiar student-faculty discussions and small talk which continue from early morning to closing time, and are such an integral part of Wesleyan life. A natural location for the auditorium and Arts Center would be in the proximity of this focus of activity.

The site selected for the Arts Center by a committee representing the three departments lies between Washington Terrace and the soccer field, two hundred yards from the College Book Store and Downey House. Equally convenient are the Davison Art Center, with its print collection, and Russell House. The latter serves as headquarters for students working on Honors projects, and has adjacent residential facilities for visiting professors. In conjunction with these buildings, an Arts Center on this site would establish a cultural focus at the north end of the campus.

The site itself is covered with both large and small trees, the most prominent of which is the handsome 100' Copper Beech indicated on the detailed site map. The land slopes up gently from Washington Terrace to the edge of the soccer field which is defined by a 10' earth embankment. The north side of the site fronts on a pleasant New England common, bordered by Washington Terrace and Washington Street. Principal vehicular access would be from these two streets.

## STATEMENT OF THE PROGRAM

### I.

#### A. Auditorium @ 1000 seats

1. To be used for symphony orchestra, ensemble and solo performances, as well as campus wide lectures, films and meetings. No drama. Open to the public on limited occasions.
2. Related facilities: lobby, coats, toilets, tickets, projection booth, control room, Green Room, mechanical equipment.

10,000 sq. ft.

#### B. Experimental Theater @ 300 seats

1. To be used for student productions of classical and contemporary drama. Should permit three-quarter, arena, and standard proscenium stage productions. Open to the public.
2. Related facilities:
  - a. lobby, coats, tickets, toilets
  - b. work space, dressing rooms, Green Room, lighting and scenery storage.
  - c. wood and metal working shops used jointly with Art Department.

10,000

#### C. Gallery

1. Relatively short term displays of traveling exhibitions, student work, and works from the University's print collection. Open to the public.
2. Related facilities: work area, receiving.

3,000

## D. Library

1. Supplements the University library with selected works on art, music and drama. Includes open, browsing stacks, reading and work area, earphones for individual listening to tape and discs.
2. Related facilities: librarian's work area, storage.

4,000

## II.

## A. Lecture Room @ 100 seats

1. equipped for showing slides
2. Related facilities: slide files and viewing room

2,000

## B. Seminar rooms 2 @ 250

500

## C. Departmental offices

1. Art Department @ 600
2. Music Department @ 600
3. Drama Department @ 600

1,800

## D. Faculty offices 15 @ 150

2,250

## III.

## A. Rehearsal Room

1. For orchestral groups up to 35 pieces, and choral groups up to 100. Doubles as large music class room with facilities for tape and disc amplification.
2. Related facilities: instrument and manuscript storage, toilets.

3,000

## B. Practice Rooms

- 1 @ 400
- 4 @ 150

1,000

## C. Listening Rooms

- 10 @ 100

1,000

## IV.

## A. Large Design Shop (woodworking)

1,500

## B. Small Shops 3 @ 900

1. Metal working
2. Ceramics
3. Sculpture

2,700

## C. Photography Studio and Darkroom

1,000

D. Studios 4 @ 900

1. Painting

2. Drawing

3. Visual design

4. Humanities workshop

3,600

E. Receiving and Storage

1,000

F. Mechanical Equipment

500

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Net total 48,850

## ANALYSIS OF THE PROGRAM

### The Auditorium

At the present time there is no auditorium at Wesleyan that is suitable for large concerts and all-campus lectures. The Chapel, which is currently pressed into service for such functions, seats 500 persons uncomfortably, and lacks the normal conveniences of a lobby, coatroom, or toilets. Performing space is limited to the chancel, which is both inconvenient and inadequate.

A concert hall type of auditorium seating 900 - 1,000 is badly needed at Wesleyan, because it is not at all unusual for the student body to turn out almost in its entirety for a program featuring a renowned speaker or musical group. This hall should accommodate speakers, as well as musical performances ranging from soloists to full symphony orchestras. Facilities for motion picture projection would also be desirable.

Good listening conditions are obviously the key factor in concert hall design, and such a critical listening space must be isolated from undesirable noise if good conditions are to be achieved. Areas generating high noise levels, such as shops, rehearsal rooms and mechanical equipment spaces, should be structurally independent of the concert hall, and not immediately adjacent to it.

If these precautions are taken in the design stage, proper acoustical insulation can be obtained with ordinary masonry walls,

eliminating the need to resort to expensive resilient constructions.

Lobby noises can be kept out by employing double sets of gasketed doors between the lobby and the auditorium. Annoying noises associated with ventilation are minimized when air is delivered at low velocities, and ducts are lined to reduce sound transmission from adjacent spaces.

The acoustical design of the hall itself is somewhat more difficult, and the details should be worked out by a competent acoustical engineer. However, certain basic principles should be followed from the earliest design stages to insure good results and avoid costly adjustments after the job is completed.

Determining the desired reverberation time and corresponding volume is a logical first step in the design process. The reverberation time of a hall is a measure of the time it takes for a sound level to decay 60 decibels. This factor has a profound effect on the quality of sound that the listener hears. For example, speech or Baroque music which require sharp articulation sound best with a short reverberation time of 1.2 to 1.4 seconds. On the other hand, Romantic organ works need the sound-blending effect of a long, 2 1/2 second reverberation time. Optimum times for other types of music fall between these extremes.



The reverberation time of a hall is directly proportional to the volume of the hall, and inversely proportional to the amount of absorbing surfaces in the room. Nearly all of this absorption is provided by people - the audience, and the performers. Thus, knowing the maximum number of people who will occupy the hall, the correct volume necessary to produce a given reverberation time can be calculated.

By using upholstered seats which approximate the absorption provided by a person, the reverberation time of a hall can be made relatively independent of the actual audience size. If extra absorptive surfaces are then added to the room, the reverberation time will be decreased proportionately. Thus, if the volume is determined by the longest desired reverberation time, a certain degree of flexibility may be achieved by adding varying amounts of heavy curtains or other highly absorptive materials to the room.

The wall and ceiling surfaces of the concert hall should be largely reflective to insure adequate reinforcement of sound throughout the auditorium. However, care must be taken to avoid large planar, or, still worse, concave surfaces which tend to concentrate sound in certain points in the auditorium, creating "hot spots" and echoes. The rear wall is especially critical here, and should have a high modulated surface to avoid sound focusing. Minor variations in the ceiling will help diffuse the sound, so that, for example, one section of an orchestra will not seem to dominate from certain seats.

The orchestra enclosure should direct sound not only out into the audience, but should also reflect some back to the orchestra, so that it may "hear itself". However, the side walls, and the floor and ceiling should be slightly out of parallel to avoid "flutter".

A smaller enclosure should be provided for soloists and speakers. A highly directive amplification system, controlled from the projection booth, should be included for the latter.

#### The Theater

The very active Wesleyan Drama Group now stages its productions in a converted library which is entirely devoid of such essentials as proper ventilation, lobby, work space, toilets, and coatroom. The advantage of the facility is that its simple flat floor space and elementary stage permits a great deal of originality and flexibility. The new theater should attempt to retain this latter simplicity, while providing a more comfortable atmosphere for both actors and patrons. For these reasons, the new theater has been designed with a flat floor, surrounded on 3 sides by a slightly raised circulation area, and on the fourth side by a conventional proscenium stage. Simple wooden platforms and folding canvas chairs can be easily rearranged to accommodate full arena, three quarter, or proscenium productions. Seating has been

restricted to a maximum of 275 to provide an intimate audience-actor relationship, and to permit multiple performances for a limited potential audience.

The enjoyment of theater demands that the audience both sees and hears well. While good visual conditions are not hard to obtain in a small theater, the criteria of speech intelligibility may pose a problem, especially in a flexible theater in which the actors may often speak lines with their backs to a good portion of the audience. In a large arena type theater this problem becomes nearly unsolvable except by sophisticated electronic gadgetry. However, a small theater provides an easier solution.

Reflecting surfaces can be suspended over the acting spaces, oriented so that the actors' voices will be projected behind them. These surfaces should be large and planar to avoid diffusion which would reduce speech articulation. For this purpose a reverberation time of 1.2 seconds is also desirable.

Of course, extraneous noises must be eliminated from the theater, using the methods discussed under "The Auditorium".

A shallow balcony surrounds 3 sides of the theater, and provides an upper level that can be used for acting, lighting, or additional seating. The main lighting grid will be located directly over the depressed acting-seating area, and will move across the theater for access from the balconies.

## The Gallery

The gallery is intended to be a main focus of interest in the Arts Center. Exhibitions of sculpture, paintings, drawings and photographs would be changed periodically to provide an attraction to students as well as patrons of the theater and auditorium.

Good lighting is to the gallery what good listening conditions are to the concert hall. Since the primary requirements for good lighting are control and flexibility, natural light should not be relied upon as the main source. Large areas of glass walls should be avoided, because they become a source of glare that is very difficult to control, while also reducing the amount of usable wall space. Small windows may be used effectively to permit carefully defined vistas which terminate beyond the gallery space. Skylights may be used to illuminate a translucent ceiling if provision is made for artificial lighting in the evening and on dark days. A highly flexible system of spotlights is indispensable for effective display of constantly changing exhibitions.

Restricting access to the gallery to a single entrance allows the director a greater measure of control over the circulation through an exhibition, and permits effective security to be maintained.

### The Library

Housing works on art, music and drama, the library will be a common meeting ground for students in the three fields. Open stacks will be used to encourage browsing, and both work tables and lounge chairs would be provided. A librarian's desk and small workroom will be necessary for signing out books and records and should be located near the one entrance to the library.

### The Rehearsal Room

This space will be given its major usage by Wesleyan's active Choral Society and Glee Club, which rehearses at least two evenings per week, in preparation for local concerts and its annual spring tour. Although the Wesleyan membership numbers only 50 voices, they often join forces with the Smith College Choral Society, and will need rehearsal space for approximately 100 voices.

The Wesleyan Chamber Orchestra, and the Marching Band, each with 20 pieces, would also use this space for rehearsals. However, facilities should be adequate for rehearsing at least 35 orchestral pieces.

High levels of sound will be generated in this room, and both the volume and the amount of absorptive material present must be adequate to reduce the sound to a tolerable level. At the same time,

however, it is critical that the rehearsing group be able to "hear itself" clearly and distinctly.

A low reverberation time is desirable in a rehearsal room because mistakes are then clearly articulated and therefore easy to detect.

The perimeter of the ceiling should be treated with absorptive material, leaving the center portion as a reflecting surface. At least two of the walls should be covered with a very deep absorbing material such as glass fiber. Both the walls and ceiling should be modulated to diffuse sound throughout the room, and to eliminate flutter.

The rehearsal room should be acoustically isolated from adjacent spaces. "Flanked" ceiling and floor construction is to be avoided, and solid, fully gasketed doors should be used throughout.

#### Practice and Listening Rooms

These individual spaces should have non-parallel walls, one of which is treated with a deep sound absorbing material. "Flanked" ceiling and wall construction should again be avoided, and gasketed doors used to prevent sound transfer to adjacent rooms. For the same purpose, ventilating ducts should be lined

with glass fiber if they can not be made sufficiently long to provide adequate noise reduction. It is best to rely on mechanical ventilation, leaving windows permanently sealed.

## BASIC ORGANIZATION

The overwhelming majority of persons will approach the Arts Center on foot from the south side of the site. This includes traffic from the busy Downey House and College Bookstore area. A limited number of persons would find it convenient to approach from the north, or Washington Terrace side. These would include faculty living off campus or guests arriving by automobiles for performances in the theater or concert hall. Off street parking for 20 cars will be sufficient to take care of faculty needs, while both sides of Washington Terrace can be used for overflow parking at special events.

Major elements of the Arts Center - the theater, the concert hall, and the gallery - are organized around an open sculpture court. The enclosed arcade which surrounds the court on all sides provides the major circulation area for the daytime functions of the Arts Center, as well as serving as a lobby for the theater and concert hall. Coat rooms and toilet facilities attendant to this space will receive both day and evening use. The gallery is strategically located as an attraction to regular users of the Arts Center as well as the occasional visitor.

The smaller elements of the design have been organized according to functional similarities rather than along departmental lines. Thus, all faculty and department offices have been treated as a single group of spaces rather than attached to their respective departments. In this manner, relative changes in staff requirements can be more easily accommodated. It will also encourage cooperation and stimulate valuable interchange of ideas between art, music, and drama faculty.

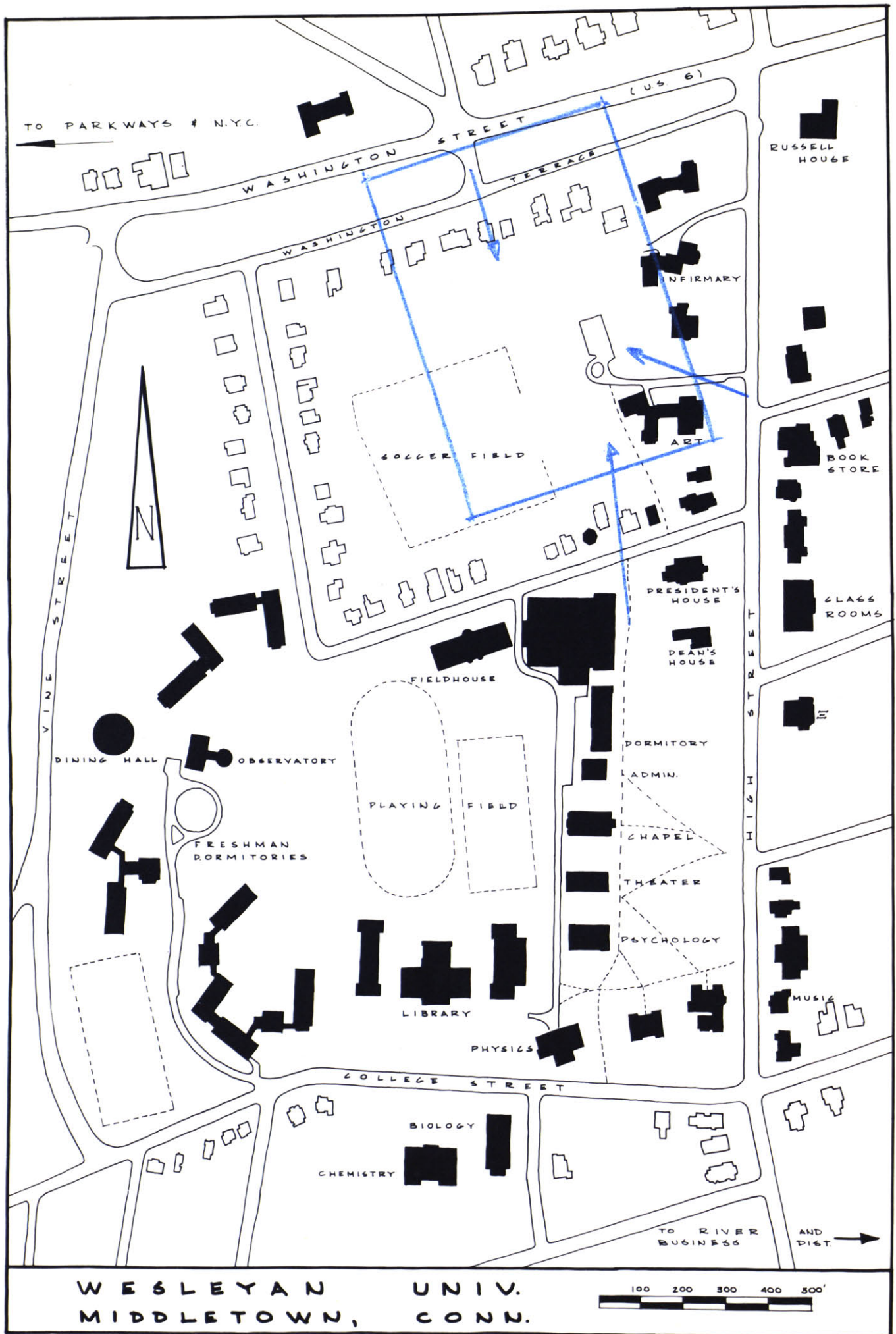


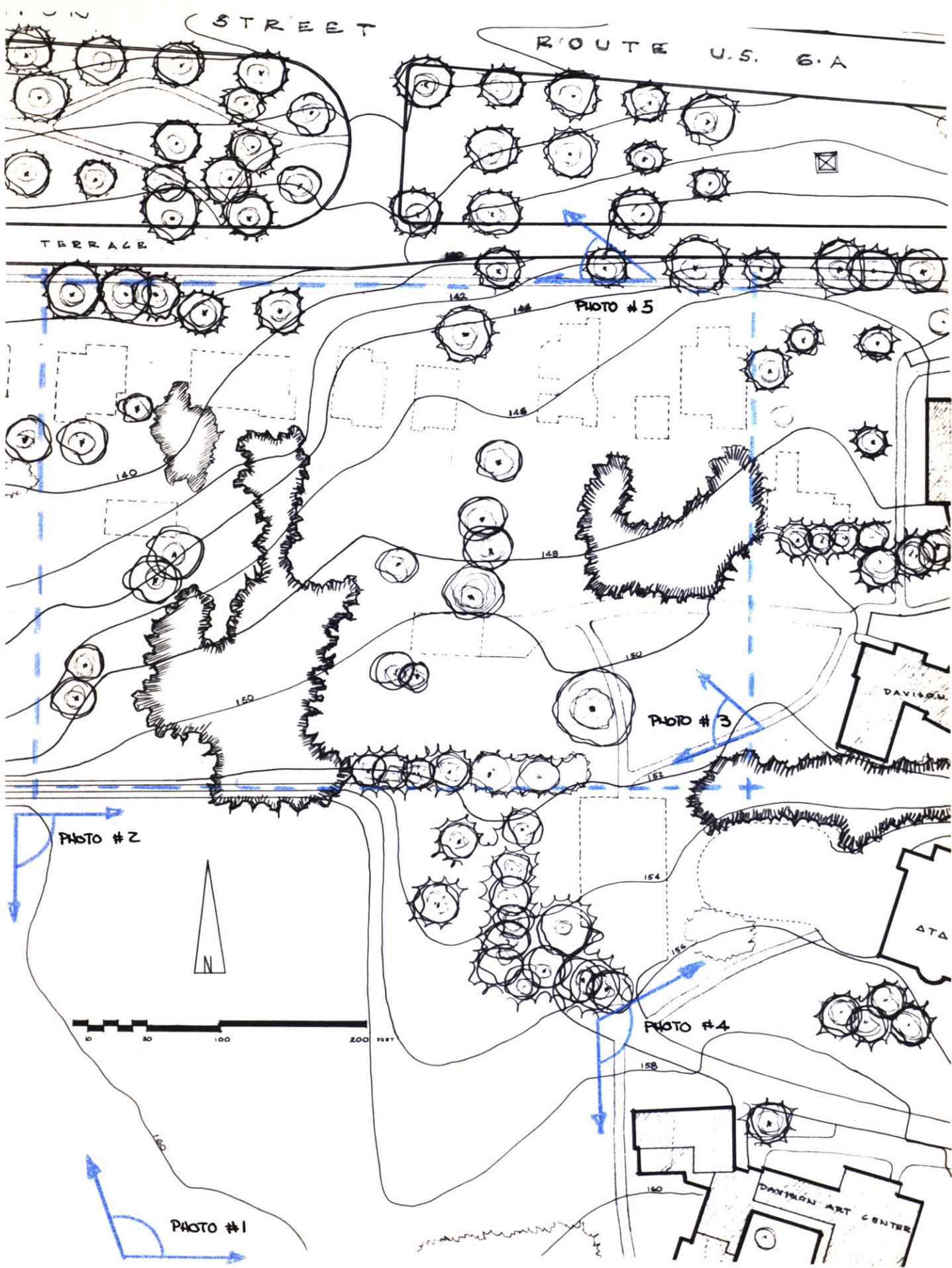
## APPENDIX

A. Campus Plan

B. Site Plan

C. Site Photographs









1. View toward the site from the soccer field

2. View toward the fieldhouse from the soccer field





3. View toward the site from the infirmary



5. Washington Terrace, looking west.

4. The Davison Art Center from the north-west



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