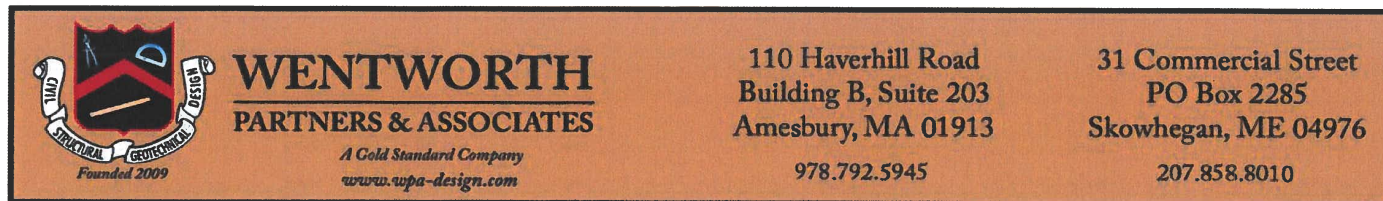


Table of Contents

| | | |
|-----|-------------------------------------------------------------------------|----|
| 1. | Exhibit 1 - Wentworth Partners Report | 1 |
| 2. | Exhibit 2 - Wentworth Partners; Evaluation and Sections | 10 |
| 3. | Exhibit 3 - Wentworth Partners Updated Report | 14 |
| 4. | Exhibit 4 - Govoni Photo | 18 |
| 5. | Exhibit 5 - Govoni Photo | 19 |
| 6. | Exhibit 6 - Govoni Photo | 20 |
| 7. | Exhibit 7 - Govoni Photo | 21 |
| 8. | Exhibit 8 - 1878 Map | 22 |
| 9. | Exhibit 9 - 1884 Map | 23 |
| 10. | Exhibit 10 - 1892 Map | 24 |

Exhibit 1



Original: October 15, 2021
 Add Maine Law: November 8, 2021

Kris McNeill
 Code Enforcement Officer
 Gardiner City Hall
 6 Church Street
 Gardiner, ME 04345

Re: **Structural Evaluation of Existing Building**
 Downtown Row Block
 235 Water Street
 Gardiner, ME 04345

Dear Mr. McNeill:

Pursuant to our initial phone conversation on Friday, September 10, 2021; any electronic, phone, and/or personal correspondence concerning this project between September 10, 2021 and the issue date of this report; and our site investigation on Monday, September 27, 2021; Wentworth Partners & Associates Inc. submits the following report of our findings. It is a pleasure to have the opportunity to have been of service for the above referenced project. This report is based on our present understanding of the required scope of services as well as our knowledge and past experience with similar projects.

Our scope of service was to investigate and evaluate the existing downtown row structure located at 235 Water Street in Gardiner. This structure is a contributing building of the Gardiner Historic Downtown District (see attached). The building is part of a three-story three-unit (row) wood frame structure built circa 1880. The structure was built and divided into three attached row houses typical of downtown development at the time of construction. This portion of the structure was an occupied building until July 2015 when a fire in the adjacent, attached structure damaged, in part or in whole, the integrity and usability of this building. This building has been vacant since. There has been no visible work done on the building upper floors. It appears that the Water Street (main) level has been stripped to framing and deck plank. There was no apparent work done at the basement level. This evaluation is part of the due diligence by the City of Gardiner to ensure *a reasonable level of safety* as well as *public health and general welfare through structural strength and stability*. [IBC2015 § [A] 101.3 Intent]

Report Definitions

| | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Code | The Code refers to the state adopted Maine Unified Building & Energy Code [MUBEC], including, but not limited to, all references and standards adopted within. |
| Unit | The Unit refers to the subject property as defined by the City of Gardiner 2021 tax commitments. The Unit represents the eastern-most third of a three-unit row building |
| Building | The Building represents the entirety of a three-unit row structure. |

Building Inspection

Inspection

On Monday, September 27, 2021 two representatives from Wentworth Partners & Associates, Inc., hereinafter referred to as the Consultant, did inspect and evaluate the above-mentioned structure located at 235 Water Street in Gardiner, Maine. Present at the time of our inspection were the owner, Mr. David L. Coulombe, and the City of Gardiner's legal advisor, Mr. Jonathan A. Pottle of Eaton Peabody, Attorney at Law. Our findings are as follows:

In General

The building unit is a wood frame structure as part of a three-unit row building block. The building block is confined within the masonry wall of the former adjacent building to the east and the party wall of the masonry row block to the west. The unit of discovery is the eastern most unit of this block. This unit is bounded by an unreinforced clay masonry wall, a former party wall, to the east and a multi-story wood frame consisting of two stories of beam/lintel framing (basement & main level) and two stories of platform framing or stud infill (second and third stories) to the west. The front exterior wall (Water Street) is a three-story partial platform frame wall founded on a full-story granite masonry foundation. The rear exterior wall (unnamed alley) is a four-story partial platform frame wall founded on a granite and concrete base. There is an attached wooden fire escape in the rear.

First Level Framing

In general, the building unit is framed east-west across the width of the structure, approximately fourteen feet six inches in length, with continuous joist members. Areas where the framing was observable reveal a very poorly constructed building, even for its time frame. The first level framing, as observed from the basement, consisted of two-inch or three-inch by eight-inch rough sawn joists at a spacing of approximately nineteen and two-tenths inches on center. The floor framing pattern was consistently interrupted (cut), spliced, patched, and/or headed off incorrectly. These modifications indicate changes to first floor layout over the history of the building unit. The modifications also revealed poor workmanship, unqualified workers, and lack of inspection by a proper authority. Numerous areas required additional intermediate supports. The installation of these supports is questionable, at best, using techniques for temporary shoring rather than permanent structure. The rest of the framing is supported at each end as a simple span joist. Along the eastern wall the floor joist framing is mortised into a ten-inch by ten-inch carrying beam. These carrying beams are supported on corbeled masonry lintels spaced unevenly between 103" to 112" on center along the masonry foundation wall. The lintels were cut into the previously existing clay masonry wall indicating that this structure was built after the former building to the east. On the opposite side the joists bear directly onto a six-inch by eight-inch carrying beam which in turn bears onto either four-inch by six-inch or six-inch by six-inch posts unevenly spaced along the western limit of the building. These posts are immediately inside (in reference to this unit) a two-inch by six-inch framed wall. The framed wall is sheathed with one-inch by random-width planking on the outer face (again, in reference to this unit) as a separation to the adjacent unit. It is unclear if the wall was originally supporting the joists and the post and beam were added later. Noted at the base of this frame and wall system was water staining and/or decay on every wood member closest to the floor level. Also observed were numerous areas, some very large, where the framing was being attacked by the bacteria *Serratia Marcescens*. This bacterium is very destructive to the wood fiber and lignin of the wood framing components. Some of the areas observed appear to have mature growth to the point of crystallization which indicates continuous healthy regeneration of the bacteria. It should also be noted that our inspectors observed unqualified work with respect to infrastructural modifications including plumbing, heating, and electrical work. Some of this workmanship resulted in further damage to the structural framing components. Overall, the first level framing, including separation wall, shall be considered unsuitable for any occupancy.

Second Level Framing

The second level framing consisted of three-inch by six-inch rough sawn lumber (species varied) spaced at twenty-four and one-half inches on center with solid one-inch bridging members spacing at the one-third marks. These members are distressingly undersized for the span and spacing which was clearly visible by their permanent deflected condition. Again, this framing pattern was consistently interrupted (cut), spliced, patched,

and/or headed off incorrectly. These modifications indicate changes to first floor and/or second floor layouts over the history of the building unit. The modifications also indicate poor workmanship, unqualified workers, and lack of inspection by a proper authority. The poor workmanship and undersized joists created the need for an intermediate support. Hence a portion of the floor framing is supported on a poorly constructed, unstable intermediate lintel beam and post configuration consisting of a triple 2x12 beam supported by built-up 2x4 posts on either end. The rest of the framing is supported at each end as a simple span joist. Along the east wall these floor framing members bear directly onto a built-up steel carrying beam consisting of two sets of steel double angles stitch welded together in a mirrored format with a continuous flat stock plate cap. This built-up member is a continuous three span beam carrying across two cast steel posts at the third marks back to the three-wythe masonry wall on either end. This steel framed opening was added to connect the interior spaces of this unit to the former adjacent building, penetrating a fire wall without proper protection above. The remaining joist support along the east wall is a wood stud system supported in a platform framing configuration to the first level decking. The west side is supported in a lintel-post configuration with infill one-inch rough stock added for support of the lath. This framing indicates a shared space with the adjacent middle unit at one point in time. Presently the adjacent unit has a framed 2x4 wall with ROXUL batt insulation (bottom four feet) and fiberglass batt insulation (remaining wall) as the separation wall. The lack of visible signs of fire or smoke damage on this wall indicate that the construction happened after the fire in 2015. This wall did not meet the Code requirements for a fire separation wall at the time of its construction. Toward the rear of this unit the separation wall appears to be more consistent with the original construction; framed studs in a partial balloon framing configuration supporting the joists directly. On the whole the second-floor framing is in disrepair and unsuitable. Our inspectors noted that the same unqualified work was obvious with infrastructural modifications as well including plumbing and electrical work. Overall, the second level framing, including separation wall, shall be considered unsuitable for any occupancy.

Third Level Framing

Access to the second floor was limited to a ladder hatch cut into second floor deck. From that hatchway the inspectors entered the living space of Apartment #7 at the front of the building unit. This apartment was mostly intact with limited fire damage but evident smoke and water damage. The third level floor framing was observable from this unit. The third level framing in the front of the building unit appears to be more recently installed than the previous two floors. In areas where the framing was exposed, we observed 2x8 framing at sixteen inches on center with 1x4 strapping at sixteen inches on center running north-south. Bearing conditions were not visible due to intact wallboard, but clues to the framing were evident via other exposed areas. The eastern wall appears to be a platform framed stud wall against the masonry wall. This wall bears directly onto the steel built-up beam previously described. The western wall appears to be the same with a partial platform framing condition bearing directly on the joists and deck of the second floor. Again, the front of the building unit at this level was not damaged by fire. This was not the case as we moved back to the access hall and back apartment (Apartment #8). The fire was able to enter this unit through numerous improper penetrations in the fire separation wall, including the access hallway and former window openings in the masonry wall. Apartment #8 sustained massive fire damage. The fire damage revealed the third level framing to the inspectors. The exposed framing was substantially damaged. Numerous individual members were burned through and many others were charred beyond repair. This area is a total loss. In summary, the third level framing has two levels of condition. The front of the building unit, to approximately twenty feet back, is in fair condition. However, the western bearing line does not meet the requirements for a fire separation wall. Some means of supporting the floor joists for any modifications would need to be engineered if there is any consideration to reestablish this floor. The entire back of the building unit shall be considered unsuitable for any purpose. This section shall be razed.

Roof & Attic Framing

Access to the third floor was limited to a ladder hatch cut into third floor deck. From that hatchway the inspectors entered the living space of Apartment #11 at the front of the building unit. This apartment was mostly intact with limited fire damage but evident smoke and water damage. It appears the emergency responders opened a good portion of the ceiling to manage the fire control. The roof framing was observable from these locations. Hence, we observed that the roof framing runs south-north pitched from the front of the building at Water Street toward

the rear. There appear to be five bays of roof joist framing (rafters), each bearing on a carrying beam running east-west to a beam pocket in the masonry wall to the east or bearing post in the framing between buildings to the west. The condition of the roof joists and roof beams varies from front to back. The front members have substantial smoke and limited fire damage. The rear members have been compromised by fire. This is true of the supporting roof beams as well. Two intermediate beams toward the front of the building may be salvageable upon an engineer's analysis and approval. The two intermediate beams at the back are not suitable to remain. Also observed were the attic framing members. These members are simple framed 2x4 joists running east-west from a 2x4 ledger attached to the masonry wall to the east and to a ledger attached to the stud framing to the west. Again, the front portion of the building unit is intact with only light smoke damage. The rear of the building unit has been destroyed by the fire. The entire roof diaphragm has extensive smoke damage. However, the extent of fire damage to the framing members and deck gets greater and greater as observed from front to rear of the building. In summary, the roof and attic framing have two levels of condition. The front of the building unit, to approximately twenty feet back, is in fair condition with extensive smoke damage to the roof diaphragm that will require mitigation. But, again, the western bearing line does not meet the requirements for a fire separation wall. Some means of supporting the attic joists and roof beams for any modifications would need to be engineered if there is any consideration to reestablish this portion of the building unit. The entire back of the building unit shall be considered unsuitable for any purpose. This section shall be razed.

It should be noted here that because the roof framing members run south to north the front and rear walls of the structure shall now be considered bearing walls as well. This is significant because the conditions of these walls must now be considered in the structural stability of the structure.

Front and Rear Wall Framing

The front exterior wall (Water Street) is a three-story partial platform frame wall founded on a full-story granite masonry foundation. This wall is structurally interrupted at the second-floor framing level to bump out approximately eighteen inches. The bearing structure of the wall is limited to the stud framing from the roof rafters to the second-floor framing level. At this level a carrying beam transfers the load directly to the masonry pier in the southeast corner and a wooden post in the southwest corner of the subject unit. The first-floor façade wall along Water Street is an infill wall generally associated with storefront facades. The front wall is generally intact.

The rear exterior wall (unnamed alley) is a four-story partial platform framed wall founded on a granite and concrete base. This wall is in disrepair. Fire damage at the upper two levels has compromised any support capacities. At the lower levels this wall reveals the poor workmanship previously mentioned with visible deflections horizontally (outbound of building line) and vertically (dropped floor level). The entire back of the building shall be considered unsuitable for any purpose. This section shall be razed.

Other Major Structural Considerations

This section of the report shall address two additional major structural issues. The first issue is the stability of the existing unreinforced masonry wall previously mentioned. As discussed, this wall was originally the exterior wall of the adjoining structure to the east. The wall is founded on granite foundation blocks visible at the basement level. These two-foot-tall granite blocks are stacked and grouted along the base of the basement revealing one layer from back to front. At the front of the building a second layer is visible from approximately four feet out to the building corner. Next a four wythe clay masonry (brick) foundation wall from the foundation blocks to the first-floor framing level was constructed. From there the clay masonry continues as a three wythe wall up two and one-half more stories to the tapered parapet level above the roof. The strong axis of the wall is north-south and is approximately fifty-one feet long. The weak axis of the wall is east-west and is approximately twelve inches wide. In the original construction of the wall the weak axis was braced directly by the floor framing diaphragms of the original building. Hence horizontal movement of the wall was limited to intermediate deflections between floor levels. Adding to the stability of the wall was the tributary area of the gravity loading of the former building apportioned to this wall. At the time of our inspection those conditions no longer existed. This wall is now a freestanding cantilever wall. This modeling condition would be considered from first floor deck level of the

subject unit to the parapet level at the roof. The true concern is that the wall is unreinforced. The design of this wall was never intended to be cantilevered. Without reinforcing this wall has no mechanism to resist tensile stresses caused by any lateral movement. Modeling the boundary condition at the base would most likely be considered a pin connection, meaning that the wall at said base point would be fixed for vertical and horizontal movement but free to rotate about that point. This was a noticeable condition to the inspectors at the time of the visit. The wall is separating from the building from the top, moving easterly toward the adjacent lot currently being used for outside seating for Gerald's restaurant. It appears this condition is being further advanced at the roof level where there is a visible separation between the roof deck and framing members and the masonry wall. At the back of the building unit this gap appears to be about three inches. This is obviously an area where rain, snow, and ice can enter the subject unit. Damage to the masonry at the parapet and down the wall due to these environmental conditions is already evident. The exterior chimney, visible from the outdoor seating area, is in disrepair and shall be considered dangerous.

Further complicating the issue is internal damage to the wall due to poor workmanship. As mentioned, this was formerly an exterior wall. Pre-planned openings in the wall were headed off with lintels at the time of construction. However, at some time in the past, the subject building unit and the adjacent former building were integrated at all three levels. This merger fully integrated a majority of the buildings at the first-floor level with the installation of a steel built-up beam and columns to support the remaining masonry wall above. However, this merger also added new openings to access the second and third floors of the subject building unit from the existing floor layouts of the former building. These openings in the masonry were butchered, unbraced, and unsupported. The long-term effects of this poor workmanship are quite evident now, both inside and outside the building unit. Major stress cracks have opened between the upper unsupported opening and a lower original opening. This stress crack penetrates all three layers of brick rendering all masonry work above this level as dangerous. Loose bricks were easily picked off the wall by hand and numerous fallen bricks were already on the floor at each transition stairway. Overall, the masonry wall, without immediate support and stabilization, shall be considered dangerous from the second-floor framing to the roof parapet. A further study and shoring plan, as issued by a licensed structural engineer, shall be required to determine a permanent solution if the wall is to remain. Any shoring would need to occur immediately before further environmental damage occurs.

The last major consideration of this report is the separation wall between this unit and the middle unit of the building. This wall, originally, after numerous pre-fire modifications, and after any post-fire modifications, does not meet the requirements of the Code. A description of the wall construction was provided in previous subsections of this report. The portion of the report shall discuss the considerations at stake. This wall is meant to serve as both a structural support wall for all floor framing from the subject unit and a fire separation wall between each unit. The requirements of the Code all well described. Presently the wall does not meet those requirements in the least. This is major consideration in the overall decision to the fate of the structure.

If any portions of this building unit are to remain, a design plan meeting the requirements of the latest adopted edition of the Code shall be required, including, but not limited to, the shoring and stabilization plan and details for any remaining structure. All new work shall be designed, constructed, and inspected in accordance with the Code. All remaining work shall need to be evaluated, analyzed, and possibly modified to meet same said requirements. This work will most likely include foundation work, separation/bearing wall framing, floor framing, and roof framing.

If this building unit to be razed and rebuilt, a design plan meeting the requirements of the latest adopted edition of the Code shall be required, including, but not limited to, the shoring and stabilization plan and details for any remaining structure. All new work shall be designed, constructed, and inspected in accordance with the Code. All remaining work shall need to be evaluated, analyzed, and possibly modified to meet same said requirements. This work will include foundation work, separation/bearing wall framing, floor framing, and roof framing.

If this building unit to be razed and left undeveloped, a demolition plan meeting the requirements of the latest adopted edition of the Code shall be required, including, but not limited to, the shoring and stabilization plan and

details for any remaining structure. All new work shall be designed, constructed, and inspected in accordance with the Code. All remaining work shall need to be evaluated, analyzed, and possibly modified to meet same said requirements. This work will include retaining wall foundation work and exterior bearing wall framing for the stability of the adjacent unit.

Building Unit Use Considerations

As part of our evaluation, it is important to consider the purpose of the structure. Presently the building unit is vacant. The building unit has not been occupied since sustaining fire, smoke, and water damage in July 2015. At the time of our inspection the current owner stated that a law firm had occupied the main level and the upper two floors were occupied apartments. Evidence of the residential apartments was observable on the upper floors, including, but not limited to, floor layout, appliances, furniture, clothes, and unit markings. As mentioned previously the main level has been stripped down to the framing and deck. Evidence of internal layout is only visible in the location of remaining plumbing lines and/or structural enhancements not part of the original construction. Based on our observation and owner's statement the prior use of the building would be defined by the Code as mixed use with apartment housing [IBC2015 § 310.4 Residential Group R-2] over professional services [IBC2015 § 304.1 Business Group]. However, that shall be considered a former use or uses only, with occupancies being regulated under previous Codes, ordinances, or standards. Those regulations no longer apply.

The Code maintains that a building's use must be continuous in order to remain "attached", or grandfathered, to a prior version of the Code or standard reasonably accepted at the time of construction. That will not be the case with this structure. The lack of occupancy since July 2015 now defines the building unit as Vacant. Hence any proposed occupiable use of the building unit in the future shall be required to meet or exceed the presently adopted Code(s), ordinances, and/or standards. This is reason for this portion of the assessment.

In the former use occupancy of the upper floors, residential apartments, access to those spaces relied on the stairwell located in the adjacent building. As discussed, the adjacent building was razed as a result of the damage caused by the July 2015 fire. Therefore, any new layout in the subject building would require that a stairwell, at a minimum, would now need to be located within the boundaries of the building unit footprint. Furthermore, that stairway would be required to be located in the front portion of the building in order to meet requirements of the NFPA 101 Life Safety Code if the second means of egress is to remain in the back. Hence any new layout would need a stairwell, with a minimum width of thirty-six inches (36") clear to be located in the front half of the building layout and have direct access to the outside. A continuation of that design restriction to the upper floors would most likely result in a stacked stairwell system (each stairway located above the next) resulting in the additional need for a connecting hallway. Again, another minimum width of thirty-six inches (36") clear. If the building unit is presented for multiple tenants and/or mixed use again this would further require that the entire stairwell have fire separation from the individual occupied spaces. This criterion is critical in this discussion because the entire width of the building unit is less than fifteen feet and the square footage of each floor is less than 750 square feet. This means that the minimum amount of space a stairwell can take up is approximately 64 square feet of the main level (prime rental space), another 64 square feet on the third level and at least 112 square feet of the second level. This factors heavily in the consideration of return of investment (ROI) to any and all of the required Code upgrades highlighted in this report.

Fire Escape

An additional item to be discussed is the fire escape at the rear of the building unit. The existing fire escape is a post and ledger four story escape. The ledger attachment to the back wall of the building unit shall be considered dangerous. As previously discussed, this wall is unstable and unsuitable structurally. Any structural reliance to the wall shall therefore be considered unsuitable as well. Additionally, the opposite (northern) side of the fire escape is a stacked post to platform framed structure. At no point in the structure is a lateral force resistant system (LFRS) present. Braces, walls, or frames are required to stabilize a fire escape per the Code and therefore did apply to this escape at the time of its construction. Presently the fire escape is in disrepair and should be

considered dangerous. For future considerations this deck assembly does not meet the requirements of the Code. A new fire escape on the outside shall need to be independent structurally unless enclosed within the building. If independent the fire escape would be required to be constructed of non-combustible materials.

Roof

The roof is a critical component of the weather protection barrier for any building structure. The report already discusses the condition of the roof framing and structural diaphragm. This section will address other issues present at the roof level. Access to the roof was limited to a stand-up aluminum ladder from the upper fire escape deck. The roof cladding is a rubber membrane. The roof membrane has passed its usable lifetime. There is evidence of at least one bituminous tar coating being applied over the membrane. This coating was applied prior to the July 2015 fire and is well past its usable lifespan as well. The building unit roof pitches south to north. On the northeast corner of the roof is a single roof drain. This drain is presently clogged with material debris from the fire. Hence water build up, referred to as ponding, can occur at the most vulnerable corner of the building unit. This roof drain was damaged in the fire at the third-floor level and currently just empties into the building. At the eastern boundary of the roof the membrane is tucked under lead flashing along the masonry parapet wall. This weatherproof boundary has been jeopardized by lack of maintenance, disrepair of the mortar joints, and now separation of the masonry wall from the building. From the third-floor spaces daylight is visible at numerous locations along this edge. Furthermore, at the southeastern corner of the building, very questionable metal work was installed hiding potential issues along Water Street and allowing environmental and wildlife infiltration at the roof. The western roof boundary is the overlap with the rest of the building's roof line. The adjoining unit(s) have been reconstructed to some extent including a new roof membrane. The roofing contractor did overlay the new membrane to the existing membrane of the subject unit. The item to consider here once again is the lack of a true fire separation wall between these two units. The fire separation wall should extend beyond the roof line. This is another clear indicator of either shared deck and framing below or continuous air spaces where smoke or fire can travel between units still. In general, the roof of this building unit is unacceptable.

Historic Façade

The façade of the building unit appears to be in good condition. This façade is historic and part of the three-unit row façade of this block. There are some air and water infiltration issues at the main level of the building unit but overall, the façade is intact. As mentioned, there are masonry issues to consider along the eastern boundary, and this consideration carries as the vertical line of the southeast corner of the building and unit. Finishing details to this corner will be necessary to protect the wall and the corner. For example, the metal work cap mentioned in the previous section or a correct waterproofing solution for the protruding granite headstone at the second floor level. If preservation of the façade is a goal, then any future layout of the building unit is dictated by the location of the entry door. This door would now need to serve as the egress to all three floors, meaning special consideration by the City's Fire Prevention Officer, Code Enforcement Officer, and/or the State's Fire Marshal's office shall be necessary.

Immediate Actions

There are immediate action items that shall occur prior to another winter season of exposure and damage.

Option 1

If the building is to be preserved, the owner shall:

1. Engage the services of a professional design team, including, at a minimum, a licensed structural engineer specializing in historic preservation. An immediate plan of action for the shoring of the masonry wall is critical.
2. Contact the owner of the adjacent property for use of that property for the contractor staging and wall

shoring work.

3. Initiate proper permitting with the City of Gardiner including any shoring work.
4. Contract with a masonry contractor capable of performing this work and familiar with historic preservation. This will not be a single person entity. I recommend that the list of capable masonry contractors come from the Maine Historic Preservation Commission.

The masonry contractor shall be responsive to the structural engineer of record (SER) in assessing the entirety of the wall so that a full plan of action can be developed. The plan of action shall include all brick, mortar, and lintel work to stabilize the wall. All loose mortar shall be removed, the joints shall be cleaned and prepared, and the joints shall be reestablished using a consistent sand-lime-mortar mix to match the original mortar (testing may be required). Further instruction and guidance are provided in accordance with the following preservation briefs:

- a) The existing exterior clay masonry shall be prepared and cleaned per the methods and techniques as prescribed by the U.S. National Park Service's Historic Preservation Brief #1 "*Cleaning and Water-Repellent Treatments for Historic Masonry Buildings*"
 - b) Areas in which stress cracks or overstressed joints require mortar repairs repointing and/or sealants shall conform to the U.S. National Park Service's Historic Preservation Brief #2 "*Repointing Mortar Joints in Historic Masonry Buildings*"
 - c) It shall be further noted that abrasive cleaning, such as sand blasting, high pressure water blasting, glass beading, or reactive chemical cleaning is strictly prohibited. Please reference the U.S. National Park Service's Historic Preservation Brief #6 "*Dangers of Abrasive Cleaning to Historic Buildings*"
5. Contract with a demolition contractor for the removal of those portions of the building deemed unfit for service. The demolition contractor shall also be required to secure any and all areas to remain, including, those areas along the party wall along the western boundary, against weather.
 6. Have an approved plan of action to scuttle the remaining building components per the U.S. National Park Service's Historic Preservation Brief #31 "*Mothballing Historic Buildings*"

or

Have an approved plan of action to start reconstructing the building for new occupancy(ies) including, but not limited to, the structural foundations, framing, diaphragms, and component and the exterior sheathing and cladding (weatherproofing) systems and components. This plan shall need to address the interior party wall between this building unit and the adjacent unit.

Option 2

If the remaining building is to be razed, the owner shall:

1. Engage the services of a professional design team, including, at a minimum, a licensed structural engineer specializing in demolition. An immediate plan of action for the shoring of the adjacent building unit is critical.
2. Contract with a demolition contractor for the removal of the building unit. The demolition contractor shall also be required to secure those areas along the party wall along the western boundary against weather.
3. Contract with a reputable contractor capable of jacking and shoring to stabilize and reestablish a structural wall between the subject unit and the adjacent unit. Have a mutually agreed-upon contract in place with the adjacent unit owner to establish a definitive break line between properties. Have a mutually agreed-upon contract in place to share cost responsibilities for said work.

Conclusion

It is the professional opinion of Wentworth Partners & Associates, Inc. that the subject building unit is a clear and present danger to the *public health and general welfare* of the community. The entirety of the report details deficiencies in the *structural strength and stability* of the building unit. These deficiencies are overwhelming in comparison to the building unit's remaining or usable integrity. This report does present options to possibly salvage the structure. These options reflect three distinct lines of reasoning; 1) it is the owner's intention, based on his statement to the inspectors at the time of our inspection, as witnessed by the City's attorney, to salvage the building; 2) this building is a contributing structure to the Gardiner Historic District as defined by the United States Department of the Interior's Heritage Conservation and Recreation Service's *National Registry of Historic Place Inventory*, Item #19; and 3) portions of the structure, though limited, were determined to be structurally sound. At no time in this report do we underestimate the amount of work, and therefore the relative costs, associated with salvaging this building unit. In our opinion the costs of stabilization and replacement far exceed the possible return of investment. That is a choice only the owner can decide. The only determination being made in this report is that this building unit is dangerous to human life and the public welfare, and shall be considered a dangerous building within the meaning of the law. In accordance with Maine State law, "To adjudge a building to be a nuisance or dangerous, the municipal officers or county commissioners must find that the building is structurally unsafe, unstable or unsanitary; constitutes a fire hazard; is unsuitable or improper for the use or occupancy to which it is put; constitutes a hazard to health or safety because of inadequate maintenance, dilapidation, obsolescence or abandonment; or is otherwise dangerous to life or property" [17 M.R.S.A. §2851 2-A]. This report clearly defines the building as unsafe and unstable. In accordance with the Code, "*unsafe structures shall be taken down and removed or made safe, as the building official deems necessary*" [IBC2015 § [A] 116.1].

In Closing

Wentworth Partners & Associates, Inc. thanks the City of Gardiner for the opportunity to serve.

Please peruse this document. Should you have any questions or comments please do not hesitate to contact me. No destructive or invasive testing was performed as part of this inspection. Our visual observation of the structure was limited only areas that were available at the time of inspection. This visual observation does not constitute an analysis of the structure, in part or in whole. Observations and subsequent assessments are based on our understanding of the scope of services requested upon us and limited to the restrictions thereof. Our inspection, including this report, is not to be considered as a guarantee of condition and no warranty is implied.

Very truly yours,

WENTWORTH PARTNERS & ASSOCIATES

Steven C Govoni

Steven C. Govoni, P.E., M. ASCE

President

Attachments:

195-21 Building Schematics with Photos

U.S. Department of the Interior's Heritage Conservation and Recreation Service's "*Gardiner's Historic District*" inventory

Exhibit 2



PHOTO 1
FALSE FRONT AT WATER STREET
NOTE VISIBLE GAP TO THE EXTERIOR

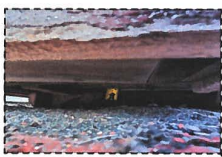


PHOTO 2
FALSE FRONT AT WATER STREET
NOTE VISIBLE GAP TO THE EXTERIOR



PHOTO 3
FALSE FRONT AT WATER STREET
NOTE VISIBLE GAP TO THE EXTERIOR



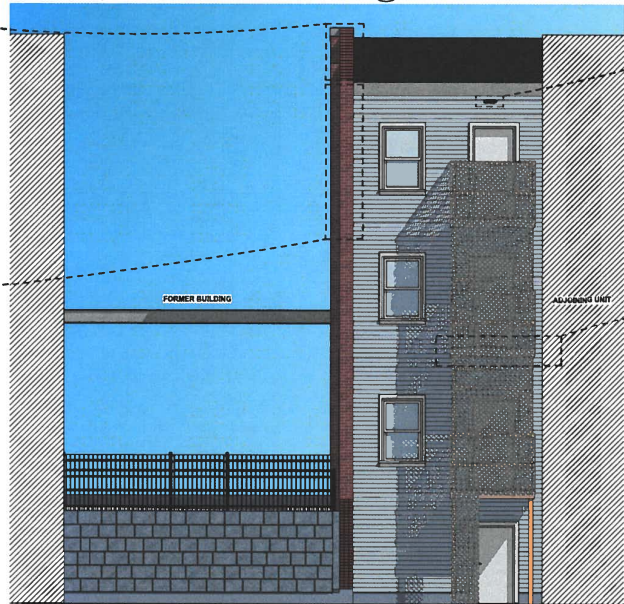
FRONT ELEVATION 1
NOT TO SCALE A200



PHOTO 4
INTERIOR VIEW OF IN APARTMENT 11
NOTE EXISTING EXTERIOR MASONRY WALL IS INTACT



PHOTO 5
VIEW OF NORTHEAST CORNER OF ROOF
NOTE CONDITION OF REMAINING PARAPET, FLASHING, AND ROOF MEMBRANE.
NOTE FIRE DEBRIS BLOCKING ONLY ROOF DRAIN.



REAR ELEVATION 2
NOT TO SCALE A200



PHOTO 6
CLOSEUP VIEW OF REAR EXTERIOR BEARING WALL
NOTE CONDITION OF WALL FRAMING AND LACK OF WALL SHEATHING DUE TO FIRE



PHOTO 7
VIEW OF NORTHEAST CORNER OF BUILDING UNIT
NOTE MASONRY WALL IS SEPARATING FROM WOOD FRAMED STRUCTURE.



PHOTO 8
VIEW OF FIRE ESCAPE LEDGER ATTACHMENT
NOTE CONDITION OF REAR WALL NEGATES THE STRUCTURAL CAPACITY OF THIS ATTACHMENT

PROJECT
ROW BLOCK
GARDNER HISTORIC DISTRICT
INVENTORY NUMBER 19

OWNER
DAVID L. COULOMBE
2527 NORTH BELFAST AVE.
AUGUSTA, ME 04330

CLIENT
CITY OF GARDNER
6 CHURCH STREET
GARDNER, ME 04345

ENGINEER
WENTWORTH PARTNERS & ASSOCIATES
11 COMMERCIAL STREET
BANGOR, ME 04910
P: 207.688.9898
F: 207.682.2422
www.wpa-engineers.com

ENGINEER'S CERTIFICATION

PROJECT NO: 195-21
DRAWN BY: JJC
CHECKED BY: SCG

| SUBMITTALS | | |
|------------|---------|---------------------|
| REV. | DATE | DESCRIPTION |
| | | |
| | | |
| | | |
| | | |
| | | |
| A | 19OCT21 | BUILDING SCHEMATICS |

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF WENTWORTH PARTNERS & ASSOCIATES INC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DISSEMINATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

PROJECT TYPE
BUILDING EVALUATION

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A200

PHOTO 1
ENTIRE MASONRY PARAPET AREA REQUIRES RECONSTRUCTION AND PROPER CAP
NOTE LACK OF VISIBLE MORTAR AT ALL JOINTS

PHOTO 2
ENTIRE WALL AREA HAS BEEN STRUCTURALLY COMPROMISED.
NOTE EXTERNAL BULGE OF MASONRY AND CONTINUOUS DIAGONAL STRESS CRACK

PHOTO 3
CHIMNEY SHAFT HAS BEEN COMPROMISED.
NOTE SEPARATION OF BRICKS AND LACK OF MORTAR IN JOINTS

PHOTO 4
FALLING BRICKS AT CHIMNEY SHAFT BASE
NOTE LACK OF CORBELLED SUPPORT OR SHELF ANGLE

PHOTO 5
VISIBLE BULGING OF MASONRY WALL
NOTE THAT THE BRICKS APPEAR TO HAVE BEEN PUSHED OUTWARD FROM THE BUILDING

PHOTO 6
SAW CUT SEAM TO DEMOLISH ADJACENT BUILDING
NOTE NO INFILL MORTAR OR GROUT TO PROTECT EXISTING BUILDING MASONRY FROM WATER OR ICE PENETRATION

PHOTO 7
FIRE ESCAPE
NOTE LEDGER ATTACHMENT TO REAR WALL

RIGHT ELEVATION 1/2" = 1'-0" (A201)

PROJECT
ROW BLOCK
GARDNER HISTORIC DISTRICT
INVENTORY NUMBER 19
235 WATER STREET
GARDNER, ME 04345

OWNER
DAVID L. COULOMBE
2527 NORTH BELFAST AVE.
AUGUSTA, ME 04330

CLIENT
CITY OF GARDNER
6 CHURCH STREET
GARDNER, ME 04345

ENGINEER'S CERTIFICATION
WENTWORTH PARTNERS & ASSOCIATES
11 COMMERCIAL STREET
SACONNAC, ME 04078
TEL: 603.886.8899
F: 603.886.8822
www.wpa-engineers.com

PROJECT NO: 195-21
DRAWN BY: JJC
CHECKED BY: SCG

| SUBMITTALS | | |
|------------|----------|---------------------|
| REV. | DATE | DESCRIPTION |
| | | |
| | | |
| | | |
| | | |
| A | 10/02/21 | BUILDING SCHEMATICS |

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF WENTWORTH PARTNERS & ASSOCIATES, INC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

PROJECT TYPE
BUILDING EVALUATION

SHEET TITLE
RIGHT ELEVATION

SHEET NUMBER
A201

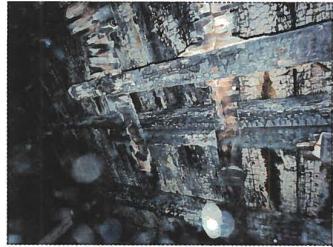


PHOTO 1
MASSIVE FIRE DAMAGE TO APARTMENT 6
EXPOSED FRAMING WAS SUBSTANTIALLY DAMAGED



PHOTO 2
ROOF MEMBERS COMPROMISED BY FIRE
NOTE THE EXTENSIVE SMOKE DAMAGE



PHOTO 3
MAJOR STRESS CRACKS PENETRATED ALL
THREE LAYERS OF BRICK
NOTE UNSUPPORTED OPENING BELOW
CAUSING FALLING BRICKS



PHOTO 4
SEPARATION OF THE MASONRY WALL
FROM THE BUILDING



PHOTO 5
SEPARATION OF THE MASONRY WALL
FROM THE BUILDING



PHOTO 6
APARTMENT 8 SUSTAINED MASSIVE FIRE DAMAGE



PHOTO 8
DRY ROT LOG SUPPORT POST

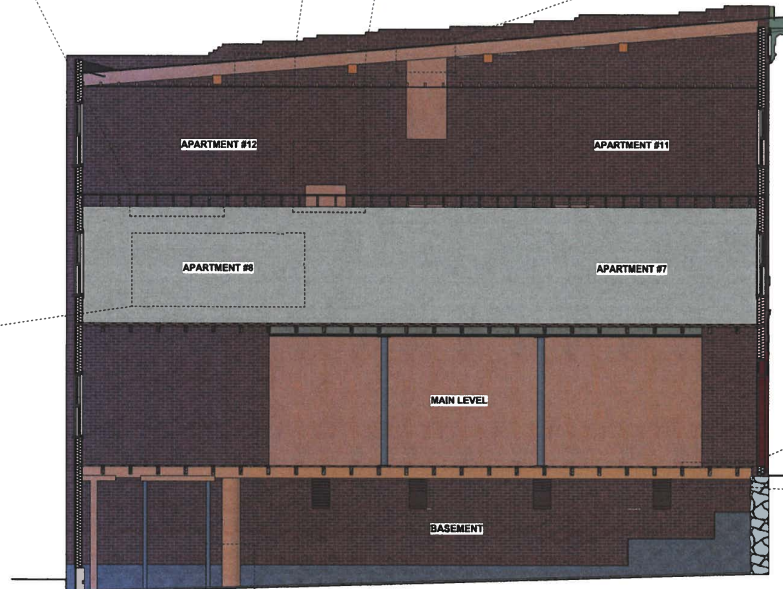


PHOTO 7
BACTERIA SERRATIA MARCESCENS
NOTE CRYSTALLIZATION FORMING



PHOTO 9
MOLD ON FRAMING MEMBERS

PROJECT
ROW BLOCK
GARDNER HISTORIC DISTRICT
INVENTORY NUMBER 19

215 WATER STREET
GARDNER, ME 04345

OWNER
DAVID L. COULOMBE

2527 NORTH BELFAST AVE.
AUGUSTA, ME 04330

CLIENT
CITY OF GARDNER

6 CHURCH STREET
GARDNER, ME 04345

WENTWORTH PARTNERS & ASSOCIATES
ARCHITECTS

31 COMMERCIAL STREET
SACONNAN, ME 04974

TEL: 603.888.8991
FAX: 603.882.8822
WWW.WENTWORTHPARTNERS.COM

ENGINEER'S CERTIFICATION

PROJECT NO: 195-21
DRAWN BY: JJC
CHECKED BY: SCG

| SUBMITTALS | | |
|------------|------|-------------|
| REV. | DATE | DESCRIPTION |
| | | |
| | | |
| | | |
| | | |

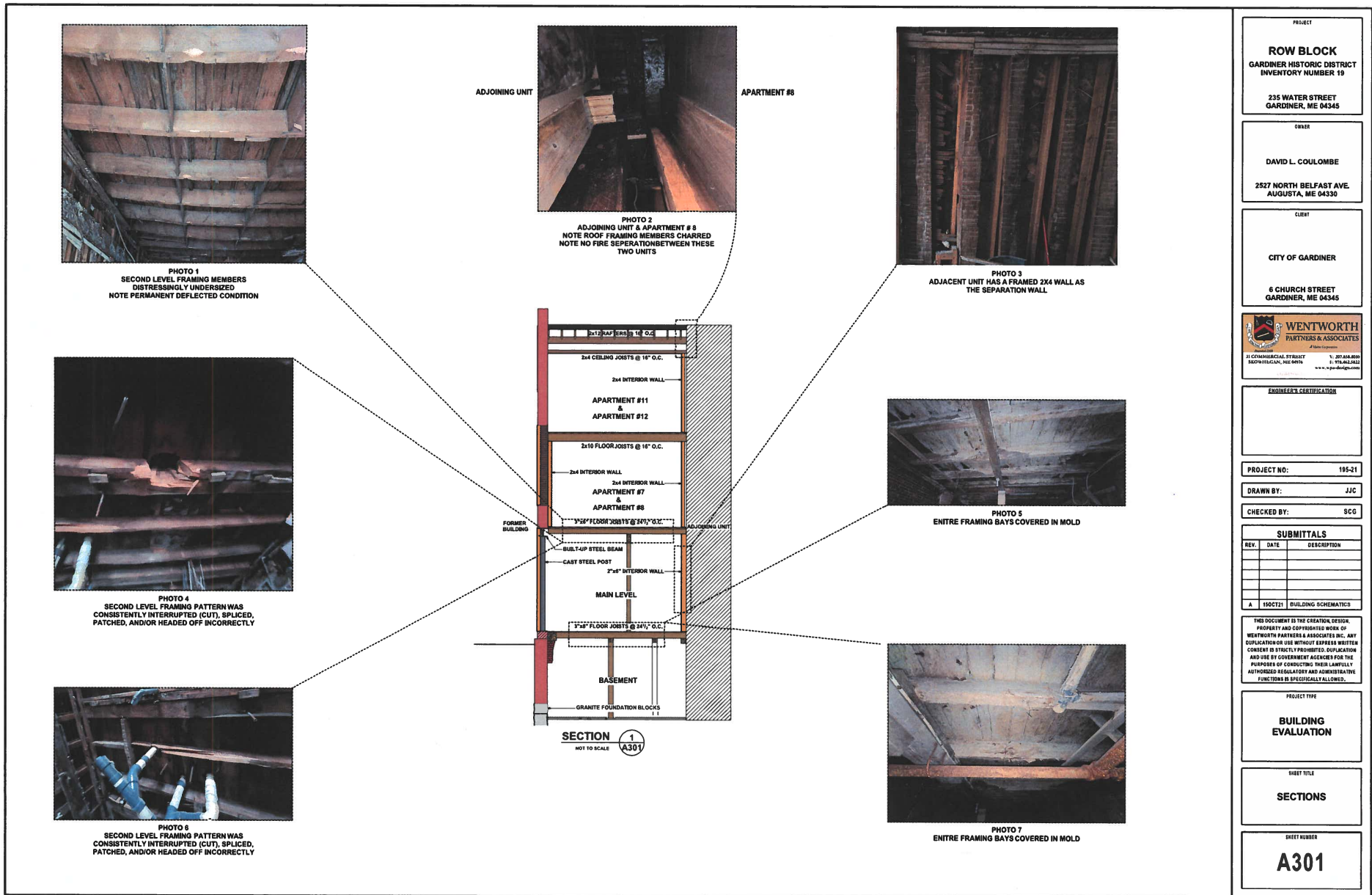
A. 100CT1: BUILDING SCHEMATICS

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND CONFIDENTIAL WORK OF WENTWORTH PARTNERS & ASSOCIATES INC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

PROJECT TYPE
BUILDING EVALUATION

SHEET TITLE
SECTIONS

SHEET NUMBER
A300



**WENTWORTH
PARTNERS & ASSOCIATES**

A Gold Standard Company
www.wpa-design.com

110 Haverhill Road
Building B, Suite 203
Amesbury, MA 01913

978.792.5945

31 Commercial Street
PO Box 2285
Skowhegan, ME 04976

207.858.8010

Original: January 24, 2023

Added Language: January 31, 2023

Andrew Carlton
City Manager
Gardiner City Hall
6 Church Street
Gardiner, ME 04345

Re: **Structural Evaluation of Existing Building**
Downtown Row Block
235 Water Street
Gardiner, ME 04345

Dear Mr. Carlton:

Pursuant to our phone conversation on Thursday, December 29, 2022; any electronic, phone, and/or personal correspondence concerning this project between December 29, 2022 and the issue date of this report; and our site reconnaissance on Monday, January 9, 2023; Wentworth Partners & Associates Inc. submits the following report of our findings. It is a pleasure to have the opportunity to have been of service for the above referenced project. This report is based on our present understanding of the required scope of services as well as our knowledge and past experience with similar projects.

Our original scope of service was to investigate and evaluate the existing downtown row structure located at 235 Water Street in Gardiner. This site investigation was completed on Monday, September 27, 2021 with a final report of our finding issued November 8, 2021. This scope of service is to provide a follow-up report based on any additional information and/or findings of fact. Once again, this evaluation is part of the due diligence by the City of Gardiner to ensure *a reasonable level of safety* as well as *public health and general welfare through structural strength and stability [IBC2015 § [A] 101.3 Intent]* of the subject building and property.

It can be clearly stated that the building unit in question is unstable and will fail. Portions of the building are well beyond repair and have already been recognized as dangerous. The failure of these portions of the building will be catastrophic. Furthermore, the failure of this building unit puts the occupants of the adjacent unit in grave danger. Most likely this failure will not give time for anyone to react. This is particularly alarming for residential units where occupants could be sleeping and therefore less cognizant and responsive to the danger they are in. Any lower-level occupancy, especially at the basement level, could require many additional hours of rescue efforts by the first responders due to the instability of any remaining portions of the building units and the process of demolition removal required to evacuate survivors and/or bodies. It is the opinion of Wentworth Partners & Associates, Inc. that the threshold of responsibility has been crossed and that any act to disregard the severity of the findings of this report should be considered a criminal act.

Report Definitions

| | |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Code</i> | The Code refers to the state adopted Maine Unified Building & Energy Code [MUBEC], including, but not limited to, all references and standards adopted within. |
| <i>Unit</i> | The Unit refers to the subject property as defined by the City of Gardiner 2021 tax commitments. The Unit represents the eastern-most third of a three-unit row building |
| <i>Building</i> | The Building represents the entirety of a three-unit row structure. |

Site Reconnaissance

Reconnaissance

On Monday, January 9, 2023 two representatives from Wentworth Partners & Associates, Inc., hereinafter referred to as the Consultant, did evaluate the above-mentioned structure located at 235 Water Street in Gardiner, Maine. This evaluation was limited to observation from outside the structure. Our findings are as follows:

In General

The original report details our findings from a much more thorough visual inspection of the building. At the time of original inspection, the Consultant was granted access to all available spaces within the building. Areas not inspected at that time were deemed to be unsafe. From our original report we conveyed that the building unit is a wood frame structure as part of a three-unit row building block. The building block is confined within the masonry wall of the former adjacent building to the east and the party wall of the masonry row block to the west. The unit of discovery is the eastern most unit of this block. This unit is bounded by an unreinforced clay masonry wall, a former party wall, to the east and a multi-story wood frame consisting of two stories of beam/lintel framing (basement & main level) and two stories of platform framing or stud infill (second and third stories) to the west. The front exterior wall (Water Street) is a three-story partial platform frame wall founded on a full-story granite masonry foundation. The rear exterior wall (unnamed alley) is a four-story partial platform frame wall founded on a granite and concrete base. There is an attached wooden fire escape in the rear. The full report has been attached for reference.

For our January 9th evaluation observation was limited to visual scrutiny from the public ways, namely Water Street and the alley behind the structure. Observations were made with a 16x52 Monocular Telescope where definition and clarity were required.

No new observations were recorded at the Water Street frontage (front) of the building. Along the eastern party wall (right side) observations made were similar in nature to those observations from our September, 2021 visit. We then moved down to the back alley. From the back alley we clearly noted that the former party was separated from the roof framing entirely. Furthermore, it appears that this condition now extends to the third floor framing as well. This wall is not structurally stable. It is presently acting as a cantilevered wall without reinforcing. The wall is three-wythes (approximately 12") thick. It is constructed of locally founded clay bricks with a lime/sand mortar mix as the binding agent. Lime/sand mortar has an extremely limited tensile strength. This means that the clay masonry units of the wall acting in tension during lateral movement events (i.e., wind, ice or snow) will separate at the joints instead of flexing when the wall is moving. The separation of joints will further weaken with each movement event. Continued movement will eventually see the wall acting as hundreds of individual pieces instead of one continuous vertical diaphragm. This is best compared to a freestanding brick wall; no mortar at all. This wall is a dangerous situation. As stated in the original report:

Other Major Structural Considerations

This section of the report shall address two additional major structural issues. The first issue is the stability of

the existing unreinforced masonry wall previously mentioned. As discussed, this wall was originally the exterior wall of the adjoining structure to the east. The wall is founded on granite foundation blocks visible at the basement level. These two-foot-tall granite blocks are stacked and grouted along the base of the basement revealing one layer from back to front. At the front of the building a second layer is visible from approximately four feet out to the building corner. Next a four wythe clay masonry (brick) foundation wall from the foundation blocks to the first-floor framing level was constructed. From there the clay masonry continues as a three wythe wall up two and one-half more stories to the tapered parapet level above the roof. The strong axis of the wall is north-south and is approximately fifty-one feet long. The weak axis of the wall is east-west and is approximately twelve inches wide. In the original construction of the wall the weak axis was braced directly by the floor framing diaphragms of the original building. Hence horizontal movement of the wall was limited to intermediate deflections between floor levels. Adding to the stability of the wall was the tributary area of the gravity loading of the former building apportioned to this wall. At the time of our inspection those conditions no longer existed. This wall is now a freestanding cantilever wall. This modeling condition would be considered from first floor deck level of the subject unit to the parapet level at the roof. The true concern is that the wall is unreinforced. The design of this wall was never intended to be cantilevered. Without reinforcing this wall has no mechanism to resist tensile stresses caused by any lateral movement. Modeling the boundary condition at the base would most likely be considered a pin connection, meaning that the wall at said base point would be fixed for vertical and horizontal movement but free to rotate about that point. This was a noticeable condition to the inspectors at the time of the visit. The wall is separating from the building from the top, moving easterly toward the adjacent lot currently being used for outside seating for Gerald's restaurant. It appears this condition is being further advanced at the roof level where there is a visible separation between the roof deck and framing members and the masonry wall. At the back of the building unit this gap appears to be about three inches. This is obviously an area where rain, snow, and ice can enter the subject unit. Damage to the masonry at the parapet and down the wall due to these environmental conditions is already evident. The exterior chimney, visible from the outdoor seating area, is in disrepair and shall be considered dangerous.

Further complicating the issue is internal damage to the wall due to poor workmanship. As mentioned, this was formerly an exterior wall. Pre-planned openings in the wall were headed off with lintels at the time of construction. However, at some time in the past, the subject building unit and the adjacent former building were integrated at all three levels. This merger fully integrated a majority of the buildings at the first-floor level with the installation of a steel built-up beam and columns to support the remaining masonry wall above. However, this merger also added new openings to access the second and third floors of the subject building unit from the existing floor layouts of the former building. These openings in the masonry were butchered, unbraced, and unsupported. The long-term effects of this poor workmanship are quite evident now, both inside and outside the building unit. Major stress cracks have opened between the upper unsupported opening and a lower original opening. This stress crack penetrates all three layers of brick rendering all masonry work above this level as dangerous. Loose bricks were easily picked off the wall by hand and numerous fallen bricks were already on the floor at each transition stairway. Overall, the masonry wall, without immediate support and stabilization, shall be considered dangerous from the second-floor framing to the roof parapet. A further study and shoring plan, as issued by a licensed structural engineer, shall be required to determine a permanent solution if the wall is to remain. Any shoring would need to occur immediately before further environmental damage occurs.

Conclusion

It is the professional opinion of Wentworth Partners & Associates, Inc. that the subject building unit is a clear and present danger to the *public health and general welfare* of the community. The entirety of this report again highlights the deficiencies in the *structural strength and stability* of the building unit. These deficiencies are overwhelming in comparison to the building unit's remaining or usable integrity. The only determination being reiterated in this report is that this building unit is dangerous to human life and public welfare, and shall be

considered a dangerous building within the meaning of the law. In accordance with Maine State law, “To adjudge a building to be a nuisance or dangerous, the municipal officers or county commissioners must find that the building is structurally unsafe, unstable or unsanitary; constitutes a fire hazard; is unsuitable or improper for the use or occupancy to which it is put; constitutes a hazard to health or safety because of inadequate maintenance, dilapidation, obsolescence or abandonment; or is otherwise dangerous to life or property” [17 M.R.S.A. §2851 2-A]. This report clearly defines the building as unsafe and unstable. In accordance with the Code, “*unsafe structures shall be taken down and removed or made safe, as the building official deems necessary*” [IBC2015 § [A] 116.1].

Again, it has been clearly stated that the wall in question is unstable and will fail. The failure will be catastrophic.

Please peruse this document. Should you have any questions or comments please do not hesitate to contact me. No destructive or invasive testing was performed as part of this inspection. Our visual observation of the structure was limited only areas that were available at the time of inspection. This visual observation does not constitute an analysis of the structure, in part or in whole. Observations and subsequent assessments are based on our understanding of the scope of services requested upon us and limited to the restrictions thereof. Our inspection, including this report, is not to be considered as a guarantee of condition and no warranty is implied.

Very truly yours,

WENTWORTH PARTNERS & ASSOCIATES

Steven C. Govoni

Steven C. Govoni, P.E., M. ASCE
President

Attachments:

195-21 RPT 2021-11-08 235 Water Street (Gardiner, ME) Investigation Report and Findings



PEPSI
Gerard's
PIZZA

Exhibit 4



Exhibit 5



Exhibit 6



Exhibit 7

Exhibit 8



1878 Map

Exhibit 9



1884 Map

Exhibit 10



1892 Map