HAYNES LIENECK AND SMITH INC ARCHITECTS

Municipal Offices

Conceptual Design
Raymond Building
3 Raymond Place
Royalston, Massachusetts

Architect's Project 20010

October 23, 2018

Prepared by:

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Table of Contents
Municipal Offices

Architect's Project 20010
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Evaluation of Existing Building
Municipal Offices

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Site:

The site in ample and relatively flat with areas on every side of the building for potential development for parking.

The lot extends to the southeast with building area that can be used for additional space for municipal services.

There is an open common area to the southwest of the building. The Raymond Building is one of the buildings bordering the open common area.

The electric service is overhead from an existing utility pole.

Building:

The basement level is in good condition.

The floor is concrete with a sump area covered with a metal hatch. The condition of ground water must be determined and addressed before the basement level is renovated.

The perimeter walls are concrete with windows with sills that are high to be above grade.

There are concrete masonry wall that surround the space on the southwest of the main corridor. The concrete masonry wall at the main corridor is load bearing and aligns with what is probably a load bearing wall on the first floor.

There is a row of steel columns at 12 feet on center over the length of the building long a bearing line that is on the other side on the main corridor from the masonry bearing wall. The row of columns aligns with the corridor wall on the first floor.

Ceilings are plaster and gypsum board. The ceilings are high enough so that a suspended ceiling concealing ductwork can be provided while maintaining an adequate ceiling height.

The former kitchen has wood cabinets in poor condition and is not suitable for renovation as a break area

On the northeast side there is an exterior ramp with two enclosing walls (open on outlet end) and a roof. The ramp appears to be too steep to meet slope requirements for accessibility. The ramp provides a second egress.

The first floor is in very good condition.

The floors are hardwood; below ceramic tile or other finishes where finishes are applied. The floors appear to be capable of supported more than the floor loading prescribed for classroom space and there should not be an issue with evaluating the floor for capacity for use as office space which has a higher design load per square foot.

The perimeter walls are plaster over what is probably wood framing but which may be concrete masonry in some places. Window are large wood framed double hung that provide more than adequate quantities of natural light and ventilation when operating properly.

Interior walls are wood framed with plaster. Although the roof appears to clear span to exterior walls, there may be some load bearing interior walls supporting at least parts of the plaster ceilings.

Ceilings are plaster and gypsum board. The ceilings are high enough so that a suspended ceiling concealing ductwork can be provided while maintaining an adequate ceiling height.

There are two large toilet rooms that are in fair condition with archaic chasses, toilet partitions, and plumbing fixtures. There is also a custodian's closet with sink and a private toilet. The plumbing is congregated in the southwest portion of the building. None of the toilets meet the requirements for accessibility.

There are built in closets in the former classrooms spaces that could be incorporated into office spaces if there is enough square footage for the office spaces otherwise; and there are gravity vent chases that should be removed or at least blocked..

On the southeast side there is an exterior wood framed ramp without enclosing walls or roof. The ramp is in poor condition and should be replaced, Stone steps remain below the ramp and the stone steps can be renovated to be a second egress from the first floor.

There is an attic space that is not designed to be accessible for use.

The building does not have an elevator and the codes require a means of vertical conveyance between floors. Entering on each floor without the conveyance between floors is not acceptable.

The building envelope is in very good condition. The exterior is brick. The roofing is currently being replaced. The roofing project included removing the chimney.

Building Systems:

The structural system is in good condition and reinforcing to eliminate deficiencies is not needed. The change of occupancy will require evaluating the existing structure for floor live loads, snow loads, wind loads, and seismic loads.

There is no fire suppression system. The building codes and fire suppression laws do not require a fire suppression system. There is no public water source for a fire suppression system.

The plumbing system is not adequate. The recommendation is to provide a full plumbing system beginning at the water service entrance and the sanitary sewer service outlet. The waste piping does appear to exit into the basement floor so that plumbing fixtures within proximity to existing fixtures should not present any issues with pitch to drains. Cutting the floor to access drains is required in lieu of effluent pumps.

The mechanical systems have been removed and no longer exit. There does not appear to have been fresh air incorporated into the mechanical system, although the gravity vents, which are grossly inefficient by current standards, may have provided air exchange.

The electrical system is not contemporary and is recommended to be replaced. With the incorporation of air conditioning and the elevator, an upgraded three phase electrical service is recommended with an underground service entrance with spare conduit for future services. Further, the following electrical systems are recommended:

Emergency generator for life safety systems and for the elevator

Egress lighting and lighted exit signs

Ambient lighting with LED fixtures and occupancy control throughout

Telecommunications system for telephone, data, and systems reporting for fire alarm and elevator

Fire alarm system

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Space Program
Municipal Offices

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Based on the space program model used for the Whitney Hall conceptual design in 2018 and based on the area available in the Raymond Building, the program for the municipal offices in the Raymond Building is as follows:

Size (Net square feet)	**Space Use**
	First Floor
140	Town Clerk
125	Administrative Assistant (Selectboard)
100	Work Room, copy center
140	Treasurer
140	Town Accountant
150	Tax Collector
150	Town Assessors
140	Board of Health
150	Building Inspections
150	Meeting Room
150	Meeting Room
10	Storage per office space for each of six offices
50	Accessible Toilets, each of two
20	Custodian

continued

Basement Floor

150	Planning Board
140	Conservation Commission
150	Zoning Board
150	Meeting Room
10	Storage per office space for each of three offices
180	Work Area, 4 workstations
60	Information Technology
245	Break Room, employee meeting room
280	Archival Storage, Secretary of State standards, fire rated
50	Accessible Toilets, each of two
35	Custodian
110	Utility Room, electric service entrance
35	Storage

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Design Concepts
Municipal Offices

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Site:

Parking areas for the public, for accessible parking near the elevator lobby, and for employees near the access to the basement floor should be incorporated into the site leaving the open common area open and leaving the southeast portion of the site open for future building development. The size of the parking areas should be keep to a minimum pending the number of people in the building at any one time.

Provide an accessible route from accessible parking to the elevator lobby.

Until the southeast of the lot is developed, the Town may want to consider using the space for public play or sports that does not require permanent built-in structures.

Building:

General:

The building will be the guidelines of the Green Communities Act.

The exterior wood frames ramp will be removed and an addition will be provided with two story connector, elevator with doors on two opposite sides, elevator machine room, and accessible lobby. The Addition will connect to the existing building through the window openings at the southeast end of main corridor of each floor. The roof over the elevator will be high enough for the required clearance. The lobby will provide access to an elevator door at the existing grade and the elevator will provide vertical conveyance to both floors via the connector.

The concrete ramp on the northeast side will be converted to a stairway that provides a second egress to the basement floor. The stairway will be enclosed and secure. The stairway can provide an employees' entrance from employee parking on the northeasterly side of the building.

The southeasterly entrance stair that is below the wood framed ramp will be restored as a public entrance.

On the interior, the initial concept is to access spaces off the wide corridors that run end to end on each floor. However, the depth of spaces from the corridor to exterior walls is larger than is practical for office space, even for office space with conference space. Further, at eight feet wide (suitable for school traffic) the main corridors are wider than needed for office space. According, the circulation is designed as short cross corridors off the main corridor with a group of related offices, a meeting room, and storage for each office on each cross corridor. Further, the office spaces are designed to excerpt

some of the main corridor spaces while leaving at least a five foot main corridor and while not disturbing existing structural supports.

First Floor:

On the first floor are groups of offices for town clerk, administrative assistant, and work center; for treasurer, accountant, and tax collector; and for assessors, building inspections, and board of health.

The Work Center has the copier and other business machines. The Work Center is located at the top of the stairs in case a lower level copier area is not provided.

There are also two meeting rooms that can be combined into a larger meeting room by opening a folding partition. The folding partition would normally be closed and the rooms would be two meeting rooms for six to eight people each.

There are two accessible single user toilets; one for women and one for men.

Basement Floor:

On the basement floor is a group of offices for planning board, zoning board, and conservation commission.

A work area with copier is in the main corridor.

The meeting room is for six to eight people and is located near the office group.

There are two accessible single user toilets; one for women and one for men.

There is a work area with high windows for four open office work stations.

The Information Technology office is located fairly centrally.

There is a break room for employees that is located near the rear entrance which can be the employees' entrance so that employees can leave coats and lunches in the break room on the way to offices. The break room is intentionally not near the offices so that when the offices are closed for lunch, the public will not "find" the employees.

One of the existing concrete masonry enclosed rooms will be the utility room with electrical service entrance, power panels, and alarm panels.

The other concrete masonry enclosed room will be fitted to Secretary of State standards for record storage which includes, but is not limited to, three hour fire rating, concrete ceiling to provide fire rating and to protect from failing debris in a fire, independent humidity control mechanical system, chemical fire suppression system, and access security

<u>Building Systems</u>:

The plumbing system is replaced from the water service entrance and the sanitary waste outlet. An electric hot water heater is provided.

The mechanical systems are replaced.

> A high efficiency variable refrigerant flow (VRF) electric heat pump ductless heating and cooling system will be provided. Interior components will be located above suspended ceilings. The system includes, but is not limited to, the following components:

Outdoor condensing unit with capacity of approximately 14 tons located on the ground.

Refrigerant pipe truck to intelligent branch controller splitter manifold and branch refrigerant piping to a delivery unit in each space

Delivery unit in each space incorporating wall unit, ceiling unit, floor mounted unit, or other delivery suitable for each space.

Control sensor for each room.

The VRF system is able to provide either heating or cooling to any space simultaneously and the system is able to borrow heating or cooling from one room and deliver to another room where needed through the manifold.

A dedicated outdoor air system (DOAS) energy recovery ventilator (ERV) is provided to supply tempered fresh air through high efficiency transfer and to exhaust air from toilets and exhausted return air. The ventilator and ductwork will be located above suspended ceilings.

The electrical system is replaced.

An upgraded service is provided to a main distribution panel in the utility room in the basement. A subpanel is provided on each floor. The elevator requires the service to be three phase power. An emergency generator is planned for egress lighting and life safety systems.

Lighting is replaced throughout with LED light fixtures and occupancy controls.

An addressable alarm system is provided manual pull stations, space detection as required, and signaling devices throughout. The fire alarm system will have the elevator recall system incorporated.

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Municipal Offices

Conceptual Construction Budget

COST	DESCRIPTION
145,000	GENERAL CONDITIONS
145,000	OVERHEAD AND PROFIT
95,000	SITE WORK
60,000	DEMOLITION
25,000	HAZARDOUS MATERIALS ABATEMENT
50,000	CONCRETE
35,000	MASONRY
40,000	LIGHTGAUGE METAL FRAMING
20,000	MISCELLANEOUS METALS
25,000	ROUGH CARPENTRY
35,000	FINISH CARPENTRY
20,000	MOISTURE PROTECTION
80,000	BUILDING INSULATION
75,000	ASPHALT SHINGLE ROOFING
1,000	JOINT SEALING
15,000	PRESSED METAL FRAMES
20,000	FIBERBOARD DOORS
10,000	CLAD WOOD DOORS
75,000	CLAD WOOD WINDOWS
25,000	HARDWARE
45,000	GYPSUM BOARD
15,000	CERAMIC TILE
25,000	SUSPENDED CEILING SYSTEMS
20,000	ACOUSTICAL INSULATION
45,000	RESILIENT FLOORING
2,000	ENTRY MAT TILE
20,000	CARPET
40,000	PAINTING
4,000	SPECIALTIES
3,000	APPLIANCES
5,000	LOUVERS
3,500	SIGNAGE
10,000	TOILET ROOM ACCESSORIES
90,000	ELEVATOR
15,000	CHEMICAL FIRE SUPPRESSION SYSTEM
60,000	PLUMBING
235,000	HEATING, VENTILATING, AND AIR CONDITIONING
125,000	ELECTRICAL
1758500	**CONSTRUCTION COST**
175000	DESIGN AND CONSTRUCTION CONTINGENCY
90000	PROFESSIONAL SERVICES FEE
2023500	**PROJECT COST**

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October, 2020

Code Compliance Report
Investigation and Evaluation of Existing Building
Municipal Offices

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Additions and Alterations
Raymond Building
3 Raymond Place
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780 CMR The Massachusetts State Building Code, ninth edition, Chapter 34
International Building Code (IBC) 2015 and Massachusetts Amendments
Existing Building Code of Massachusetts (IEBC) 2015
521 CMR Rules and Regulations of the Architectural Access Board 2006
International Energy Conservation Code (IECC) 2018
International Mechanical Code (IMC) 2015
248 CMR Uniform State Plumbing Code 2017

780 CMR The Massachusetts State Building Code, ninth edition, Chapter 34

General Information:

The work under consideration is renovations to the Raymond Building, formerly the Raymond School, which is currently not occupied, for use as municipal offices.

The following information is available from the Board of Assessors:

The Raymond Building was constructed in 1939

The building has a current assessed value of $383,700.

The building has a gross floor area of enclosed space of 5,682 square feet with 2,766 square feet on the each floor and with 150 square feet at the second egress stair. .

The site is 6.20 acres in area that provides sufficient space land for developing parking.

The last recorded use of the building is as a school.

The Alterations involve using the both floors of the two story building to move the offices from the Whitney Building in South Royalston into the Raymond Building and to plan for the future using the programming model used for the Whitney Building in 2017. The existing enclosed concrete ramp on the northeast side will be converted to a stairway for a second egress from the basement level. The existing exterior wood framed ramp will be removed and an Addition for an elevator is added to the southeast side where there is the potential for further additions. The elevator addition which includes a landing on both floor, elevator hoistway, elevator machine room, and lobby adds 300 square feet to the building.

The code compliance report considers the scope of work to include work that has occurred piecemeal over the past few year including, but not limited to, selective demolition, asbestos abatement, removing the masonry chimney above the roof, and replacing the roofing as if the work is performed as one comprehensive project. Further, although the work included in the full renovation may be performed in phases, the code compliance report considers the entire work as if performed as one comprehensive project. The code compliance for each phase will be determined within the comprehensive code compliance as building permits are obtained for each phase.

Use and Occupancy Classification:

In accordance with IBC 302.1 General, in determining the Use Group for the area being altered, consideration is given to the Use Group which most nearly resembles the occupancy characteristics and relative hazards to life safety that occur in the portion of the building being altered.

> The last previous use of the building was as a school. In accordance with IBC 305.1 Education Group E, schools are in Education Group E. In accordance with IBC 303.1.3: Assembly Spaces Associated With Group E Occupancies, spaces used for assembly purposes associated with a Group E occupancy are not considered a separate occupancy. Accordingly, the Use Group of the existing building is Education Group E.
>
> The use of the building after the Additions and Alterations will be municipal offices. In accordance with IBC 304.1: Business Group B, civic administration spaces are in Business Group B.

Accordingly, the work involves a change of use with a change in occupancy classification from Education Group E to Business Group B.

Construction Classification: Although some of the construction is concealed from view, in accordance with IBC Table 601 Fire Resistance Rating Requirements for Building Elements, the construction classification is determined to be Type VB with the following characteristics:

> Exterior load bearing wood framed walls supporting floors and roof
> Wood framed floor construction with supplemental steel beams and steel columns and with supplemental concrete masonry load bearing wall
> Wood frame for steeply pitched roof
> Interior non-load bearing partitions of wood framing and lightgauge metal framing

Existing Conditions:

Eighth Edition, 780 CMR The Massachusetts State Building Code 34: Existing Buildings: Evaluation of an existing building is according to 780 CMR 34, which is replaced by the IEBC with modifications according to the 780 CMR 34 amendments.

IBC 101.4.5: Fire Prevention:

In accordance with IBC 101.4.5: Fire Prevention and Massachusetts General Laws Chapter 148 Section 26G fire suppression is required in any building in which major alterations are performed where the building has a total floor area in the aggregate of more than 7,500 gross square feet and in which major alterations affect one third or more of the floor area of the entire building or in which the cost of the alterations is equal to or greater than one third of the assessed value of the building. A fire suppression system is not required because the aggregate area of the building, including the elevator addition, is less than 7,500 square feet.

IBC 102.6.4: Existing Means of Egress, Ventilation, and Lighting:

Regardless if any work is planned and as a minimum requirement for occupancy; the building official may cite the following conditions and require abatement of cited conditions to make the building environment safe, healthy, or otherwise in compliance with 780 CMR:

Means of Egress: Deficiencies in existing means of egress shall be eliminated.

Less than the number of means of egress required

Any required component, which is of insufficient width to provide adequate exit capacity

Any means of egress that is not so arranged as to provide safe and adequate means of egress including, but not limited to, unimpeded access and required emergency lighting

The second egress from the basement level is currently an enclosed concrete ramp which will be converted to a stairway. The existing wood framed exterior ramp will be removed and the existing exterior stairs will be returned to use as the second egress from the first floor. The existing means of egress will be improved to suit conditions involved to eliminate any hazards.

Ventilation: In accordance with IBC 1203: Ventilation, building shall be provided with natural ventilation in compliance with IBC 1203.4: Natural Ventilation or mechanical ventilation in compliance with IMC 403: Mechanical Ventilation and IMC Table 403.3.1.1 Minimum Ventilation Rates.

In accordance with IMC 403, where natural ventilation is not provided, mechanical ventilation will be provided based on a default occupant density with assigned flow rate per person (people rate) plus a flow rate per square foot (area rate) as follows:

Occupancy	People rate Cubic feet/ person	Area rate Cubic feet/ square foot	Exhaust Rate cubic feet/ minute continuous or cubic feet/ square foot
Office spaces	5	0.06	0
Meeting rooms	5	0.06	0
Toilets	0	0	50 cubic feet/fixture

The building was designed with natural ventilation. Natural ventilation will be supplemented with controlled mechanical ventilation in offices and meeting rooms and with mechanical exhaust where specifically required for toilets to eliminate ventilation hazardous conditions.

Lighting: In accordance with IBC 1205: Lighting, every space intended for occupancy shall be provided with natural light by means of exterior glazed openings or with artificial light to an average illumination of 10 foot-candles over the area of the space at 30 inches above the floor level.

Although the existing natural lighting and artificial lighting systems provide adequate lighting and do not present a hazard, lighting will be replaced with energy efficient LED lighting in compliance with the Green Communities Act. .

IEBC 101.2.3: Scope: In accordance with IEBC 101.2.3, requirements in 780 CMR 34: Existing Structures for plumbing, fuel gas, electrical, elevators, fire, or accessibility shall be replaced with the requirements of the Massachusetts specialty codes as indicated in 780 CMR 1.00 Scope and Administration.

IEBC 104.2.2.1: Building Investigation and Evaluation: In accordance with IEBC 104.2.2.1, the Designer of Record is required to investigate, evaluate, and report to the building inspections authority on the effects

of the Alterations on designated aspects of the existing building including Design Gravity Loads, Lateral Load Capacity, Egress Capacity, Fire Protection Systems, Fire Resistive Construction, Interior Environment, Hazardous Materials, and Energy Conservation. The report on the investigation and evaluation of the Alterations is as follows:

Design Gravity Loads: The Alterations probably do not affect the gravity load carrying capacity of the existing structure to the extent that compliance with IBC is required.

The building was originally designed for classroom occupancy. The building is currently used for office and assembly. The original use and the previous use of the building was a school building. In accordance with IBC Table 1607.1 Minimum Uniformly Distributed Loads, minimum live load on floors for the various occupancies is as follows:

Live load	Occupancy
40 pounds per square foot	Classrooms
50 pounds per square foot	Offices
100 pounds per square foot	Assembly areas with movable seats

Accordingly, the gravity loads exceed the gravity loads for the original use. Further, the actual live loads that were used when the building was constructed are not known and the loads in IBC Table 1607.1 cannot be assumed to exist. Therefore, the existing floor structures will be structurally evaluated and reinforced to meet the live load characteristics of IBC Table 1607.1.

Existing members on which an added load of less than 5 percent is placed may remain in accordance with 707.4, which requires compliance with the IBC where the Alterations reduce the capacity of existing gravity load carrying structural elements or where additional gravity loads exceeding 5 percent are added to the existing structural elements.

Lateral Load Capacity: The Alterations affect the lateral load carrying capacity of the existing structure because the level of work requires compliance with IBC 1609: Wind Loads and IBC 1610: Soil Lateral Loads. The existing structure will be evaluated and reinforced for resistance to lateral loads as required by IBC 1609 and IBC 1610.

Egress Capacity:

Egress Capacity: The Alterations do not affect the egress capacity. In accordance with IBC Table 1004.1.2: Maximum Floor Ara Allowances per Occupant, the design occupant load for the previous Classroom use is one occupant per 20 square feet net and the design occupant load for Business use is one person per 100 square feet gross. Accordingly, the design occupant load is less for the currently intended use and, therefore, the existing egress capacity is adequate.

Egress Lighting: In accordance with IBC 1008: Means of Egress Illumination, the egress paths will be illuminated by battery powered egress lights.

Exit Signs: In accordance with IBC 1013: Exit Signs: Lighted exit signs will be provided.

Fire Protection Systems:

Fire Suppression: The Alterations will not affect fire suppression requirements. In accordance with IBC 101.4.5: Fire Prevention and Massachusetts General Laws Chapter 148 Section 26G fire suppression is not required because the building has a total floor area in the aggregate of less than 7,500 gross square feet. Further, neither the IBC nor the IEBC requires a fire suppression system for Business Group B occupancies.

In accordance with IBC 905.3.1 Height, Standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet above the lowest level of fire department vehicle access. Standpipes are not required because the floor height of the highest story is less than 30 feet above the lowest level of fire department access.

Fire Alarm: The Alterations affect the fire alarm system. A fire alarm system is only required for the elevator for fire alarm recall. Therefore, since a fire alarm panel and fire department notification are required as part of the elevator recall system; for the safety of building occupants and in the absence of requirements for a fire suppression system, an addressable fire alarm system with alarm location indication shall be provided throughout. The fire alarm system shall be provided in accordance with IBC 907: Fire Alarm and Detection Systems and with NFPA 72: National Fire Alarm and Signaling Code.

Fire Extinguishers: The Alterations affect the requirements for fire extinguishers. In accordance with IBC 906.1: Where Required, fire extinguishers shall be provided in Business Group B occupancies in compliance with NFPA 10: Standard for Portable Fire Extinguishers, which requires a Type 2ABC fire extinguisher for every 3,000 square feet and within a travel distance of 75 feet to an extinguisher. A fire extinguisher provided in the common area on each floor will provide the required coverage. A fire extinguisher is also required for the elevator machine room.

Fire Resistive Construction:

In accordance with IBC Table 601: Fire-Resistance Rating Requirements for Building Elements, there are no requirements greater than zero-hour fire ratings.

In accordance with IBC 602 Fire Resistance Rating for Exterior Walls Based on Fire Separation Distance, there is a requirement for a two-hour fire rating when an adjacent building is within 5 feet and a one-hour fire rating for the exterior wall when an adjacent building is within 30 feet. Measured perpendicular to the wall, there are no adjacent buildings within 30 feet of the existing exterior wall.

In accordance with IBC 1020 Corridors and IBC Table 1020.1 Corridor Fire Resistance Rating, in Business Group B occupancies serving an occupant load greater than 30 persons shall have a one hour fire rating for corridor walls.

In accordance with IBC 713 Shaft Enclosures, shaft enclosures shall be provided around stairways. In accordance with IBC 713.4: Fire-resistance rating, shaft enclosures shall have a fire resistance rating of one-hour where connecting less than four stories. Accordingly, the shaft enclosures around the stairways shall be one-hour fire-rated.

Interior Environment:

Based on the components of the interior environment indicated in IBC 12, the following existing conditions of the interior environment are evaluated for effects resulting from the Alterations:

Ventilation: The Alterations affect the existing mechanical ventilation system. The natural ventilation shall be supplemented with mechanical air handling systems, ducted supply air and ducted return air from each occupied space. The ventilation of spaces no longer involves natural ventilation to meet ventilation requirements.

Mechanical exhaust will also be provided in toilets as is mandatory.

Temperature Control: The Alterations affect the existing temperature controls. The existing controls are being replaced with controls for the mechanical air handling systems.

Lighting: The existing lighting system will be replaced throughout the building with energy efficient LED fixtures compliant with the Green Communities Act.

Yards or Courts: There are no existing yards or courts involved with the Alterations.

Sound Transmission: The Additions and Alterations affect sound transmission in the floor-ceilings assemblies, and between dwelling units. The project does not involve a residential occupancy and, therefore, the sound transmission requirements do not apply.

Interior Space Dimensions: The Alterations maintain the requirements for the size of spaces in compliance with minimum space requirements for occupied spaces.

Access to Unoccupied Spaces: The involve access to unoccupied spaces. Access is provided for the attic level via access panels to the attic areas. There are no other unoccupied areas that are not accessible.

Hazardous Materials: The Owner shall be responsible for identifying hazardous materials that are not concealed within existing construction, and for reporting the presence of hazardous materials to the Contractor. The results of testing for hazardous materials in the area of Alterations shall be provided to the Contractor prior to the start of construction. Hazardous materials that are disturbed by the Additions and Alterations will be abated.

The contractor is being instructed to identify, report, and properly handle any concealed hazardous materials that may be uncovered during construction.

Energy Conservation: The Alterations affect energy conservation. In accordance with C503.1: General, Alterations shall conform to the energy requirements of the IECC without requiring unaltered portions of the building to comply with the IECC. Compliance with exterior envelope insulation requirements is not mandated where the existing exterior facing cavities are not exposed in the roof, exterior walls, and floor. The following Alterations shall comply with the IECC In accordance with IECC C402.1.3: Opaque Thermal Insulation Minimum Requirements for Climate Zone 5:

> Horizontal planes separating attic spaces from heated spaces shall be insulated with minimum R38 insulation.
>
> Wood framed exterior walls shall be insulated with minimum R20 cavity insulation or with minimum R13 cavity insulation with minimum R3.8 continuous insulation; except that only filling the cavity is required at existing walls.
>
> Basement walls shall be insulated with minimum R7.5 continuous insulation on the interior.

Replacement windows will comply with IECC Table C402.4: Building Envelope Fenestration Requirements which is maximum U0.45 for operable fenestration in Climate Zone 5.

Alterations for service water heating shall comply with IECC C404 Service Water Heating.

The Alterations affect the mechanical systems that are replaced and that are required for the interior environment. Mechanical equipment shall comply with IECC C403: Building Mechanical Systems, including, but not limited to, regulations affecting programmable thermostats and controls, ducts, mechanical system piping, service hot water systems, mechanical ventilation, and equipment sizing and efficiency.

The Alterations affect the light fixtures that are replaced and that are required for the interior environment. Light fixtures shall comply with IECC C405: Electric Power and Lighting System including, but not limited to, light reduction controls in prescribed spaces in accordance with IECC C405.2: Lighting Controls, and lighting power density for the prescribed space uses in accordance with IECC Table 405.5.2: Interior Light Power Allowances.

In addition to building code compliance, the energy efficiency of mechanical equipment shall comply with the requirements of the Green Communities Act.

Compliance:

IEBC 301.1: General:

In accordance with IEBC 301.1 and IEBC 301.1.2 Work Area Compliance Method, Repairs, Alterations, Additions, and Changes in Occupancy complying with applicable requirements of IEBC 5 through IEBC 13 shall be considered compliance.

IEBC 301.1.1: Prescriptive Compliance Method: In accordance with IEBC 301.1.1, the prescriptive method may be used where alterations and change of occupancy complying with IEBC 4; incorporate contemporary life safety design and construction; and provide the means of egress, fire protection, occupancy, and structural conditions that are required by recent editions of the building code. The building was constructed before the first edition of the building code and substantial alterations have not occurred to incorporate contemporary life safety systems and, therefore, the building does not incorporate contemporary life safety design and construction. Therefore, the prescriptive method is not used.

IEBC 301.1.2: Work Area Compliance Method: In accordance with IEBC 301.1.2, the Work Area Compliance Method is selected as the method for evaluation of the existing building. In accordance with IEBC Chapter 5: Classification of Work Method, the applicable Chapters of the IEBC are identified for the Work Area Compliance Method as follows:

> In accordance with IEBC 503, Alterations involving removal, replacement, or covering existing materials, elements, equipment, or fixtures with new materials that serve the same purpose shall be evaluated in accordance with Chapter 7: Alterations, Level 1.
>
> In accordance with IEBC 504, Alterations involving the reconfiguration of spaces, the addition or elimination of any door or window, and the reconfiguration or extension of any system shall be evaluated in accordance with Chapter 7 and Chapter 8: Alterations, Level 2.
>
> In accordance with IEBC 505, Alterations involving the reconfiguration of spaces, the addition or elimination of any door or window, and the reconfiguration or extension of any system where the work areas exceed 50 percent of the building shall be evaluated in accordance with Chapter 7 and Chapter 8, and Chapter 9: Alterations, Level 3.
>
> In accordance with IEBC 506, Change of Occupancy shall be evaluated in accordance with Chapter 10: Change of Occupancy.

Work Area Method
Chapter 7: Alterations, Level 1

IEBC 701.1 Scope: Level 1 alterations shall comply with the requirements of Chapter 7.

IEBC 701.2 Conformance: In accordance with IEBC 701.2, the Alterations shall not make the building or portion less safe than the existing conditions.

IEBC 701.3: Flood hazard areas: In accordance with IEBC 701.3, 780 CMR Appendix G, 1612, and local flood hazard maps prepared for the Federal Emergency Management Agency (FEMA), the building is not in a flood hazard area.

IEBC 702: BUILDING ELEMENTS AND MATERIALS:

IECC 702.1 Interior Finishes: In accordance with IEBC 702.1, Alterations involving newly installed interior wall and ceiling finishes shall comply with IBC 8. In accordance with IBC 803 and IBC Table 803.11: Interior Wall and Ceiling Finish Requirements By Occupancy, when tested according to ASTM E84, interior finishes in the most restrictive of Business Group B occupancies without fire suppression shall meet the following requirements:

Exit enclosures	Class A: Flame Spread Index 0-25

Exit passageways	Smoke Developed Index 0-450
Corridors	Class B: Flame Spread Index 26-75 Smoke Developed Index 0-450
Enclosed spaces	Class C: Flame Spread Index 76-200 Smoke Developed Index 0-450

IEBC 702.2: Floor Finishes: In accordance with IEBC 702.2, newly installed floor finishes shall comply with IBC 804: Interior Floor Finish, which exempts finishes not comprised of fibers and which exempts finishes comprised of fibers that are not in a means of egress. Floor finishes comprised of fibers that are part of the means of egress shall withstand a minimum radiant flux of not less than Class II.

IEBC 702.3: Interior Trim: In accordance with IEBC 702.3, newly installed interior trim shall comply with IBC 806: Decorative Materials and Trim. In accordance with IBC 806: Decorative Trim and Materials, curtains, draperies, and similar decorative materials suspended from the walls or ceilings shall comply with IBC 806.3 and shall not exceed 10 percent of the surface to which the materials are attached.

IEBC 702.4 Window Opening Control Devices: In accordance with IEBC 702.4, in Residential Group R2 or R3 buildings containing dwelling units, window control devices shall meet the requirements of ASTM F2009. The Alterations do not involve Residential uses or window control devices and, therefore, the requirements of IEBC 702.4 do not apply.

IEBC 702.5 Emergency Escape and Rescue Openings: In accordance with IEBC 702.5, in Residential Group R2 or R3 buildings containing dwelling units, replacement windows where emergency escape and rescue openings are required are allowed to be the same size as existing window openings. The Alterations do not involve Residential uses or window control devices and, therefore, the requirements of IEBC 702.5 do not apply.

IEBC 702.6 Materials and Methods: In accordance with IEBC 702.6, Alterations shall comply with materials and method requirements in the IBC, IECC, IMC, and 248 CMR including material standards, detail of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building.

IEBC 703 FIRE PROTECTION: In accordance with IEBC 703.1, Alterations shall maintain the level of fire protection. The Alterations at least maintain the level of fire protection.

IEBC 704: MEANS OF EGRESS: In accordance with IEBC 704, Alterations shall be performed in a manner that preserves the level of protection provided for the existing means of egress. The Alterations at least preserve the level of protection provided for the existing means of egress.

IEBC 705: ACCESSIBILITY: Accessibility shall be in accordance with 521 CMR The Regulations of the Architectural Access Board. In accordance with 521 CMR 3.3.EXISTING BUILDINGS, the following conditions apply based on the value of work excluding exempted work over a three-year rolling period:

> In accordance with 521 CMR 3.3.1, when the value of the Alterations is less than 30 percent of the assessed value of pro-rated value of the portion of the building being altered then
>
> > a: when the value of the Alterations is under $100,000, then the work being performed shall comply with 521 CMR or.
> >
> > b: when the value of the Alterations exceeds $100,000, then the work being performed shall comply and the building shall have an accessible public entrance, toilet room, and drinking fountain.
>
> In accordance with 521 CMR 3.3.2, when the value of the Alterations exceeds 30 percent of the value of the building, then the entire area being altered will be required to comply with 521 CMR.

The value of the Alterations and any other work performed within the last three-year period is more than 30 percent of the value of the building. Accordingly, the entire building shall comply with 521 CMR, which means compliance ty least wherever the public has planned access.

IEBC 706: REROOFING: In accordance with IEBC 706: Reroofing, materials and methods for recovering or replacing existing roof covering shall comply with IBC 15.

IEBC 707: STRUCTURAL: In accordance with IEBC 707.1: General, where Alterations include replacing equipment that is supported by the building or where a reroofing permit is required, the provisions of IEBC 707 shall apply.

The Alterations do not involve modifications to equipment mounted on the building or roof and, therefore, compliance with the provisions of IEBC 707 is not required.

IEBC 708: ENERGY CONSERVATION: In accordance with IEBC 708, the Alterations shall conform to the energy requirements of the IECC without requiring unaltered portions of the building to comply with the IECC. In accordance with C503.1: General, Alterations shall conform to the energy requirements of the IECC without requiring unaltered portions of the building to comply with the IECC. Compliance with exterior envelope insulation requirements is not mandated where the existing exterior facing cavities are not exposed in the roof, exterior walls, and floor.

The following Alterations shall comply with the IECC In accordance with IECC C402.1.3: Opaque Thermal Insulation Minimum Requirements for Climate Zone 5:

Horizontal planes separating attic spaces from heated spaces shall be insulated with minimum R38 insulation.

Wood framed exterior walls shall be insulated with minimum R20 cavity insulation or with minimum R13 cavity insulation with minimum R3.8 continuous insulation; except that only filling the cavity is required at existing walls.

Basement walls shall be insulated with minimum R7.5 continuous insulation on the interior.

Replacement windows will comply with IECC Table C402.4: Building Envelope Fenestration Requirements which is maximum U0.45 for operable fenestration in Climate Zone 5.

Alterations for service water heating shall comply with IECC C404 Service Water Heating.

The Alterations affect the mechanical systems that are replaced and that are required for the interior environment. Mechanical equipment shall comply with IECC C403: Building Mechanical Systems, including, but not limited to, regulations affecting programmable thermostats and controls, ducts, mechanical system piping, service hot water systems, mechanical ventilation, and equipment sizing and efficiency.

The Alterations affect the light fixtures that are replaced and that are required for the interior environment. Light fixtures shall comply with IECC C405: Electric Power and Lighting System including, but not limited to, light reduction controls in prescribed spaces in accordance with IECC C405.2: Lighting Controls, and lighting power density for the prescribed space uses in accordance with IECC Table 405.5.2: Interior Light Power Allowances.

In addition to building code compliance, the energy efficiency of mechanical equipment shall comply with the requirements of the Green Communities Act.

Chapter 8: Alterations, Level 2:

IEBC 801.3 Compliance: In accordance with 801.3, new construction elements, components, systems, and spaces shall comply with the requirements of the International Building Code.

IEBC 802: SPECIAL USE AND OCCUPANCY: Alterations in buildings classified in IBC 4: Special Detailed Requirements Based on Occupancy or in IEBC 1002: Special Use and Occupancy shall comply with IEBC 8 and the applicable provisions of IEBC 1. The Alterations do not involve special use and occupancy and, therefore, the requirements of IEBC 802 do not apply.

IEBC 803: BUILDING ELEMENTS AND MATERIALS:

IEBC 803.1: The requirements of IEBC 803 shall be limited to the work area where Level 2 Alterations are performed and beyond the work area where specified.

IEBC 803.2 Vertical Openings: Existing vertical openings shall comply with IBC 803.2.1, 803.2.2, and 803.2.3.

> In accordance with IEBC 803.2.1: Existing Vertical Openings, Exception 1, existing vertical openings connecting two or more floors shall be enclosed with assemblies of not less than one hour with approved opening protective unless the building has a fire suppression system and unless the vertical opening enclosures are not required by the building code. In accordance with IBC 808.2 Shaft Enclosure Required Exception 16, a shaft enclosure is not required where permitted without by the code. In accordance with IBC 1022.1: Enclosures Required, Exception 1, in occupancies other than Hazardous Group H and institutional Group I, a stairway is not required to be enclosed when the stairway serves an occupant load of less than ten persons and the stairway is not open to more than one story above the level of exit discharge. The stairway shall be enclosed by one-hour fire-rated construction.
>
> In accordance with IEBC 803.2.2: Supplemental Shaft and Floor Opening Enclosure Requirements, where the work area on any floor exceeds 50 percent of the floor area, the enclosure requirements of IEBC 802 shall apply to vertical openings other than stairways throughout the floor. The requirements of IEBC 803.2.2 apply and the stairway and elevator hoistway shall be enclosed by one-hour fire-rated construction.
>
> In accordance with IEBC 803.2.3: Supplemental Stairway Enclosure Requirements, where the work area on any floor exceeds 50 percent of that floor area, stairways that are part of a means of egress serving the work area shall, at a minimum, be enclosed with smoke-tight construction on the highest work area floor and all floors below except where the stairway enclosure is not required by the code. In accordance with IBC 1022.1: Enclosures Required, Exception 1, in occupancies other than Hazardous Group H and institutional Group I, a stairway is not required to be enclosed when the stairway serves an occupant load of less than ten persons and the stairway is not pen to more than one story above the level of exit discharge. The stairways shall have smoke-tight construction and a one-hour fire rating.

IEBC 803.3 Smoke Compartments: In accordance with IEBC 803.3 smoke compartments shall be provided in Institutional Group I-2 occupancies where the work area is on a story used for sleeping rooms for more than 30 patients. The Alterations do not involve an Institutional Group I-2 occupancy and, therefore, the requirements of IEBC 803.3 do not apply.

IEBC 803.4 Interior finish: In accordance with 703.4, interior finish work on walls and ceilings within corridors and exits within any Work Area shall comply with the requirements of the IBC 8. In accordance with IBC 803.4 and IBC Table 803.11: Interior Wall and Ceiling Finish Requirements By Occupancy, when

tested according to ASTM E84, interior finishes in the most restrictive of Business Group B occupancies without fire suppression shall meet the following requirements:

Exit enclosures Exit passageways	Class A: Flame Spread Index 0-25 Smoke Developed Index 0-450
Corridors	Class B: Flame Spread Index 26-75 Smoke Developed Index 0-450
Enclosed spaces	Class C: Flame Spread Index 76-200 Smoke Developed Index 0-450

IEBC 803.5 Guards: In accordance with IEBC 805.10, guard rails are required along edges of platforms with a change in elevation of more than 30 inches. Guards in accordance with the IBC shall be provided at changes in elevation associated with the existing stairway.

IEBC 803.6 Fire Resistance Ratings: Where approved by the code official, where an automatic fire suppression system is added, the fire resistance ratings of building elements shall be permitted to meet the requirements for new construction. A fire suppression system is not added and, therefore, the requirements of IEBC 803.6 do not apply.

IEBC 804 FIRE PROTECTION:

IEBC 804.1 Scope: The requirements of IEBC 804 shall be limited to the work area where Level 2 Alterations are performed.

IEBC 804.2 Automatic Fire Suppression Systems:

IEBC 804.2.1: High Rise Buildings: In accordance with IEBC 802.1, automatic fire protection is required where the work area is on a floor with sufficient water supply. The building is not a high rise building and, therefore, the requirements of IEBC 804.2.1 do not apply.

IEBC 804.2.2: Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1, and S-2: In accordance with IEBC 804.2.2, Work Areas that have exits or corridors shared by more than one tenant and serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where the following conditions occur:

The Work Area is required to be provided with an automatic fire suppression system by the IBC as applicable to new construction

The Work Area exceeds 50 percent of the floor area

The requirements of IEBC 804.2.2 do not apply because the building is not shared by more than one tenant and, in accordance with IBC Table 903.2: Occupancy Automatic Sprinkler Requirements, a fire alarm system is not required for new construction in Business Group B structures of less the 12,000 square feet.

IEBC 804.2.2.1 Mixed Uses: In accordance with IEBC 804.2.2.1, in Work Area containing mixed uses, one or more of which require automatic fire protection, protection shall not be required throughout the Work Area when the uses are separated by fire rated construction. The building is not a mixed use building and, therefore, the requirements of IEBC 804.2.2.1 do not apply.

IEBC 804.2.3 Windowless stories: In accordance with IEBC 804.2.3, work located in a windowless story, as determined by the IBC, shall be sprinklered where the Work Area is required to be sprinklered under the provisions of the IBC for newly constructed buildings and the building has a sufficient water supply. The Alterations do not involve occupied space that is on a windowless story and, therefore, the requirements of IEBC 804.2.3 do not apply.

IEBC 804.2.4 Other required suppression systems: In buildings and areas listed in IBC Table 903.2.11.6: Additional Required Suppression Systems that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with sprinkler protection under the conditions indicated. The requirements of IEBC 804.2.4 do not apply because the exits are not shared by more than one tenant and because additional requirements are not listed in IBC Table 903.2.11.6.

IEBC 804.2.5 Supervision: Fire suppression systems required by IEBC 8 shall be supervised. Fire suppression is not required and therefore, the requirements of IEBC 04.2.5 do not apply.

IEBC 804.3 Standpipes: In accordance with IEBC 804.3, standpipes shall be installed where the Work Area includes exits or corridors served by more than one tenant and where the work area is located more than fifty feet above or below the lowest level of fire department access. The Work Area does not involve stairways or corridors serving more than one tenant, and the Work Area is not located more than 50 feet above or below the lowest level of fire department access. Therefore, the requirements of IEBC 804.4 do not apply.

IEBC 804.4 Fire Alarm and Detection: In accordance with IEBC 804.4, an approved fire alarm system shall be installed in accordance with IEBC 804.4.1 through IEBC 804.4.3.

In accordance with IEBC 804.4.1: Occupancy Requirements, there are no requirements for a fire alarm system is Business Group B occupancies and, therefore, the requirements of IEBC 804.4.1 do not apply.

In accordance with IEBC 804.4.2: Supplemental Fire Alarm System Requirements, where the Work Area exceeds 50 percent of the floor area on which the work area occurs, the provisions of IEBC 804.4.1 shall apply to the entire floor. Although the Work Area exceeds 50 percent of the floor area, a fire alarm is not required by IEBC 804.4.1 and, therefore, the requirements of IEBC 804.4.2 do not apply

In accordance with IEBC 804.4.3: Smoke Alarms, individual sleeping units and individual dwelling units in any Work Area in Group R and Group I-1 shall be provided with smoke detectors in compliance with the 527 CMR 1.00 Massachusetts Comprehensive Fire Safety Code. The Alterations do not involve a residential occupancy and, therefore, the requirements of IEBC 804.4.3 do not apply

IEBC 805: MEANS OF EGRESS: The requirements of IEBC 805 shall be limited to the work areas that include exits or corridors shared by more than one tenant within the work area where Level 2 Alterations are performed and beyond the work area where specified. The means of egress are not shared by more than one tenant and, therefore, the requirements of IEBC 805 do not apply.

IEBC 806: ACCESSIBILITY: Accessibility shall be in accordance with 521 CMR The Regulations of the Architectural Access Board. In accordance with 521 CMR 3.3.EXISTING BUILDINGS, the value of the Alterations and any other work performed within the last three-year period is more than 30 percent of the value of the building. Accordingly, the entire building shall comply with 521 CMR, which means compliance ty least wherever the public has planned access.

IEBC 807: STRUCTURAL:

IEBC 807.1: In accordance with IEBC 807.1, general structural elements and systems within buildings undergoing Alterations shall comply with IEBC 807. Alterations involving structural elements shall meet the requirements of IEBC 807 as follows:

IEBC 807.2: New Structural Elements: In accordance with IEBC 807.2, new structural elements in Work Areas shall comply with the IBC.

IEBC 807.3: Minimum Design Loads: In accordance with IEBC 807.3, the minimum design loads on existing structural elements that do not support additional loads shall be the loads applicable at the time the building was constructed.

IEBC 807.4 Existing structural elements carrying gravity load: In accordance with IEBC 807.4, compliance with the IBC is required where the Alterations reduce the capacity of existing gravity load carrying structural elements and where loads exceeding 5 percent are added to the existing structural elements.

IEBC 807.5 Existing structural elements resisting lateral loads: In accordance with IEBC 807.5, the Alterations can increase the demand capacity of lateral load carrying members of the existing structure by up to ten percent.

IEBC 807.6 Voluntary seismic improvements: The Alterations do not involve voluntary seismic improvements.

IEBC 809 MECHANICAL:

IEBC 809.1: Reconfigured or Converted Spaces: In accordance with IEBC 809.1 and the International Mechanical Code IMC 4, natural or mechanical ventilation shall be provided in reconfigured spaces intended for occupancy and spaces converted to habitable space. Habitable spaces shall be provided with natural ventilation in compliance with IBC 1203.4: Natural Ventilation or mechanical ventilation in compliance with IMC 403: Mechanical Ventilation and IMC Table 403.3.1.1 Minimum Ventilation Rates.

In accordance with IMC Table 403.3.1.1 Minimum Ventilation Rates, where natural ventilation is not provided, mechanical ventilation will be provided based on a default occupant density with assigned flow rate per person (people rate) plus a flow rate per square foot (area rate) as follows:

Occupancy	People rate Cubic feet/ person	Area rate Cubic feet/ square foot	Exhaust Rate cubic feet/ minute continuous or cubic feet/ square foot
Office spaces	5	0.06	0
Meeting rooms	5	0.06	0
Toilets	0	0	50 cubic feet/fixture

The building was designed with natural ventilation. Natural ventilation will be replaced with controlled mechanical ventilation in offices and meeting rooms and with mechanical exhaust where specifically required for toilets.

IEBC 809.2: Altered Existing Spaces: In accordance with IEBC 809.2, in existing mechanically ventilated spaces in which the existing mechanical system is altered, reconfigured, or extended; mechanical ventilation shall be provided. The existing mechanical systems are removed throughout and are replaced with mechanical systems which provide prescribed ventilation.

IEBC 809.3: Local Exhaust: In accordance with IEBC 809.3, local exhaust shall be provided at equipment producing contaminants that are introduced into the Work Area.

IEBC 811 ENERGY CONSERVATION: In accordance with IEBC 811, the Alterations shall conform to the energy requirements of the IECC. In accordance with C503.1: General, Alterations shall conform to the energy requirements of the IECC without requiring unaltered portions of the building to comply with the IECC. Compliance with exterior envelope insulation requirements is not mandated where the existing exterior facing cavities are not exposed in the roof, exterior walls, and floor.

The following Alterations shall comply with the IECC In accordance with IECC C402.1.3: Opaque Thermal Insulation Minimum Requirements for Climate Zone 5:

Horizontal planes separating attic spaces from heated spaces shall be insulated with minimum R38 insulation.

Wood framed exterior walls shall be insulated with minimum R20 cavity insulation or with minimum R13 cavity insulation with minimum R3.8 continuous insulation; except that only filling the cavity is required at existing walls.

Basement walls shall be insulated with minimum R7.5 continuous insulation on the interior.

Replacement windows will comply with IECC Table C402.4: Building Envelope Fenestration Requirements which is maximum U0.45 for operable fenestration in Climate Zone 5.

Alterations for service water heating shall comply with IECC C404 Service Water Heating.

The Alterations affect the mechanical systems that are replaced and that are required for the interior environment. Mechanical equipment shall comply with IECC C403: Building Mechanical Systems, including, but not limited to, regulations affecting programmable thermostats and controls, ducts, mechanical system piping, service hot water systems, mechanical ventilation, and equipment sizing and efficiency.

The Alterations affect the light fixtures that are replaced and that are required for the interior environment. Light fixtures shall comply with IECC C405: Electric Power and Lighting System including, but not limited to, light reduction controls in prescribed spaces in accordance with IECC C405.2: Lighting Controls, and lighting power density for the prescribed space uses in accordance with IECC Table 405.5.2: Interior Light Power Allowances.

In addition to building code compliance, the energy efficiency of mechanical equipment shall comply with the requirements of the Green Communities Act.

IEBC 9: Alterations: Level 3:

IEBC 901.2 Compliance: In accordance with IEBC 901.2, in addition to compliance with IEBC 9, work shall comply with the requirements of IEBC 7 and IEBC 8. Further, the requirements of IEBC 803, 804, and 805 shall apply in Work Areas regardless of whether or not Work Areas include exits and corridors shared by more than one tenant and regardless of occupant load.

IEBC 902: SPECIAL USE AND OCCUPANCY:

IEBC 902.1 High Rise Buildings: In accordance with 802.1, any building with occupied floors more than 75 feet above the lowest level of fire department vehicle access shall comply with the requirements of IEBC 902.1.1 and 802.1.2. No occupied floor of the building is more than 75 feet above the lowest level of fire department vehicle access and, therefore, the requirements of IEBC 902.1 do not apply.

IEBC 902.2 Boiler and Furnace Equipment Rooms: In accordance with IEBC 902.2, equipment rooms for boilers and furnace equipment in Groups I-1, I-2, I-4, R-1, R-2, and R-4 shall be enclosed in one hour fire rated construction. The Alterations do not involve one of the prescribed occupancies and, therefore, the requirements of IEBC 902.2 do not apply.

IEBC 903: BUILDING ELEMENTS AND MATERIALS:

IEBC 903.1: Existing Shafts and Vertical Openings: In accordance with IEBC 903.1, existing stairways that are part of a means of egress shall be enclosed in accordance with IEBC 803.2.1 from the highest Work Area to, and including, the level of exit discharge and all floors below. In accordance with IEBC 803.2.1, the stairways shall be enclosed with one-hour fire-rated construction.

IEBC 903.2 Fire Partitions in Group R3: In accordance with IEBC 903.2, fire separation shall be provided in Residential Group R3 occupancies in accordance with IEBC 903.2.1 which requires continuous fire separation between dwelling units. The Alterations do not involve Residential Group R3 and, therefore, the requirements of IEBC 903.2 do not apply.

IEBC 903.3 Interior finish: In accordance with IEBC 903.3, interior finish work on walls and ceilings within corridors and exits within any Work Area shall comply with the requirements of the IEBC 803.4 between the highest floor on which work occurs and the floor of exit discharge. In accordance with IBC 803.4 and IBC Table 803.11: Interior Wall and Ceiling Finish Requirements By Occupancy, when tested according to ASTM E84, interior finishes in the most restrictive of Business Group B occupancies without fire suppression shall meet the following requirements:

Exit enclosures Exit passageways	Class A: Flame Spread Index 0-25 Smoke Developed Index 0-450
Corridors	Class B: Flame Spread Index 26-75 Smoke Developed Index 0-450
Enclosed spaces	Class C: Flame Spread Index 76-200 Smoke Developed Index 0-450

IEBC 904 FIRE PROTECTION:

IEBC 904.1 Automatic Sprinkler Systems: In accordance with IEBC 904.1, automatic sprinkler systems shall be provided when required by IEBC 804.2: Automatic Sprinkler Systems or by IEBC 904.

IEBC 804.2.1: High Rise Buildings: In accordance with IEBC 802.1, automatic fire protection is required where the work area is on a floor with sufficient water supply. The building is not a high rise building and, therefore, the requirements of IEBC 804.2.1 do not apply.

IEBC 804.2.2: Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1, and S-2: In accordance with IEBC 804.2.2, Work Areas that have exits or corridors shared by more than one tenant and serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where the following conditions occur:

The Work Area is required to be provided with an automatic fire suppression system by the IBC as applicable to new construction

The Work Area exceeds 50 percent of the floor area

The requirements of IEBC 804.2.2 do not apply because in accordance with IBC Table 903.2: Occupancy Automatic Sprinkler Requirements, a fire alarm system is not required for new construction in Business Group B structures of less the 12,000 square feet.

IEBC 804.2.2.1 Mixed Uses: In accordance with IEBC 804.2.2.1, in Work Area containing mixed uses, one or more of which require automatic fire protection, protection shall not be required throughout the Work Area when the uses are separated by fire rated construction. The building is not a mixed use building and, therefore, the requirements of IEBC 804.2.2.1 do not apply.

IEBC 804.2.3 Windowless stories: In accordance with IEBC 804.2.3, work located in a windowless story, as determined by the IBC, shall be sprinklered where the Work Area is required to be sprinklered under the provisions of the IBC for newly constructed buildings

and the building has a sufficient water supply. The Alterations do not involve occupied space that is on a windowless story and, therefore, the requirements of IEBC 804.2.3 do not apply.

IEBC 804.2.4 Other required suppression systems: In buildings and areas listed in IBC Table 903.2.11.6: Additional Required Suppression Systems that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with sprinkler protection under the conditions indicated. The requirements of IEBC 804.2.4 do not apply because additional requirements are not listed in IBC Table 903.2.11.6.

IEBC 904.1.1: High-rise Buildings: An automatic fire suppression system shall be provided in a high rise building where there is sufficient water supply. The building is not a high rise building and, therefore, the requirements of IEBC 904.1.1 do not apply.

IEBC 904.1.2: Rubbish and Linen Chutes: Rubbish and Linen chutes within the work area shall be provided with fire suppression. There are no rubbish chutes or linen chutes in the work area and, therefore, the requirements of IEBC 904.1.2 do not apply.

IEBC 904.1.3: Upholstered Furniture or Mattresses: Fire suppression shall be provided where upholstered furniture is manufactured, displayed, or stored. The work area does not involve manufacture, display, or storage of upholstered furniture or mattresses and, therefore, the requirements of IEBC 904.1.3 do not apply.

Accordingly, the requirements of IEBC 804.2 and IEBC 904 do not apply, and a fire suppression system is not required.

IEBC 904.2 Fire Alarm and Detection Systems: In accordance with IEBC 904.2, fire alarm and detection systems shall be provided in compliance with IBC 907 for new construction.

In accordance with IBC 907.2 Where Required, a fire alarm system shall be provided in accordance with IBC 907.2.1 through 907.2.23 and shall provide notification in accordance with IBC 907.5.

In accordance with IBC 907.2.2: Group B, a manual fire alarm system that activates an occupant notification system shall be provided in Group B occupancies where the combined occupant load of Group B occupancies exceeds 300 occupants or where the Group B occupant load is more than 100 occupants above or below the level of exit discharge. The aggregate occupant load of the Group B occupancies does not exceed 100 persons and, therefore, the requirements of IBC 907.2.2 do not apply.

IEBC 905: MEANS OF EGRESS: In accordance with IEBC 905, the means of egress shall comply with IEBC 805, except as provided in IEBC 905.2, and 905.3.

In accordance with IEBC 805.3: Number of Exits, the number of exits shall comply with IEBC 805.3.1 through IEBC 805.3.3.

In accordance with IEBC 805.3.1.Minimum Number and IBC Table 1006.3.1: Minimum Number of Exits, two exits shall be provided for an occupant load of 1-500 persons unless the Work Area qualifies as a single access space. In accordance with IBC Table 1006.3.2(1) Stories with One Exit for Business Group B occupancies without an automatic fire sprinkler system, the stories can qualify as a story with one exit if there are less than 49 occupants and if the common path of travel distance from the most remote point to the point where the occupants have separate and distant access to two means of egress is less than 75 feet. The basement floor does not qualifies as a story with one exit because the common path of travel is greater than 75 feet. The upper floor qualifies as a story with one exit. However, there are already two exits from the upper floor. Therefore, two exits are required from each story.

In accordance with IEBC 805.3.2: Mezzanines, mezzanines in the Work Area with an occupant load of more than 50 persons shall have access to two means of egress except that two means of egress are not required when the travel distance to an exit is less than 100 feet and the Work Area is protected by an automatic fire sprinkler system. The Work Area does not involve a mezzanine and, therefore, the requirements of IEBC 805.3.2 do not apply.

In accordance with IEBC 805.3.3: Main Entrance in Assembly Group A, buildings of Assembly Group A with an occupant load of 300 persons shall have a main entrance with the capacity of at least half the occupant load. The Work Area is not in Assembly Group A and, therefore, the requirements of IEBC 805.3.3 do not apply.

In accordance with IEBC 805.4: Egress Doorways, egress doorways shall comply with IEBC 805.4.1 through IEBC 805.4.5 as applicable.

In accordance with IEBC 805.4.1 Two Egress Doorways Required, two egress doors shall be provided in any room having an occupant load greater than 50 persons or having a travel distance to an exit of greater than 75 feet. There are not meeting rooms with an occupancy greater than 49 persons and, therefore, the requirements of IEBC 805.4.1 do not apply.

In accordance with IEBC 805.4.2, door shall swing in the direction of travel where the occupant load is greater than 50 persons. In accordance with IBC Table 1004.1.1: Maximum Floor Area Allowances per Occupant, for Business Group B the Design Occupant Load is less than 50 occupants and, therefore, the requirements of IEBC 805.4.2 do not apply.

In accordance with IEBC 805.4.3, exit doors shall be self-closing. The exit doors are equipped with self-closing hardware.

In accordance with IEBC 805.4.4, exit devices shall be provided for exits from Assembly Group a with an occupant load of greater than 100 persons. The Work Area is not in Assembly Group A and, therefore, the requirements of IEBC 805.4.4 do not apply.

In accordance with IEBC 805.5: Openings in Corridor Walls, openings in corridor walls shall comply with IEBC 805.5.1 through IEBC 805.5.4 as applicable.

In accordance with IEBC 805.5.1: Corridor Doors, corridor doors shall not be constructed of hollow core wood and shall not contain louvers.

In accordance with IEBC 805.5.3: Other Corridor Openings, any other sash, grille, or opening in a corridor wall and any window in a corridor not opening to the outside air shall be sealed with materials consistent with the corridor construction.

In accordance with IEBC 805.5 openings in corridor walls are not required to be rated where corridors are not required to be rated in the IBC. In accordance with IBC Table 1020.1: Corridor Fire Resistance rating, in Business Group B with an occupant load greater than 30 persons and without a fire suppression system; the fire resistance rating is one hour. The door openings in corridor walls shall have a one hour fire rating.

In accordance with IEBC 805.6: Dead End Corridors, dead end corridors shall not exceed 35 feet unless the IBC allows dead-end corridors of greater length. The Alterations will result in dead end corridor of less than 15 feet.

In accordance with IEBC 805.7: Means of Egress Lighting, means of egress lighting shall be provided in accordance with IBC 1008: Means of Egress Illumination. The existing egress lighting system will be maintained, modified, and supplemented within the area of Alterations to accommodate the revised layout of spaces.

In accordance with IEBC 805.8: Exit Signs, exit signs shall be provided in accordance with IBC 1013: Exit Signs. The existing lighted exit sign system will be maintained, modified, and supplemented to accommodate identifying exits with the reconfigured layout of spaces.

In accordance with IEBC 805.9: Handrails, handrails shall comply with IBC 1014: Handrails.

In accordance with IEBC 805.11: Guards, guards shall comply with IBC 1015: Guards.

IEBC 906: ACCESSIBILITY: Accessibility shall be in accordance with 521 CMR The Regulations of the Architectural Access Board. In accordance with 521 CMR 3.3.EXISTING BUILDINGS, the value of the Alterations and any other work performed within the last three-year period is more than 30 percent of the value of the building. Accordingly, the entire building shall comply with 521 CMR, which means compliance ty least wherever the public has planned access.

IEBC 907: STRUCTURAL:

IEBC 907.1: In accordance with IEBC 907.1, general structural elements and systems within buildings undergoing Level 3 Alterations shall comply with IEBC 907.

IEBC 907.2: In accordance with IEBC 907.2, new structural elements in Alterations shall comply with the IBC.

IEBC 907.3 Existing structural elements carrying gravity load: In accordance with IEBC 907.3, existing structural elements shall comply with IEBC 707.4, which requires that compliance with the IBC is required where the Alterations reduce the capacity of existing gravity load carrying structural elements and where loads exceeding 5 percent are added to the existing structural elements. Modifications to existing structural elements carrying gravity load shall comply with the IBC.

IEBC 907.4 Structural alterations: In accordance with IEBC 907.4, structural elements of the lateral force resisting system in building undergoing Level 3 Alterations shall provide an engineering evaluation and analysis that establishes the structural adequacy of altered structural elements; and where more than 30 percent of the total floor areas and roof areas of the building are involved with structural alteration, the evaluation shall demonstrate that the altered structural elements comply with IBC wind loading and reduced level seismic forces. The Alterations shall comply with structural design evaluation for lateral load resisting forces in accordance with IBC 16.

IEBC 908: ENERGY CONSERVATION: In accordance with IEBC 908, the Alterations shall conform to the energy requirements of the IECC. In accordance with C503.1: General, Alterations shall conform to the energy requirements of the IECC without requiring unaltered portions of the building to comply with the IECC. Compliance with exterior envelope insulation requirements is not mandated where the existing exterior facing cavities are not exposed in the roof, exterior walls, and floor.

The following Alterations shall comply with the IECC In accordance with IECC C402.1.3: Opaque Thermal Insulation Minimum Requirements for Climate Zone 5:

Horizontal planes separating attic spaces from heated spaces shall be insulated with minimum R38 insulation.

Wood framed exterior walls shall be insulated with minimum R20 cavity insulation or with minimum R13 cavity insulation with minimum R3.8 continuous insulation; except that only filling the cavity is required at existing walls.

Basement walls shall be insulated with minimum R7.5 continuous insulation on the interior.

Replacement windows will comply with IECC Table C402.4: Building Envelope Fenestration Requirements which is maximum U0.45 for operable fenestration in Climate Zone 5.

Alterations for service water heating shall comply with IECC C404 Service Water Heating.

The Alterations affect the mechanical systems that are replaced and that are required for the interior environment. Mechanical equipment shall comply with IECC C403: Building Mechanical Systems, including, but not limited to, regulations affecting programmable thermostats and controls, ducts, mechanical system piping, service hot water systems, mechanical ventilation, and equipment sizing and efficiency.

The Alterations affect the light fixtures that are replaced and that are required for the interior environment. Light fixtures shall comply with IECC C405: Electric Power and Lighting System including, but not limited to, light reduction controls in prescribed spaces in accordance with IECC C405.2: Lighting Controls, and lighting power density for the prescribed space uses in accordance with IECC Table 405.5.2: Interior Light Power Allowances.

In addition to building code compliance, the energy efficiency of mechanical equipment shall comply with the requirements of the Green Communities Act.

IEBC 10: Change of Occupancy

IEBC 1001.1 Scope: In accordance with IEBC 1001.1 and IEBC 202, a change in occupancy is the change in purpose or level of activity within a building where the change in occupancy requires a change in application of the code in accordance with the IBC.

IEBC 1001.2 Certificate of Occupancy: In accordance with IEBC 1001.2 a change in occupancy, or a change of occupancy within a space where there is different fire protection system threshold requirements in IBC 9, shall not be made to any structure without the approval of the code official. A certificate of occupancy shall be issued where it has been determined that the requirements for the change of occupancy have been met.

IEBC 1001.2.1 Change of Use: In accordance with IEBC 1001.2.1, any work in connection with a change of use that does not involve a change in occupancy classification or a change to another group within an occupancy classification shall conform to the applicable requirements for the work as classified in IBC 5 and IEBC 1002 through IEBC 1011.

IEBC 1001.2.2 Change of Occupancy Classification: In accordance with 1001.2.2, the provisions of IEBC 1002 through IEBC 1012 apply where there is a change in occupancy classification occurs including a change to another group within an occupancy classification.

The Alterations involve a change in occupancy with a change in occupancy classification and, accordingly, the requirements of IEBC 1002 through IEBC 1012 apply.

IEBC 1001.3 Certificate of Occupancy: A certificate of occupancy shall be issued where a change in occupancy occurs that results in a change of occupancy classification as determined by the IBC.

IEBC 1002: SPECIAL USE AND OCCUPANCY:

IEBC 1002.1 Compliance with the Building Code: In accordance with IEBC 1002.1, where the character or use of an existing building is changed to a special use addressed in IBC 4: Special Detailed Requirements Based on Use and Occupancy, the special use or occupancy shall comply with IBC 4. The

Alterations do not involve a special use and occupancy and, therefore, the requirements of IEBC 1002.1 do not apply. .

IEBC 1002.2 Underground Buildings: In accordance with IEBC 1002.2, the requirements of the IBC for underground structures shall apply to underground structures in which there is a change in use. The building is not an underground structure and, therefore, the requirements of IEBC 1002.2 do not apply.

IEBC 1003: BUILDING ELEMENTS AND MATERIALS

IEBC 1003.1 General: In accordance with IEBC 1003.1, building elements and materials in portions of buildings undergoing a change of occupancy classification shall comply with the requirements of IEBC 1012.

IEBC 1004: FIRE PROTECTION:

IEBC 1004.1 General: In accordance with IEBC 1004.1, the fire protection requirements of IEBC 1012 shall apply where a building undergoes a change of occupancy classification or where there is a change in occupancy in a space where there is a different fire protection system threshold in IBC 9.

IEBC 1005: MEANS OF EGRESS:

IEBC 1005.1 General: In accordance with IEBC 1005.1, the means of egress in portions of a building undergoing a change of occupancy classification shall comply with the requirements of IEBC 1012.

IEBC 1006: ACCESSIBILITY: In accordance with IEBC 1006, accessibility in portions of building undergoing a change in occupancy classification shall comply with 521 CMR The Regulations of the Architectural Access Board as applicable.

IEBC 1007: STRUCTURAL:

IEBC 1007.1 Gravity Loads: In accordance with IEBC 1007.1, buildings or portions of buildings subject to change of occupancy resulting in higher uniform or concentrated loads based on IBC Table 1607.1 Minimum Uniformly Distributed Live Loads shall comply with the gravity load provisions of the IBC. The floor structures shall be reinforced to comply with the requirements of IBC Table 1607.1.

IEBC 1007.2 Snow and Wind Loads: In accordance with IEBC 1007.2 where a change of occupancy results in a higher wind or snow risk category based on IBC Table 1604.5: Occupancy Categories of Buildings and Other Structures, then the building shall be analyzed and shall comply with wind and snow load provisions of the IBC. The change in occupancy does not involve a change in risk category for wind and snow and, therefore, the requirements of IEBC 1007.3 do not apply.

IEBC 1007.3 Seismic loads: In accordance with IEBC 1007.3, existing buildings with a change of occupancy shall comply with the seismic provisions of IEBC 1007.3.1 and IEBC 1007.3.2, which require buildings undergoing a change in occupancy resulting in a higher hazard category in IBC Table 1604.5 to comply with the requirement for seismic forces in IBC 301.1.4.2.

> In accordance with IEBC 1007.3.1 and IBC Table 1604.5 Occupancy Categories of Buildings and Other Structures; the change of occupancy does not result in a higher occupancy category for seismic loads because the uses and occupancies resulting from the Change of Occupancy are in the same category, Occupancy Category II and, therefore, the requirements of IEBC 1007.3 do not apply.
>
> In accordance with IEBC 1007.3.2, access through an adjacent structure is not allowed for occupancy category IV buildings. The space undergoing a Change in Occupancy being Altered is not accessed through an adjacent structure and the building is not an occupancy category IV building. Accordingly, the requirements of IEBC 1007.3 do not apply.

IEBC 1008 ELECTRICAL:

IEBC 1008.1 Special Occupancies: In accordance with IEBC 1008.1, where the occupancy of an existing building or part of an existing building is changed to one of the following special occupancies as described in NFPA 70 National Electric Code, the electrical wiring and equipment in the building or portion thereof that contains the change of occupancy occurs shall comply with NFPA 70 whether or not a change of occupancy group is involved:

Hazardous locations
Commercial garages, repair, and storage
Aircraft hangars
Gasoline dispensing and service stations
Bulk storage plants
Spray application, dipping, and coating processes
Health care facilities
Places of assembly
Theaters, audience areas of motion picture and television studios
Motion picture and television studios
Motion picture projectors
Agricultural buildings

The change of occupancy does not involve a special occupancy as described by NFPA 70 and, therefore, the requirements of IEBC 1008 do not apply.

IEBC 1009 MECHANICAL:

IEBC 1009.1 Mechanical Requirements: In accordance with IEBC 1009.1, where the occupancy of the existing building or part thereof is changed such that there are different kitchen ventilation requirements or increased mechanical ventilation requirements in accordance with the IMC the new occupancy shall comply with the respective provisions of the IMC. In accordance with IMC Table 403.3.1.1 Minimum Ventilation Rates, where natural ventilation is not provided, mechanical ventilation will be provided based on a default occupant density with assigned flow rate per person (people rate) plus a flow rate per square foot (area rate) as follows:

Occupancy	People rate Cubic feet/ person	Area rate Cubic feet/ square foot	Exhaust Rate cubic feet/ minute continuous or cubic feet/ square foot
Office spaces	5	0.06	0
Meeting rooms	5	0.06	0
Toilets	0	0	50 cubic feet/fixture

The building was designed with natural ventilation. Natural ventilation will be replaced with controlled mechanical ventilation in offices and meeting rooms and with mechanical exhaust where specifically required for toilets.

IEBC 1010 PLUMBING:

IEBC 1010.1 Increased Demand: In accordance with IEBC 1010.1 where the occupancy of an existing building or part thereof is changed such that the new occupancy is subject to increased or different plumbing fixture requirements in accordance with 248 CMR Uniform State Plumbing Code, then the new occupancy shall comply with the respective provisions of 248 CMR. In accordance with 248 CMR 10.10(18) Table 1: Minimum Facilities for Building Occupancy, the building will have sufficient toilet facilities to comply with the following requirements:

Business Group B:

Offices	Water closet	Urinal	Lavatory	Accessible
Men	1 per 25	optional	1 per 50	yes
Women	1 per 20	0	1 per 50	yes

In addition, one water station per floor is required which can be without a drain and a service sink on the floor are required.

IEBC 1011 OTHER REQUIREMENTS:

IEBC 1011.1 Light and Ventilation: In accordance with IEBC 1011.1, light and ventilation shall comply with requirements of the IBC for the new occupancy.

Ventilation: In accordance with IMC Table 403.3.1.1 Minimum Ventilation Rates, where natural ventilation is not provided, mechanical ventilation will be provided based on a default occupant density with assigned flow rate per person (people rate) plus a flow rate per square foot (area rate) as follows:

Occupancy	People rate Cubic feet/ person	Area rate Cubic feet/ square foot	Exhaust Rate cubic feet/ minute continuous or cubic feet/ square foot
Office spaces	5	0.06	0
Meeting rooms	5	0.06	0
Toilets	0	0	50 cubic feet/fixture

The building was designed with natural ventilation. Natural ventilation will be replaced with controlled mechanical ventilation in offices and meeting rooms and with mechanical exhaust where specifically required for toilets.

Lighting: I accordance with IBC 1205: Lighting, every space intended for occupancy shall be provided with natural light by means of exterior glazed openings or with artificial light. Following Alterations, the area in which the change of occupancy occurs shall have adequate artificial lighting.

IEBC 1012: CHANGE OF OCCUPANCY CLASSIFICATION:

IEBC 1012.1: General: In accordance with IEBC 1012.1, the provisions of IEBC 1012 shall apply to buildings undergoing a change of occupancy classification. The Alterations involve a change of occupancy classification from Education Group E to Business Group B.

IEBC 1012.1.2 Fire Protection and Interior Finish: In accordance with IEBC 1012.1.2, the provisions of 1012.2 Fire Protection Systems and 1012.3 Interior Finish shall apply to all buildings undergoing a change in occupancy classification.

IEBC 1012.1.3: Change of Occupancy Classification Based on Hazard Category: In accordance with IEBC 1012.1.3, the degree of hazard between different occupancy shall be determined by applying the following:

IEBC Table 1012.4 Means of Egress Hazard Categories
IEBC 1012.5 Heights and Areas Categories
IEBC 1012.6 Exposure of Exterior Walls Categories

IEBC 1012.1.4 Accessibility: In accordance with IEBC 1012.1.4, all buildings undergoing a change in occupancy classification shall comply with 1012.8: Accessibility.

IEBC 1012.1: General: In accordance with IEBC 1012.1, fire protection systems shall be provided in accordance with IEBC 1012.2.1 and IEBC 1012.2.2.

IEBC 1012.2.1 Fire sprinkler system: In accordance with IEBC 1012.2.1, where a change in occupancy classification occurs that results in the requirement of an automatic fire suppression system, then the an automatic fire sprinkler system shall be provided throughout the area of the change in occupancy in accordance with IBC 9 based on the new occupancy. In accordance with IBC Table 903.2: Occupancy Automatic Sprinkler Requirements, a fire alarm system is not required for new construction in Business Group B structures of less the 12,000 square feet and therefore, the requirements of IEBC 1012.2.1 do not apply.

IEBC 1012.2.2 Fire Alarm and Detection: In accordance with IEBC 1012.2.2, where a change in occupancy classification occurs that results in the requirement of a fire alarm and detection system, then the an automatic fire sprinkler system shall be provided throughout the area of the change in occupancy in accordance with IBC 9 based on the new occupancy. In accordance with IBC 907.2 Where Required, a fire alarm system shall be provided in accordance with IBC 907.2.1 through 907.2.23 and shall provide notification in accordance with IBC 907.5.

In accordance with IBC 907.2.2: Group B, a manual fire alarm system that activates an occupant notification system shall be provided in Group B occupancies where the combined occupant load of Group B occupancies exceeds 300 occupants or where the Group B occupant load is more than 100 occupants above or below the level of exit discharge. The aggregate occupant load of the Group B occupancies does not exceed 100 persons and, therefore, the requirements of IBC 907.2.2 and IEBC 1012.2.2 do not apply.

IEBC 1012.3 Interior Finish: In accordance with IEBC 1012.3, interior finish work on walls and ceilings within corridors and exits within any Work Area shall comply with the requirements of the IEBC 803.4 between the highest floor on which work occurs and the floor of exit discharge. In accordance with IBC 803.4 and IBC Table 803.11: Interior Wall and Ceiling Finish Requirements By Occupancy, when tested according to ASTM E84, interior finishes in the most restrictive of Business Group B occupancies without fire suppression shall meet the following requirements:

Exit enclosures Exit passageways	Class A: Flame Spread Index 0-25 Smoke Developed Index 0-450
Corridors	Class B: Flame Spread Index 26-75 Smoke Developed Index 0-450
Enclosed spaces	Class C: Flame Spread Index 76-200 Smoke Developed Index 0-450

IEBC 1012.4 Means of Egress, general: Hazard categories in regards to life safety and means of egress shall be in accordance with IEBC Table 1012.4 Means of Egress Hazard Categories.

IEBC 1012.4.1 Means of Egress for change to a higher hazard category: In accordance with IEBC Table 1012.4 Means of Egress Hazard Categories, when a change in occupancy classification occurs to a higher hazard category, then the means of egress shall comply with IBC 10. The Alterations involve a change in occupancy classification to a lower hazard category for means of egress and therefore, the requirements of IEBC 1012.4.2 apply.

IEBC 1012.4.2 Means of Egress for change to equal or lesser hazard category: In accordance with IEBC Table 1012.4 Means of Egress Hazard Categories, when a change in occupancy classification occurs to an equal or lesser hazard category, then the existing elements of the means of egress shall comply with the requirements of IEBC 905 for the new occupancy classification. In accordance with IEBC 905, the means of egress will

comply with the requirements of IEBC 805. The Alterations involve a change in occupancy classification to a lower hazard category for egress and therefore, the requirements of IBC 805 apply.

IEBC 1012.4.3 Egress capacity: In accordance with IEBC 1012.4.3, the egress capacity involving a change in occupancy classification shall meet or exceed the occupant load as specified in the IBC for the new occupancy. In accordance with IBC Table 1004.1.2: Maximum Floor Ara Allowances per Occupant, the design occupant load for the previous Classroom use is one occupant per 20 square feet net and the design occupant load for Business use is one person per 100 square feet gross. Accordingly, the design occupant load is less for the currently intended use and, therefore, the existing egress capacity is adequate.

IEBC 1012.4.4 Handrails: In accordance with IEBC 1012.4.4, existing stairways serving a work area involved with a change of occupancy classification shall comply with the handrail requirements of IEBC 705.9, which requires a minimum of one handrail from the work area to the level of exit discharge. Handrails shall be provided on stairs in accordance with IBC 1014: Handrails.

IEBC 1012.4.5 Guards: In accordance with IEBC 1012.4.5, existing guards in the area of the change of occupancy classification shall comply with the requirements of IECC 705.10, which requires guards on open portions of stairways that are more than 30 inches above the floor below. Guards shall be provide in stairways with a change in elevation along the edge in accordance with IBC 1015: Guards.

IEBC 1012.5 Heights and Areas: Hazard categories in regards to heights and areas shall be in accordance with IEBC Table 1012.5 Heights and Areas Categories.

IEBC 1012.5.1 Height and area for change to a higher hazard category: In accordance with IEBC 1012.5.1, when a change of occupancy classification results in a higher hazard category per IEBC Table 1012.5, then the height and area of a building shall comply with IBC 5 for the new occupancy. In accordance with IEBC Table 1012.5 Heights and Areas Hazard Categories, the Alterations involve a change in occupancy to a lower hazard category for height and area and, therefore, the building shall the requirements of IEBC 1012.5.2 apply.

IEBC 1012.5.2 Height and area for change to an equal or lesser hazard category: In accordance with IEBC 1012.5.2, when a change of occupancy classification is made to an equal of lesser hazard category per IEBC Table 1012.5, then the existing height and area of a building shall be deemed accepted. The Alterations involve a change of occupancy classification to a lesser hazard category for height and area and, therefore, the existing height and area shall be deemed acceptable.

IEBC 1012.6 Exterior Walls: Hazard categories in regards to fire resistance of exterior walls shall be in accordance with IEBC 1012.6 Exposure of Exterior Walls Categories.

IEBC 1012.6.1 Exterior wall rating for a change of occupancy classification to a higher hazard category: In accordance with IEBC 1012.6.1, when a change of occupancy results in change in occupancy classification with a higher exterior wall hazard category according to IEBC Table 1012.6, then the exterior walls shall have a fire resistance rating and exterior opening protectives as required by the IBC. The Alterations do not result in a change in occupancy classification to a higher exterior wall hazard category and, therefore, the requirements of IEBC 1012.6.2 apply.

IEBC 1012.6.2 Exterior wall rating for a change of occupancy classification to an equal of lower hazard category: In accordance with IEBC 1012.6.1, when a change of occupancy results in a change of occupancy classification with an equal or lessor exterior wall hazard category according to IEBC Table 1012.6, then the existing exterior walls and opening protectives shall be deemed acceptable. The Alterations result in a change in

occupancy classification to an equal exterior wall hazard category and, therefore, the existing exterior walls and opening protective are deemed acceptable.

IEBC 1012.6.3: Opening protectives: In accordance with IEBC 1012.6.3, opening protective shall be in accordance the IBC. In accordance with IEBC 1012.6.3 Exception 4, when the change of occupancy results in a change in occupancy classification to an equal or lessor exterior wall hazard category, then opening protectives are not required.

IEBC 1012.7 Enclosure of vertical shafts: In accordance with IEBC 1012.7, enclosure of interior vertical shafts shall be in accordance with IECC 1012.7.1 through 1012.7.4, which require compliance with the IBC where there is a change in occupancy classification to a higher means of egress category as determined by IEBC Table 1012.4.

In accordance with IEBC 1012.7.2: Stairways, stairways shall be enclosed in accordance with the IBC. In accordance with IBC 713.4: Fire-resistance rating, shaft enclosures shall have a fire resistance rating of one-hour where connecting less than four stories. Accordingly, the shaft enclosures around the stairways shall be one-hour fire-rated.

IEBC 1012.8 Accessibility: Accessibility shall be in accordance with 521 CMR The Regulations of the Architectural Access Board. In accordance with 521 CMR 3.3.EXISTING BUILDINGS, the value of the Alterations and any other work performed within the last three-year period is more than 30 percent of the value of the building. Accordingly, the entire building shall comply with 521 CMR, which means compliance ty least wherever the public has planned access.

IEBC 11: Additions

IEBC 1101: GENERAL

IEBC 1101.1: Scope: In accordance with IEBC 1101.1, Additions to a building shall comply with the requirements of the IBC for new construction without requiring the existing building to meet any requirements except for the requirements for the existing building in IEBC 11.

IEBC 1101.2: Creation or extension of nonconformity: In accordance with IEBC 1101.2, Additions shall not create or extend any nonconformity in the existing building. The Addition does not involve creating or extending a non-conformity.

IEBC 1101.3: Other work: In accordance with IEBC 1101.3, Alterations within the existing building to which an Addition is made shall comply with the applicable requirements for work as classified in IEBC 5.

IEBC 1102: HEIGHTS AND AREAS

IEBC 1102.1 Height Limitations: In accordance with IEBC 1102.1, the existing building together with the Additions shall comply with the allowable height provisions of IBC 5.

In accordance with IBC Table 504.3: Allowable Building Height in Feet above Grade Plane and with IBC Table 504.4 Allowable Number of Stories Above Grade Plane; for Business Group B occupancies in Type VB Construction Classification without fire suppression, a building height of 40 feet above grade plane and two stories above the grade plane are allowed based on the most restrictive requirements. The building is less than 40 feet above grade plane and the building is one story above the grade plane. Therefore, the building complies with height limitations.

IEBC 1102.2 Area Limitations In accordance with IEBC 1102.2, the existing building together with the Additions shall comply with the allowable area provisions of IBC 5.

In accordance with IBC Table 506.2: Allowable Area Factor in Square Feet; for Business Group B occupancies in Type VB Construction Classification without fire suppression, a building area of 9,000 square feet is allowed. The

building with the addition is approximately 3,000 square feet in projected area. Therefore, the building complies with area limitations.

IEBC 1102.3 Fire Protective Systems: In accordance with IEBC 1102.3, existing fire areas increased by the Additions shall comply with IBC 9. The existing building and the Addition shall comply with IBC 9.

Fire Suppression: In accordance with IBC Table 903.2: Occupancy Automatic Sprinkler Requirements, a fire alarm system is not required for new construction in Business Group B structures of less the 12,000 square feet and therefore, the requirements of IEBC 1102.3 do not apply.

In accordance with IBC 905.3.1 Height, Standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet above the lowest level of fire department vehicle access. Standpipes are not required because the floor height of the highest story is less than 30 feet above the lowest level of fire department access.

Fire Alarm: In accordance with IBC 907.2.2: Group B, a manual fire alarm system that activates an occupant notification system shall be provided in Group B occupancies where the combined occupant load of Group B occupancies exceeds 300 occupants or where the Group B occupant load is more than 100 occupants above or below the level of exit discharge. The aggregate occupant load of the Group B occupancies does not exceed 100 persons and, therefore, the requirements of IEBC 1102.3 do not apply.

Fire Extinguishers: In accordance with IBC 906.1: Where Required, fire extinguishers shall be provided in Business Group B and in Assembly Group A3 occupancies in compliance with NFPA 10: Standard for Portable Fire Extinguishers, which requires a Type 2ABC fire extinguisher for every 3,000 square feet and within a travel distance of 75 feet to an extinguisher. A fire extinguisher provided in the common area on each floor will provide the required coverage.

IEBC 1103: STRUCTURAL

IEBC 1103.1 Compliance with the IBC: In accordance with IEBC 1103.1, Additions shall comply with the IBC for new construction.

IEBC 1103.2 Additional gravity load: In accordance with IEBC 1103.2, Exception 1, existing structural elements supporting additional gravity loads shall comply with the IBC except for members whose stress is increased by less than five percent. The Addition will not add more than five percent to any existing structural member.

IEBC 1103.3 Lateral Force Resisting System: In accordance with IEBC 1103.3, the lateral force resisting system of existing buildings to which additions are made shall comply with IEBC 1103.3.1, 1103.3.2, and 1103.3.3 where the lateral force story shear is increased by more than ten percent. .

IEBC 1103.3.1 Vertical Addition: IEBC 1103.3.1 requires any element of the lateral force resisting system of existing buildings subjected to an increase in vertical or lateral loads from the vertical addition to comply with the IBC wind provisions and IBC level seismic forces. The Addition is not a vertical addition and, therefore, the provisions of IEBC 1103.1 do not apply.

IEBC 1103.3.2 Horizontal Addition: IEBC 1103.3.2 requires the lateral force resisting elements of the existing structure, which are affected by a structurally connected addition to comply with the IBC wind provisions and IBC level seismic forces. The Addition does not affect the existing lateral load resisting elements and, therefore, the provisions of IEBC 1103.2 do not apply.

IEBC 1103.3.3 Voluntary Addition of Structural Elements to Improve the Lateral Force Resisting System: IEBC 1103.3.3 requires that voluntary addition of structural elements to

improve the lateral force resisting system of an existing building will comply with IEBC 707.6. The Addition may involve voluntary lateral loads resisting elements and, therefore, the provisions of IEBC 1103.3 do not apply.

IEBC 1103.4 Snow Drift Loads: In accordance with IEBC 1103.4 requires structural elements of the existing building subject to additional gravity loads from the effects of snow drift as a result of the addition and whose stress is increased by more than five percent shall comply with the IBC. The Addition does not involve supporting the loads of snow drifts from the existing building and, therefore, the provisions of IEBC 1103.4 do not apply.

IEBC 1103.5 Flood hazard areas: In accordance with 780 CMR The Massachusetts State Building Code Appendix G, 1612, and local flood hazard maps; an Addition in the flood hazard area shall meet the requirements for floor hazard areas. The Addition is not in a floor hazard area and, therefore, the provisions of IEBC 1103.5 do not apply.

IEBC 1105 ACCESSIBILITY

IEBC 1105.1 Minimum Requirements: In accordance with IEBC 1105.1, any accessibility provisions for new construction shall apply to Additions. The purpose of the Addition is to provide accessibility to the building and, therefore, the Addition shall comply with 521 CMR, which means compliance at least wherever the public has planned access.

IEBC 1106 ENERGY CONSERVATION

IEBC 1106.1 Minimum Requirements: Additions to existing buildings shall meet the requirements of the IECC.

In accordance with IECC Table C402.1.3: Opaque Thermal Envelope Insulation Component Minimum Requirements, the following insulation shall be provided at the thermal envelope of the Addition:

At exterior face of foundation wall, from top of footing to top of floor; 2 inch extruded polystyrene (R10)

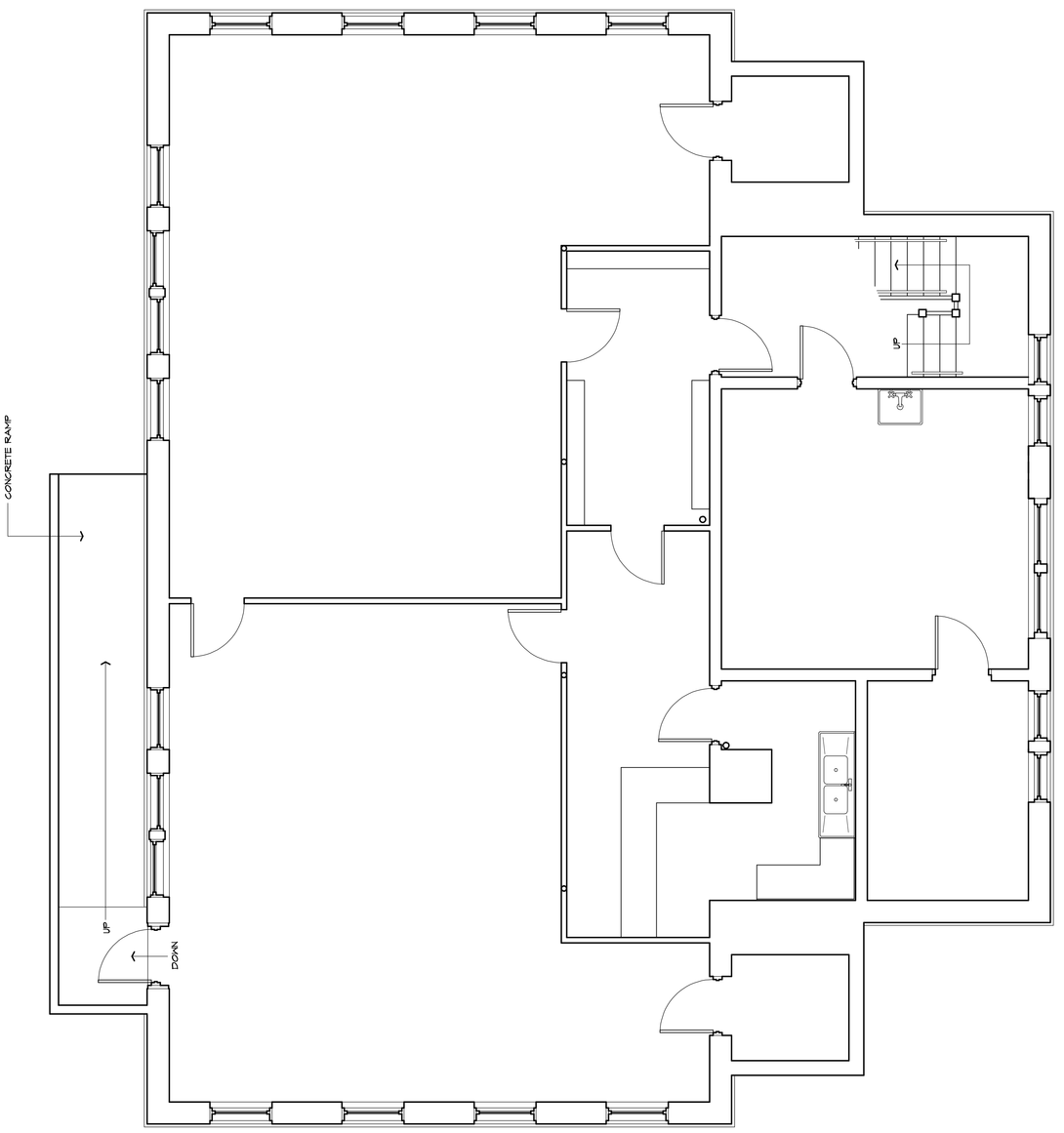
In cavity of lightgauge metal framing at exterior walls; 5-1/2 inch fiberglass insulation with foil facing vapor barrier (R19)

At exterior face of lightgauge metal framing at exterior walls, 1/1-2 inch extruded polystyrene rigid continuous wall insulation (R7.5)

At attic floor, blown-in fiberglass insulation to exceed the minimum requirements (R50)

end

EXISTING CONDITIONS G:\Drawings\20000\20010\existing\floor plans.aec			FLOOR PLAN: EXISTING CONDITIONS: BASEMENT		ALTERATIONS RAYMOND BUILDING 3 RAYMOND PLACE ROYALSTON, MASSACHUSETTS	HAYNES LIENECK AND SMITH INC ARCHITECTS	20010 EX 1



FLOOR PLAN: EXISTING CONDITIONS: BASEMENT

1/4" = 1'-0"

0 1 2 4 8

EXISTING CONDITIONS

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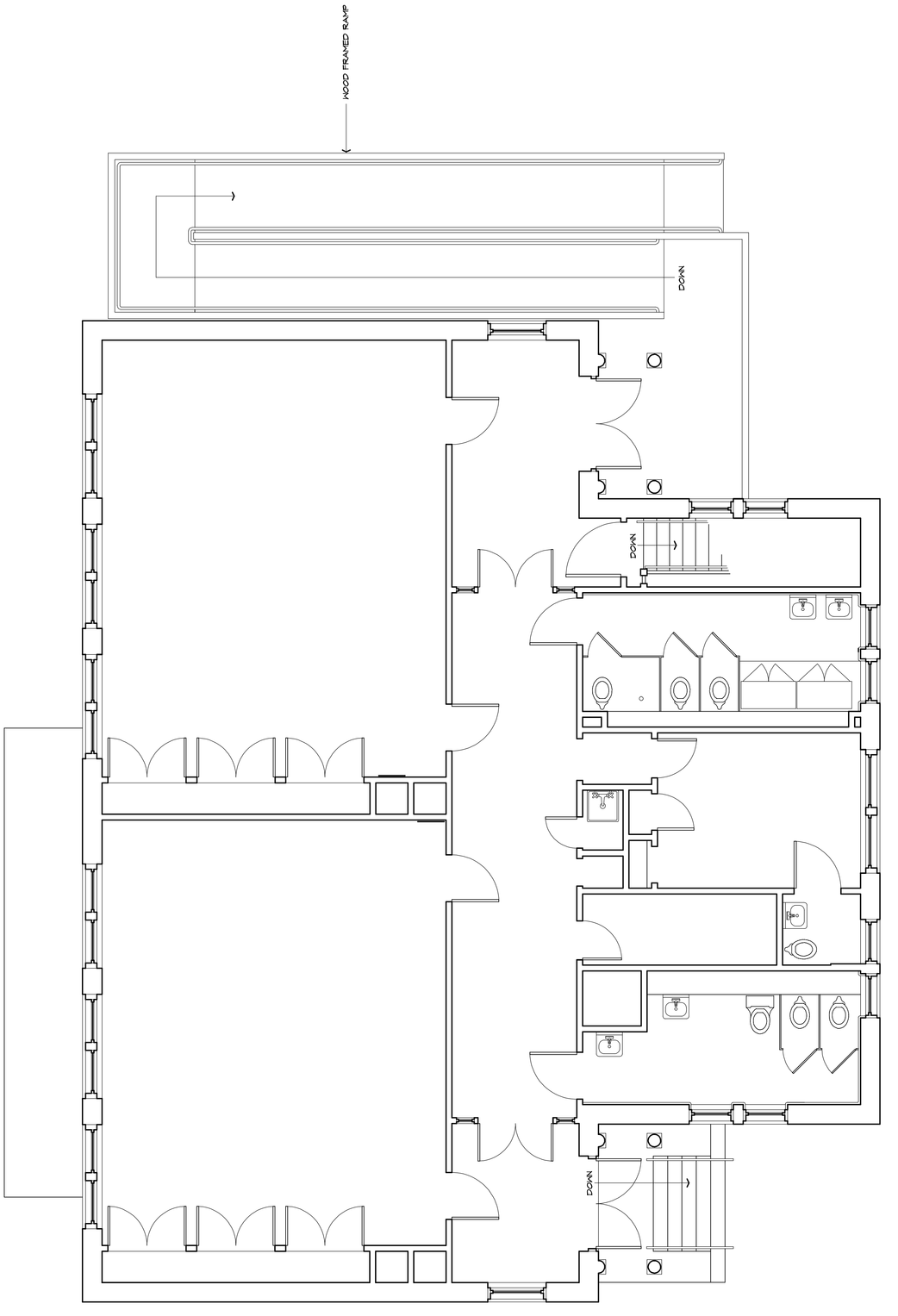
FLOOR PLAN: EXISTING CONDITIONS: FIRST FLOOR

ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC ARCHITECTS

20010

EX 2

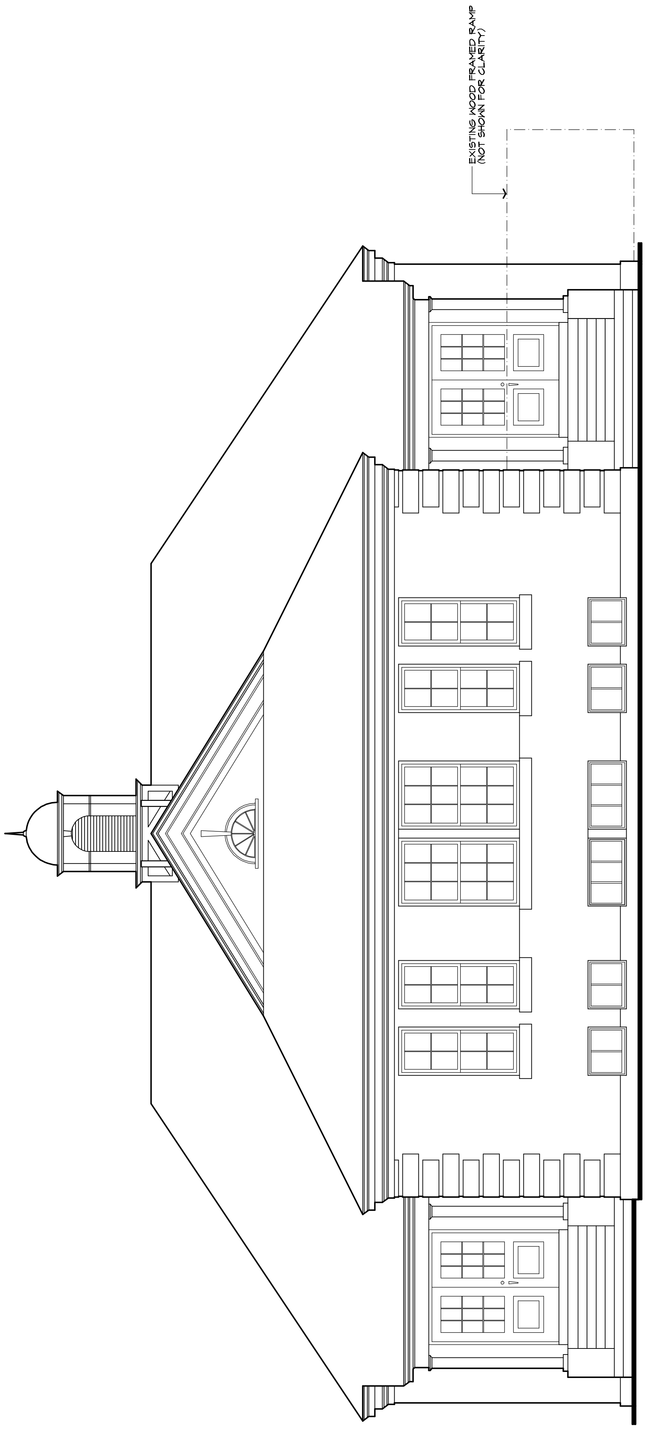


FLOOR PLAN: EXISTING CONDITIONS: FIRST FLOOR

1/4" = 1'-0"

0 1 2 4 8

EXISTING CONDITIONS G:\Drawings\20000\20010\existing\20010 ELEVATIONS.dgn			EXTERIOR ELEVATION: EXISTING CONDITIONS: FRONT (SOUTHWEST)		ALTERATIONS RAYMOND BUILDING 3 RAYMOND PLACE ROYALSTON, MASSACHUSETTS	HAYNES LIENECK AND SMITH INC ARCHITECTS	20010 EX 3

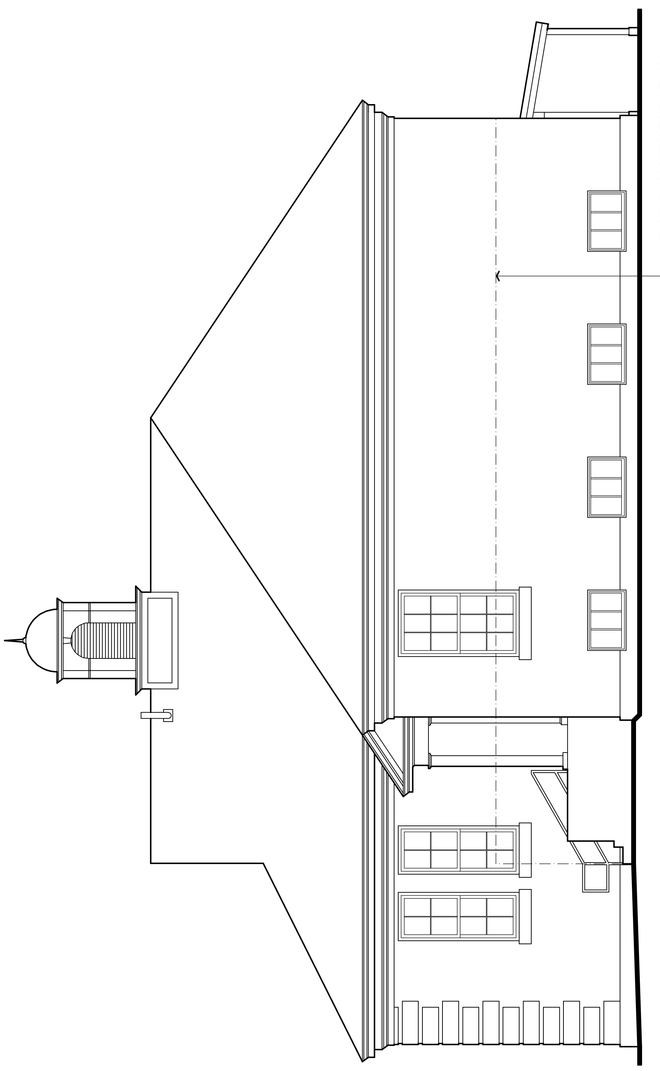


EXTERIOR ELEVATION: EXISTING CONDITIONS: FRONT (SOUTHWEST)

1/4" = 1'-0"

0 1 2 4 8

EXISTING CONDITIONS G:\Drawings\20000\20010\existing\20010 ELEVATIONS.dwg			EXTERIOR ELEVATION: EXISTING CONDITIONS: SIDE (SOUTHEAST)		ALTERATIONS RAYMOND BUILDING 3 RAYMOND PLACE ROYALSTON, MASSACHUSETTS	HAYNES LIENECK AND SMITH INC ARCHITECTS	20010 EX 4



EXTERIOR ELEVATION: EXISTING CONDITIONS: SIDE (SOUTHEAST)

1/4" = 1'-0"

0 1 2 4 8

EXISTING CONDITIONS

G:\Drawings\20000\20010\existing\20010 ELEVATIONS.dwg

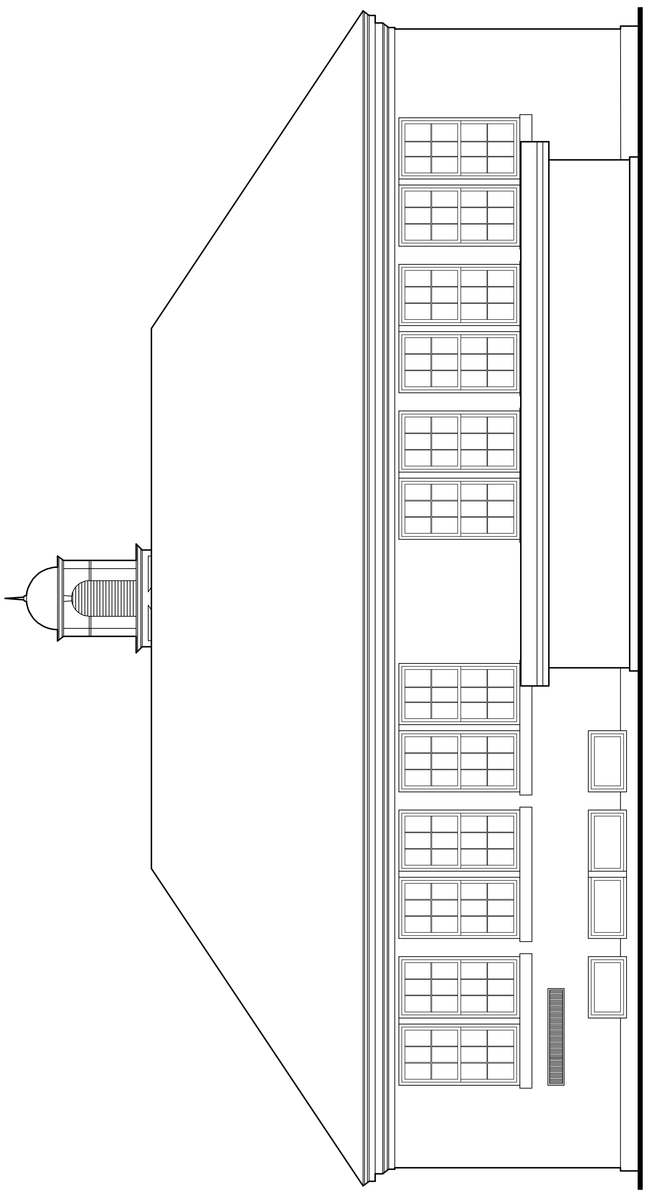
EXTERIOR ELEVATION: EXISTING CONDITIONS: REAR (NORTHEAST)

ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC
ARCHITECTS

20010

EX 5



EXTERIOR ELEVATION: EXISTING CONDITIONS: REAR (NORTHEAST)
1/4" = 1'-0"
0 1 2 4 6

EXISTING CONDITIONS

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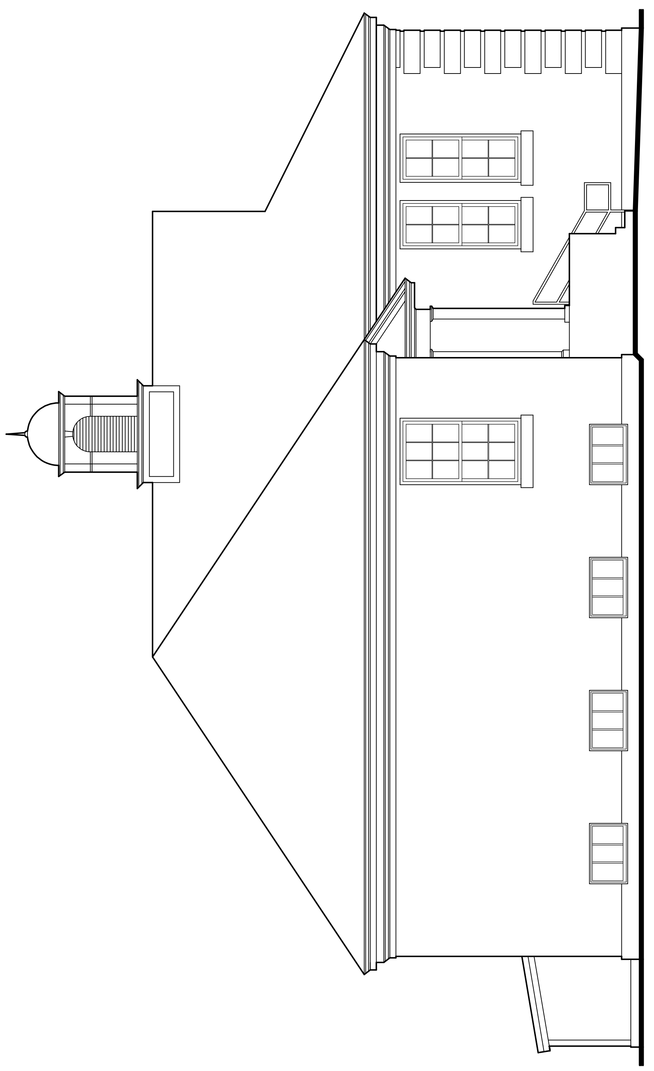
EXTERIOR ELEVATION: EXISTING CONDITIONS: SIDE (NORTHWEST)

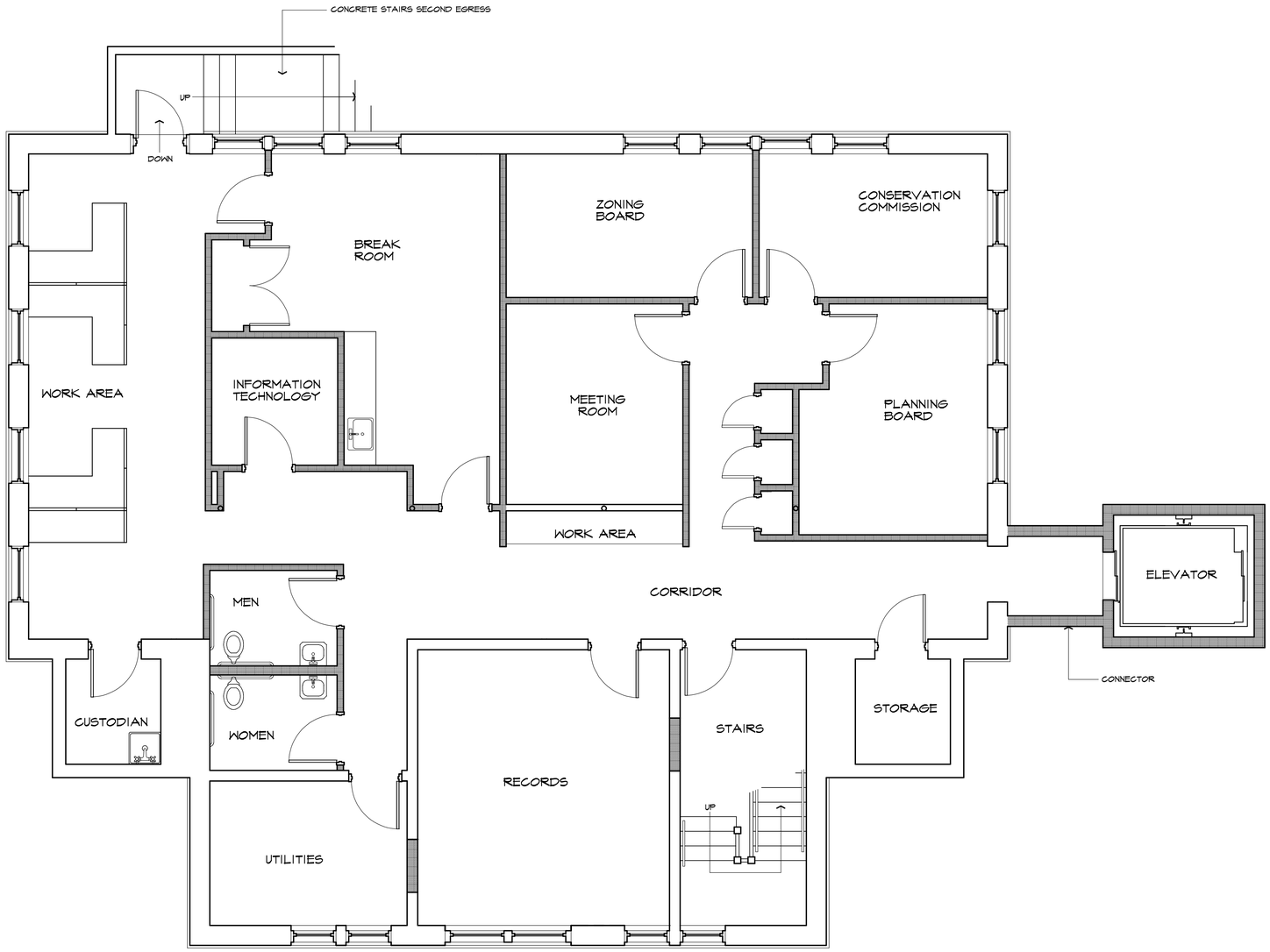
ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC
ARCHITECTS

20010
EX
6



EXTERIOR ELEVATION: EXISTING CONDITIONS: SIDE (NORTHWEST)
1/4" = 1'-0"
0 1 2 4 8



FLOOR PLAN: BASEMENT

1/4" = 1'-0"

0 1 2 4 8

CONCEPTUAL DESIGN

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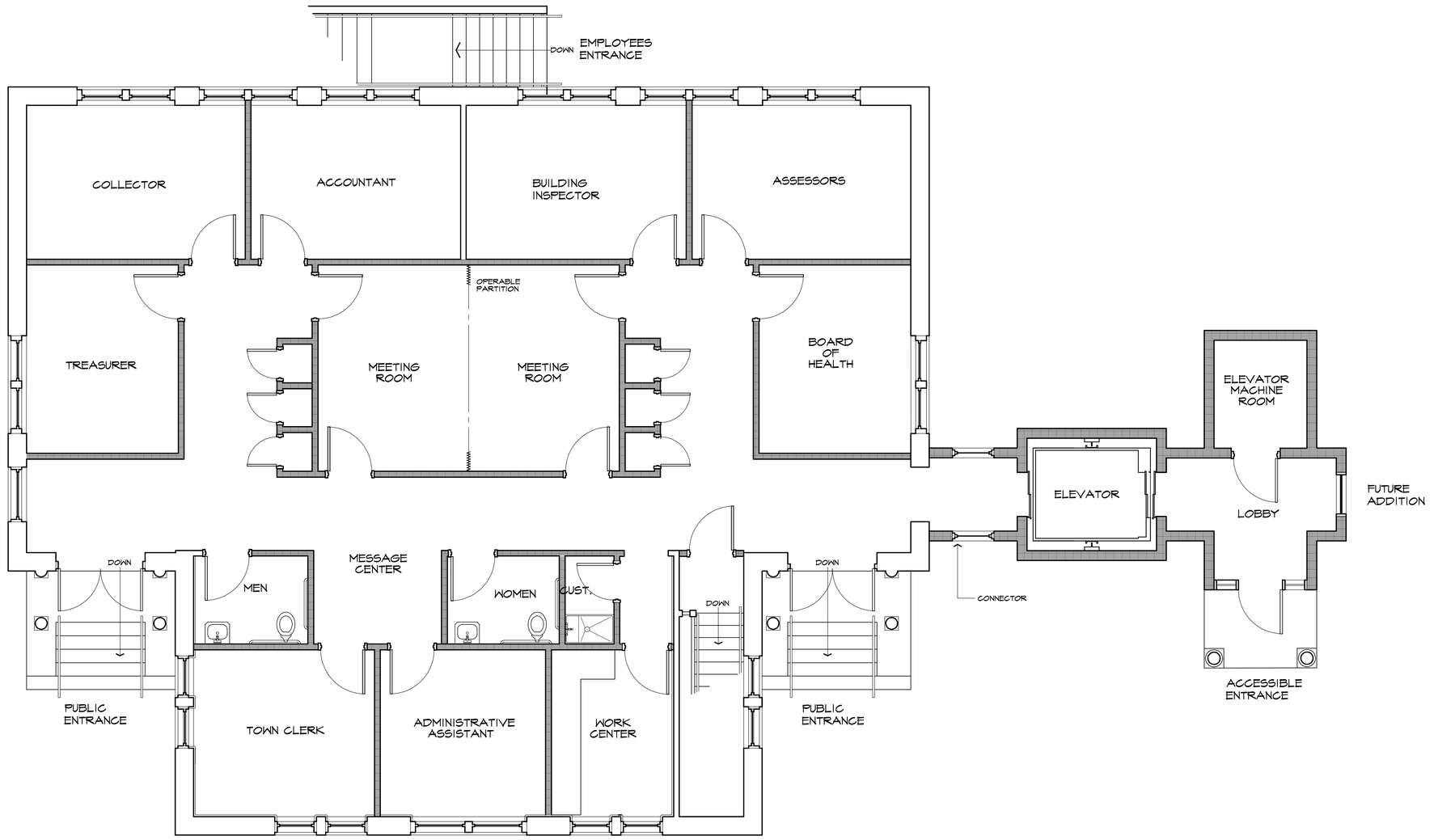
FLOOR PLAN: BASEMENT

ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC
ARCHITECTS

A-1

2001



NE
NW
SE
SW

FLOOR PLAN: FIRST FLOOR

1/4" = 1'-0"

0 1 2 4 8

CONCEPTUAL DESIGN

G:\Drawings\2000\2000\Design\1floor plans.dwg

FLOOR PLAN: FIRST FLOOR

ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC
ARCHITECTS

A 2

2001

CONCEPTUAL DESIGN

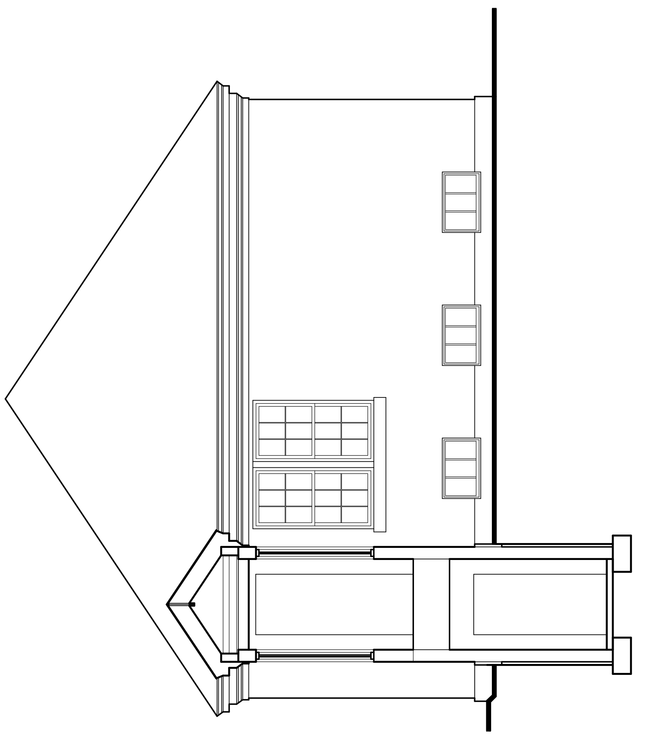
G:\Drawings\20000\20010\design\floor plans.aec

BUILDING SECTION: CONNECTOR

ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC
ARCHITECTS

20010
A
3



BUILDING SECTION: CONNECTOR
1/4" = 1'-0"
0 1 2 4 8

CONCEPTUAL DESIGN

G:\Drawings\20000\20010\design\floor plans.dgn

EXTERIOR ELEVATION: FRONT (SOUTHWEST)

ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC
ARCHITECTS

20010

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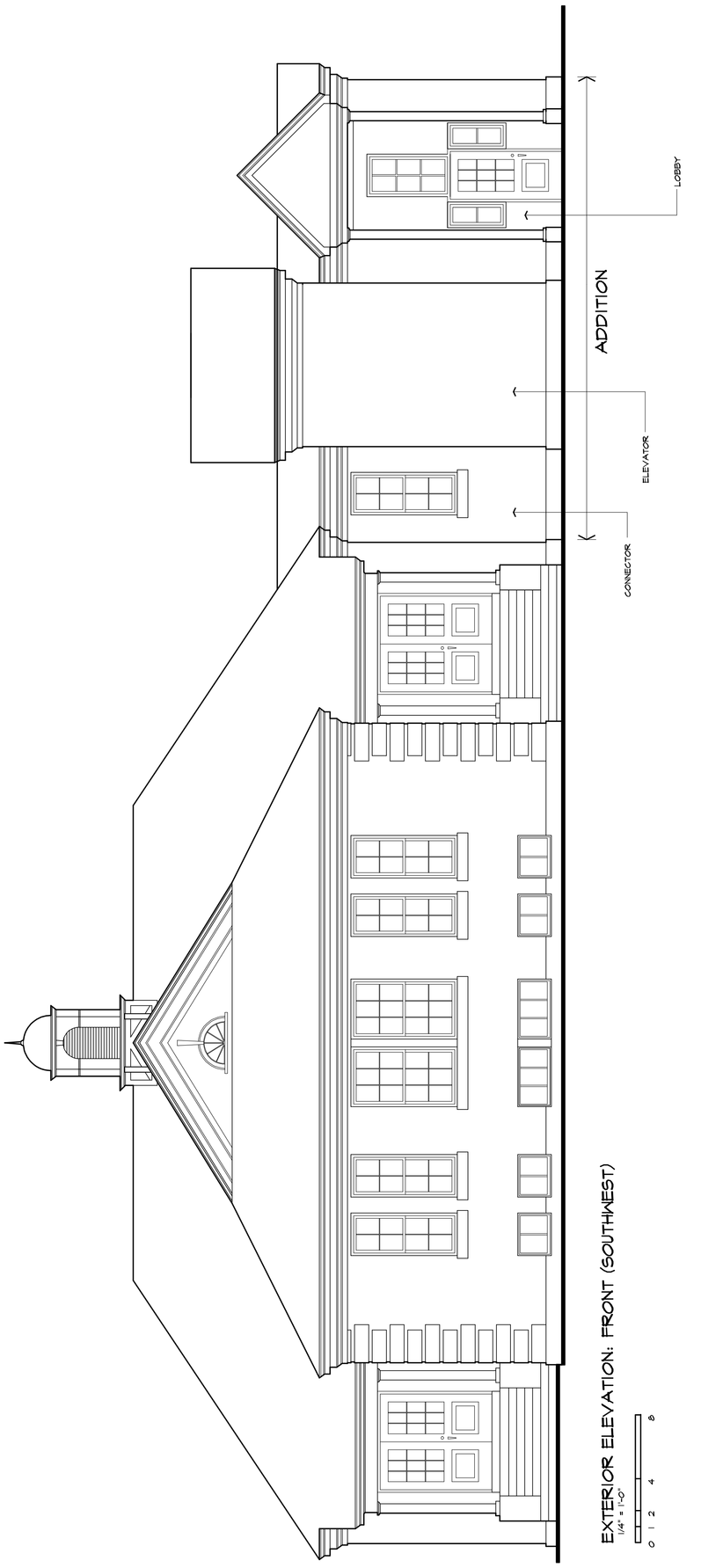
4



EXTERIOR ELEVATION: FRONT (SOUTHWEST)
1/4" = 1'-0"
0 1 2 4 8

CONCEPTUAL DESIGN

G:\Drawings\20000\20010\design\floor plans.dgn

EXTERIOR ELEVATION: ELEVATOR ADDITION SIDE (SOUTHEAST)

ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC
ARCHITECTS

20010
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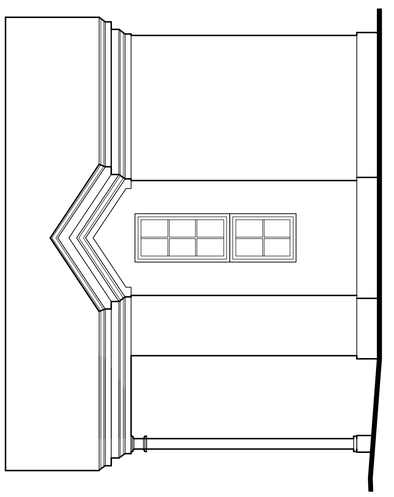

EXTERIOR ELEVATION: ELEVATOR ADDITION SIDE (SOUTHEAST)
1/4" = 1'-0"
0 1 2 4 8

CONCEPTUAL DESIGN

G:\Drawings\20000\20010\design\floor plans.aec

EXTERIOR ELEVATION: EMPLOYEE ENTRANCE SIDE (NORTHEAST)

ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC
ARCHITECTS

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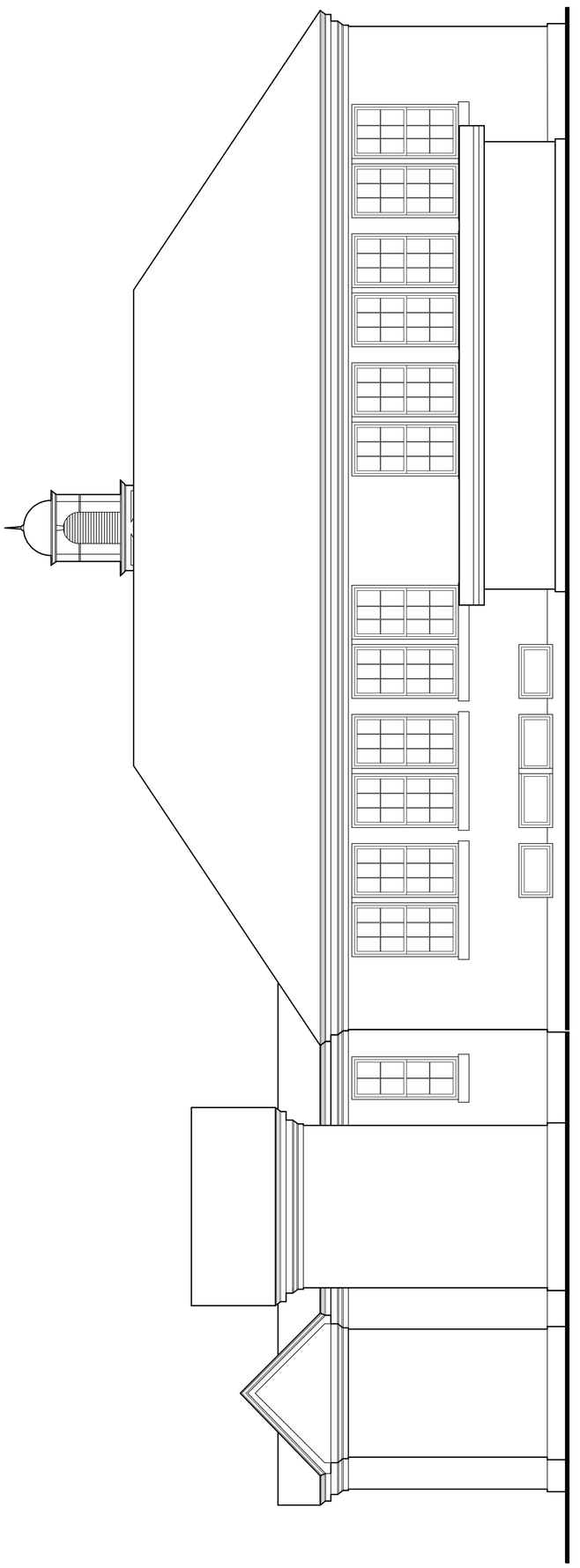


EXTERIOR ELEVATION: EMPLOYEE ENTRANCE SIDE (NORTHEAST)
1/4" = 1'-0"
0 1 2 4 8

CONCEPTUAL DESIGN

G:\Drawings\20000\20010\design\floor plans.aec

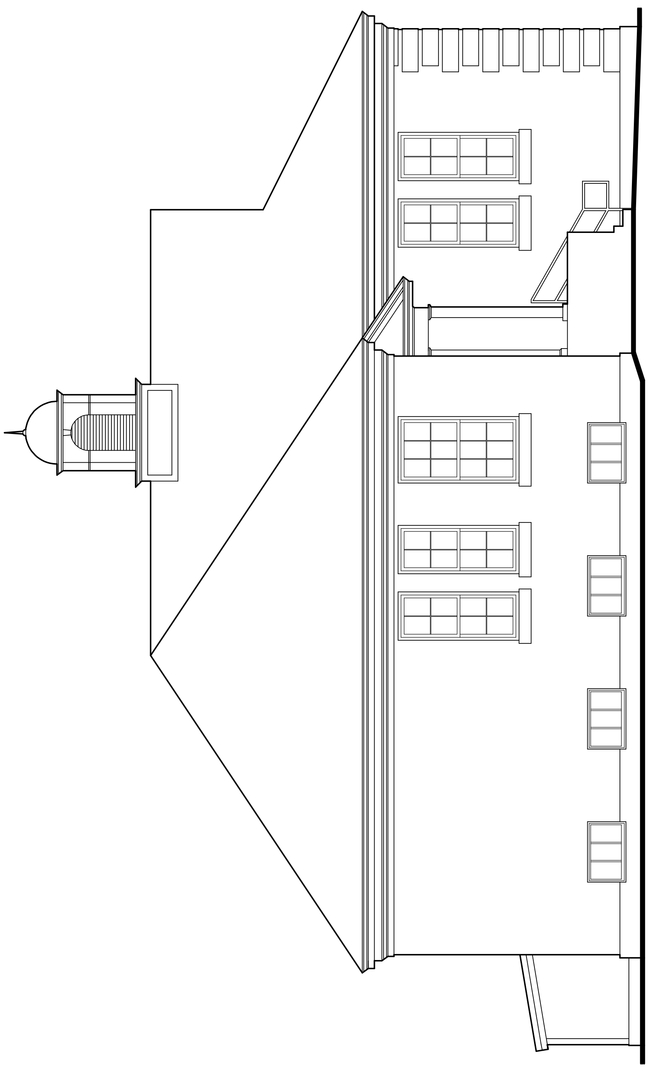
EXTERIOR ELEVATION: SIDE (NORTHWEST)

ALTERATIONS
RAYMOND BUILDING
3 RAYMOND PLACE
ROYALSTON, MASSACHUSETTS

HAYNES LIENECK AND SMITH INC
ARCHITECTS

20010

A-7



EXTERIOR ELEVATION: SIDE (NORTHWEST)
1/4" = 1'-0"
0 1 2 4 8