



EXISTING CONDITIONS REPORT

PHASE I OF DESIGN FEASIBILITY STUDY FOR IMPROVEMENTS AT THE

MIACOMET GOLF CLUBHOUSE

PREPARED FOR THE
NANTUCKET ISLANDS LAND BANK
22 BROAD STREET - NANTUCKET, MA
FEBRUARY 8TH, 2016



BROWN LINDQUIST FENUCCIO & RABER ARCHITECTS, INC.

203 WILLOW STREET SUITE A
YARMOUTHPORT MA 02675

WWW.CAPEARCHITECTS.COM

PH 508-362-8382
FAX 508-362-2828

Table of Contents

TOC
Acknowledgements
Participants

1. Executive Summary

2. Existing Building Condition Assessments

- I. Architectural Observations of Existing Conditions - prepared by Brown Lindquist Fenuccio & Raber Architects, Inc.

3. Appendices

Appendix #1 – Structural Conditions Report – prepared by Consulting Structural Engineers
Appendix #2 – Mechanical Electrical Plumbing & Fire Protection Systems Existing Conditions
Study – prepared by Consulting Engineering Services

4. Outline of Next Steps

- I. Programming – Determine Space Needs / Right Size the Project / Set Project Goals
- II. Conceptual Designs for Building Renovations & Additions or Replacement
- III. Identification and Refinement of the Preferred Design Option
- IV. Create Outline specification for the project suitable for estimating
- V. Detailed Cost Estimate for the Design Options to be prepared by A. M Fogarty & Assoc.
- VI. Determination of Probable Total Project Cost & Development Schedule
- VII. Present Final project parameters to owner and public



Acknowledgements:

On behalf of BLF&R and the other consultants involved, we would like to thank the Nantucket Islands Land Bank commissioners and staff, the Miacomet Golf Clubhouse subcommittee, and the Miacomet staff that contributed their time to this effort to help facilitate the study to date. We look forward to continuing the work of designing the improvements to the clubhouse property.

Study Methodology:

As outlined in our Scope of Services, Brown Lindquist Fenuccio & Raber Architects, Inc. (BLF&R) in conjunction with our consultants, have performed an on-site tour of the Miacomet facility and drafted the following existing conditions assessments and building systems evaluations.

The purpose of this portion of our work is to better understand the physical condition of the existing property and record our findings. From these we will identify existing building defects, deficiencies and areas of deterioration, provide design recommendations, and provide a framework for the Nantucket Islands land Bank to decide how they intend to redevelop the building or buildings at Miacomet.

The report is separated into several sections divided by discipline which we hope will make the information easier to find and refer too.

- Architects Summary
- Structural Report
- Mechanical Electrical Plumbing & Fire Protection Report

Project Team

Lead/ Architects

Brown Lindquist Fenuccio & Raber Architects, Inc. (“BLF&R” Architects)

203 Willow Street, Suite A Yarmouthport, MA 02675

508-362-8382

Kurt E. Raber, Vice President &

Tim Sawyer, Project Manager

Structural Engineer:

Consulting Structural Engineer, Inc.

53 Knox Trail, Suite 201

Acton, MA 01720

978-866-8354

Brian A. Walsh, P.E. SECB

Mechanical, Electrical, Plumbing and Fire Protection Engineers:

Consulting Engineering Services

510 Chapman Street

Canton, MA 02021

508-362-8382 –

Tony DiBona, Mechanical Engineer &

Brian Griffin; Electrical Engineer

Professional Land Surveyors & Civil Engineers:

Blackwell & Associates Inc.

20 Teasdale

Nantucket, MA 02554

508-228-5292

Leo Asadoorian, PLS, CSE



1. Executive Summary

The following is brief summary of our architectural findings and recommendations. Following the summary includes photographic images taken on the property as examples and are annotated to describe the design teams concerns. The consultant team members have compiled their findings which are attached under separate cover in the appendix section.

The Existing Club Campus:

Miacomet is a great public golf course with a modest clubhouse. The setting is unique and the course is in very fine condition. The golf course and the clubhouse facility are owned and operated by the Nantucket Islands Land Bank and are open to the public. In fact the clubhouse enjoys a good reputation for its food and atmosphere. Many non-golfer guests use the facility for a number of reasons. This venue hosts many types of functions for both members and the public at large. It is a truly a “community facility”. The campus is comprised of several buildings they are described below. Each building has its pro’s and its con’s; as such there may be reasons to continue use of the one or more buildings. Conversely, there are certain reasons to believe some portions of the property are not appropriate to alter (expand or remodel).

Overall the buildings are getting older and don’t meet all the needs of the club. Some say the space is adequate, others say it is not. This document and the future design process will aid in determining what portions of the existing property can be altered or upgraded or identify those parts that have outlived their useful life and should be replaced with new construction. The majority of the remarks within this report are specific to Building #1 or Building #2; however some general comments apply to all the buildings that could be affected by the project.

The structural engineers report focuses on Building #1 “The Clubhouse”, as this building is the oldest with the most issues. The mechanical and electrical engineers report on the building systems at all of the buildings.

Building #1 – Clubhouse -

The first building is the main (and original) clubhouse which houses the hospitality services including the dining room, an integral bar lounge area, the kitchen, public restrooms, storage facilities and the exterior dining deck overlooking the practice green and 18th green at a distance. This building has had numerous cosmetic improvements over the years but these are related to décor and maintenance. The underlying structure was probably compliant with the building code when built but does not meet the current code, especially given the exposure this site affords. The building systems have been altered and amended to over the years and in most cases they have no extra capacity to support further expansion. Significant work in this building will certainly trigger upgrades required by the building code. This means that the entire structure will have to be repaired or replaced in order to meet the code as if the building was new. The building systems will also be too small to serve an enlarged and improved facility. Older systems will also want to be removed and replaced with modern high efficiency equipment.

Building #2 – Pro Shop & Management Offices -

The second building houses the golf pro shop and storage facilities on the first floor and management offices on the second floor. This building is a wooden frame with some steel structure supporting the second level. There is no basement as the building was originally used as the maintenance shop and is constructed above a slab on grade. This building appears to be in very good condition and certainly more sound than Building #1. This building will also need upgrades if altered, added to or undergoes a change of use. The work to keep and utilize this structure and the spaces within appear to be easier and less costly than Building #1. This building could also be lifted from its foundation and relocated if that met the needs of the future design. The systems with this building are newer and may have more useful life remaining. Immediately outside this structure the electric power service and on site sewerage systems have been upgraded. These worthwhile improvements should be kept in place and protected for future use.

Building #3 – Club Storage Starter's Shed -

This small building sits between the clubhouse and the first tee box. The 1st floor houses a space for staff to keep list of guests and their tee times. The garage bay allows for storage of pull carts used by many golfers. The basement level stores golf club members who elect to store their clubs on the property. The basement is newer and in good condition. This structure could be improved quickly without significant investment.

Building #4 – New Golf Cart Building -

Recently completed, this brand new building should not need of any additional work. This was the first step in making space around the pro shop and existing clubhouse for future expansion. The utility services to this building are new and should be out of the way for future development of the clubhouse project.



Summary of Findings:

1. Existing Conditions Site Plan / Survey & Civil Engineering

- Going forward the project will benefit by the work done in the past by Blackwell and Associates, Inc. which has a library of existing conditions plans and design plans for all of the existing site and infrastructure serving the property. Most recently Blackwell has worked on the new Golf Cart Storage Building. The existing site plans of the property are attached here by reference.
- Going forward Blackwell will support the design study and future design phases. In the near term we will ask Blackwell to advise the team on waste water (septic) issues, on site utility services and topographic features.
- A reduced copy of the plan and an electronic copy are also included in the Appendix for reference.

2. Life Safety and Emergency Egress

- The existing buildings have sufficient egress paths (doors, etc.) to exit the buildings in an emergency. New work will certainly improve this condition. None of the existing buildings are served by fire suppression (fire sprinklers); new work which modifies the existing building(s) or results in a new building enclosing 7,500 gross square feet or more will be required to be fully protected by fire sprinklers.
- The new work will also have to be protected by fire detection systems (fire alarms) throughout the entire project. Also see the electrical portion of the engineer's report which discusses alarms.

3. Accessibility

- The level of renovations needed, regardless of any building additions, will require complete compliance with current ADA and Mass. Architectural Access Board (MAAB) Regulations.
- New compliant improvements will be required for the exterior accessible routes and throughout the interior of the building. These should include, but not limited to, new accessible routes, new entries and egresses, new toilet rooms, and a required elevator to provide access to all floor levels.

4. Site Issues

- The site has been improved many times in recent memory including a very large waste water system. At the time the septic system was designed and built the leaching field and other components were up-sized to handle future growth. These systems are tightly grouped in one spot and should remain in place and serve any future design scheme.

- The site was just improved with the new Golf Cart Storage Building and related site amenities. This project was carefully located to allow for future flexibility of clubhouse improvements.
- Parking needs are normally met adequately in the very large parking lot that is located across the street. Although this is adequate there are several parking spaces immediately adjacent to the clubhouse and pro shop.
- Traffic flow at the property is not strained but the arrival driveway is a very small turn around between the front of the clubhouse and the driving range. In fact the roadway abruptly ends and turns into a narrow gravel road. New work should resolve this and create an arrival point with appropriate turning space.
- The clubhouse and pro shop face the golf course and practice areas. They have a pleasant network of paths between them and other small structures. That said, the flow of players headed out to play and returning to the clubhouse seems somewhat backwards. Normally the path to the golf course starts in the clubhouse (perhaps in the locker rooms) proceeds to the pro shop, then to the first tee. Upon completion of a round the golfer needs to return clubs and cart and then heads back to the clubhouse. Today the layout at Miacomet is reversed; the traffic for pedestrians and golf carts could be reduced by placing the pro shop nearer to the first hole and the dining room and porch closer to the finishing hole.



5. Building Features

- The existing clubhouse houses the main dining room, a smaller private dining room, the bar, and the kitchen. The dining room and deck areas are often full during the season.
- The dining room is also used regularly for events and gatherings by golfers, guests and the public. The dining room is often not large enough to host dinners for a full field of golfers after a tournament, or handle full membership meetings, nor large enough for some of the non-golf functions. This public venue is accessible and affordable for Nantucket residents.
- Ideal dining room size for golf operations would be 150 seats or more.
- More seats and more people mean more service area and more restrooms. The bathrooms in the existing facility meet the current need but have been altered and improved over time. Today there are power panels discretely hidden in the women's room and the hot water system for the building is located in a deep crawl space only accessed through a floor access panel in the men's room.
- A new building will require fully accessible toilet rooms on all levels, toilets and showers in future locker room spaces, and also dedicated staff toilets and changing rooms.
- The basement storage space is small and inadequate.
- The basement is also home to some mechanical and electrical systems; the space for this equipment is too small and needs to be separated from the storage items.
- The attic space is accessible via two pull down stairs at both ends of the building. Although the space is large it is not designed or built to accommodate occupancy or storage needs.

6. Exterior & Roofing

- The building exterior was recently re-clad with new cedar shingles.
- The existing roof shingles are in poor condition and will need to be replaced.
- The awning covering the back patio was blown off the building in heavy wind and has not been yet replaced.
- The existing building sits very low to the grade and needs to be separated from the ground, additionally proper drainage is needed to collect and divert roof and site run off to subsurface infiltrator structures. We need to keep the water away from the base of the building. See site pictures.

7. Thermal and Moisture Protection

- The insulation values in the walls were not visible, but we can safely assume that they do not meet code.
- The insulation and vapor barrier in the floor frame and crawl space are not adequate or compliant. The soils under the building allow for drainage and there must be enough air infiltration below the floor to keep it dry. At the time of our inspection the basement was dry.



- In the attic the existing insulation was thin and inconsistent. In many cases it appeared that lighting and wiring work had displaced the existing insulation allowing for many gaps and potential heating and cooling losses.
- New work must incorporate required assemblies with proper vapor barriers and better insulation to improve thermal performance and meet current code requirements.

8. Interior Materials & Finishes

- It is assumed almost all existing interior finishes will need to be removed and replaced in a thorough renovation or reconstruction project.
- All interior finishes must be appropriate for golf clubhouse buildings. All interior finishes must be resilient, durable, sustainable and easy to maintain.

9. Conveying Systems

- No existing conveying systems exist at this time. Any future elevators or lifts must meet ADA, MAAB and Massachusetts Elevator Code requirements.
- As the project evolves the design team should look at a three level design scheme with basement, 1st, and 2nd floor levels in order to reduce site coverage. This must be done carefully so it does not appear too tall and too large for the setting.
- The team should also consider if a large footprint scheme with more amenities accessible at grade or first floor level is possible. The footprint of a true single story building may just be too large for the available site area.

10. Mechanical-Electrical-Plumbing & Fire Protection (MEP&FP)

- The systems in Building #1 are generally older. It is assumed that the hot water, heating and cooling plants will be undersized in an expanded or renovated building.
- Going forward we would propose to replace all aged, low efficiency or non-functioning MEP & FP systems with new code-compliant, highly energy efficient systems suitable for the intended uses.
- The electrical service to the clubhouse is undersized. New work will require increased electrical service and transformer size to meet the current and future electric demand.
- The systems in Building #2 are newer, higher efficiency and may serve those spaces for the foreseeable future.

11. Hazardous Materials Investigation

- No testing for asbestos and lead paint containing materials was conducted. A complete survey of hazardous material will need to be completed in the next phase of the project. The level of testing will be more intense with a selective demolition / renovation project. A modest amount of testing would be necessary before demolishing and removing the entire building(s). Once the testing is done a cost for that can be projected and included in the overall project budget.



12. Historical issues

- The buildings at the golf course like all others on the island are within the jurisdiction of the Historic District Commission and ultimately the project to alter the existing structures or add new structures will need to go through the HDC Approval process.
- BLF&R is familiar with this process and confident the ultimate design will be compatible with the existing character of the current property and surrounding community.

13. Code Review Issues

- Due to the age of the building, major changes will trigger several significant building code upgrades. Some of these will be rectified more easily when certain building systems are replaced in their entirety. Others changes will be required if portions of the existing building or buildings remain. This is most important when assessing the structural components. See the structural report for several examples of this.
- The newly adopted 8th Edition of the Massachusetts Building Code is actually made up of numerous amendments to the following; the International Building Code 2009, the International Existing Building Code 2009 and the International Energy Conservation Code 2009. These documents and the other referenced industry standard and Building Codes will all guide any renovation work as well as any potential building additions.
- The extent of renovations being considered will require the designers, and ultimately the building officials who become involved, to determine the work to be what the building code refers to as a “Major Alteration.” A Major Alteration is defined in several ways, however for the purpose of this potential project it should be understood that any level of upgrades required in the existing building or the change of use will require most, if not all, of the buildings systems be upgraded. This will include the structural system, the thermal envelope, and both the egress and accessibility issues with the vertical and horizontal circulation in the building.
- In addition to the above, the whole building will need to be brought into compliance with the American Disability Act (ADA and ADDAG) and the Massachusetts Architectural Access Board Regulations (521 CMR).

14. Structural Issues -

- BLF&R contracted with Consulting Structural Engineers, Inc. to review the existing building structure and the code implications for the future. They visited the building on December 17th 2015 to visually inspect the visible structural elements of the building. No destructive testing or removal of finishes was done in order to expose hidden conditions. Their report identifies the code issues and the building systems that will need to be addressed by any significant renovation and/or addition to the building. See the complete letter in Appendix.

15. Mechanical-Electrical-Plumbing & Fire Protection Systems (MEP&FP)

- BLF&R contracted with Consulting Engineering Services, Inc. to review the existing building systems and the code implications posed by future renovations or reconstruction. They visited the building on December 17th 2015 to visually inspect the visible these elements at the buildings. No destructive testing or removal of finishes was done in order to expose hidden conditions. Their report identifies the many code issues and the building systems that will need to be addressed in the upcoming project. See the complete report in the appendix section. The highlights are as follows:
 - MEP systems in Building #1 are generally older. It is assumed that the hot water, heating and cooling plants will be undersized in an expanded or renovated building.
 - Going forward we would propose to replace all aged, low efficiency or non-functioning MEP & FP systems with new code-compliant, highly energy efficient systems suitable for the intended uses.
 - The electrical service to the clubhouse is undersized. New work will likely require increased electrical service and reworking of the underground network of electrical serviced on the property.
 - The systems in Building #2 are newer, higher efficiency and may serve those spaces for the foreseeable future.



Building #2 – Entry to Pro Shop / Club Managers Office above

2. Existing Building Condition Assessments

- See the following pages of the
Architectural Existing Conditions Observations
Prepared by Brown Lindquist Fenuccio & Raber Architects, Inc.



BROWN LINDQUIST FENUCCIO & RABER ARCHITECTS, INC.

ON SITE MEETING - BUILDING INSPECTION

PROJECT: Miacomet Golf Clubhouse and Surrounding Buildings

West Miacomet Road
Nantucket, MA

DATE: 12/17/2015

OBSERVATIONS BY: Kurt Raber



Front drop-off & entry ramp:

Landing at base of ramp down to roadway is built with brick which could be dangerous if it comes loose. It should not end abruptly at a step. Should be replaced with concrete or stone curb with durable walkway surface. Must have accessible curb cut. Ramp to entry door appears to be acceptable slope, but is in fact wider than allowed between rails.



Grade is too high at perimeter of the building, does not meet code, and must have 8" separation to grade.

Mulch and mud splashing up on building; which promotes rotting deterioration of the cedar siding.



Electric Service or Services are very confusing (see electrical report as well)



Propane Gas Service entry.

Underground tank in yard typically serves the building.

At time when the tank is empty or being serviced the above ground cylinder can serve the building.



203 WILLOW STREET SUITE A
YARMOUTHPORT MA 02675
PH 508-362-8382

WWW.CAPEARCHITECTS.COM

93B COURT ST, UNIT 22
PLYMOUTH, MA 02360
PH 508-927-4127



Storage in the basement is tucked in everywhere it can be and some places it should not be. Wire partitions and shelves leave material open to mechanical equipment, etc. New dedicated storage spaces for liquor, tableware, linens, etc. will need to be included in the future project.



Boiler flue pipe is passing through floor frame. Must review clearance to combustibles.



Basement window well nearly below grade. This window has flooded in the past filling the basement with water.



Attic of Building #1 the Old Clubhouse.

The roof framing consists of field fabricated roof trusses, the individual members of the trusses are sound but these trusses will not meet today's codes. One truss has been compromised. See structural report as well.



Yard enclosing walk-in cooler and trash receptacles are in the front/side yard; most golfers travelling the course and the parking area have to pass by this service area. At times this area may also be very busy with service and delivery vehicles mixing with cars and pedestrians.



Staff entry to rear of kitchen is difficult to navigate for deliveries.

It is narrow and has multiple uneven steps.



Rear deck is a favorite place for diners. The roof awning canopy and frame were forcefully removed by wind and destroyed.

The access to the deck is not accessible from grade. A handicapped guest must use the front door.

Railings are not compliant with current codes.



Panoramic view of the clubhouse and pro shop



*Building #2
This building was once the old maintenance facility was renovated into the pro shop and offices.
A portion of the first floor is storage for the clubhouse operations.
Red cedar shingles and trim has weathered to dark even patina.
The wrap around porch is also a nice feature.*



Exterior Golf cart Storage is moving into the newly constructed barn in the distance.



Building #3

The “Starters Shed” is in good condition and may need just some repairs to make the appearance match the ultimate design scheme.

Other improvements that should be made to make this building accessible as well.



These photos show the “hard-scaping” materials which include concrete paves and native stone pathways which are appropriate for the setting.



Building #4

*New Golf Cart
Storage Barn.
This photo shows
interior of post and
beam frame
structure with
pendant mounted
lighting and electric
cart chargers
hanging from the
roof trusses.*

3. Appendices

- See the following Engineers Report Documents:
 - Appendix #1 – Structural Due Diligence – Code Review letter by Allen & Major, Inc.
 - Appendix #2 – Condition, Assessment and Building Systems Evaluation – Existing Mechanical and Electrical systems review by Building Engineering Resources, Inc.

CONSULTING STRUCTURAL ENGINEER, INC.

53 Knox Trail, Suite 201
Acton, MA 01720

978-461-6100
www.cse-ma.com

January 11, 2016

Kurt E. Raber
Vice President
Brown Lindquist Fenuccio & Raber Architects, Inc.
203 Willow Street - Suite A
Yarmouthport, MA 02675

kurtraber@capearchitects.com

RE: Preliminary Structural Investigation and Review
Miacomet Golf Club
12 W. Miacomet Road
Nantucket, MA

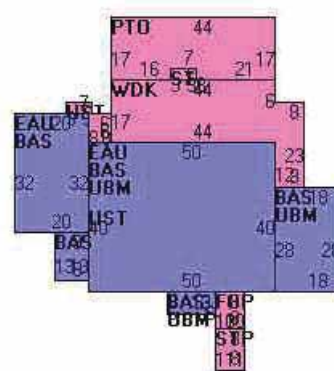
Dear Kurt:

Consulting Structural Engineer, Inc. (CSE) is pleased to provide you with the following preliminary structural evaluation and structural code review for the existing golf clubhouse building at the referenced project location. The goal of the investigation is to assess the current condition of the building and offer our professional opinion as to the extent of the building structure that may be salvaged or reasonably reinforced in support of proposed alterations. The building is currently occupied and operational as a dining/function area and kitchen in support of the golf club.

We understand that the proposed renovations are in the conceptual planning phase and may include the reconfiguration of space, addition and/or elimination of doors/windows, and additions (vertical and/or horizontal). The work area will encompass the entire building floor area.

The structure is evaluated in accordance with the requirements of the International Existing Building Code, 2009 (IEBC) as amended by the Massachusetts State Building Code, 8th ed. (MBSC). The prescriptive compliance method of Chapter 3 in the IEBC is used as the basis for this evaluation as we understand that the desired scope of alterations will exceed 50% of the aggregate area of the building.

On December 17, 2015, CSE conducted a walk-through, visual investigation of the accessible areas of the interior and exterior of the building. The single story, 3,339 square foot, wood frame building was built in 1960 according to the Town of Nantucket Assessor's records. Current photo and copy of Assessor's sketch below:



CONSULTING STRUCTURAL ENGINEER, INC.

53 Knox Trail, Suite 201
Acton, MA 01720

978-461-6100
www.cse-ma.com

FOUNDATION

All areas below the framed first floor are crawl spaces with exposed grade floors except for a full basement under the function room (18'x28') and a mechanical basement (13'x8') under the restrooms. The depth of foundations below the exposed grade is unknown.

The foundation walls consist of 8-inch thick concrete masonry unit (CMU) with no apparent grouting or reinforcement (See photo #2). Interior foundations within crawl spaces are 8"x16" CMU piers spaced approximately at 8-foot centers along the supported floor beams. There are no obvious signs of significant cracking of the CMU walls due to settlement in the areas witnessed.

FRAMING

The general floor framing consists of 2x10 joists spaced at 16 inches on center supported by perimeter foundation walls and built-up 2x10 drop beams spaced at 10-foot centers (See photo #3). The floors are sheathed with ¾-inch subfloor sheathing. Sill plates on perimeter foundation walls have no apparent anchorage between the wood sill and CMU foundation wall. In at least one area under the restrooms adjacent to the mechanical basement it was observed that floor joists are not supported over an access opening and should be repaired as part of the proposed work (See photo #2).

The floor framing as described above is suitable for the support of a 100 pounds per square foot (PSF) live load in addition to the weight of the floor. These loads are consistent with those required by the MSBC for the current use.

The roof consists primarily of plywood gusseted wood trusses over the main dining (50'x40') and kitchen (20'x32') area with conventional 2x8 rafters over the restrooms and function room (See photo #5), all sheathed with ½" plywood. The trussed areas provide clear spans from the front to rear walls over kitchen and dining areas (See photo #4). Connections between roof rafters and trusses to wall top plates consist of toe nailing. At least one truss over the dining area was observed to have diagonal webs cut (See photo #6) and should be repaired as part of the proposed work. No other significant damage to roof framing was observed.

The roof framing is supported by wood stud framed walls that are concealed with interior finishes. There are multiple door and larger picture window openings from the dining area on the front and rear walls (See photo #1) with minimal solid wall area remaining along the length of the building.

EVALUATION OF PROPOSED ALTERATIONS

All building perimeter walls and bearing walls are part of the lateral force resisting system (LFRS) and are evaluated in accordance with section 303.4 of the IEBC. As a result, these wood stud walls will be subject to evaluation and reinforcement to achieve compliance with the MSBC when any alteration to the wall reduces its capacity by more than 10% and/or when the demand on any wall is increased by more than 10% as a result of proposed renovations. Based on our understanding of desired alterations to the building, this demand to capacity threshold will be exceeded.

The lack of a definitive and continuous load path to resist wind loads from the roof framing elements to the foundation is a significant factor in this building when considering its salvage value to undergo a significant alteration. Roof trusses are only toe nailed to walls, solid wall segment lengths are minimal along dining area walls, there is no substantial mechanical connection other than nailing between the base of the walls/floor to the

CONSULTING STRUCTURAL ENGINEER, INC.

53 Knox Trail, Suite 201
Acton, MA 01720

978-461-6100
www.cse-ma.com

foundation, and the foundation consists of hollow CMU. Any attempt to utilize the existing structural systems will require reinforcement of the connections at each location in the path from the roof to the foundation.

As a result, it is our professional opinion that the building located in a high wind (115 MPH) zone and as currently constructed, offers little salvage value when considering significant alterations and/or additions. Reinforcements to the roof framing and walls, while attainable in this building rely ultimately in their connection to a suitable foundation to anchor the building for wind forces. There exists no reliable continuity in the hollow CMU foundation to achieve this anchorage. Substantial foundation work including solid grouting of the CMU and addition of reinforcement or foundation replacement would be necessary to achieve compliance. Foundation reinforcement/replacement is practical in limited areas for minimal renovations, but impractical for significant alterations to the building.

ADDITIONS

In general, all additions will be required to meet the requirements of the MSBC for new construction. Where new construction causes the effect of additional load on the existing building, the existing building will need to be evaluated for these additional loads imparted on the existing structure by the addition.

If the project goal were to salvage of the existing building, it is recommended that additions be made structurally independent from the existing building. This would almost entirely preclude vertical additions and require that any horizontal additions be designed to stand alone adjacent to the existing building unless reinforcement of the existing building was undertaken to support the contribution of loads by the addition.

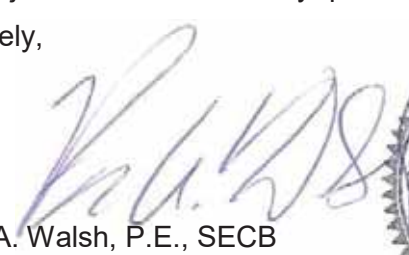
CONCLUSION

Based on our walk-through, visual observation, the structure is in serviceable condition in support of the current use. This observation is provided for general context and is not necessarily indicative of all structural systems and specifically structural elements that are presently concealed and not witnessed during the investigation.

In consideration of proposed alterations or additions, the existing structure is effectively salvageable with minimal, aesthetic renovations or those renovations that do not trigger structural evaluation of the building under the current MSBC wind loads. The existing structure and foundation offers little salvage value when considering significant alterations and/or vertical additions.

Thank you for the opportunity to support you with this project. If you would like to discuss this project further or have any questions, please feel free to contact the undersigned.

Sincerely,


Brian A. Walsh, P.E., SECB
Consulting Structural Engineer, Inc.
BAWalsh@cse-ma.com
(978) 866-8354



Attachments:

Photographs taken December 17, 2015