HAYNES LIENECK AND SMITH INC ARCHITECTS

Municipal Offices

Conceptual Design
Whitney Hall
5 School Street
Royalston, Massachusetts

Prepared by:

Haynes, Lieneck, and Smith, Inc.
(Architects)

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Architect's Project 17040

October 1, 2018

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Evaluation of Existing Building
Municipal Offices

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Site:

The front yard has the potential for development for limited accessible parking and an accessible entrance in the front tower where the existing entrance doors are located.

The rear yard has the potential for development for parking.

The basement level is directly accessible along the front for building services.

The second egress bridge to the side street (Pleasant Street) provides egress only for a limited part of the building and a better solution is needed long term.

There is additional site in the rear for development as a public play area or other community related gathering space that also affords the employees an outdoor break space.

Some of the additional site may be considered for sale to the adjacent church.

Building:

The basement level is in fair condition and is not conducive to space accessible to the public. The basement space is better suited to building systems spaces and support spaces that are not accessed by the public and that require limited access by employees.

The first floor and second floor are actively being used for municipal offices and are in good condition. Removal of existing partitions to the exterior walls is recommended for reconfiguration of space, improved circulation, and separation of office functions.

The third floor (attic level) is not currently developed. There is potentially usable space on the third floor.

The building does not have an elevator; an elevator with a stop at grade and at each floor is recommended. Also recommended is a vertical wheelchair to access the presentation platform in the large meeting room on the second floor.

The building envelope is in fair condition. The siding is anticipated to be salvageable and workable although the long term maintenance of the wood siding is not desirable. The recommendation is for a fly ash based composite siding.

The recommendation is for replacement of the doors and windows with energy efficient metal clad wood windows and doors.

For a long term solution the roofing is recommended to be replaced as part of total building upgrade.

Building Systems:

The structural system includes the following components:

> The first floor is construction of rough wood columns with natural wood beams (members that are not milled). There is not a method for calculating the load capacity of the first floor components which were constructed long before a state building code existed. The recommendation is to remove the first floor framing and reconstruct the first floor with structural steel columns, structural steel supplemental intermediate beams, wood floor joists of limited depth as feasible, and plywood floor sheathing and underlayment.
>
> The columns in the basement continue through to support the second floor and the bearing points of the roof frames in the exterior walls appear to align with the column lines for the internal columns on the basement and first floor. Accordingly, there are anticipated to be a heavy timber frame in the exterior walls that aligns with the interior columns and with the roof beams.
>
> The second floor framing is anticipated to be adequate for the intended uses because the building has functioned with an assembly space on the second floor. During structural evaluation, the floor structure will be evaluated to verify load capacity.
>
> The third floor is probably not adequate to support the intended load without reinforcement. The third floor has wood transverse supporting girders that are suspended by tie rods from the roof beams. There are no web members between the floor beams and the roof beams so the roof structure is not a truss. The recommendation is to reinforce the floor framing and the roof framing to support the loading capacity required. One factor in the favor of the structure is that the roofing was probably slate tile and is now asphalt shingles which are much lighter.
>
> There is not lateral load resisting structural that is required by current building codes. The recommendation is to remove the interior finish on the exterior walls and to provide plywood sheathing before gypsum board facings to provide lateral load resisting shear walls. Further, internal steel frames for lateral stability are recommended where the frames can be incorporated.
>
> The framing for the third floor (attic floor) which is suspended from the roof girders is reinforced and upgraded with structural steel and wood framing to provide the code required live load capacity

There is no fire suppression system. The building code mandate is to provide an automatic fire suppression system throughout that reports through a fire alarm system. A dry system is recommended that provides full coverage including the attic above the third floor.

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 mechanical systems are nearing the end of the useful life and the systems do not provide fresh air. The recommendation is to provide heating and air conditioning throughout the building in conjunction with energy recovery ventilation for fresh air and ventilation.

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 elevator

Egress lighting and lighted exit signs

Ambient lighting with LED fixtures and occupancy control throughout

Telecommunications system for telephone and data

Fire alarm system

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Space Program
Municipal Offices

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Excluding the utility spaces in the basement, the program for the municipal offices is as follows:

Size (Net square feet)	**Space Use**
180	Town Clerk
195	Administrative Assistant (Selectboard)
180	Treasurer
180	Town Accountant
210	Town Assessors
180	Tax Collector
120	Planning Board
120	Conservation Commission
140	Zoning Board
220	Board of Health
285	Building Inspections
80	Information Technology
1275	Large Meeting Room with platform (large hearing room)
340	Conference Room, first floor (small hearing room)
120	Meeting Room, first floor

175	Meeting Room, second floor
230	Meeting Room, third floor
120	Break Room
550	Archival Records Storage (climate controlled, chemical fire suppression)
190	Storage

In additional, on each floor, there is a custodian’s closet and accessible toilets for women and men.

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Design Concepts
Municipal Offices

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Whitney Hall
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Royalston, Massachusetts

Site:

Accessible parking is provided at the beginning of the drive with a short accessible route to the main entrance at the current front door location. The site around the parking is regraded to provide accessible parking space and a low slope walkway to the landing at the entrance. The low sloped walkway is extended to the sidewalk at the street.

Steps are provided from the sidewalk to the front entrance.

A parking lot is provided in the rear with a sloped walkway up to an accessible entrance from the parking area. The top of the walkway is covered. Steps are also provided from the parking to the rear entrance.

Thirty four total parking spaces are provided.

The dumpster is located off the rear parking lot and there is a truck turning area before entering the parking lot.

The rear of the lot can be developed for community recreation space or other community gathering space.

Building:

There is an accessible entrance front the front and rear of the first floor.

The front tower will be the fire rated and smoke controlled stairway and elevator. The stairs will be on the north and south sides of the elevator, and there are elevator landings on the east and west sides of the elevator. The elevator has one stop on the west side at the grade of the exterior accessible entrance and then four stop son the east side; one stop for the basement and each of the three floors.

A second egress stair is provided in the rear so that there are two stairways serving the basement and the three floors.

The basement level is planned for utility spaces.

The first floor has an entrance lobby, municipal office space, meeting space, and accessible public toilets. Municipal offices include treasurer, accountant, tax collector, assessors, town clerk, and administrative assistant (board of selectmen.

The second floor has a large meeting room with presentation platform, a meeting room, office space for the planning board and conservation commission, and accessible public toilets. A wheelchair lift is incorporated to provide accessibility to the platform.

The third floor has office spaces for the building inspector, board of health, and zoning board. There is also a meeting room with accessible public toilets.

Building Systems:

The structural system is upgraded as follows:

The first floor is reconstructed with conventional floor joists, supplemental steel beams, and plywood subfloor and underlayment to provide the code required live load capacity

The framing for the third floor (attic floor) which is suspended from the roof girders is reinforced and upgraded with structural steel and wood framing to provide the code required live load capacity

The interior finish from the exterior walls is removed for insulating the existing wall cavity and the interior surface is replaced with plywood sheathing and gypsum board to provide lateral load resistance is all four directions.

Interior steel bracing is provided to provide internal lateral load resistance.

An automatic fire suppression system is added, reporting through the fire alarm system. The system is a dry pipe system that provides full coverage including the attic above the third floor.

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

The mechanical systems are replaced. An energy recovery ventilator and a variable refrigerant flow (VRF) ductless split system with heat pump and exterior condensing unit are provided for each floor. The ventilators manage fresh air and exhaust air. The split system provides heating and air conditioning through indoor delivery units on the ceilings. The system provides heating and cooling simultaneously for flexible control in each space.

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

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

The fire alarm system is replaced with an addressable system with manual pull stations, specific space detection as required, and signaling devices throughout.

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Architect's Project 17040
Conceptual Design
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Royalston, Massachusetts

Municipal Offices

Conceptual Construction Budget

COST	DESCRIPTION
265,000	GENERAL CONDITIONS
170,000	OVERHEAD AND PROFIT
135,000	SITE WORK
70,000	DEMOLITION
25,000	HAZARDOUS MATERIALS ABATEMENT
40,000	CONCRETE
80,000	MASONRY
50,000	STRUCTURAL STEEL
40,000	MISCELLANEOUS METALS
225,000	ROUGH CARPENTRY
75,000	FINISH CARPENTRY
20,000	MOISTURE PROTECTION
80,000	BUILDING INSULATION
25,000	ASPHALT SHINGLE ROOFING
70,000	SIDING
5,000	JOINT SEALING
45,000	PRESSED METAL FRAMES
30,000	FIBERBOARD DOORS
10,000	CLAD WOOD DOORS
60,000	CLAD WOOD WINDOWS
40,000	HARDWARE
20,000	GLAZING
100,000	GYPSUM BOARD
25,000	CERAMIC TILE
40,000	SUSPENDED CEILING SYSTEMS
45,000	ACOUSTICAL INSULATION
75,000	RESILIENT FLOORING
2,000	ENTRY MAT TILE
25,000	CARPET
75,000	PAINTING
10,000	SPECIALTIES
3,000	APPLIANCES
5,000	LOUVERS
7,000	SIGNAGE
15,000	TOILET ROOM ACCESSORIES
8,000	WINDOW TREATMENT
200,000	ELEVATOR
30,000	WHEELCHAIR LIFT
60,000	FIRE SUPPRESSION SYSTEM
85,000	PLUMBING
275,000	HEATING, VENTILATING, AND AIR CONDITIONING
245,000	ELECTRICAL
2910000	**CONSTRUCTION COST**
290000	DESIGN AND CONSTRUCTION CONTINGENCY
185000	PROFESSIONAL SERVICES FEE
3385000	**PROJECT COST**

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September, 2018

Code Compliance Report
Investigation and Evaluation of Existing Building
Municipal Offices

Architect's Project 17040
Additions and Alterations
Whitney Building
5 School Street
South Royalston, Massachusetts

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) 2015
International Mechanical Code (IMC) 2015
248 CMR Uniform State Plumbing Code 2017

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

General Information:

The project is to renovate Whitney Hall for use as municipal offices. The Alterations involve using the basement level for storage and spaces for building systems; using the first floor for offices; using the second floor for a large meeting room and offices; and using the third floor attic level for offices. A stairway is added on the back side of the building for second egress and also for access to upper floor from the parking area which is in the back.

The following information is available from the Board of Assessors:

Whitney Hall was constructed in 1907

The building has an assessed value of $398,300.

The building has a gross floor area of enclosed space of 11,384 square feet with 2,846 square feet on the basement, first floor, second floor, and attic.

The site is an irregular shape of 1.000 acres that surrounds the adjacent church building.

The building is in the R2 Zoning District

The roof framing in the attic rest on the exterior walls such that the usable area in the attic where the ceiling is at least 5 feet above the floor is less than the footprint area of the building. The usable area in the attic is approximately 2,295 square feet.

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 existing first floor is used for municipal offices. In accordance with IBC 304.1 Business Group B, offices for civic administration are in Business Group B.
>
> The second floor of the building is used for meeting space with a capacity of more than 50 occupants. In accordance with IBC 303.1: Assembly Group A, meeting rooms with an occupant load of more than 50 persons are in Assembly Group A3.

The existing use of the building is similar to the existing use. Accordingly, the existing building is a mixed use building without separations consisting of Business Group B throughout with Assembly Group A3 meeting space on the second floor.

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:

> Wood frame supporting floors and roof with columns in exterior wall and with interior columns
> Wood framed floor construction
> Wood frame with tie rods supporting the attic floor and a steeply pitched roof
> Interior non-load bearing partitions of wood 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 required and shall be provided in accordance with IBC 903: Automatic Sprinkler Systems and National Fire Protection Association NFPA 13: Standard for Installation of Sprinkler Systems.

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:

> <u>Means of Egress</u>:
>
> > 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 has a restricted door height and restricted interior stairs with restricted landing area. The second means of egress from the second floor is a sloped bridge to the public way at the side street. The existing means of egress will be improved to suit conditions involved with alterations.

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 replaced with controlled mechanical ventilation in offices and meeting rooms and mechanical ventilation will be provided where specifically required for toilets.

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.

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 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. Therefore, the existing floor structures will be structurally evaluated and reconstructed to meet the live load characteristics.

The existing first floor framing is very rough cut logs that are not likely to calculate so that the first floor framing will be replaced.

The floor framing for the second floor is not observable but will probably be close to the design gravity load because of the Assembly use over the years.

The floor framing for the attic will probably be close to providing the live load but the supporting beams with tie rods from the roof structure probably will not so that replacing the beams for the floor structure on the attic floor is anticipated.

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 16010: Soil Lateral Loads. Bracing against lateral loads will be provided as required.

The interior facing of the exterior walls will be removed throughout for access to the exterior wall cavity for insulation. After insulation and a vapor barrier are provided, the interior surface facing will be plywood to provide lateral resistance. The plywood will be covered with 3/8 inch gypsum board veneer.

An interior bracing system will probably be required to supplement the perimeter shear walls.

Other methods of bracing will be considered as the design is developed.

Egress Capacity:

Egress Capacity: The Alterations do not affect the egress capacity. The design occupant load for the projected use is the same as the current use. However, the means of egress will be improved by adding a second stairway and, therefore, the egress capacity will be provided to support the occupancies.

In accordance with IBC Table 1004.1.4: Maximum Floor Area Allowances per Occupant, the Design Occupant Load is based on 100 square feet gross per person for Business Group B occupancy.

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 affect the fire suppression requirements. 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 required and shall be provided in accordance with IBC 903: Automatic Sprinkler Systems and National Fire Protection Association NFPA 13: Standard for Installation of Sprinkler Systems.

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 shall be provided in accordance with IBC 907: Fire Alarm and Detection Systems and with NFPA 72: National Fire Alarm and Signaling Code. The fire alarm system shall be coordinated with the automatic fire sprinkler system to provide supervision and notification through the heat sensing devices of the fire sprinkler system.

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 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.

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 and in Assembly Group A3 occupancies serving an occupant load greater than 30 persons in buildings with an automatic sprinkler system, a zero hour fire rating is required 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 replaced 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 ventilation 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 each mechanical systems zone.
>
> Lighting: The existing lighting system will be replaced throughout the building.
>
> 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 a stairway and then access panels to the attic areas.
>
> The access to the existing basement level is maintained.

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 or the exterior.

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.

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

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.

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, alterations and change of occupancy complying with IEBC 4; incorporating contemporary life safety design and construction; and providing 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 and the prescriptive method is not used.

IEBC 301.1.2, the 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 and Assembly Group A3 occupancies with fire suppression shall meet the following requirements:

Exit enclosures Exit passageways	Class B: Flame Spread Index 26-75 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 enhance the level of fire protection by adding a fire suppression system, an updated fire alarm system, and by providing fire extinguishers

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 enhance 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.

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 or the exterior.

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.

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

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.

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 and Assembly Group A3 occupancies with fire suppression shall meet the following requirements:

Exit enclosures Exit passageways	Class B: Flame Spread Index 26-75 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.

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.

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 804.2.1: 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.

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 Assembly Group A3 occupancy requires a fire suppression system when the occupancy is on a floor other than the level of exit discharge for the Assembly Group A3 use. An automatic fire suppression system shall be provided. .

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.

IEBC 804.2.5 Supervision: Fire suppression systems required by IEBC 8 shall be supervised. Fire suppression will be supervised through the fire alarm system.

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 or Assembly Group A3 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 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.

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 mechanical ventilation will be provided 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.

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 or the exterior.

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.

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

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.

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 and Assembly Group A3 occupancies with fire suppression shall meet the following requirements:

Exit enclosures Exit passageways	Class B: Flame Spread Index 26-75 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 804.2.2.1 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 Assembly Group A3 occupancy requires a fire suppression system when the occupancy is on a floor other than the level of exit discharge for the Assembly Group A3 use. An automatic fire suppression system shall be provided.
>
> 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.
>
> 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.
>
> 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.

Accordingly, the requirements of IEBC 904 do not apply, but a fire suppression system is required in accordance with IEBC 804.2.2.1.

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 907.2.1: Group A, a manual fire alarm system that activates an occupant notification system shall be provided in Group A occupancies where the occupant load exceeds 300 occupants. The occupant load does not exceed 300 occupants and, therefore, the requirements of IBC 907.2.1 do not apply.

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, every story shall be provided with minimum number of exits based on the occupancy and occupant load. In accordance with IBC Table 1006.3.2(1) Stories with One Exit for Group a and Group B occupancies with the 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. None of the floors qualifies as a story with one exit because the common path of travel is greater than 75 feet. Therefore, two exits are required from each story.

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. The large meeting room on the second floor shall have two exits.

In accordance with IEBC 805.4.2: Door Swing, exit doors serving an occupant load of greater than 50 persons shall swing in the direction of exit travel.

In accordance with IEBC 805.4.3 Door Closing, doors opening into an exit stairway shall be automatic closing by listed closing devices.

In accordance with IEBC 805.4.4: Panic Hardware:

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 805.6: Dead End Corridor, dead end corridors shall not exceed 35 feet.

In accordance with IEBC 805.7: Means of Egress Lighting, egress doorways shall comply IBC1008 Means of Egress Lighting

In accordance with IEBC 805.8: Lighted Exit Signs, lighted exit signs shall comply with IBC 1013: Exit Signs.

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. 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.

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 or the exterior.

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.

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

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.

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 without a change in occupancy classification and, accordingly, the requirements of IEBC 1002 through IEBC 1011 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. The Alterations do not involve a change in occupancy classification and, therefore, the requirements of IEBC 1003 do not apply.

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. Although the Alterations do not involve a change in occupancy classification, a fire suppression system shall be provided throughout the building in accordance with IBC 903: Automatic Fire Protection Systems and National Fire Protection Association NFPA 13: Standard for Installation of Sprinkler Systems.

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. The Alterations do not involve a change in occupancy classification and, therefore, the requirements of IEBC 1005 do not apply.

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. The Alterations do not involve a change in occupancy classification and, therefore, the requirements of IEBC 1006 do not apply.

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 reconstructed and 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 mechanical ventilation will be provided 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.

Assembly Group A3:

Large meeting	Water closet	Urinal	Lavatory	Accessible
Men	1 per 100	optional	1 per 200	yes
Women	1 per 50	0	1 per 200	yes

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 mechanical ventilation will be provided 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 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 is for an enclosed second egress stair and 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 and Assembly Group A occupancies in Type VB Construction Classification with NFPA 13R 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 two stories above the grade plan. 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 and Assembly Group A occupancies in Type VB Construction Classification with NFPA 13R fire suppression, a building area of 18,000 square feet is allowed based on the most restrictive use. The building with the addition is less 18,000 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: A fire suppression system is required and shall be provided in accordance with IBC 903: Automatic Sprinkler Systems and National Fire Protection Association NFPA 13: Standard for Installation of Sprinkler Systems.
>
> 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: A 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. The fire alarm system shall be coordinated with the automatic fire sprinkler system to provide supervision and notification through the heat sensing devices of the fire sprinkler system.
>
> 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 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 areas of public use shall comply with 521 CMR.

IEBC 1106 ENERGY CONSERVATION

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

end

EXISTING CONDITIONS

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FLOOR PLAN: BASEMENT

ALTERATIONS
WHITNEY HALL
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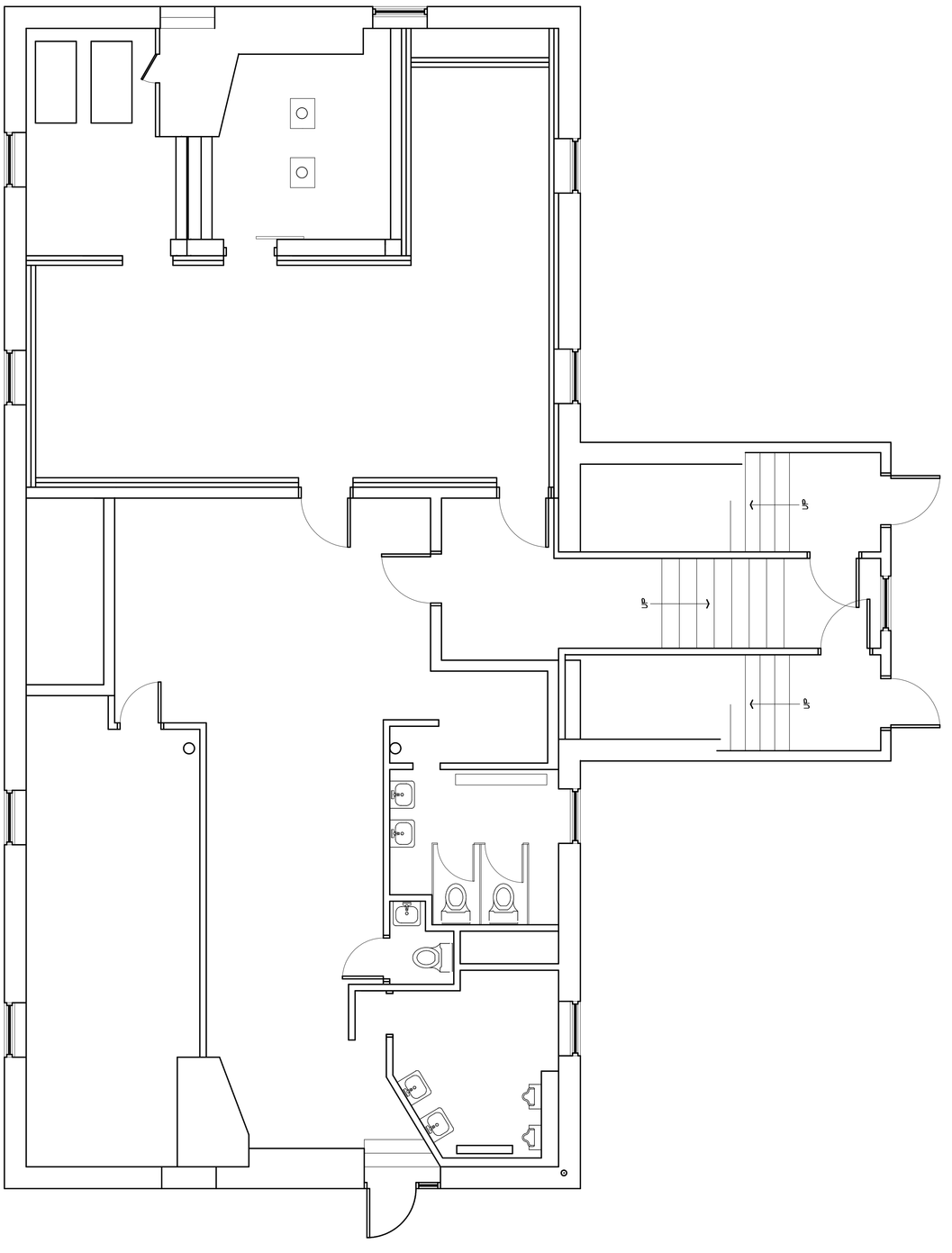
EX 1



FLOOR PLAN: BASEMENT

0 1 2 4 8 16

EXISTING CONDITIONS

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FLOOR PLAN: FIRST FLOOR

ALTERATIONS
WHITNEY HALL
SCHOOL STREET
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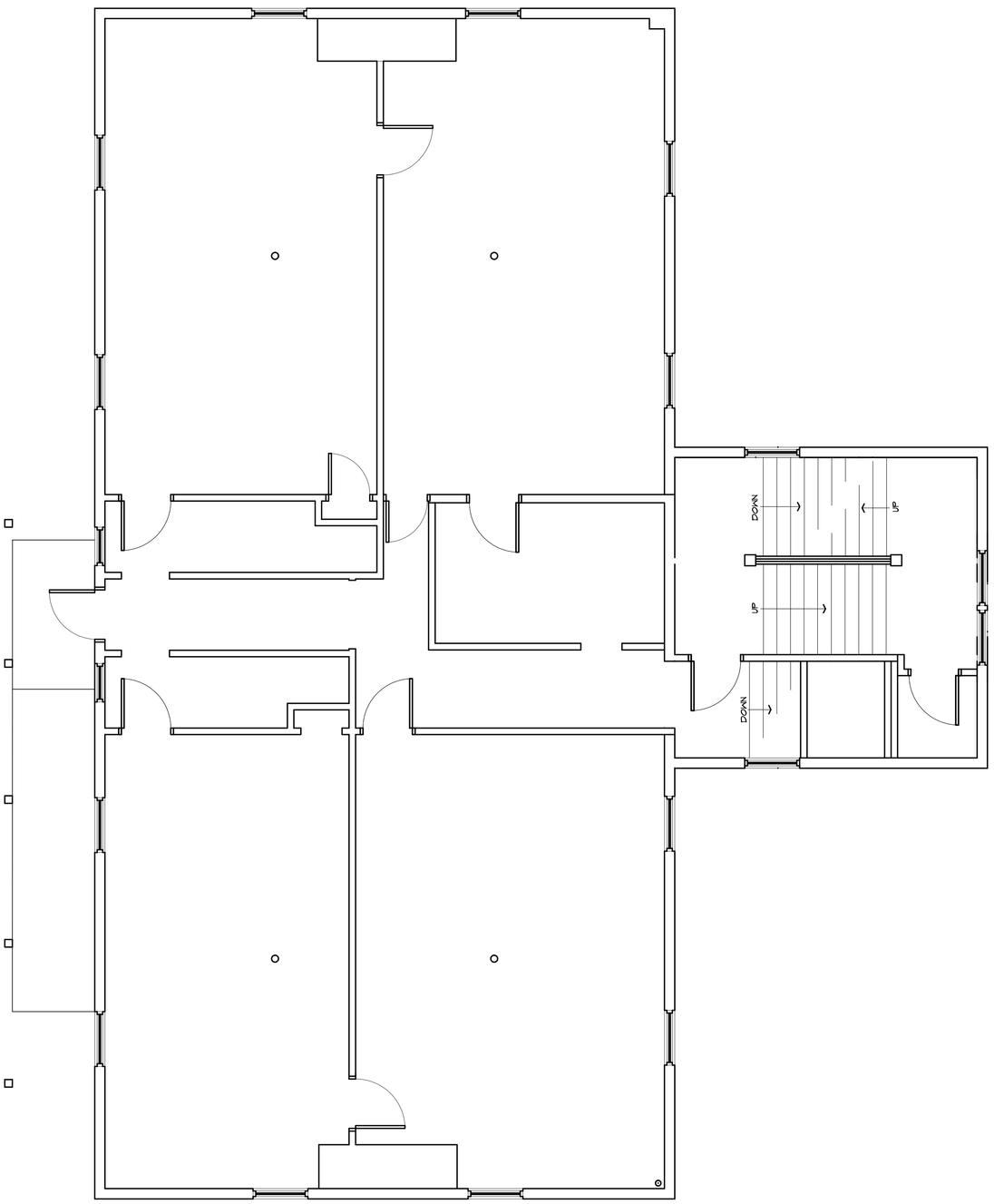
EX 2



FLOOR PLAN: FIRST FLOOR

0 1 2 4 8 16

EXISTING CONDITIONS

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FLOOR PLAN: SECOND FLOOR

ALTERATIONS
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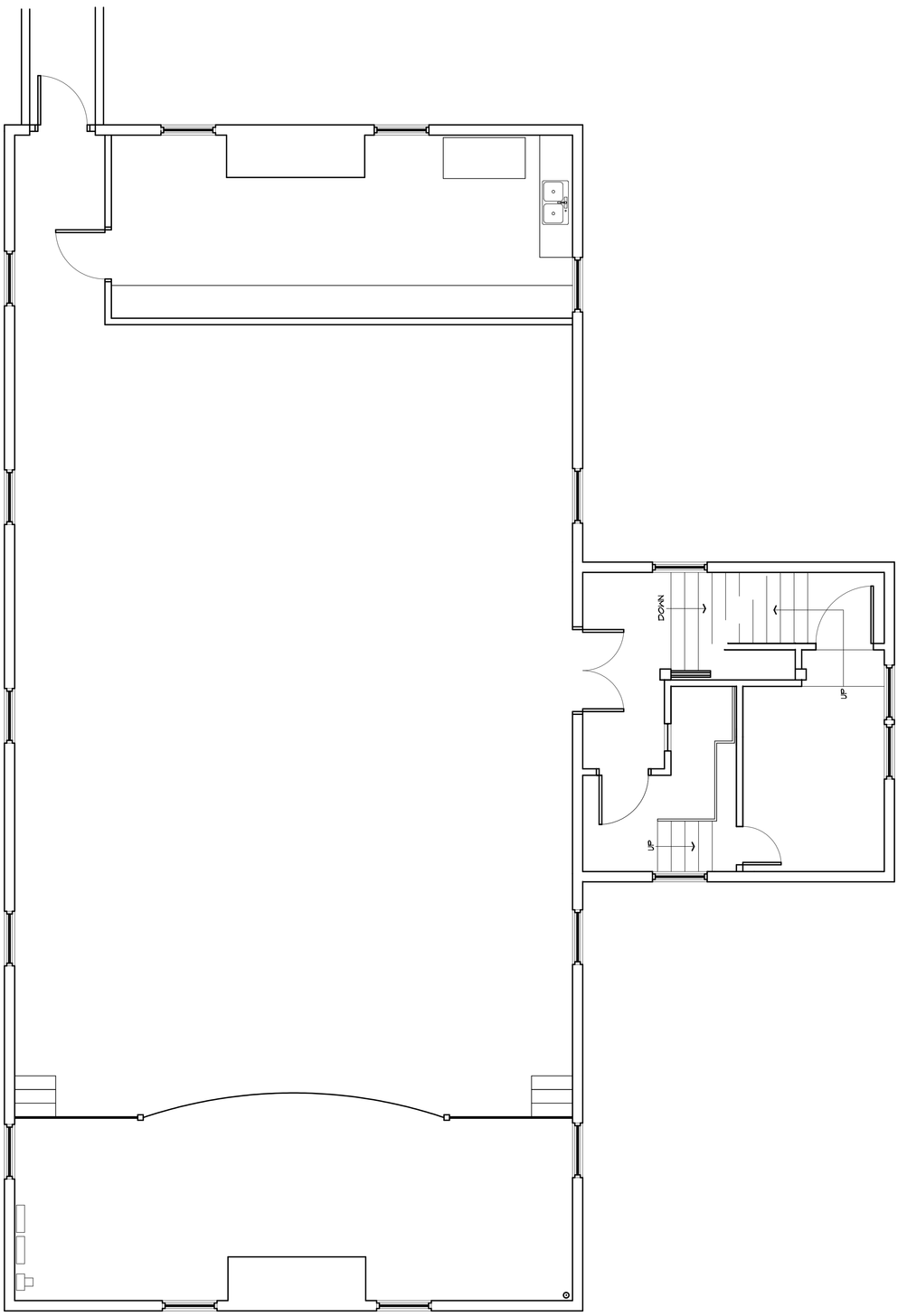

FLOOR PLAN: SECOND FLOOR

0 1 2 4 8 16

EXISTING CONDITIONS

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FLOOR PLAN: THIRD FLOOR (ATTIC LEVEL)

ALTERATIONS
WHITNEY HALL
SCHOOL STREET
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EX
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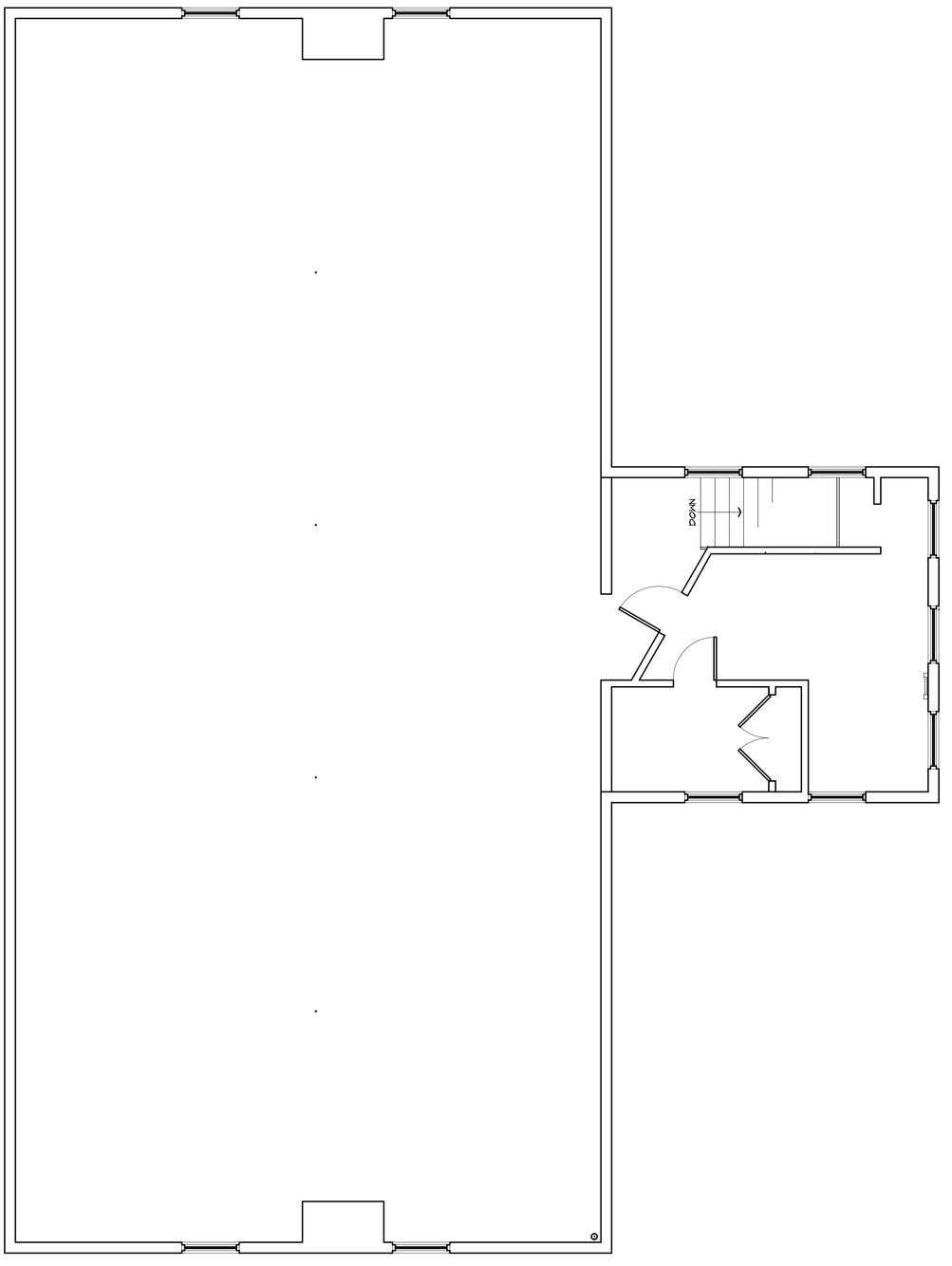

FLOOR PLAN: ATTIC LEVEL (EXISTING)

0 1 2 4 8 16

EXTERIOR ELEVATION: SCHOOL STREET SIDE (WEST)

0 1 2 4 8 16

EXISTING CONDITIONS

EXTERIOR ELEVATION: SCHOOL STREET SIDE (WEST)

ALTERATIONS
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EX 5

EXTERIOR ELEVATION : PARKING SIDE (EAST)

0 1 2 4 8 16

EXISTING CONDITIONS

EXTERIOR ELEVATION: PARKING SIDE (EAST)

ALTERATIONS
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EX 6

EXISTING CONDITIONS

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EXTERIOR ELEVATION: DRIVE SIDE (NORTH)

ALTERATIONS
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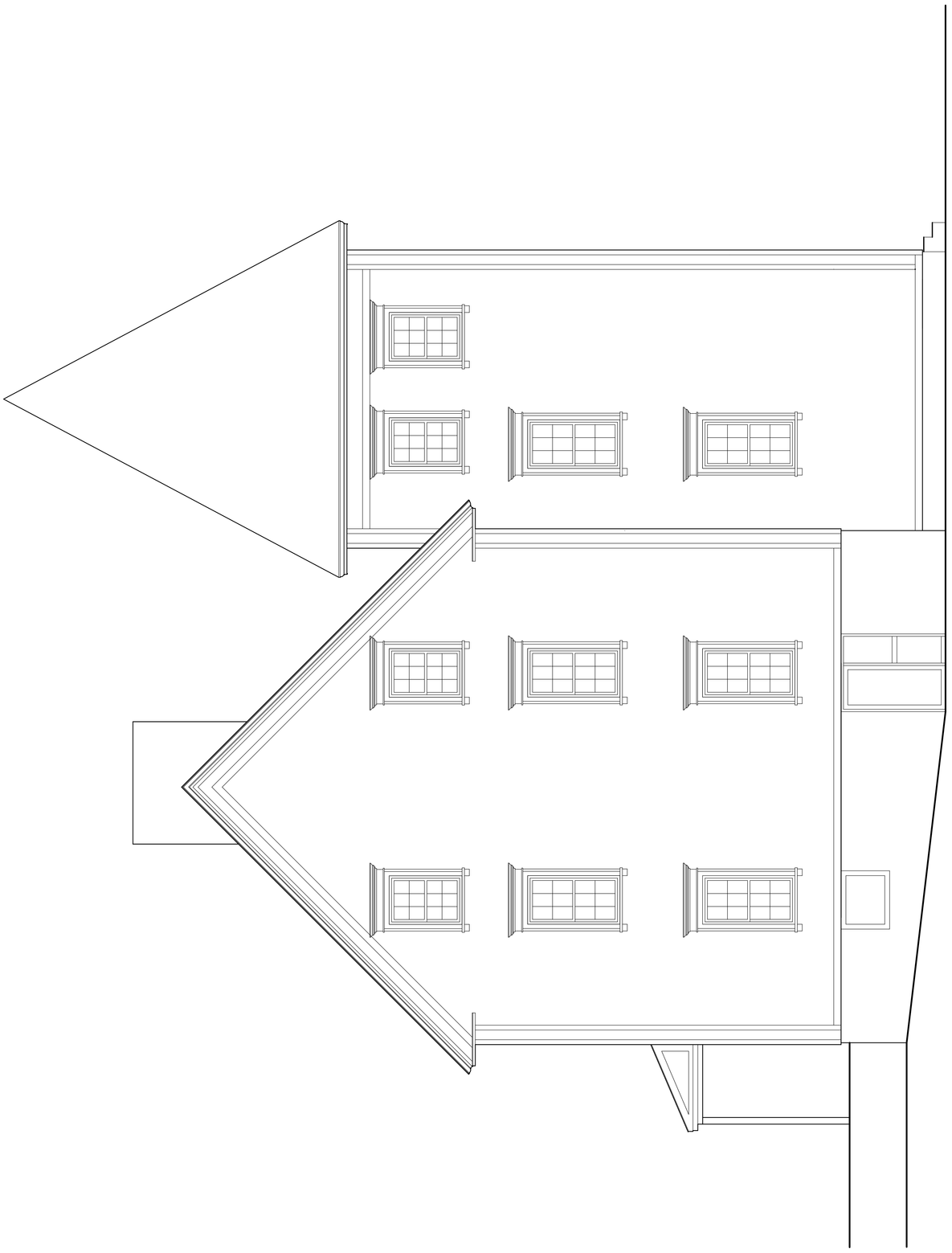
EX 7



EXTERIOR ELEVATION: DRIVE SIDE (NORTH)

0 1 2 4 8 16

EXISTING CONDITIONS

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EXTERIOR ELEVATION: PLEASANT STREET SIDE (SOUTH)

ALTERATIONS
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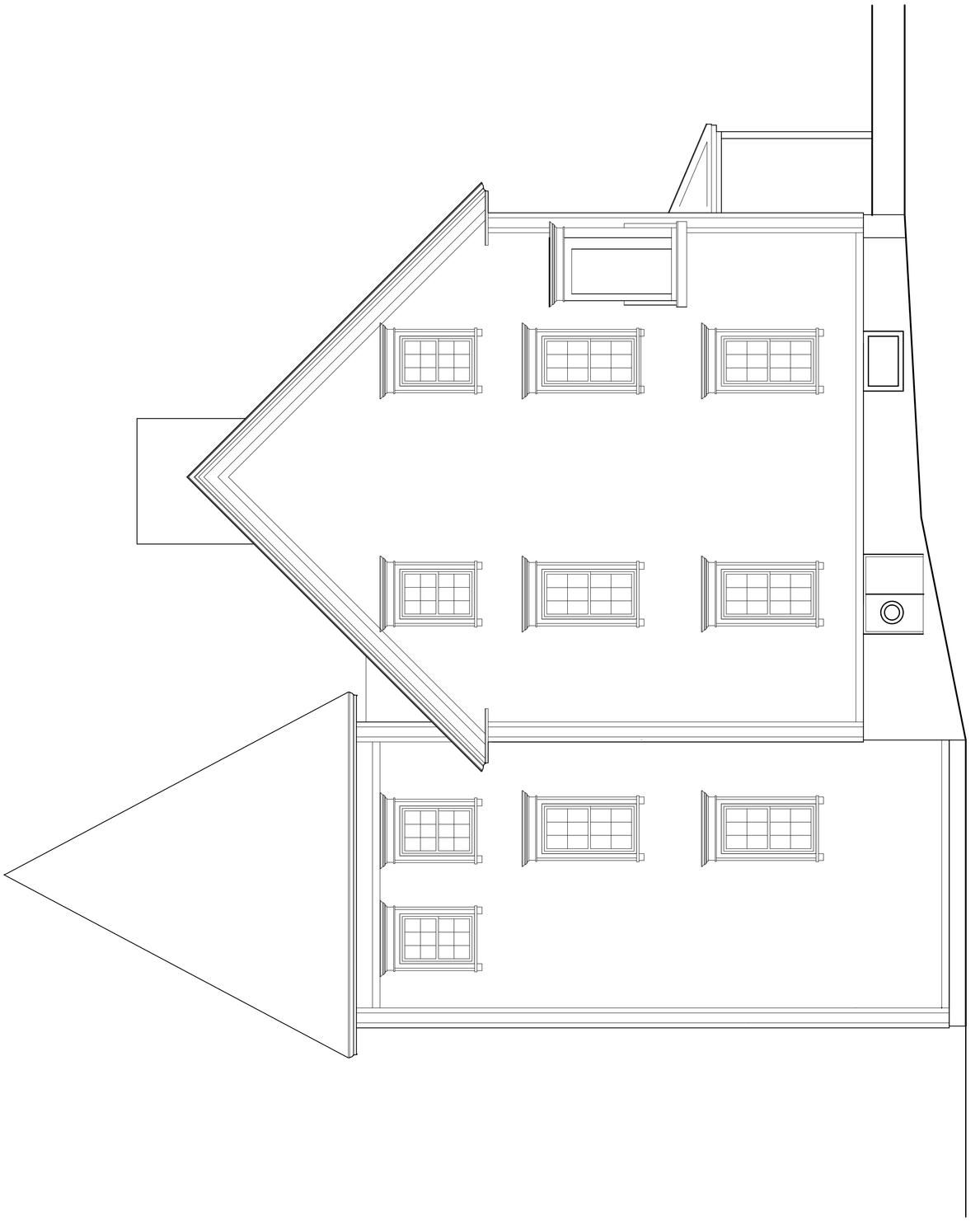
EX 8



EXTERIOR ELEVATION: PLEASANT STREET SIDE (SOUTH)

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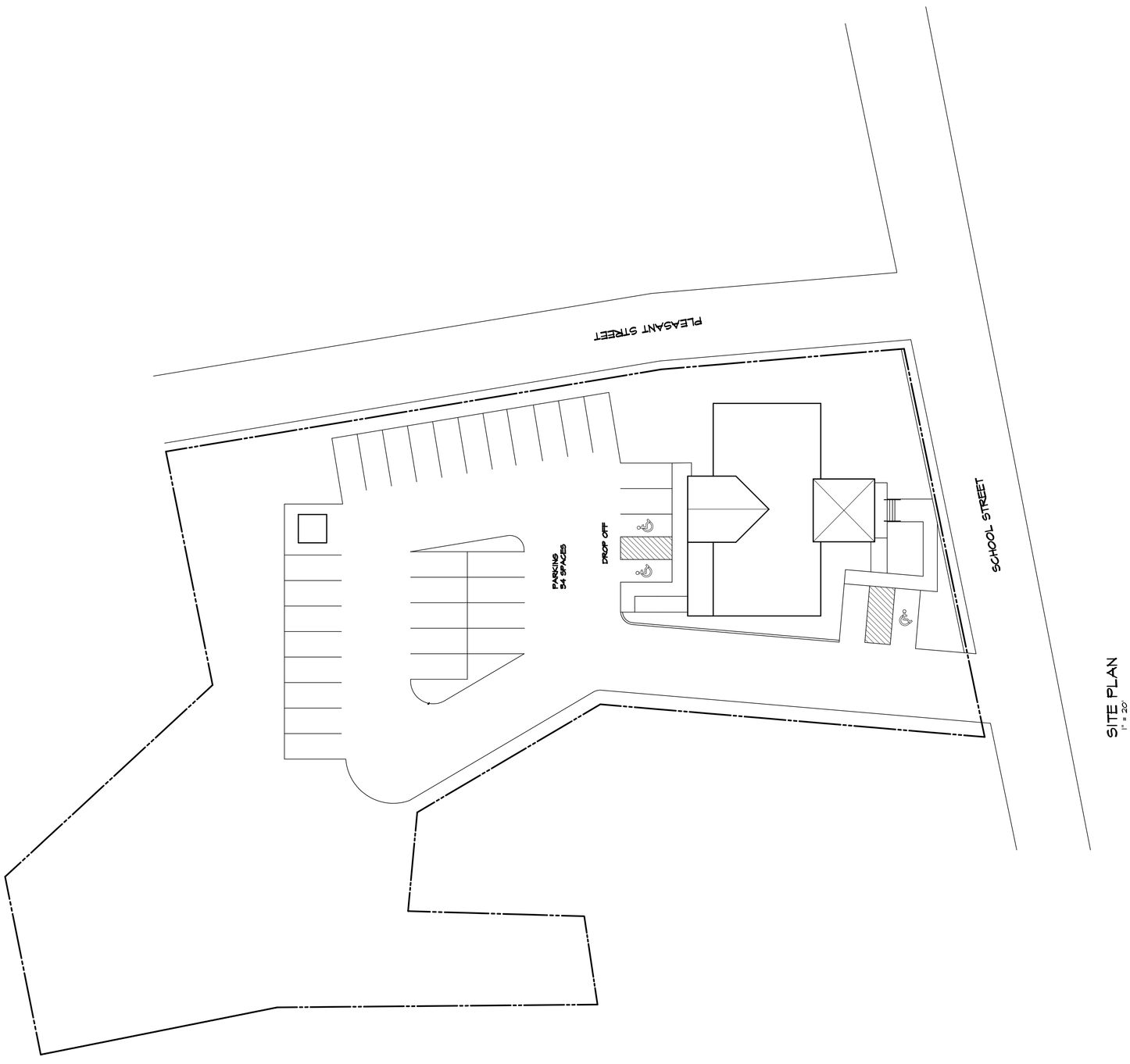
CONCEPTUAL DESIGN: G:\Drawings\17000\17040\Design\TOWN HALL Floor Plan.aec			SITE PLAN:		ALTERATIONS WHITNEY HALL SCHOOL STREET ROYALSTON, MASSAHUSETTS MUNICIPAL OFFICES	HAYNES LIENECK AND SMITH INC ARCHITECTS	17040 A 1



SITE PLAN
1" = 20'

CONCEPUAL DESIGN:

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FLOOR PLAN: BASEMENT

ALTERATIONS
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CONCEPTUAL DESIGN:

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FLOOR PLAN: FIRST FLOOR

ALTERATIONS
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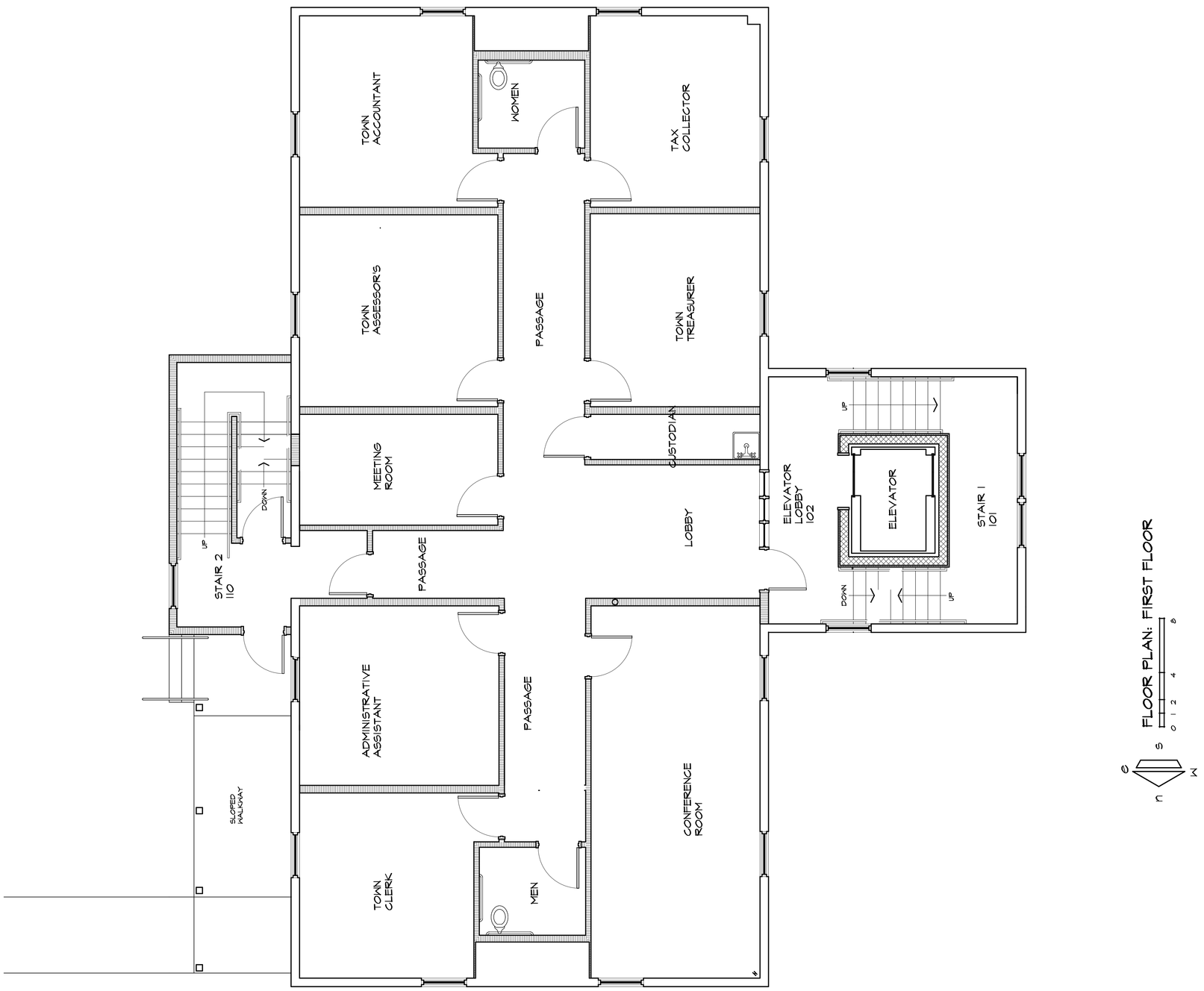

FLOOR PLAN: FIRST FLOOR

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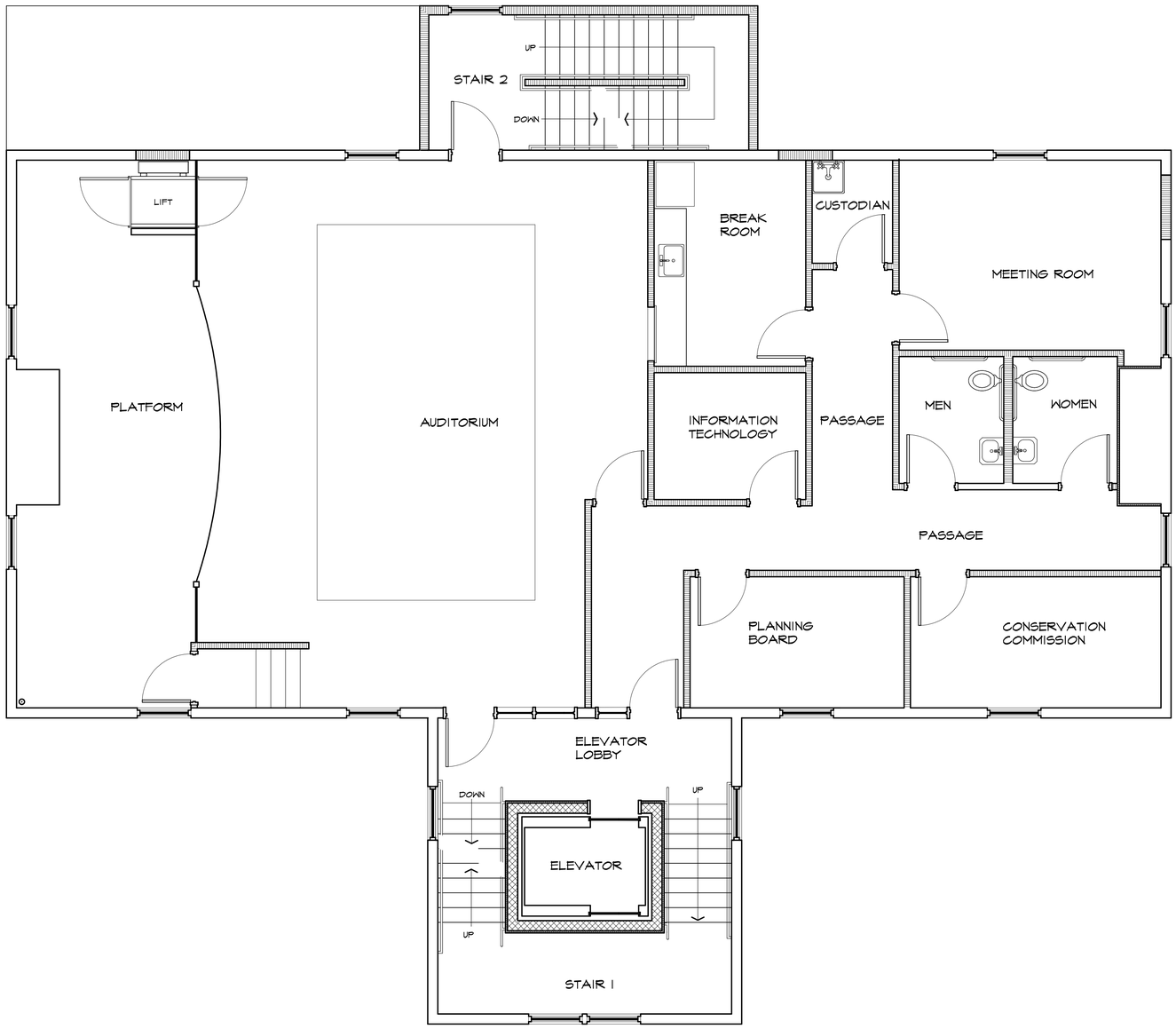

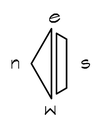

FLOOR PLAN: SECOND FLOOR

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CONCEPTUAL DESIGN:

FLOOR PLAN: SECOND FLOOR

ALTERATIONS
WHITNEY HALL
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CONCEPTUAL DESIGN:

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FLOOR PLAN: THIRD FLOOR (ATTIC LEVEL)

ALTERATIONS
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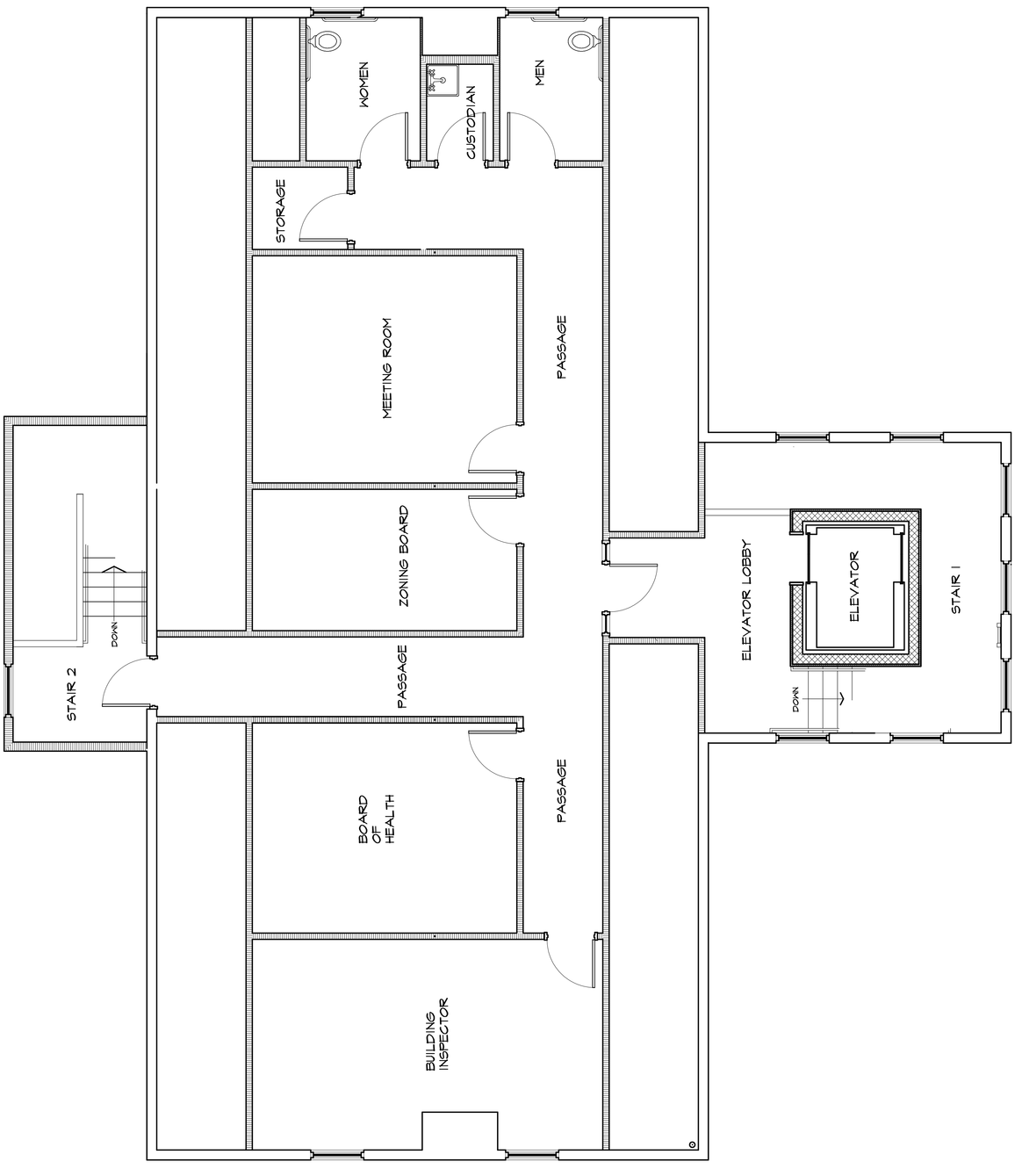

FLOOR PLAN: THIRD FLOOR

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CONCEPTUAL DESIGN:

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EXTERIOR ELEVATION: SCHOOL STREET SIDE (WEST)

ALTERATIONS
WHITNEY HALL
SCHOOL STREET
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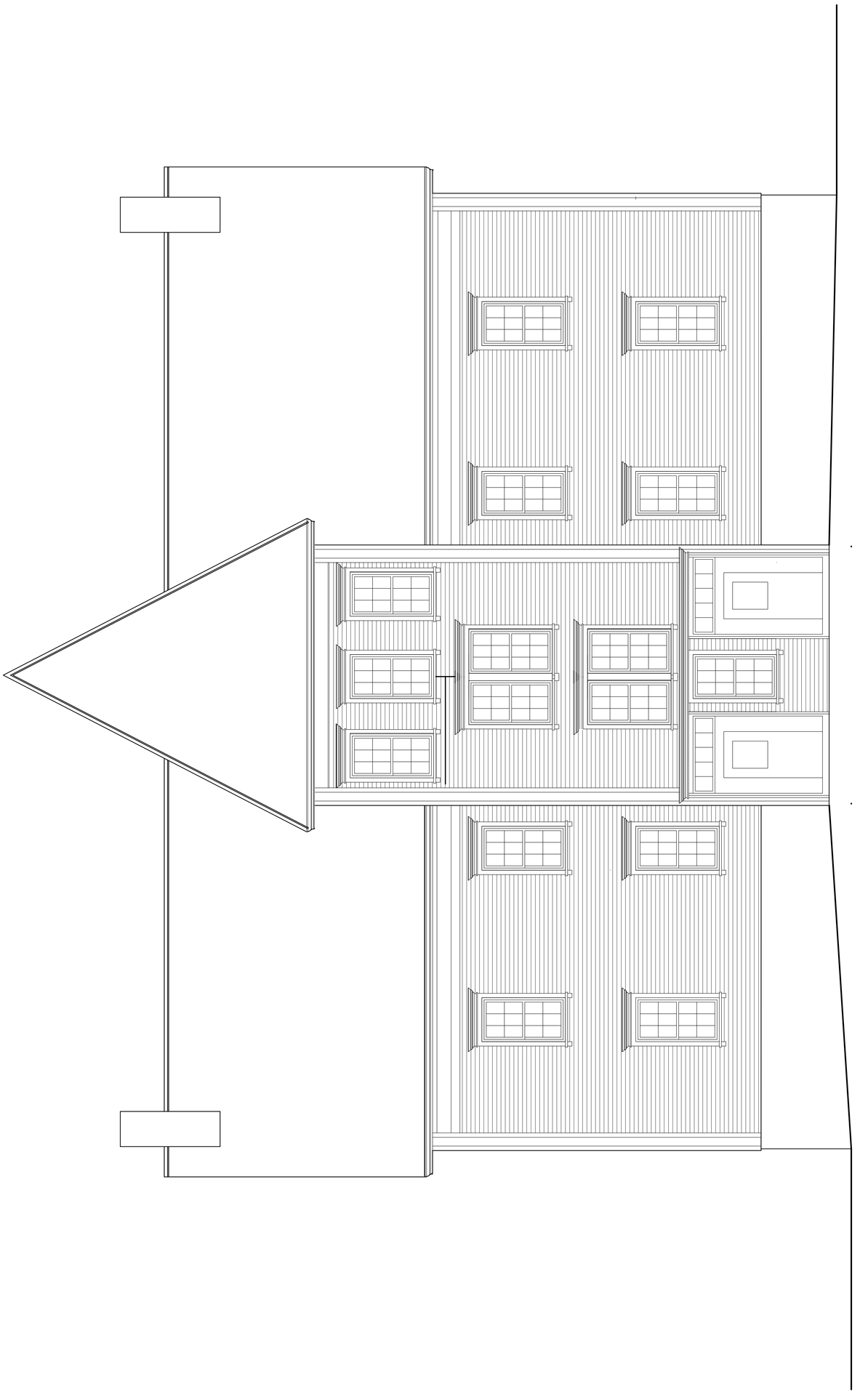

ELEVATION: SCHOOL STREET SIDE (WEST)

0 1 2 4 8 16

CONCEPTUAL DESIGN:

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EXTERIOR ELEVATION: PARKING SIDE (EAST)

ALTERATIONS
WHITNEY HALL
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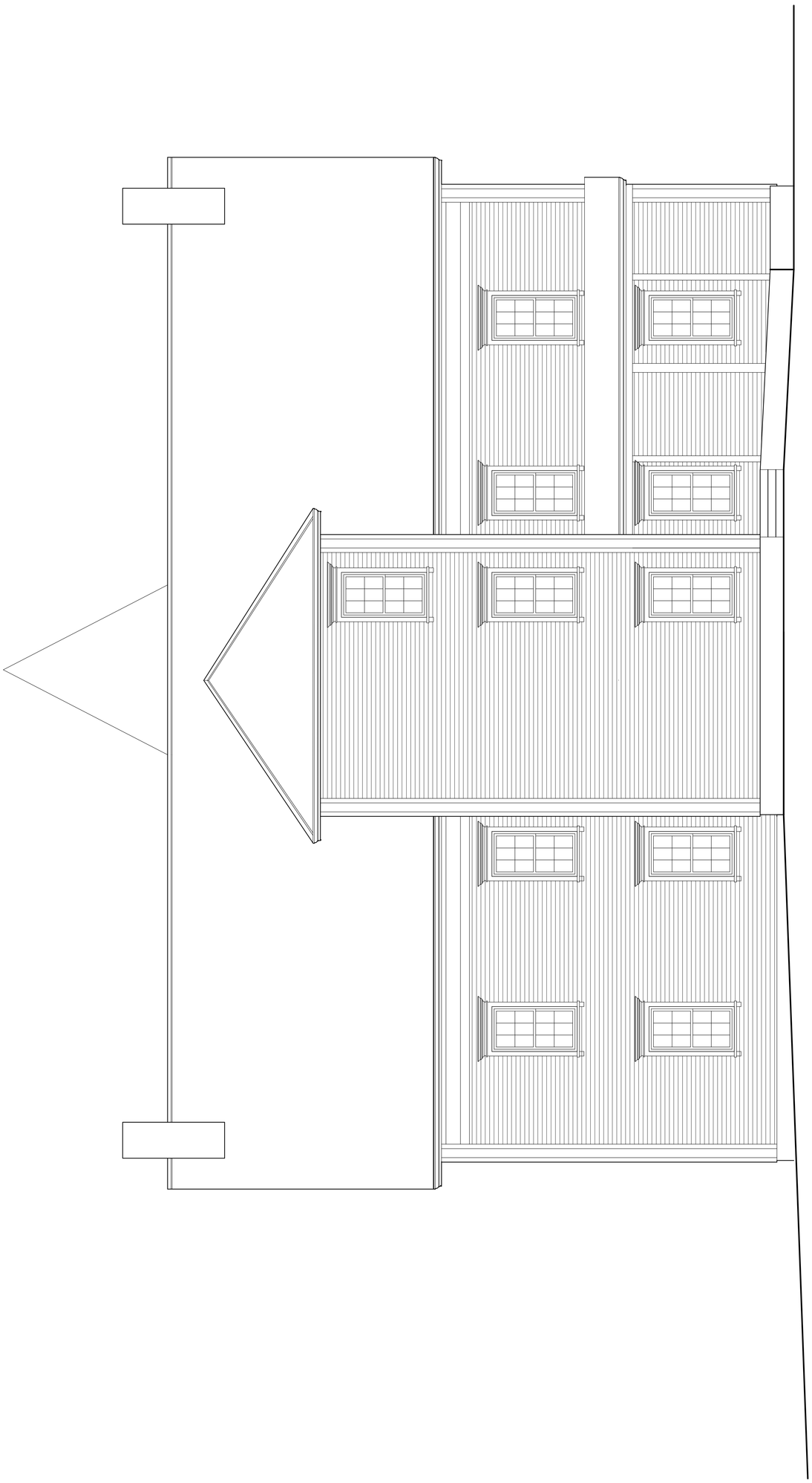

ELEVATION: PARKING SIDE (EAST)
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CONCEPTUAL DESIGN:

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EXTERIOR ELEVATION: DRIVE SIDE (NORTH)

ALTERATIONS
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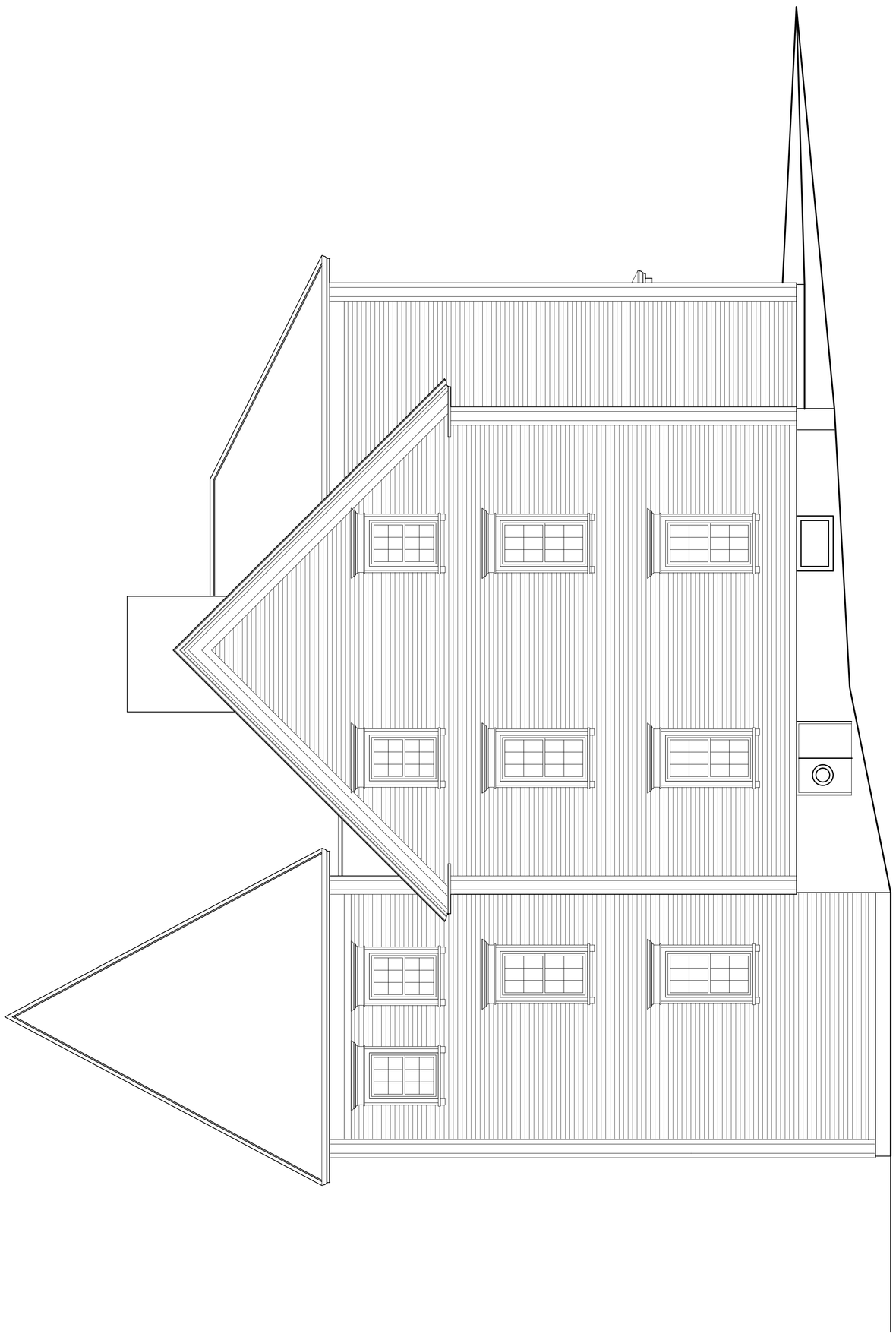

ELEVATION: DRIVE SIDE (NORTH)
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CONCEPTUAL DESIGN:

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EXTERIOR ELEVATION: PLEASANT STREET SIDE (SOUTH)

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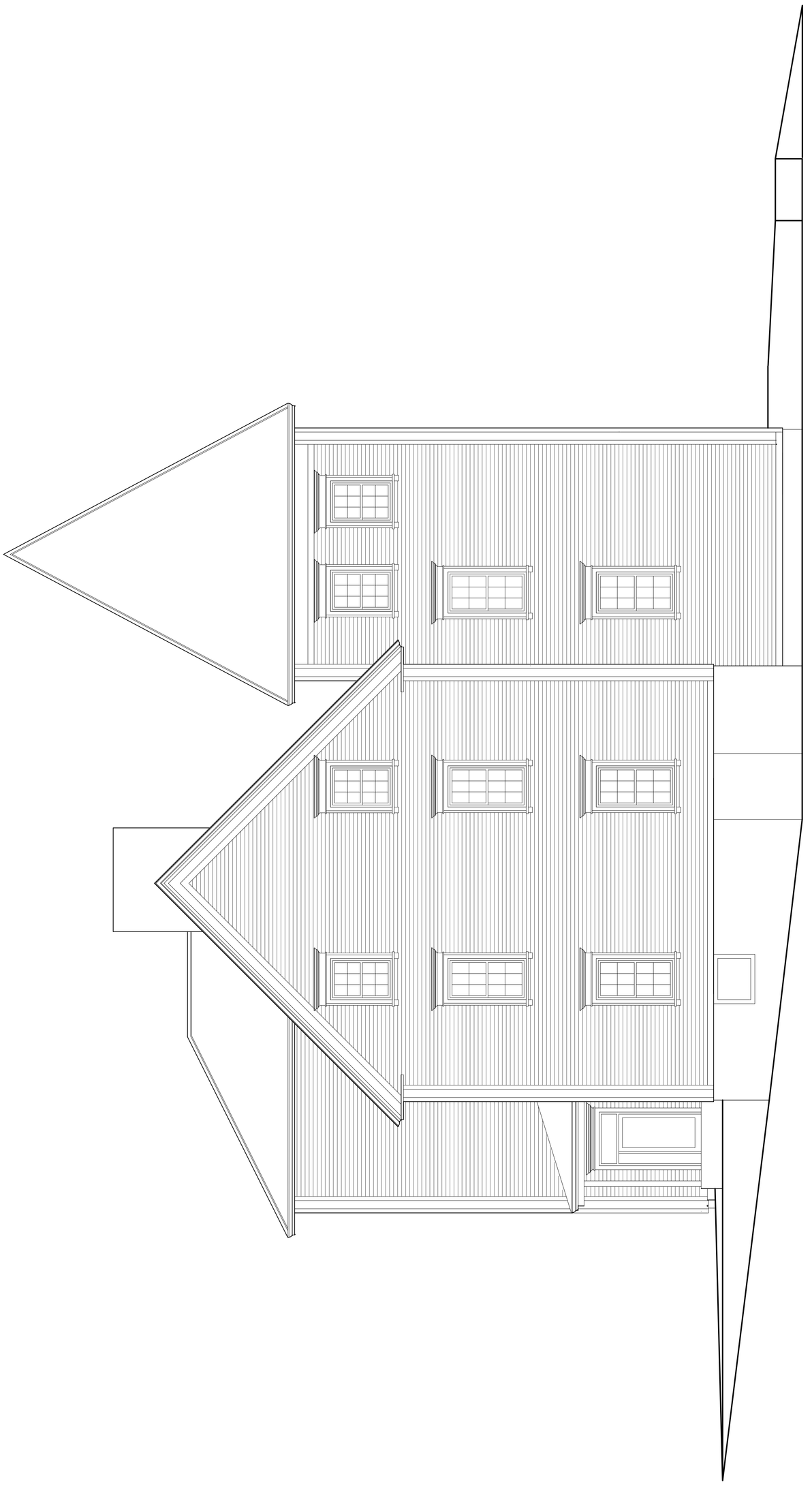

ELEVATION: PLEASANT STREET SIDE (SOUTH)

0 1 2 4 8 16