

UNIVERSITY OF PENNSYLVANIA, DENTAL SCHOOL  
(University of Pennsylvania, Hayden Hall)  
3300 Smith Walk  
Philadelphia  
Philadelphia County  
Pennsylvania

HABS No. PA-6176

HABS  
PA  
51-PHILA,  
566E-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY  
National Park Service  
Northeast Region  
Philadelphia Support Office  
U.S. Custom House  
200 Chestnut Street  
Philadelphia, P.A. 19106

HISTORIC AMERICAN BUILDINGS SURVEY  
UNIVERSITY OF PENNSYLVANIA, DENTAL HALL  
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Location: 3300 Smith Walk, Philadelphia, Philadelphia County,  
Pennsylvania  
USGS Philadelphia Quadrangle, UTM Coordinates: 18:483450-  
4422150

Date of Construction: 1895-7

Present Owner: University of Pennsylvania, 34th and Walnut Sts. Philadelphia,  
PA, 19104

Present Occupant: Geology Department of the University of Pennsylvania

Present Use: Classrooms and offices for University of Pennsylvania  
departments of Geology and Computer Sciences

Significance: The Dental Hall was the first purpose-built school of dentistry in  
the United States. When the Dental School moved to a new  
building in 1915, it was converted to house the School of  
Architecture, remaining its home during the heyday of the  
professorships of Paul P. Cret and dean Warren P. Laird, and  
later during the tenure of Dean G. Holmes Perkins and Louis  
Kahn, Robert Venturi and Romaldo Giurgola. It plays an  
important spatial role in balancing the mass of the Towne  
Building across Locust Walk and is a contributing resource of the  
National Register University of Pennsylvania Historic District.

Part I. Historical Information:

A. Physical History:

1. Date of erection: The Dental Hall was commissioned in 1895 and completed for the fall academic term of 1897. (*Philadelphia Real Estate Record and Builder's Guide*, 11:30 (22 July 1896).

2. Architect: The Dental Hall was designed by Edgar V. Seeler (1867 - 1929), a native Philadelphian who took his architectural training at M.I.T. and later at the Ecole des Beaux-Arts. After returning home, he was appointed to the University of Pennsylvania faculty and served as instructor in architecture while simultaneously developing his architectural practice. His practice became known for large offices buildings in the new urban center at Broad and Market streets, near the new City Hall, and in the insurance district in the vicinity of Independence Hall. Seeler's works included the Real Estate Title and Trust Company at Broad and Chestnut streets, the Fire Association Building at 4th and Walnut (demolished), and the Penn Mutual Life Insurance Company and the Curtis Publishing Company buildings at 6th and Walnut Streets.

Seeler's training at M.I.T. and the Ecole encouraged the use of historic sources, leading him to adapt to the dental school's needs Henry Hobson Richardson's Sever Hall at Harvard which had recently been completed when he was a student in Boston. Historical details from the continent enriched the facade. The Dental Hall was one of Seeler's first important commissions; with its completion, he left the University to run his practice full time. Seeler was called back to modify the building when it was converted to the school of architecture in 1915.<sup>1</sup>

3. Original Owners: The building was erected by the University of Pennsylvania, its present owner.

4. Builder, contractor, suppliers: The contract for building the Dental Hall was awarded to Jacob Myers and Co., builders of Philadelphia. Myers was one of the most important building firms in the city with a record that encompassed the Pennsylvania Academy of the Fine Arts in 1871, and numerous later buildings for Frank Furness including the Franklin Building and the Lippincott Johnson Building. For the University of Pennsylvania, Myers built the Furness-designed Veterinary Hospital, and later, the Chemistry Laboratory from plans of Cope and Stewardson.<sup>2</sup> Other suppliers are listed in various sources. The *Philadelphia Real Estate Record and Builder's Guide*

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listed P. Gormley as the heating contractor. Brickwork was provided by George Rowe. Myers' 1896 *T-Square Club Catalogue* advertisement included Seeler's perspective of the Dental Hall as a part of its two page spread.

5. Original plans and construction: The first reports of the building's design include Indiana limestone as one of the building materials. This choice would have aligned the Dental Hall with the simultaneous buildings such as the dormitory quadrangle by Cope and Stewardson on the University campus. However, the next report on the building in August 1896 mentioned only brick and terra cotta. The building was constructed essentially as the original published elevations and plans suggest.

6. Alterations and additions: The building has undergone four campaigns of alterations, reflecting in each instance changes in the use of the building. In 1915, Seeler was called back to make the alterations to the building for its use by the School of Fine Arts which had outgrown their space in the attic of College Hall. This required changes to the first floor which had been allocated to dental laboratories and workspaces and small classrooms. The upper great hall of dental practice remained a single space, serving as the drafting room while the rear wing was converted from an amphitheater to the fine arts library by removing the circular seating. Perhaps at that time, the original red tile roof was replaced with Pennsylvania slate.

In the 1950s, after a change in leadership to a dean who espoused modern design theory, the School of Fine Arts was rehabilitated with an eye to eliminating its Beaux Arts character while also meeting modern fire codes. The new design by University of Pennsylvania faculty members Geddes, Brecher and Qualls was intended to represent the new value system of the school and to put those changes at the front door. The linking wing between the front and rear blocks was occupied by a monumental main stair. This link was widened to nearly the width of the rear wing, and the interior was infilled with steel and concrete firestairs and classrooms. The original oak front door was removed and replaced with a modern steel and glass door and the original entrance hall was widened and turned into a jury room for the school. Of particular note was the continuation of the original moldings across the modern windows to link the new work to the old, an important example of the new contextualism of the Philadelphia School.

With the removal of Fine Arts from the building in 1967, the building was turned over to Geology and renamed Hayden Hall in honor of Ferdinand Hayden, a faculty member who was instrumental in the exploration of the intra-mountain zone of Montana and the Dakotas. It was largely at his recommendation that Yellowstone

Park was created. The new name was approved by the trustees in November 1967.<sup>3</sup>

The previous year, with the new Fine Arts building under construction, the trustees authorized the expenditure of up to \$750,000.00 to meet the needs of the Geology Department.<sup>4</sup> This work was undertaken by architect John Sabatino Associates, with B. Bornstein & Son, Builder.<sup>5</sup> Work included the insertion of three new floors and lowering the basement in the rear wing, and cutting new windows in the formerly largely windowless south wing.<sup>6</sup> Of the original features in the rear wing, only the frame of the original skylight remains in the third floor ceiling, though its exterior glazing was slated over, and it now casts light only from florescent bulbs. At a later date, the University Franklin Scholars were given small carrels that subdivided the second floor great hall and more recently, the University computer program has taken over the east end of the room.

In 1987, the building was altered again under the University's maintenance budget. The exterior was restored by John Milner Associates. The original oak doors were recreated; the blue slate roof was repaired; and, finally, the building was cleaned and restored to its original brilliant reds.

#### B. Historical context:

Penn's School of Dentistry was included as a part of the Medical School at the recommendation of a committee that included two of the principal names in Philadelphia medicine, Dr. Joseph Leidy and Dr. D. Hayes Agnew. In the mid 19th century, dentistry made the shift from a tutorial craft to one of the medical professions as new theories about germs and infection were grafted to the older surgical techniques. In teaching method, the University of Pennsylvania under Dr. William Pepper, had become one of the leaders in joining practice to the old lecture system. By 1878, the University was constructing a new multi-story medical laboratory at 36th and Spruce Streets. In the same year, the Dental School was established, quickly becoming one of the nation's most important professional programs.<sup>7</sup> The only earlier departments at important academic institutions were those at Harvard University and the University of Michigan. Courses were taught in Logan Hall, the second building on the new West Philadelphia campus; the practical laboratory was located in the new Hare Laboratory.<sup>8</sup> Broadened understanding of germ theory which supplanted spontaneous generation led to a medicine-based curriculum. This accelerated the growth of the dental program leading to the demand for more and specialized spaces which was met by the construction of the new Dental Hall.<sup>9</sup>

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In 1896-7, the new dental building was constructed within the science precinct, adjacent to the Lea Institute of Hygiene (now Smith Hall) and the Harrison Chemistry building, where 1973 Chemistry now stands, and near to the growing medical facilities across Spruce Street. This was the first building designed specifically to be a dental school in the nation, with research and teaching spaces on the first floor, a clinical classroom on the second and a clinical amphitheater and library in the south wing to the rear. The merging of the Dental School with the Pennsylvania College of Dental Surgery in 1910 overwhelmed the available space of the 1896 Dental Hall: however, an immense bequest from Dr. Thomas Evans offered the opportunity to erect a new dental school. This was erected in 1912-5 at 40th and Spruce streets which continues to the present as the school.<sup>10</sup>

With the move of the Dental School, the building was modified to serve the needs of the growing architectural program. The great dental hall of practice could be readily adapted to the needs of the Fine Arts program as taught under the Beaux-Arts system.<sup>11</sup> When the school was transferred to the old Dental Hall, the building was renamed in honor of Provost Harrison's brother, Alfred Harrison. Until 1915, the architecture program had remained in College Hall, even though it was administratively a part of the Towne Engineering School where it had originated in the 1860s as an adjunct to Civil Engineering.<sup>12</sup> For that reason, space was sought for it in the vicinity of the Engineering School. The architecture program had already established its leadership in American architectural education with four of its students winning the Paris Prize in consecutive years.

It was during its tenure as the architecture school that the building achieved its greatest renown. Its faculty, headed by Dean Warren Powers Laird and Professor of Architecture Paul P. Cret, was world-famous and its students won the principal prizes of the era.<sup>13</sup> Students such as Louis I. Kahn ('24) and Ehrman Mitchell ('48) are among the many graduates of note of the school. In 1920, the enlarged quarters permitted the architecture program to be separated from the Towne School as the School of Fine Arts. Between 1900 and 1940, it was the most famous school of architecture in the world, attracting students from China and Japan. Its students won the lion's share of awards and medals in the national architectural competitions.

In 1950, a new dean of architecture, G. Homes Perkins, redirected the program toward modernism as developed in Europe before World War II. The building continued to serve as the school's headquarters for another fifteen years. In those years, the school again attained an international reputation with a faculty headed by architects Louis

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Kahn, Romaldo Giurgola, and Robert Venturi, historian Lewis Mumford, ecologist Ian MacHarg and others. In 1958-9, the entrance hall was remodelled, the oak entrance doors were replaced with glass, the grand stair was removed and the stark vocabulary of white-painted modernism was given pride of place in the entrance. The new central entrance became the arena for the free-wheeling juries and discussions that characterized the school in its second period of greatness.<sup>14</sup>

With the construction of the new Fine Arts building, the building was turned over to the Geology department which has its own distinguished history. The building's present name recalls Ferdinand Hayden, the geologist on the University faculty who explored the Rocky Mountain region and was instrumental in the establishment of Yellowstone Park.

## Part II. Architectural Description of Existing Structure

### A. General Statement:

1. The Dental Hall and University Design: The Dental Hall reflects the changing forces that were reshaping the University of Pennsylvania in the last decade of the 19th century. In the previous decade, the campus had been under the general supervision of Frank Furness, whose architecture had turned away from conventional history-based forms such as College Hall and Logan Hall of the 1870s; in place of history, Furness substituted the organic expression of function through architectural form. This approach approximated the character of industrial design in Philadelphia and was appropriate to an institution whose board of trustees were dominated by industrialists and scientists.<sup>15</sup> In the 1880s, in other cities, American architecture had turned toward historical forms and the Beaux Arts system of teaching which centered design choices on the past. With the switch of Penn's architectural faculty to the new Beaux-Arts method under Dean Warren Powers Laird, it was not surprising that Penn's architecture would shift as well. This change was principally accomplished when William Pepper, M.D. relinquished the provostship to financier and sugar refiner Charles Custis Harrison. Under Harrison, the University was soon allied with financiers instead of industrialists; their new architects looked to the larger national pattern of historical forms.

2. Design character: Hayden Hall is very much a transitional building which looked forward toward the revival of history while continuing the red palette

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and expression of construction recalling the industrial character of the Furness era. And, like Furness's library, the forms of the Dental Hall reflects interior functions, as for example the small semicircular amphitheater-like demonstration areas at the mid points of each half of the hall of practice. Still, more of the building looked to historical forms for architectural detail. This is most apparent in the bulky pedimented entrance surround, the Flemish bond brickwork, and the curl gables, derived from the English Queen Anne, of the main facade and the rear wing. One other feature of note is the rejection of Furness's asymmetrical expression of function and the substitution of Beaux-Arts symmetry along a central axis for the principal generator of the plan.

On the central axis, emphasized by the symmetry of the main facade, are the main entrance, the vestibule, a corridor leading to the double stairs which provided axis to the great hall of practice and the rear library and amphitheater. Off axis are the secondary features that are of less importance to casual visitors such as the laboratories, locker rooms, and administrative offices. Thus, the character of the Dental Hall reflects the new wave of Beaux-Arts teaching, and the shift of the University away from its technology centered roots of the 1870s and 1880s.

The design was a collaborative process which involved professionals, teachers and the architect. Dr. Kirk, the director of the school, recounted the process:

"... all of the plans and suggestions previously made were collected and carefully gone over with the intent of securing the very best results which experience and ample means could produce.

A systematic study of the best equipped and arranged dental schools of the country was made, every important detail of them was noted and carefully considered by the whole Faculty with reference to the requirements of the system of instruction perused and to be pursued in dentistry at the University of Pennsylvania.

The plan of instruction having been decided upon, the services of an expert architect were secured, and he was asked to design a structure which would adequately provide for the housing the educational plant. And herein is the distinguishing factor which contributes so largely to the excellence of the result attained: the Department was not compelled to

adapt its methods of instruction to the exigencies of a building already erected, but the plan of education having already been determined upon, a building, whose every detail is in conformity with its educational system, was planned and erected to contain it.

Contemporary texts indicate that lighting determined much of the original plan. An article on the building in the *Alumni Register* reported, "the design of the building with respect to light, a *sine qua non* in a dental school, is most happily worked out."<sup>16</sup> The principal facade faces north toward what is now Smith Walk to ensure even north lighting in the upper hall of practice where 110 chairs, "lighted on all sides" made the building "The best college operating rooms in existence." The rear amphitheater repeated the light-oriented design in miniature with a large skylight on the north face of the pyramidal roof to provide even, glareless illumination on the laboratory table in the south side of the room.

3. Condition of Fabric: The building is in generally excellent condition. The exterior has been recently restored by John Milner Associates, resulting in cleaning and repointing of the masonry. Because of changes in program, the interior has suffered more than the exterior. Large spaces have been subdivided; small spaces have been absorbed into other spaces. Most of the specialized interior fittings were removed for the conversion of the building to the School of Fine Arts. Despite those alterations and the general redesign of the interior in the modern era, the building is in good condition.

#### B. Description of Exterior:

1. Dimensions: The front block comprising the original hall of practice or operating room, later the drafting room of the School of Fine Arts on the upper level, and labs and classrooms and laboratories below is 180' long by 50' deep. The rear wing is 50' by 90' and contained an amphitheater on the upper levels that seated 550 students and a library below. The two wings are connected by a short wing.

2. Foundations: Foundations are of rough laid stone to grade. This has been covered on the interior with CMU block on the interior in the 1972 rehabilitation and is no longer visible.

3. Walls: The building's exterior was uniformly red in the manner of the then

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new University Library. The basement level is of red and reddish-brown brick laid in Flemish bond, with subtle courses of slightly browner brick at the window heads articulating the base. A soldier header course of brick band sets off the first story which is distinguished by recessed header courses that give a rusticated appearance to this level. The second floor is distinguished by smooth planes of red brick with darkened headers in the fashion of the 18th century. Quoins and beltcourses of red terra cotta set off the facade.

The main facade is approached by a flight of steps that lead up to the main doorway framed by a baroque surround and surmounted by a massive pediment. Above the entrance is a large framed panel that contained the building's name "Dental Hall." That inscription was removed in 1916 and the plaque has remained vacant to the present. Above the name plaque is a giant seal of the University of Pennsylvania which is significant as the first to use the 1740 founding date. The rear wing is ornamented with a similar circular University of Pennsylvania seal in red terra cotta that crowns the south facade of the amphitheater wing.

4. Structural systems, framing: The structure of the building was described in the *Builders' Guide* as "slow-burning," a type of construction usually reserved for mills and industry. In this instance, it is an apt description of the multi-story mill construction that was intended to give maximum flexibility to the building. Two rows of massive 10" by 10" wood columns along the east west axis of the building carry built-up wooden girders that are held together with bolts. The girders, in turn, carried wood planks that supported a concrete sanitary floor. Portions of this system as still visible in the entrance hall.

In the central link and the rear wing, the entire structure was changed in the 1959 and 1972 reconstructions. Then modern steel and concrete systems were installed to carry the new stories that were inserted.

5. Openings:

a. Doors and doorways: The principal entrance is centered on the main facade. It is approached by a short flight of steps flanked by brick bulkheads and capped with red sandstone. The portal is framed by an elaborate English baroque surround and capped with a broken pediment. The door is framed in wood with a multi-light transom. The two leaves

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of the door are of modern oak, glazed on the upper half, and with paneling framed in moldings, recalling but not replicating the original door. Later fire exit doors are placed in the new wing, and are of modern flush metal.

b. Windows: Windows in most of the openings of the basement and first floor are regularly spaced with large 1-over-1 sash. The large windows of the operating room of the second floor pivot on their centers; they were based on commercial sash of the period that ensured maximum air flow, presumably for comfort as well as for hygiene. The upper, round-headed sash are fixed. The windows of the new connecting link are modern casements. And new double hung sash were installed in the rear wing when it was converted to offices. Unlike the red sash of the University Library, these appear to have been painted a light color, presumably the tan presently in use.

6. Roof: The roof is massed in a tall, hipped configuration and sheathed in grey-blue Pennsylvania slate. Documentation and early photographs suggest that the original roof was of red tile, complementing the new University Library. The present Pennsylvania slate roof, appears to have been replaced in the twentieth century, and was repaired in the 1972 campaign. At that time the north facing skylight of the rear amphitheater wing was slated over, leaving a discernable patch of darker slate. Repairs to flashing are evident in the darker replacement slates as well.

b. Parapets: A parapet of red terra cotta surmounting the brick rising wall, surrounds the entire building. It conceals gutters that drain through copper pipes to elaborate copper drain boxes.

c. Dormers, cupolas: Two small dormers break the long slope of the roof, providing ventilation for the attic above the great hall of practice. These are slate sided and roofed. On the main axis is a large copper lantern that served to ventilate the great hall. It is ornamented with engaged columns and capped with an octagonal dome. A similar cupola originally capped the rear wing as well but has been removed.

d. Chimneys: The inner court between the front and rear wings is dominated by four great chimneys. Their role is to serve as flues for ventilation, reflecting the

hygienic concerns of the period.

### C. Description of Interior:

#### 1. Floor plans:

a. Basement: The basement conforms to the main volume of the building. It is entered from the modern, central fire stair tower. The basement was largely reconstructed in the 1972 and later campaigns so that no original material is evident. The original role of the basement was to service the upper levels with student lockers, toilets, bicycle storage rooms, labs and classrooms filling the space. When the building was converted to the needs of the School of Fine Arts, the basement housed lectures rooms, the supply store, and the life-drawing class room.<sup>17</sup>

b. First Floor: The first floor is entered through a small vestibule containing a flight of stairs. It is wainscotted in "V joint boards," which were originally stained dark but is now painted. A pair of wood doors, glazed in the top half, open into a broad two story hall. This hall is the result of changes to the building in the 1950s which brought the modern vocabulary of free-flowing open space to the interior. A raised platform at the rear served as a student lounge, while the foreshore, lined with tack boards served as the jury hall of the school. At a later date, after the removal of the architects, a ramp which provides access to a second floor office was installed along the west and south sides of the room. A modern hung ceiling conceals the bony armature of the wood beams and plank ceiling.

The original cross corridor stretches east and west from the hall, providing access to offices and seminar rooms. When the building was renovated for the architects, the first floor housed a small drafting room for the first floor students, a lecture room and various administrative and professors' offices.<sup>18</sup> The large classroom at the east end was removed in the most recent renovations, while the original large metallurgical lab on the west wing was converted to offices and classrooms in earlier renovations. On either side of the main hall are small corridors that connect to the central link between the front block and the rear wing. The link was entirely reconstructed in modern materials in the 1958-9 renovation with lower ceiling heights, concrete floors and modern steel stairs.

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The stairs provide access to the rear wing which is partitioned into a warren of small offices and classrooms and to the second floor of the front block. This link was originally entirely occupied by a pair of grand stairs that rose to a landing that opened into the rear amphitheater and returned forward to the dental hall. The rear amphitheater was converted into the Fine Arts library by the removal of the banked seating, and the installation of tables and chairs in the two story high room. An early photograph shows casts of the Arch at Beneventum from the University Museum installed on the blank rear wall.<sup>19</sup>

c. Second Floor: The original plan for the second floor devoted the entire level to a single room 180' by 45' for the dental hall. It was entered from the center and was flanked by two wooden complexes of offices and lockers which were removed when architecture took over the space. The room is presently subdivided by low partitions along the north side of the room while a third floor has been installed in the rear of the room accessed by metal stairs. Despite the alterations, the character of the room is still apparent. The massive mouldings of the frames that separate the cove from the ceiling are still intact and the cartouches that set off the front bays remain as well. The floor was originally intended to be of concrete for hygienic purposes, but was constructed in wood.

The rear wing, which originally contained a single large surgical amphitheater with banked seating for 550 students above a basement library and museum, has been completely infilled with low modern stories.

d. Upper Floors: The insertion of modern floors in the rear wing, and in the back of the second floor have created upper stories of no historic character.

3. Finishes: The finishes of the buildings are nearly industrial in keeping with the intended character of the interior as a work-place. Views of the first floor metallurgy lab show the two story high wood columns supporting the plank ceiling. Dust between the stories was controlled by nailing small battens over the plank joints, a system which was also used on the wainscotting which lines the vestibule, and remains on some portions of the upper great hall, notably the bays and the east and west wings. Walls and ceilings of public spaces, such as the vestibule, the amphitheater, the great hall and so on, were typically plastered while the workspaces were more industrial. Contemporary accounts report that the floors were to be of concrete for hygienic purposes, presumably for ease of cleaning and containing spills. The original linens indicate that they were built of wood.

4. Lighting: The principal light fixtures were designed for the upper operating hall. These were iron, bird-cage-like structures with a central polished sphere surrounded by electric lamps. Three of these were placed on the central spine of the ceiling and smaller versions flanked the bays at the cartouches in the ceiling molding. The molding that separated the cove from the flat portion of the ceiling were outlined with small electric bulbs, presumably to produce an even light source in the room. When the building was redesigned by Seeler for the architects, the lighting solution was changed to four oversized glass and metal bowls containing several bulbs to reflect light evenly off the ceiling.<sup>20</sup> The border of ceiling lights and the small chandeliers were also removed at that time. These lights were removed in the 1959 renovation. Modern lighting is provided by lights supported from the modern low partitions.

5. Mechanical Equipment: The building was served by the central University heating plant. Interior ducts within the walls provided for ventilation as a hygienic measure. Heat was provided by steam supplied through the University heating plant. Original industrial pipe radiators still line the lower walls of the second floor bays.

#### D. Site:

1. Location: The Dental Hall, occupies the south side of the 3300 block of Smith Walk on the University of Pennsylvania campus. The block between 33rd and 34th streets and between Walnut and Spruce Streets is occupied entirely by University structures. Because the buildings of the block are largely devoted to the sciences, it is referred to as the Central Science Precinct. The block is framed by buildings that represent the evolution of the campus.

2. Related Buildings: Along 34th Street are small, brick structures erected for institutions such as the Foulke and Long Institute (now the Morgan and Music Buildings) and the Lea Institute of Hygiene (now Smith Hall). Along the line of what was intended to be Locust Street is the Dental Hall on the south and the balancing Towne Building on the north. Behind the Towne Building is Chancellor Street, a small east-west alley that provides service to the rear of the Towne Building. It terminates at the modern Pendar wing which links the Towne Building to the Moore School. Fronting on 33rd Street above the Towne Building is the Moore School of Engineering. Attached to it on the west is the modern Moore Graduate Wing which fronts on Walnut Street. At the corner of 34th and Walnut Streets is Bennett Hall, originally built for the women's annex to the University, but now serving as the offices of the English Department. Along the south side of the block are 1973 Chemistry at the corner of 34th

and Spruce Streets, and the adjacent and attached Chemistry addition, now known as the Cret Building in honor of its architect, Paul P. Cret. It has been extended in 1958 by a laboratory building known prosaically as 1958 Chemistry. A small, circular modern building along 33rd Street to the rear of 1958 Chemistry and the rear of Hayden houses services for the Chemistry group. Other small structures dot the block such as the Music Annex behind the Music Building, and the animal house behind Smith Hall.

3. Landscape setting: Apart from the buildings, the principal feature of the site is Smith Walk (HABS PA No. 7179) which traverses the block where Locust Street would have been constructed, had it been opened. A statue of Provost Smith marks the west end of the walk, and a memorial flagpole marks the east end, across 33rd Street. In the rear yards of the Chemistry group is a statue of chemist John Harrison. As could be expected, he turns his back on the Dental Hall and faces Chemistry.

Landscaping around the Dental Hall consists of ivy beds framed by pipe rail fences along the main front and along the 33rd Street flank. The west side abuts the grass lawns of the small courtyard between the rear of Smith Hall, the Chemistry complex and the Dental Hall. Small ornamental trees interrupt the side lawn and screen the east side of the Dental Hall.

Notes:

1. PRER&BG vol. 33:28 (14 July 1915) which reported that the architect was taking bids for work which included tin ceilings, lath, etc.
2. A full page advertisement of their firm appears in the *Architectural Exhibition by the T-Square Club: Catalogue 1898*, Philadelphia, 1898, p. 160.
3. Minutes of the Board of Trustees of the University of Pennsylvania, 10 November 1967, vol. A - 31, p. 169.
4. The Trustees minutes reported that \$500,000.00 would come from the federal government, and another \$250,000.00 would come from University sources. Minutes of the Board of Trustees of the University of Pennsylvania, 7 April 1966, vol. A-30, p. 26.
5. A photograph in the University Archives, under the group "Hayden Hall, exterior" shows the project sign with the caption "To Be Ready in Summer of 1972."

6. The Hayden Hall work was reported in *The Daily Pennsylvanian*, "Hayden Hall to get a facelift," October 8, 1985, p. 1; and "Slow Motion: Renovations on Hayden Hall fall behind original schedule," January 14, 1987, p. 1.

7. Edward P. Cheyney, History of the University of Pennsylvania: 1740 - 1940. (Philadelphia: University of Pennsylvania Press, 1940) pp. 267-710.

8. For the early history see Francis Thorpe, *Benjamin Franklin and the University of Pennsylvania*, (Washington: Government Printing Office, 1893) pp. 309 - 319.

9. Edward C. Kirk, "The New Dental Department," *The Alumni Annual 1897*, The Society of Alumni, Department of Dentistry, University of Pennsylvania, Philadelphia 1897, p. 17. The new scientific frame of reference is clear in Kirk's introduction, "But the spontaneous generation theory was long ago exploded and the mysteries of human progress have been and are being solved by the theory of evolutionary development."

10. George E. Thomas, "Main Entrance, Museum and Dental Institute, School of Dentistry, University of Pennsylvania," *Drawing Toward Building: Philadelphia Architectural Graphics, 1732 - 1986*, Philadelphia: University of Pennsylvania Press, 1986, pp. 182-3.

11. For an overview of the history of the Graduate School of Fine Arts as the program came to be known, see Ann Strong and George E. Thomas, *The Book of the School: 100 years*, Philadelphia, 1990, pp. 25-39.

12. For a history of the early years of the Fine Arts School see George E. Thomas, "The Laird Years: A Group Enthusiasm," in *The Book of the School*, op cit. pp. 25 - 43.

13. Laird, Cret, Kahn and others are treated in individual entries in *The Book of the School*, op cit.

14. Ann Strong, "The Perkins Years," Strong and Thomas, *The Book of the School: 100 Years*, pp. 130-149.

15. Of these, the most important was William Sellers, the head of the most important machine-tool manufacturing and designing company in the world. It was Sellers who made the claim that "A machine looks right if it is right," and switched tool design from brilliant colors to the common machine grey to express material and character. Other members of the Board of trustees included civil engineer Fairman Rogers, medical doctors such as S. Weir Mitchell, and William Pepper, the University provost.

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16. *Alumni Register*, 1:4 (December 1896), p. 11.
17. *Alumni Register*, vol. 18:5 (February 1916), p. 407.
18. *Alumni Register*, vol. 18:5 (February 1916), p. 407.
19. A view of the interior of the library is published in the *Alumni Register*, vol. 18:5 (February 1916), facing p. 409.
20. A view of the drafting room is published in the *Alumni Register*, vol. 18:5 (February 1916), facing p. 410.

## PART III. SOURCES OF INFORMATION

### A. Architectural Drawings:

These materials are located in the archives of the University of Pennsylvania physical plant, 8th floor, Franklin Building.

Edgar V. Seeler, 16 sheets, reverse prints from original linens for Dental Hall, 6/20/'96 This is a nearly complete set, missing only front and side elevations, but including rearelevation, site, transverse sections, basement, ground, first, second and third floor plans. They are not suitable for photographic reproduction because they are so many generations removed from the original linens and are presently a form of reversed photostat.

Geddes, Brecher and Qualls, 33 sheets, prints for renovations to Hayden Hall for the School of Fine Arts, 7/15/'58. These include some pencil originals and blueprints with details of the replacement walls of the link building and plans of the new School of Fine Arts lobby and jury space.

John Sabatino Associates, 45 sheets, prints for renovations, 7/19/'71. These include details of the new masonry openings in the south wing.

### b. Historic Views:

Historic views are located in the University of Pennsylvania Archives which are under the north stands of Franklin Field. Historic views are located in two photographic files, "Hayden Hall, exterior," and Hayden Hall, interior."

"Hayden Hall, exterior" views include numerous early 20th century views from the north east and north west, as well as several views from the south. These thoroughly describe the original exterior and landscaping. Views are by important Philadelphia photographers including William Rau, "View from North East, Sept. 1900," James L. Dillon, "View from North West, 1906," R. Newell and Son, "View from North East, 1897," Pierce and Jones "View from South, 1905." There are, in addition, various views from the 1940s along Smith Walk, including the ivy-covered view by William Rittasi, "View from North

West, 1947." More recent views include construction photographs taken for John Sabatino Associates, c. 1971.

"Hayden Hall, interior" views include numerous views of the second floor operating room, including James F. Ward, "Operating Room, looking east, 1903," Haessler, "Operating Room looking north east, 1906," and "Operating Room, looking east, 1906." There is a good, unidentified view of the "Mechanical Lab, c. 1900. The next views are two photographs of the interior demolition of the rear wing during the 1971-2 work by Sabatino Associates.

Additional views of the building occur in University publications, see bibliography, below.

#### C. Interviews:

The author interviewed members of the School of Fine Arts faculty about their tenure in the building in preparation for Ann Strong and George E. Thomas, *The Book of the School: 100 Years*, University of Pennsylvania, 1991. These tapes are in the Architectural Archives files.

#### D. Bibliography:

##### 1. Primary sources:

Minutes of the Board of Trustees of the University of Pennsylvania. These are indexed and are on microfilm in the University Archives.

##### 2. Secondary and published sources:

Cheyney, Edward P. History of the University of Pennsylvania: 1740 - 1940. Philadelphia: University of Pennsylvania Press, 1940

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Kirk, Edward C. "The New Dental Department," *The Alumni Annual 1897*, The Society of Alumni, Department of Dentistry, University of Pennsylvania, Philadelphia 1897.

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T-Square Club of Philadelphia. *Architectural Exhibition by the T-Square Club: Catalogue 1898*, Philadelphia, 1898, p. 160.

Tatman, Sandra, and Roger Moss. Biographical Dictionary of Philadelphia Architects: 1700 - 1930. Boston: G. K. Hall & Co. 1985, pp. 708-9.

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University Alumni society. *Alumni Register*, 1:4 (December 1896, p. 11. vol. 18:5 (February 1916), p. 407 and p. 409..

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Withey, Henry F. and Elsie R. Biographical Dictionary of Architects (Deceased)  
Los Angeles, 1956, p. 545.

E. Likely sources not yet investigated:

It is likely that additional materials exist in the University of Pennsylvania  
Dental School Library at 40th and Spruce Streets.

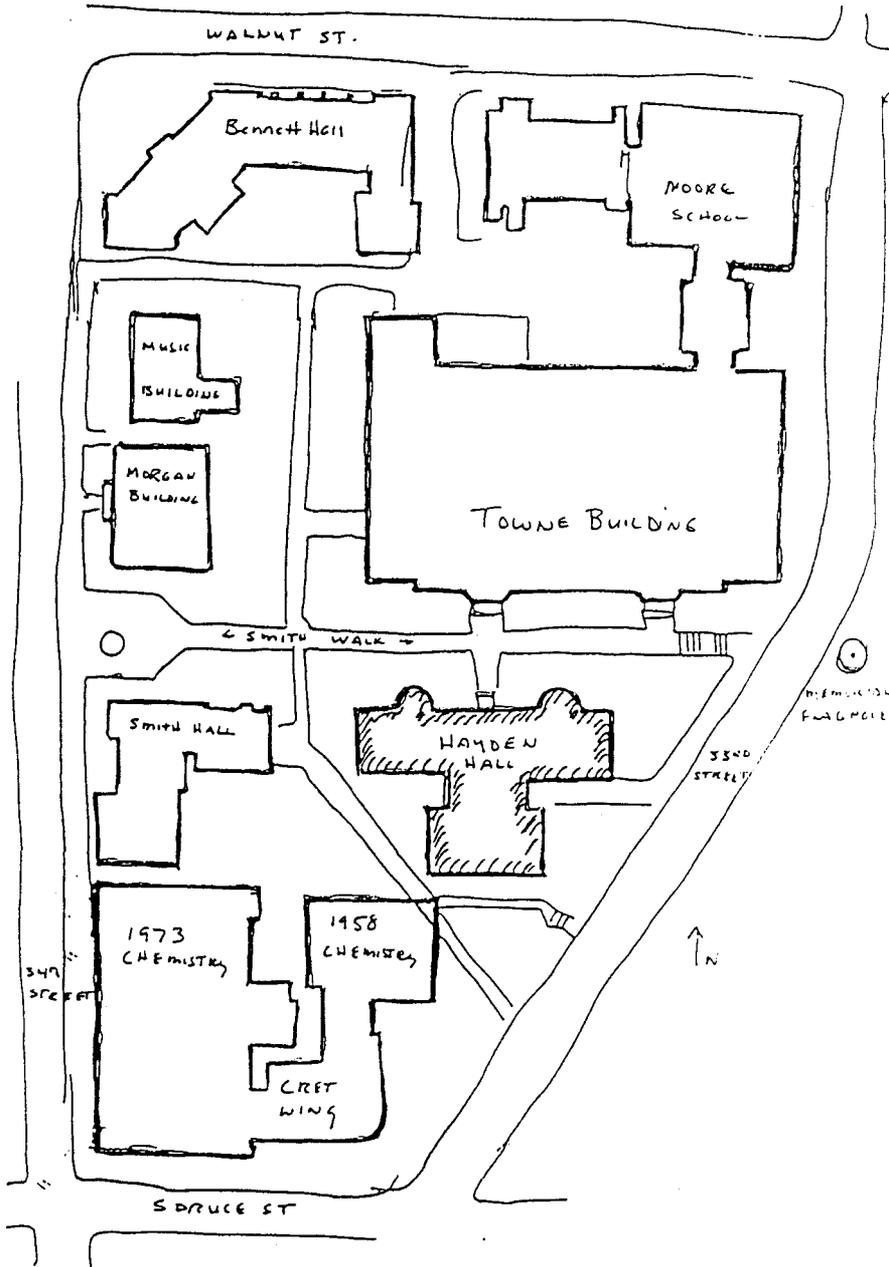
Part IV Project Information:

In 1991 the Air Force selected the University of Pennsylvania, Philadelphia, PA  
as a recipient of a grant to support the construction of the Institute for  
Advanced Science and Technology, with funding from DOD Appropriations  
Act for Fiscal year 1991 (Public Law 101-511). This documentation was  
undertaken in compliance with a Memorandum of Agreement between the  
Advisory Council on Historic Preservation, the Pennsylvania State Historic  
Preservation Officer, and the United States Air Force.

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27 April 1995

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SITE PLAN



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