UNIVERSITY OF CONNECTICUT
GREATER HARTFORD CAMPUS
West Hartford, Connecticut

LIMITED CONDITION SURVEY
AND USABILITY/REUSE STUDY

September 10, 2003

SVIGALS
+ PARTNERS

UNIVERSITY OF CONNECTICUT
GREATER HARTFORD CAMPUS
West Hartford, Connecticut

LIMITED CONDITION SURVEY
AND USABILITY/REUSE STUDY

September 10, 2003

SVIGALS
+ PARTNERS

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY

Use and Reliance Restriction

Svigals + Partners, LLP (Svigals) has produced this document under an agreement with the Smith Group/JJR and the University of Connecticut (UConn). All terms and conditions of that agreement are included within this document by reference. Other than to UConn, Svigals disclaims any obligations to any other person with respect to any material presented in this document, and no person may rely upon this document without advance and express written consent from Svigals and such person's written agreement is to be bound by the limitations, qualifications, terms, conditions, and indemnities to Svigals set forth in that agreement. Svigals specifically states that its review of the property in question is subject to monetary restraints and scope limitations. Given those limitations and conditions, it has made what in its opinion, is a reasonable investigation. It has also relied upon interviews and documents with the understanding that independent verification of their factual content is beyond the scope of Svigals' work. The materials presented in this document are "to Svigals' knowledge" where such phrase means to Svigals' actual knowledge of the subject matter after such inquiry as Svigals considered reasonable in light of the qualifications and limitations upon the scope of work.

The extent of the physical observation for the production of this report has been limited by Contract to a walk-around visual inspection of the property, random operation of equipment, interviews, and a cursory review of documents. Assumptions regarding the overall condition of the property have been developed based upon observation of representative areas of the buildings. As such, the development of conceptual methods and associated costs for the correction of identified deficiencies is based upon the overview observation and is also limited with respect to completeness.

General Overview

Svigals was retained to review the present building conditions of the three main academic buildings located on the Greater Hartford Campus located in West Hartford, Connecticut. Our review focused mainly on physical attributes and conditions, and opportunities for the re-use or redevelopment of the existing facilities. We have also included observations and comments on the mechanical systems derived from our interviews with the Facilities Director, Mark O'Neil, who accompanied us on our walk through. Code related items noted herein are from incidental observations only as their review was not the focus of this study.

II. UNDERGRADUATE BUILDING

A. General Overview:

This 67,400 gross square foot building is located along the North side of the main pathway as you enter the Campus from the student parking lots across Trout Brook Drive. The building was constructed in 1971± and there are no additions. The building consists of three stories above grade and a partial basement. The cast-in-place concrete frame and waffle slab floors are somewhat unique for the period and appear to be performing as intended. The exterior façade is composed of large expanses of brick veneer with exposed concrete "trim" elements, both of which appear to be in good condition; however, the concrete is beginning to spall in a few areas. The windows are single pane and are at the end of their useful life. A complete replacement of all caulking and sealants for the exterior should be considered at this time to extend the useful life of all building elements. The building has a flat ballasted built-up roof which also appears to be at the end of its useful life and should be replaced. The building is fully occupied.

The existing building has the following characteristics:

Levels	3 floors plus partial basement
Clear Height to Structure	12' – first floors 10' – upper floors
Total Area	67,400 sq.ft. (from campus literature)
Zoning District	Not Applicable
Use Type:	Non-separated Mixed Use B – Business and A3 – Assembly
Construction Type:	Undetermined
Egress Components:	Exit stairs are remote enough and appear wide enough to meet current requirements. The stair treads and handrails do not meet current Code requirements. Neither stair has direct access to the exterior. Code requires at least 50% of the required stairs to have direct access to the exterior. The present configuration, with minor modifications, could be considered complying. The exit stairs appear to have the required 2 hour rated shafts; however the doors do not have rating labels.
Elevator:	Suitable size for ADA upgrade

B. Structural System:

The building consists of cast-in-place concrete columns and cast-in-place concrete waffle slab floors. The system appears to be in excellent condition and more than adequate for present loads. With an estimated 30' x 30' column spacing and a clear height of 12' (10' at upper levels) to the bottom of the waffle slab structure, there is adequate room for the introduction of updated mechanical and life safety systems.

C. Plumbing Systems:

There were no obvious problems associated with the central plumbing systems; however several areas of concern were noted. Toilet rooms are in very poor condition and many fixtures need replacement. The acid resistant glass waste piping serving the labs needs a total replacement due to failure of the joint seals. The water supply and waste systems serving the cafeteria are undersized and most likely do not meet current Health Department requirements.

D. Fire Protection Systems:

This facility does not have fire sprinklers and the existing fire alarm system does not appear to meet current Fire Code or ADA requirements. Due to the extensive use of this facility and its large population, further investigation and implementation of code required upgrades is highly recommended.

E. Heating, Ventilating, and Air Conditioning Systems:

The capacities and condition of the mechanical systems should be reviewed by a mechanical engineer. As observed, the system is currently running adequately, but most likely does not meet current ASHRAE standards for fresh air or energy efficiency. Control system is DDC. Original systems are in poor condition due to their age and require continual repairs and maintenance. Most of the cooling systems were added in later years and represent additional control and maintenance issues. All systems are well beyond their useful life and represent significant energy costs.

The through-wall HVAC unit ventilators that occur in many of the exterior classrooms have condensate drains piped directly to the outside of the building and drip down the façade and onto the sidewalks.

The three science labs have fume hoods, proper ventilation requirements could not be determined, but given the age of this building, most likely do not meet current lab ventilation requirements.

F. Electrical Systems:

The capacities and condition of the electrical system should be reviewed by an electrical engineer. Buildings of this period usually were not designed to support the electrical loads needed for today's modern teaching facilities. The intense use of computers and upgraded mechanical systems to provide cooling will likely strain the existing system. Light fixtures have been upgraded to energy efficient T-8 lamps. Emergency lighting fixtures appear inadequate. Re-use or redevelopment of this facility will most likely require an upgrade to the building's main service and distribution system.

G. Tel/Data Systems:

The entire control and distribution for the tel/data systems have been installed well after the original construction of the building and as such reflect the compromises required to meet today's needs. The head-in equipment for the building shares space in the electrical room, service to connections are run exposed in occupied spaces, and access for new or replacement wiring is difficult. Distribution equipment shares space in the janitor's closets on the upper floors. Re –use or redevelopment of this facility will require planning for an all new tel/data infrastructure.

Classrooms have very limited data infrastructure, usually only one drop per room. Technology use appears to be limited to overhead projectors and television/VCR on moveable carts. One high tech classroom was observed with video projection and additional data connections.

H. Interior Finishes:

Original interior finishes in most of the facility consisted of exposed concrete floors, painted concrete block walls and exposed concrete structural ceilings. Limited mechanical systems were either exposed or concealed in dropped gyp. bd. ceilings and lighting was suspended from the exposed structure above. Through various upgrades to the building, vinyl or carpet flooring has been installed throughout and lay-in ceilings have been added to conceal new mechanical distribution. Several special purpose spaces in the building have received significant finish upgrades.

Existing signage does not meet current ADA requirements.

I. Exterior:

The exterior façade is composed of large expanses of brick veneer with exposed concrete "trim" elements, both of which appear to be in good condition. A few areas of brick need repointing and a few areas of the concrete trim are beginning to spall. Installation of new, and replacement of old through-wall HVAC units is apparent in the brickwork. The windows are single pane and are at the end of their useful life. The exterior plaster soffit at overhands also appears in good condition. A complete replacement of all caulking and sealants for the exterior should be considered at this time to extend the useful life of all building elements.

The low slope built-up roof with gravel ballast appears to be near the end of its useful life. Evidence of ponding water, no provision for emergency overflow and limited roof drains was observed. Metal flashing appears to be in good condition allowing for proper roofing replacement. No evidence of adequate roof insulation.

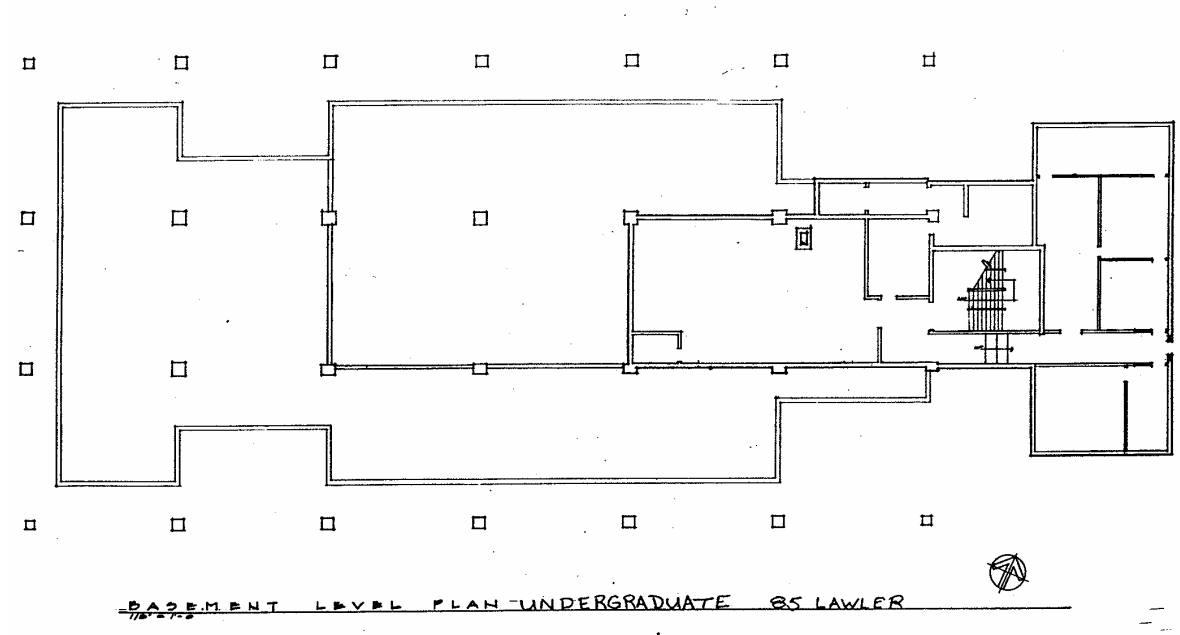
Site improvements are very limited and are in poor condition. The concrete finishes on the front plaza require significant repairs to restore this area to a friendly campus gathering area. The loading area and trash dumpsters are directly adjacent to the major entry from the rear of the building near the access to the parking lot.

J. Usability and Re-use Potential:

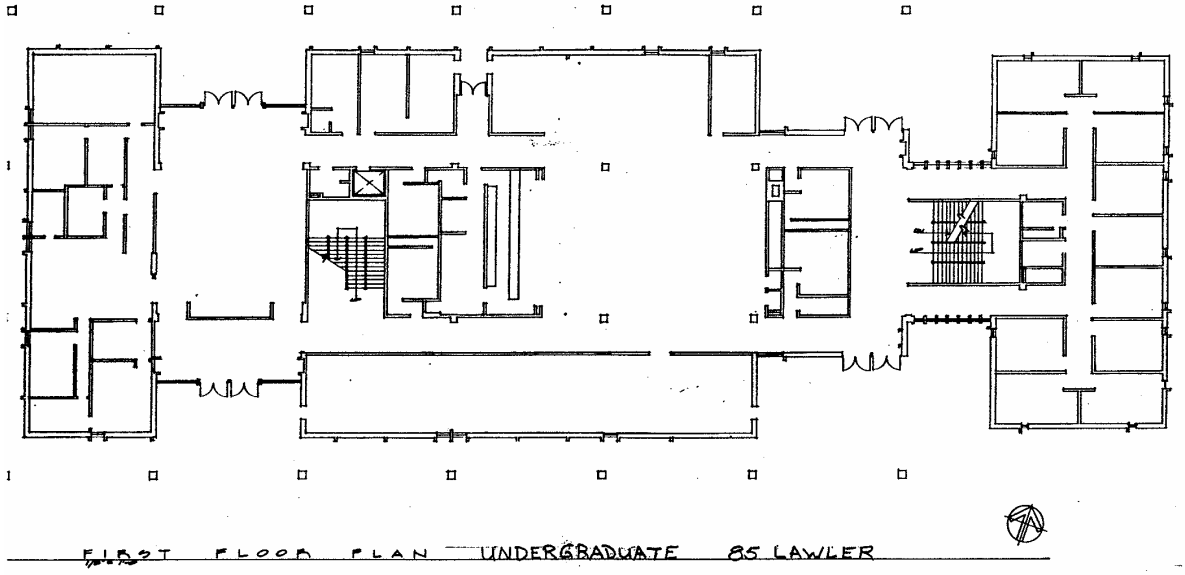
Our impression of this building during our walk-through indicates that it is adequately fulfilling its current function as a classroom and office building. The basic layout, with adequate room sizes and floor to floor heights are similar to new buildings being designed today. The most serious concern is that the existing classrooms and offices do not meet current and near future technology requirements. Upgrading to meet more a modern level of technology will most likely trigger a series of building system improvements, ultimately leading to a full interior gut and renovation. For example, bringing in more power for computers will require replacing the entire HVAC system to meet the added heat loads.

The facility does not adequately meet the campus needs for gathering space and food service. The cafeteria does not have adequate loading, storage or food prep areas to meet the student population. The areas for tables and casual gathering also need more space. The exercise area in the basement also appears to be undersized and overused.

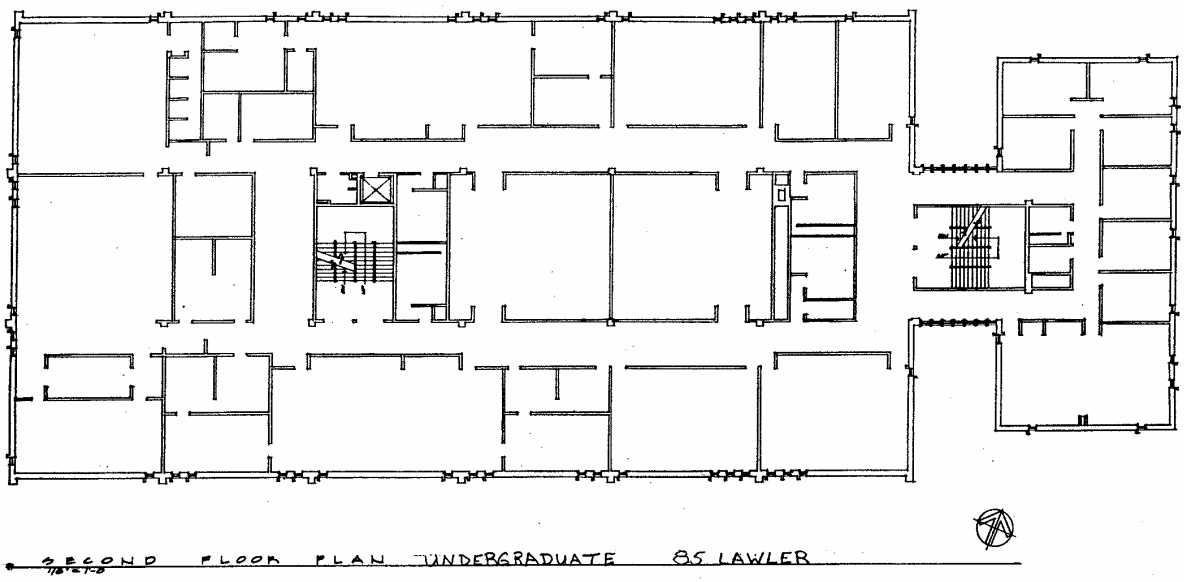
As our observations indicate above, most interior finishes and mechanical systems also require extensive repairs or complete replacement to meet current teaching (data and AV infrastructure) and life safety requirements. Should a complete interior renovation occur, the exterior enclosure, with masonry repairs and window replacement, could economically be renewed to extend the useful life of this building.

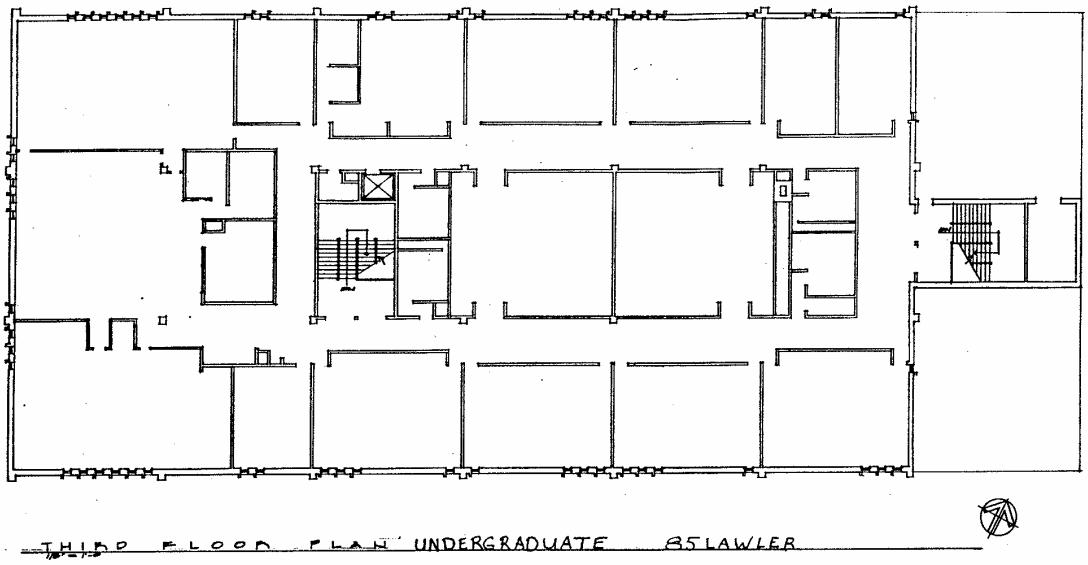


BASEMENT LEVEL PLAN UNDERGRADUATE 85 LAWLER



FIRST FLOOR PLAN UNDERGRADUATE 85 LAWLER


SECOND FLOOR PLAN UNDERGRADUATE 85 LAWLER


THIRD FLOOR PLAN UNDERGRADUATE 85 LAWLER

Typical Exterior Façades

Food Service Area on 1st Floor

Typical Toilet Room

Science Classroom

Typical Classroom

Upgraded Lounge on 3rd Floor

Typical Stair – Handrails and accessible openings do not meet current Codes.

III. SCHOOL OF SOCIAL WORK

A. General Overview:

This 34,000 gross square foot building is located along the north side of the main pathway between the Undergraduate and Library buildings. The building was constructed in 1968± and there are no additions. The building consists of three stories above grade and a partial basement. A small one storey wing serves as the main entryway. This building has a structural steel frame with steel floor deck and concrete infill. The exterior façade was originally plaster veneer, but has been covered over with a "Dryvit" veneer system. The windows are single pane and are most likely near the end of their useful life. The roof is a series of barrel vaults with a spray-on foam insulation and finish system which appears to have numerous leaks and flashing problems. The building is fully occupied.

The existing building has the following characteristics:

Levels	3 floors plus partial basement
Floor to Floor Height	11'-4"
Total Area	34,000 sq.ft. (from campus literature)
Zoning District	Not Applicable
Use Type:	Non-separated Mixed Use B – Business and A3 – Assembly
Construction Type:	Undetermined
Egress Components:	Exit stairs are remote enough and appear wide enough to meet current requirements. The stair treads and handrails do not meet current Code requirements.
Elevator:	ADA upgrades have occurred.

B. Structural System:

The building consists of a structural steel frame utilizing steel floor decks with concrete infill. The system appears to be in good condition. Structural loads could not be determined and should be computed should re-configuration of the existing be anticipated. Column spacing is adequate, but the clear height to the bottom of the steel beam structure may pose challenges to the integration of new mechanical and life safety systems.

C. Plumbing Systems:

There were no obvious problems associated with the plumbing systems; however ADA upgrades to the toilet facilities will be required and the toilet room finishes and fixtures are in poor condition.

D. Fire Protection Systems:

This facility does not have fire sprinklers and the existing fire alarm system does not appear to meet current Fire Code or ADA requirements. Due to the extensive use of this facility and its large population, further investigation and implementation of code required upgrades is highly recommended.

E. Heating, Ventilating, and Air Conditioning Systems:

The capacities and condition of the mechanical systems should be reviewed by a mechanical engineer. As observed, the system is currently running adequately, but most likely does not meet current ASHRAE standards for fresh air or energy efficiency. Control system is DDC. Original systems are in poor condition due to their age and require continual repairs and maintenance. Most of the cooling systems were added in later years and represent additional control and maintenance issues. All systems are well beyond their useful life and represent significant energy costs.

Vertical shafts were installed to provide ventilation air to the floors from the main mechanical units located in the basement. Each floor has a dedicated air handler with horizontal distribution. All systems are well beyond their useful life and there are numerous temperature and control related complaints throughout the building.

The existing system was not designed to meet the current occupant loads. Numerous renovations have occurred in the building without properly upgrading the HVAC services. Also, the addition of computers has added significant heat load to the building, further stressing the mechanical systems.

F. Electrical Systems:

The capacities and condition of the electrical system should be reviewed by an electrical engineer. Buildings of this period usually were not designed to support the electrical loads needed for today's modern teaching facilities. The intense use of computers and upgraded mechanical systems to provide cooling will likely strain the existing system. Light fixtures have been upgraded to energy efficient T-8 lamps. Emergency lighting fixtures appear inadequate. Re-use or redevelopment of this facility will most likely require an upgrade to the building's main service and distribution system.

G. Tel/Data Systems:

The entire control and distribution for the tel/data system have been installed well after the original construction of the building and as such reflect the compromises required to meet today's needs. The head-in equipment for the building shares space in the electrical room, service to connections are run exposed in occupied spaces, and access for new or replacement wiring is difficult. Distribution equipment shares space in the electrical closets on the upper floors. Re –use or redevelopment of this facility will require planning for an all new tel/data infrastructure.

Classrooms have very limited data infrastructure, usually only one drop per room. Technology use appears to be limited to overhead projectors and television/VCR on moveable carts.

H. Interior Finishes:

The interior finishes in most of the facility consist of VCT flooring, painted concrete block walls and lay-in acoustical ceilings. Ceilings have been added in most areas to conceal the HVAC upgrades. A few special purpose spaces in the building, most notably the large meeting room on the first floor, have received significant finish and mechanical upgrades. Floor plan re-configurations, mostly limited to the office areas, have been constructed of metal studs with painted gypsum wallboard. Significant water infiltration in the basement has rendered many spaces there unusable. Continual water infiltration will increase the potential for mold growth which will negatively impact the air quality in the building.

Existing signage does not meet current ADA requirements.

I. Exterior:

The exterior façade is composed of a "Dryvit" veneer finish system applied in recent years over the original plaster exterior. The windows are single pane and are at the end of their useful life. Numerous problems with air and water infiltration exist. The new veneer finish system appears to be suitable for most of the façade; however, serious problems are apparent where the roof meets the wall. There does not appear to be adequate flashing to properly prevent water infiltration at this critical juncture and failure of the veneer system is readily apparent. There is also damage to the veneer system adjacent to the ground, due to either water infiltration and/or landscape maintenance operations.

We could not access the roof to determine its condition. It is a series of barrel vaults with a spray on insulation and finish system. There was considerable evidence of past failures. As noted above, the failure of the roof to wall intersection would most likely create failure of the roof system at these locations.

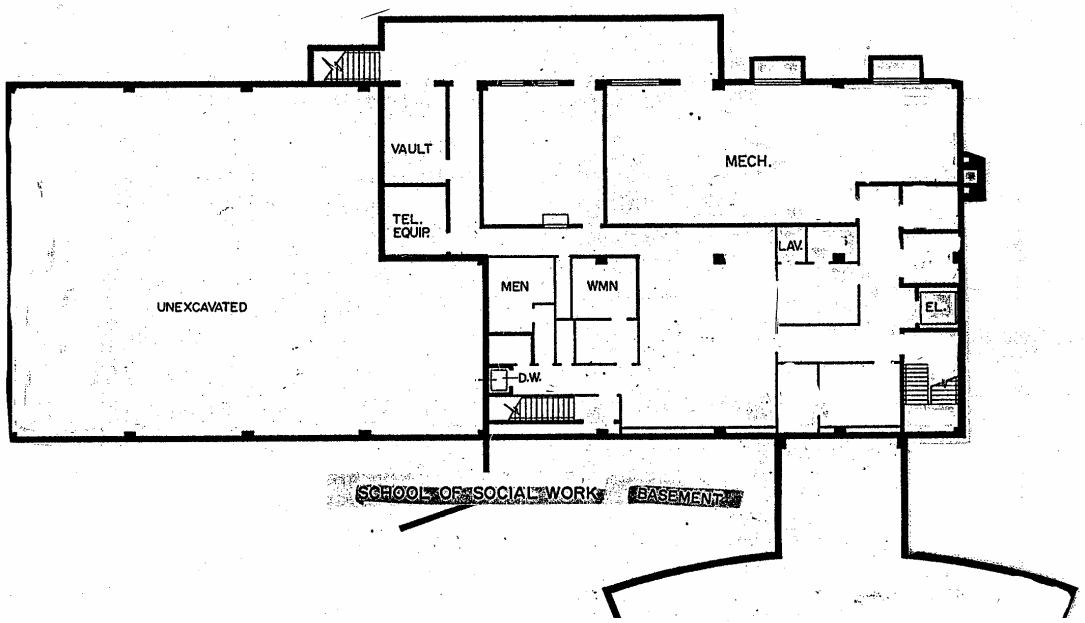
Site improvements are limited and appear in poor condition. There are numerous areas around the perimeter of the building with very poor drainage which may be advancing the deterioration of the exterior skin and basement water infiltration.

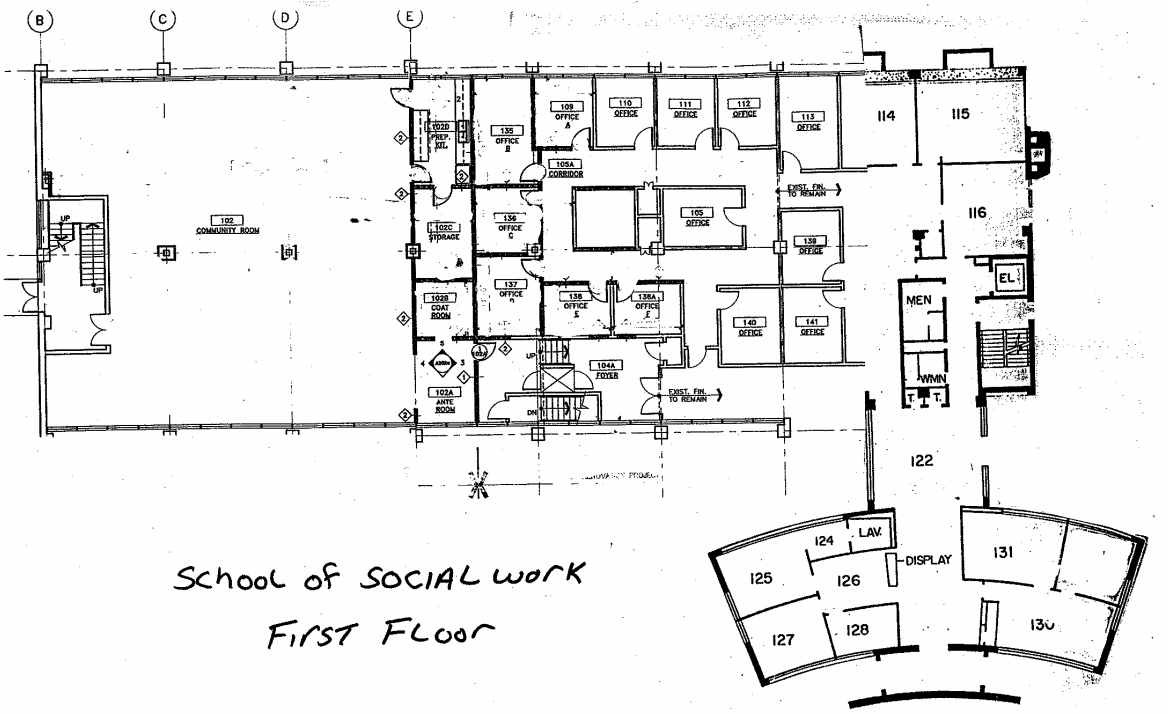
J. Usability and Re-use Potential:

Our impression of this building during our walk-through indicates that it is marginally fulfilling its current function as a classroom and office facility for the School of Social Work. The basic layout, less than adequate room sizes and low floor to floor heights would most likely restrict an interior finish and mechanical system upgrade to this building. Therefore, a complete interior gut and renovation would be required to bring this facility up to modern educational standards.

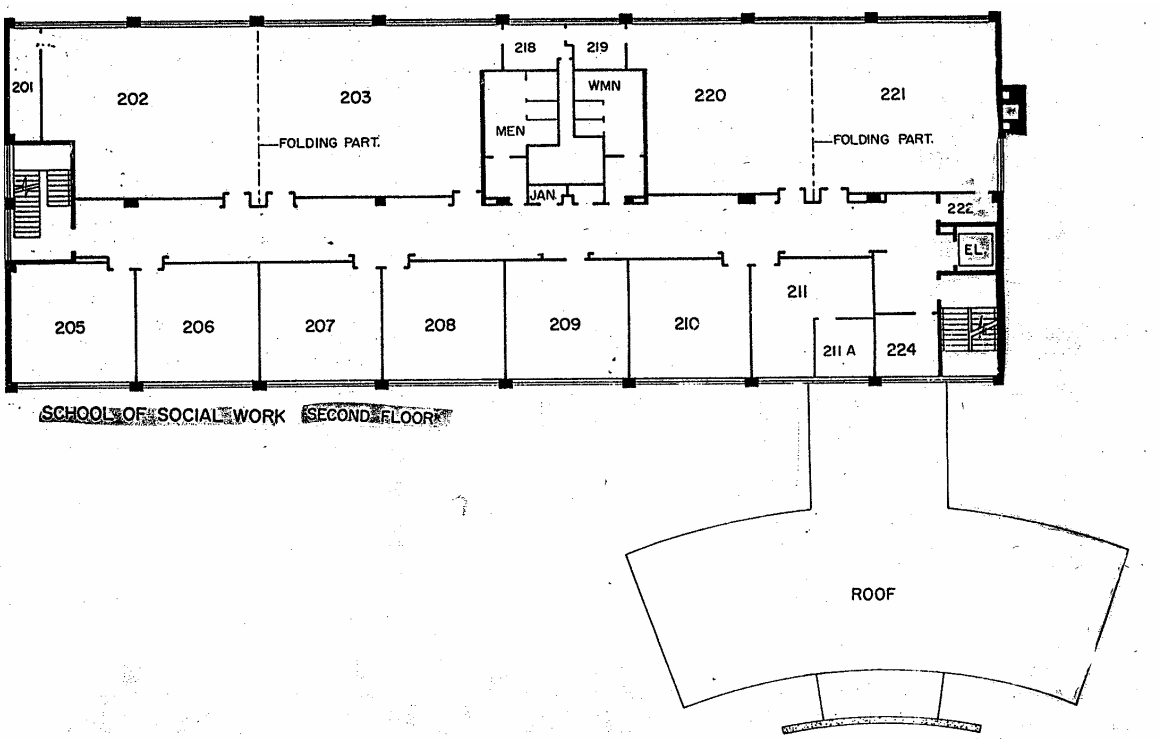
The repair of the exterior façade and roof will present a significant challenge for any facility reuse. We would anticipate a complete removal of the existing exterior enclosure and design of a new roof and skin which would address the water infiltration and flashing issues addressed above.

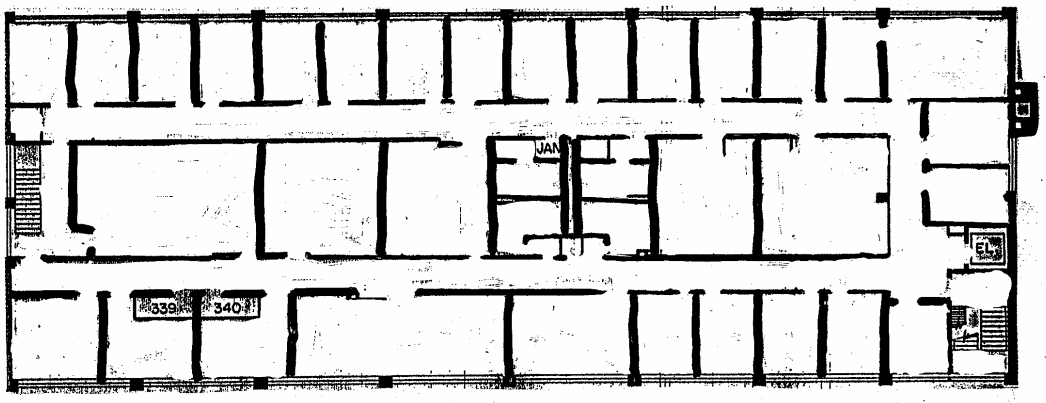
A renovation of this magnitude, both interior and exterior, would most likely exceed the cost of demolition and new construction, the latter of which could yield a much more functional and flexible modern educational facility.





School of SOCIAL work
First Floor


201
202
203
FOLDING PART.
218
219
WMN
MEN
JAN
220
221
FOLDING PART.
222
EL
205
206
207
208
209
210
211
211 A
224
SCHOOL OF SOCIAL WORK SECOND FLOOR
ROOF


JAN
EL
339
340

One Storey Entrance Building Facade

Lobby Interior

Exterior Façade Deterioration

Typical Corridor

Renovated Lower Level Meeting Facility

IV. LIBRARY BUILDING

A. General Overview:

This 67,700 gross square foot building is located at the terminus of the main pathway from the Student Parking lot and is adjacent to Asylum Road. Originally constructed for the University of Connecticut Law School, the building was erected in 1962± with a later one storey auditorium addition. The building consists of three stories above grade and a full basement, which in the rear of the building is exposed for its full height. The exterior façade is masonry veneer with pre-cast concrete trim elements. The windows are single pane and are at the end of their useful life. The roof is a built-up system with gravel ballast and appears to have numerous leaks and flashing problems. The building is fully occupied.

The existing building has the following characteristics:

Levels	3 floors plus full basement and one story auditorium
Floor to Floor Height	11'-4"
Total Area	67,700 sq.ft. (from campus literature)
Zoning District	Not Applicable
Use Type:	Non-separated Mixed Use B – Business and A3 – Assembly
Construction Type:	Undetermined
Egress Components:	Exit stairs are remote enough and appear wide enough to meet current requirements. The stair treads and handrails do not meet current Code requirements. Some stairs are not enclosed which may be required to meet current codes.
Elevator:	Minor upgrades for ADA

B. Structural System:

Due to the nature of the concrete block interior walls and inaccessible ceilings, the structural system could not be determined. The system appears to be in good condition with no known serious structural problems. Structural loads could not be determined and should be computed should re-configuration of the existing be anticipated. Column spacing is adequate, but the clear height to the bottom of the structure may pose challenges to the integration of new mechanical and life safety systems.

C. Plumbing Systems:

There were no obvious problems associated with the functioning of the interior plumbing systems; however ADA upgrades to the toilet facilities will be required and the finishes and fixtures are in poor condition. Fixture counts are also below required minimums.

There is a significant drainage problem during heavy rain storms. At these times the downstream storm drainage cannot handle the flows and water may back-up into the basement of the building.

D. Fire Protection Systems:

This facility does not have fire sprinklers and the existing fire alarm system does not appear to meet current Fire Code or ADA requirements. Due to the extensive use of this facility and its large population, further investigation and implementation of code required upgrades is highly recommended.

E. Heating, Ventilating, and Air Conditioning Systems:

The capacities and condition of the mechanical systems should be reviewed by a mechanical engineer. As observed, the system is currently running adequately, but most likely does not meet current ASHRAE standards for fresh air or energy efficiency. Control system is DDC. Original systems are in poor condition due to their age and require continual repairs and maintenance. Most of the cooling systems were added in later years and represent additional control and maintenance issues. All systems are well beyond their useful life and represent significant energy costs.

Humidity control for the Library is an ongoing problem. Current systems do not adequately control humidity levels in the summer months which has allowed mold to grow and affect the collections. This problem should be addressed now to prevent further deterioration.

F. Electrical Systems:

The capacities and condition of the electrical system should be reviewed by an electrical engineer. Buildings of this period usually were not designed to support the electrical loads needed for today's modern teaching facilities. The intense use of computers and upgraded mechanical systems to provide cooling will likely strain the existing system. Light fixtures have been upgraded to energy efficient T-8 lamps, except in the library. Emergency lighting fixtures appear inadequate. Re-use or redevelopment of this facility will most likely require an upgrade to the building's main service and distribution system. The main transformer vault has serious water infiltration problems and is usually underwater.

G. Tel/Data Systems:

The entire control and distribution for the tel/data system have been installed well after the original construction of the building and as such reflect the compromises required to meet today's needs. The head-in equipment for the building shares space in the electrical room, service to connections are run exposed in occupied spaces, and access for new or replacement wiring is difficult. Distribution equipment shares space in the electrical or janitor closets on the floors. Re –use or redevelopment of this facility will require planning for an all new tel/data infrastructure.

Most classrooms have very limited data infrastructure, usually only one drop per room

H. Interior Finishes:

The interior finishes in most of the facility consist of VCT flooring, painted concrete block walls and concealed spline or direct applied acoustical ceilings. Lay-in acoustical ceilings were mostly added for the HVAC upgrades. The original library spaces have the original upgraded finishes including wood and decorative block walls. Floor plan re-configurations have been constructed of metal studs with painted gypsum wallboard. Water infiltration in the basement has rendered many spaces there unusable.

Existing signage does not meet current ADA requirements.

I. Exterior:

The exterior façade is masonry veneer with pre-cast concrete trim elements. There are also some areas of stone veneer at the front entrance. The windows are single pane and are at the end of their useful life. A few areas of the precast concrete trim and panel areas have experiences severe deterioration due to water infiltration and the resulting freeze-thaw damage. Other areas have been damaged by vines which, while now removed, have caused damage. There is considerable damage to the concrete areaways on all sides of the building. The brick veneer on the auditorium addition also has considerable spalling of its outer surface. Water infiltration is also evident on the interior around the windows in many of the spaces.

The roof, estimated at 18 years old, is a built-up system with gravel ballast and appears to have numerous leaks and flashing problems. There was considerable evidence of past failures. The portion of the parapet above the roof line is an area with considerable damage and may require removal and rebuilding to achieve proper useful life.

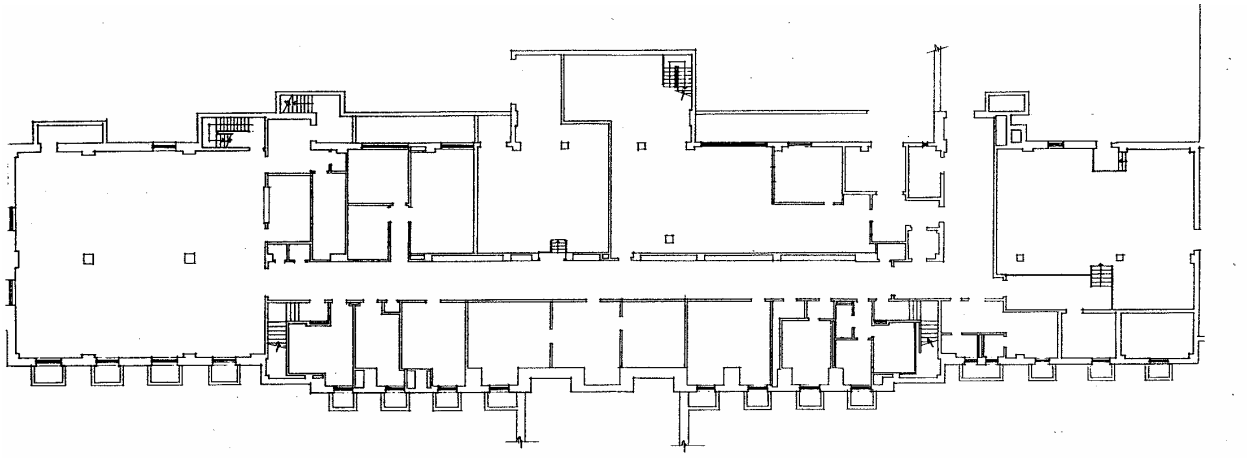
Site improvements are limited and appear in extremely poor condition. Of particular not is the front entrance area where the paving is spalling and heaving, and the site walls are loosing their pre-cast concrete veneers.

J. Usability and Re-use Potential:

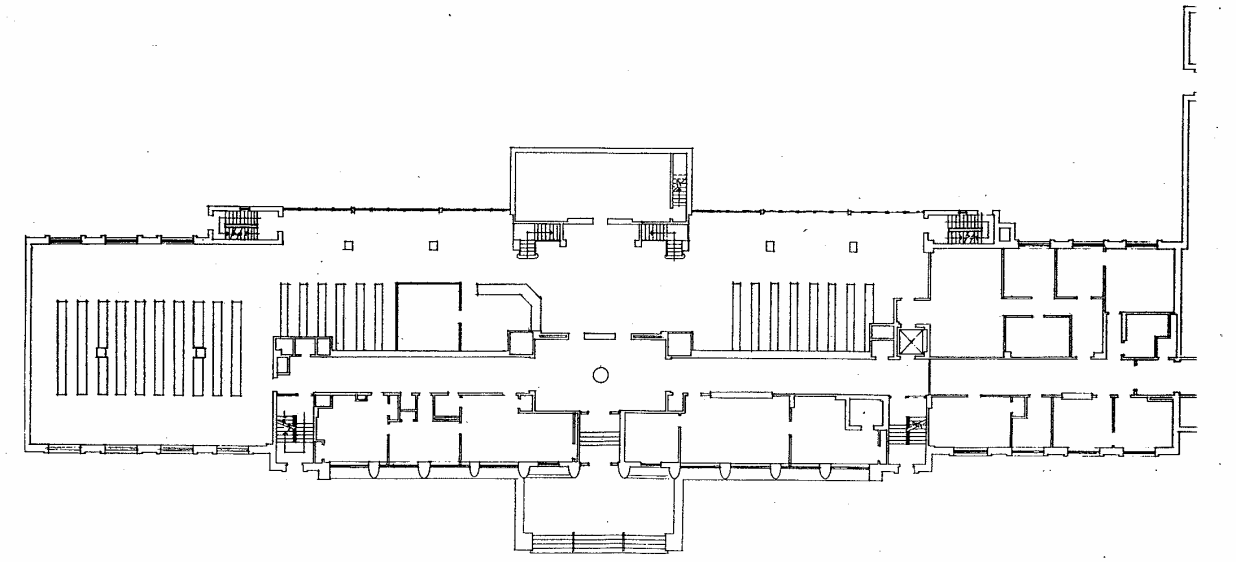
Our impression of this building during our walk-through indicates that it is marginally fulfilling its current function as a classroom and office facility. The basic layout and adequate room sizes would be suitable for re-development and re-use of this building. Floor to floor clear heights will present challenges to the integration of a new mechanical infrastructure. A complete interior finish replacement and infrastructure renovation would be required to bring this facility up to modern educational standards. The repair of the exterior façade and roof will also require significant costs; but due to the historical nature and location of this building, it would seem appropriate.

Re-configuration of this building would need to address issues of pedestrian entry and loading access. The current configuration and relationship to other campus buildings brings all traffic into the rear of the building at the lower level, adjacent to the parking lot, loading area and mechanical equipment.

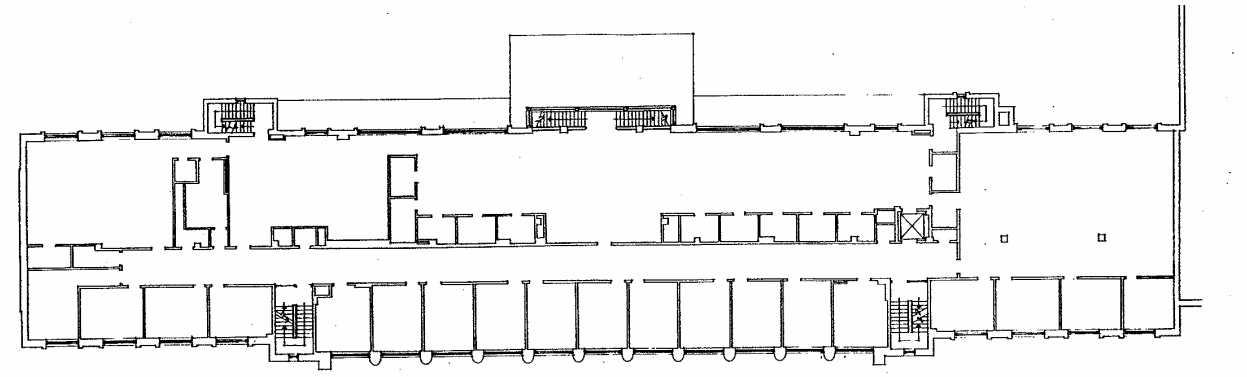
Main entrance to the building



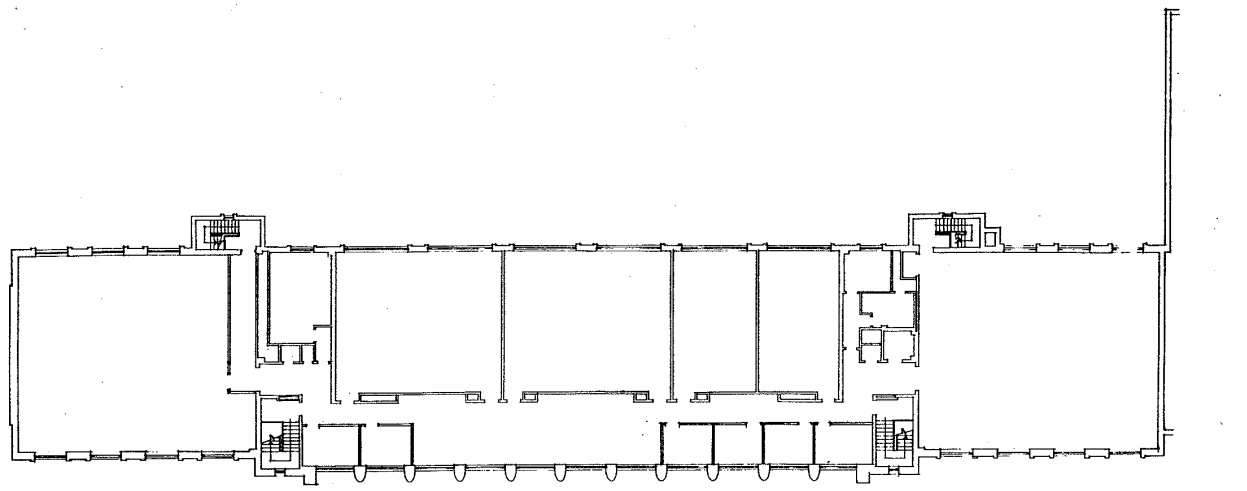
FIRST FLOOR 1800 ASYLUM



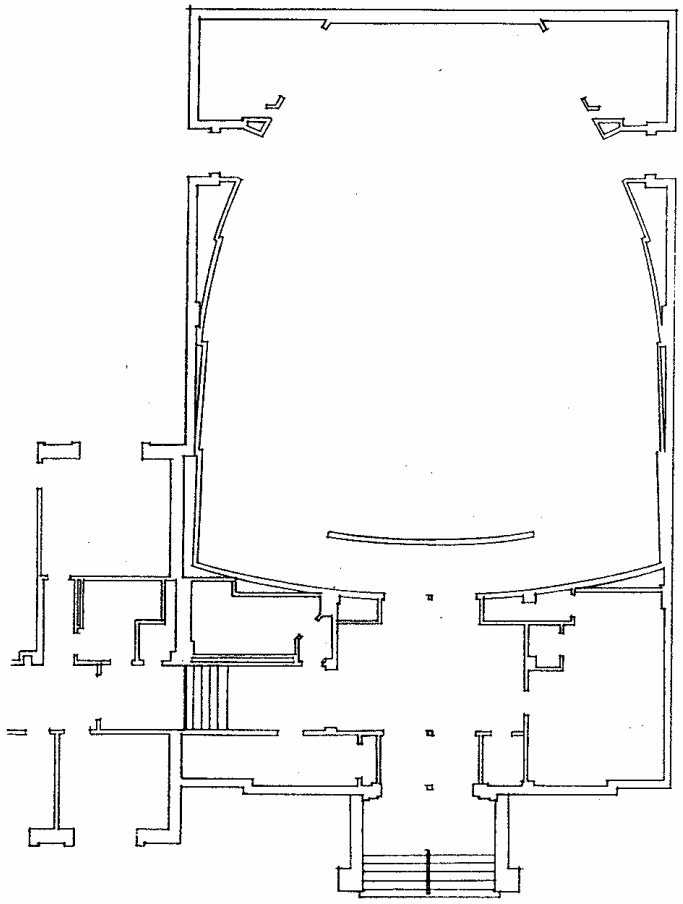
SECOND FLOOR 1800 ASYLUM



THIRD FLOOR 1800 ASYLUM



FOURTH FLOOR 1800 ASYLUM



1800 ASYLUM

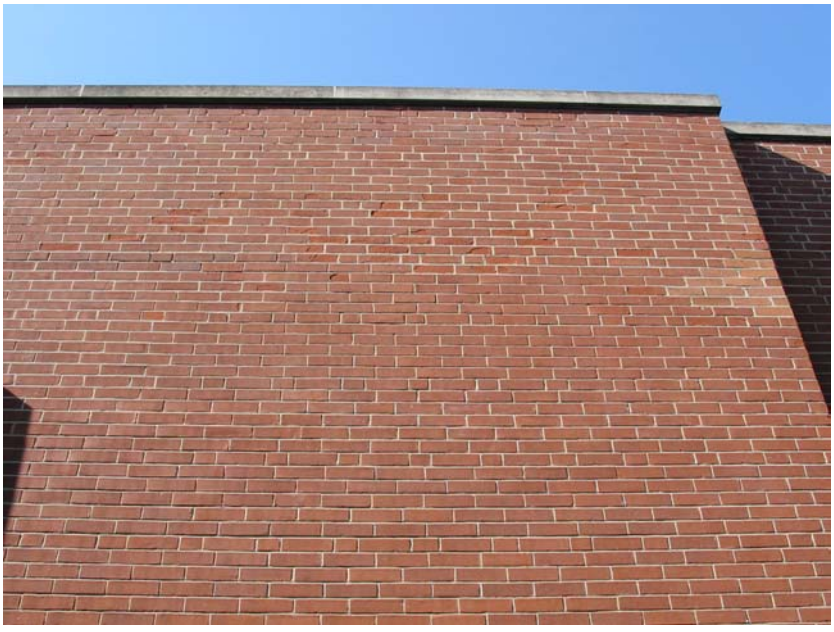
SECOND FLOOR - AUDITORIUM

Exterior Façade Facing Asylum Road

Exterior Deterioration

Interior of Library

Water Damage at Window Head



Spalling Bricks on Auditorium Addition

V. ASHRAE Life Expectancy Table

Equipment Item	Median Years
Air conditioners	
Window unit	10
Residential single or split package	15
Commercial through-the-wall	15
Water-cooled package	15
Heat Pumps	
Residential air-to-air	15[b]
Commercial air-to-air	15
Commercial water-to-air	19
Roof-top air conditioners	
Single-zone	15
Multi-zone	15
Boilers, hot water (steam)	
Steel water-tube	24 (30)
Steel fire-tube	25 (25)
Cast iron	35 (30)
Electric	15
Burners	21
Furnaces	
Gas- or oil-fired	18
Unit heaters	
Gas or electric	13
Hot water or steam	20
Radiant Heaters	
Electric	10
Hot water or steam	25

Equipment Item	Median Years
Air terminals	
Diffusers, grilles, and registers	27
Induction and fan coil units	20
VAV and double-duct boxes	20
Air washers	17
Ductwork	30
Dampers	20
Fans	
Centrifugal	25
Axial	20
Propeller	15
Ventilating roof-mounted	20
Coils	
DX, water, or steam	20
Electric	15
Heat Exchangers	
Shell-and-tube	24
Reciprocating compressors	20
Packaged chillers	
Reciprocating	20
Centrifugal	23
Absorption	23
Cooling towers	
Galvanized metal	20
Wood	20
Ceramic	34

Equipment Item	Median Years
Air-cooled condensers	20
Evaporative condensers	20
Insulation	
Molded	20
Blanket	24
Pumps	
Base-mounted	20
Pipe-mounted	10
Sump and well	10
Condensate	15
Reciprocating engines	20
Steam turbines	30
Electric motors	18
Motor starters	17
Electric transformers	30
Controls	
Pneumatic	20
Electric	16
Electronic	15
Valve actuators	
Hydraulic	15
Pneumatic	20
Self-contained	10