STRUCTURAL CONDITION SURVEYS

TELEPHONE HILL, JUNEAU, ALASKA

PREPARED BY

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PREPARED FOR

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Project Number I1817.23001; RSI-3411

EXECUTIVE SUMMARY

Telephone Hill is located in downtown Juneau, Alaska. This neighborhood consists of historic homes that were built between 1882 and 1947. The City and Borough of Juneau owns this neighborhood and is exploring potential options for redeveloping the land. RESPEC Company, LLC (RESPEC) was retained to provide a structural condition survey of each of the seven residences.

The inspection performed was a visual assessment of the condition of the structure at the time of inspection. RESPEC did not perform inspections for mold, hazardous materials, or document general code non-conformance. Our observations are primarily structural with extreme cases noted.

In general, these buildings were constructed before building codes were adopted and were built by the knowledge of the carpenters that constructed them. They do not benefit from any of the modern code requirements for gravity/snow loading, lateral/seismic systems, detailing for load transfer, etc. that provide an appropriate level of safety for the occupants of these homes.

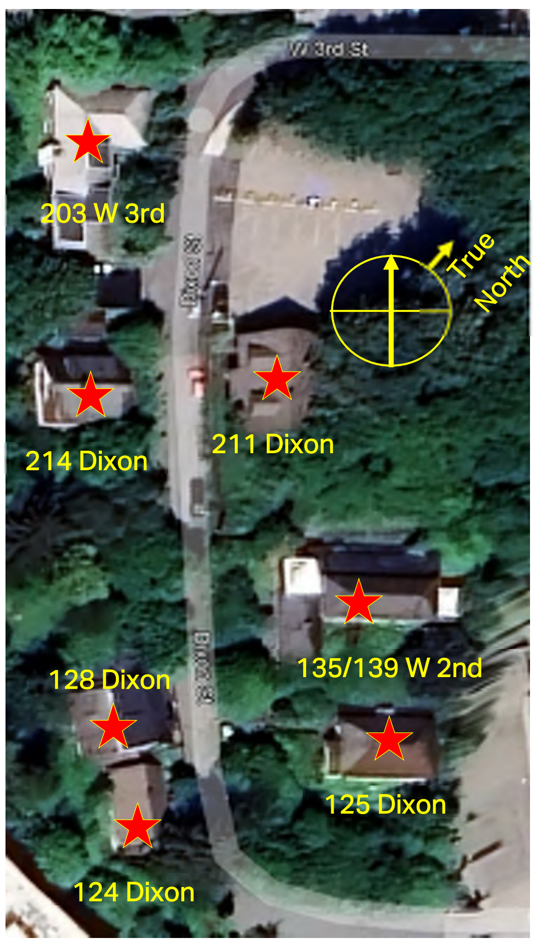

Figure ES- 1. Telephone Hill, Juneau, Alaska.

RESPEC

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1.0 124 DIXON STREET, JUNEAU, ALASKA

Residence Inspected:	124 Dixon Street
Date of Inspection:	October 29, 2023
Inspectors:	Janice Wells, PE

1.1 GENERAL INFORMATION

Located on Telephone Hill in downtown Juneau, Alaska, the building at 124 Dixon Street was built in 1910, according to the City and Borough of Juneau (CBJ) Assessor's Database. The residence is three-stories with concrete basement walls, wood framing above, and a gable roof system with rafters. The building appears to have a conventional footing with a slab-on-grade. The neighborhood is located on shallow bedrock. The project site is illustrated in Figure ES-1.

RESPEC visually inspected the structural condition of the residence. No finishes were removed as part of the inspection. RESPEC assumes that Dixon Street runs north to south and is located on the east side of the residence.

1.2 OBSERVATIONS/PHOTOGRAPHS

RESPEC's observations and photographs of the site are illustrated in Figures 1-1 through 1-30.

EXTERIOR

Figure 1-1. South and East Side of the Building.

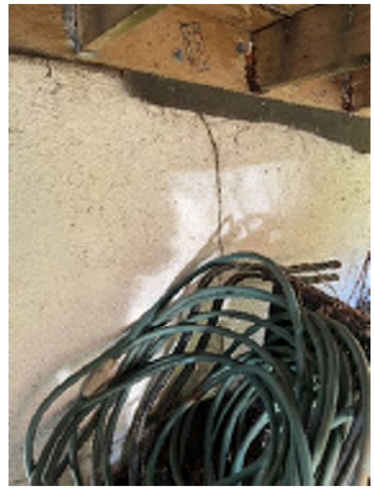

Figure 1-2. Large Concrete Crack on the South Wall.

Figure 1-3. Rusted Hardware Connections on the Deck Framing.

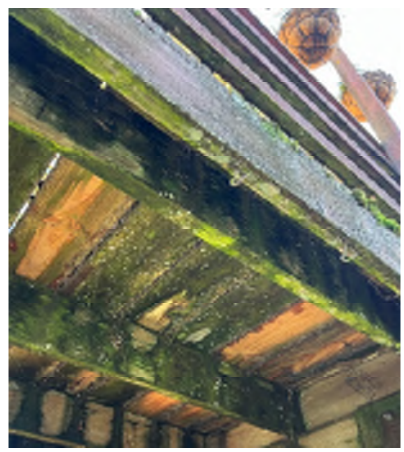

Figure 1-4. A Significant Amount of Moss on the West Side of the Deck Framing.

Figure 1-5. West Side of the Building.

Figure 1-6. The Drainpipe Ends Abruptly in Mid-Air and Does Not Direct Water Away From the Foundation.

Figure 1-7. Replaced and Repainted Pieces of Siding.

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Figure 1-10. The Drainpipes Are Disconnected, and Water Is Not Directed Away From the Building.

Figure 1-11. North Side of the Building.

Figure 1-12. A Large, Deep Concrete Crack on the North Wall. No reinforcement is observed.

Figure 1-13. Visible Wood Framing in the Deep Crack Where Water Infiltrates the Basement.

Figure 1-14. A Hole in the Siding That Can Allow Water or Animals in the Wall Cavity.

Figure 1-15. East Side of the Building With Wooden Gutters.

Figure 1-16. Exposed Wood Beneath the Siding Is Rotten.

Figure 1-17. Fuel Tank Wedged in the Space Under the stairs.

Figure 1-18. The Stair Member Was Cut to Allow for the Vent Pipe at the Top of the Tank.

Figure 1-19. Undermining of the Road at the Interface Between the Two Retaining Wall Systems.

Figure 1-20. A Long Crack on the Side of the Stringer.

MAIN LEVEL

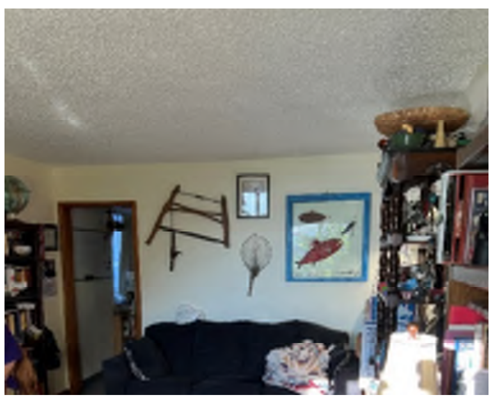

Figure 1-21. Very Few Sheetrock Cracks Were Observed on the Main Level.

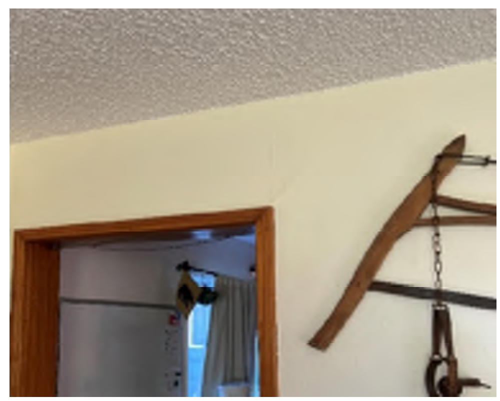

Figure 1-22. A Diagonal Crack Above the Door Frame.

UPPER LEVEL

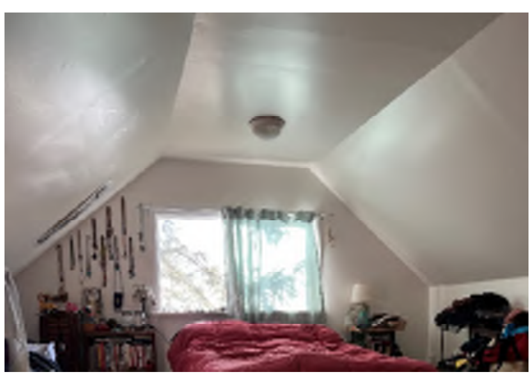

Figure 1-23. The Wood Framing Is Not Visible at the Edges Because the Upper Level Is Fully Finished.

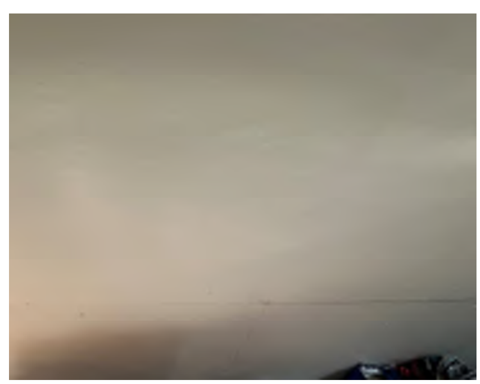

Figure 1-24. The Only Cracks Observed Were at the Sheetrock Panel Joints.

BASEMENT

Figure 1-25. Staining on the Ducting Indicating Past Leaks.

Figure 1-26. Water Heater Without Seismic Strapping.

Figure 1-27. Many Signs of Water Infiltration Exist on this Concrete Wall From the Discoloration. The sill plate is rotten from the outside.

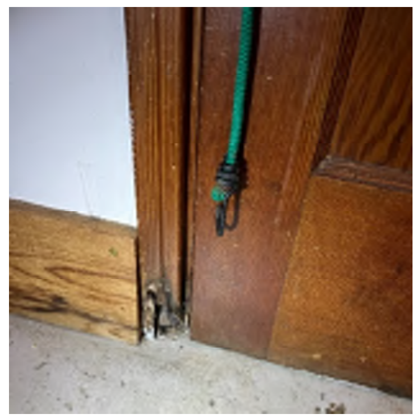

Figure 1-28. Bottom of the Door Frame Trim Is Rotten, Indicating Water Damage.

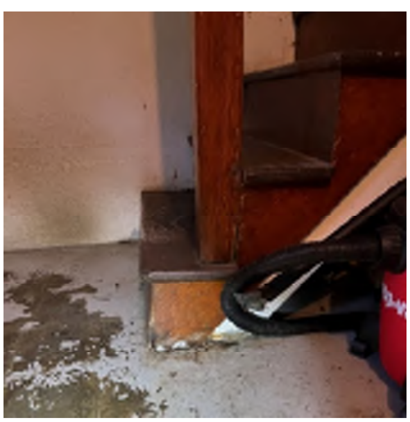

Figure 1-29. Wood at the Bottom of the Stairs Has Some Water Damage.

Figure 1-30. Channel Under the Stairs Where Water Frequently Flows In. This is the location of the large concrete crack on the north side wall.

1.3 DISCUSSION/CONCLUSION

This building is generally in fair condition for its age. Rusted hardware at post and beam connections, chipped paint, some rot, and significant moss growth exist. The extent of the rot below the siding on the east side of the building is unknown.

The foundation is in fair condition for a structure that is 113 years old. There are issues that need to be addressed, including concrete cracks and a lack of reinforcement. A large concrete crack exists on the north and south sides of the building. Minimal cracks to the finishes inside the residence were seen. Buildings constructed in the early 1900s do not have the same standards for code minimums that we do today. Reinforcement in the concrete walls is unlikely and would not meet the current minimum standards. Reinforcements were not observed during the inspection. Water frequently flows in the basement on the residence's north side at the foundation crack's location. The bottom of the trim in the basement is rotten, indicating water has previously reached it. At a minimum, the cracks can be sealed to help minimize water infiltration and a water proof membrane can be installed on the outside of the foundation. Full repair would include replacement of the foundation, which would include installing a properly reinforced foundation with a modern water proofing system.

The roof is likely a rafter style roof; there is no access to determine the sizes of the rafters. The snow load capacity of the roof is unknown. The heat loss of the building through the roof is likely melting the accumulated snow (referred to as a hot roof). If the roof insulation was increased to meet current standards, the roof would retain more snow, which could exceed the roof framing and connection capacity. If additional insulation is considered, the roof must be analyzed and retrofitted.

Most of the lateral force resisting system was not observed with the finishes in place. In the basement, a tongue-and-groove floor decking is visible. Without plywood, the tongue-and-groove boards can resist lateral forces well in one direction but not in the other. The exterior walls of the building are likely not sheathed with plywood. While the building has stood since 1910, its shear walls would not meet current seismic demands. In general, the lateral load path is lacking proper seismic detailing, including connections, between the roof and floor diaphragms to the shear walls and the foundation.

Although the structure would not meet the requirements of the current codes, there are provisions in the International Existing Building Code for existing and historic buildings. If the finishes were removed, a more thorough inspection could be performed of the structural members. The building could be analyzed for current standards and a framing and seismic retrofit could be performed. Rotten members could be replaced and deteriorated finishes could be replaced. At a minimum, the home needs to be remodeled and retrofitted. Unless the building is saved as a historic building, it is likely not economically feasible for CBJ to own or rent the property.

2.0 125 DIXON STREET, JUNEAU, ALASKA

Residence Inspected:	125 Dixon Street
Date of Inspection:	October 24, 2023
Inspectors:	Janice Wells, PE, and Zach Miller, EIT

2.1 GENERAL INFORMATION

Located on Telephone Hill in downtown Juneau, Alaska, the building at 125 Dixon Street was built in 1900, according to the City and Borough of Juneau (CBJ) Assessor's Database. The residence is two-stories with concrete basement walls, wood framing above, and a hip-and-gable roof system with trusses. The building appears to have a conventional footing with a slab-on-grade. The neighborhood is located on shallow bedrock. The residence was unoccupied during RESPEC's inspection. The project site is illustrated in Figure ES-1.

RESPEC visually inspected the structural condition of the residence. No finishes were removed as part of the inspection. RESPEC assumes that Dixon Street runs north to south and is located on the west side of the residence.

2.2 OBSERVATIONS/PHOTOGRAPHS

RESPEC's observations and photographs of the site are illustrated in Figures 2-1 through 2-38.

EXTERIOR

Figure 2-1. West Side of the Building.

Figure 2-2. Three Holes in the Window That Could Allow Water to Enter the Building.

Figure 2-3. Roof Members on the Canopy Appear Rotten. No uplift connection exists between the post and beam.

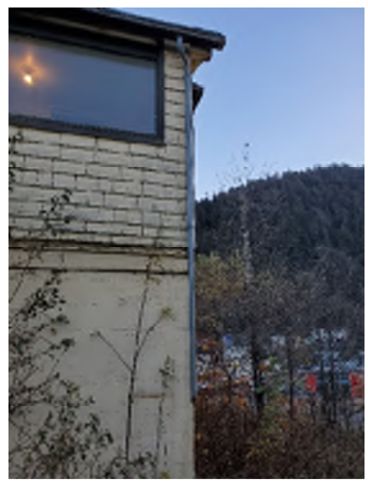

Figure 2-4. Drainage Pipe Ends Abruptly Mid-Air and Not Directing Water Away From the Foundation.

Figure 2-5. South Side of the Building.

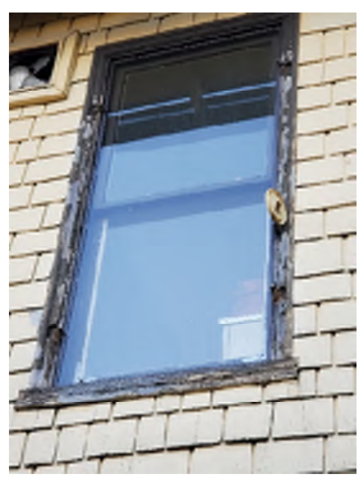

Figure 2-6. Window Sill Is Visibly Rotten. The louver cover is missing, which could lead to water infiltration and rot and mold in the wall.

Figure 2-7. Black Mold on the Siding at the Southwest Corner.

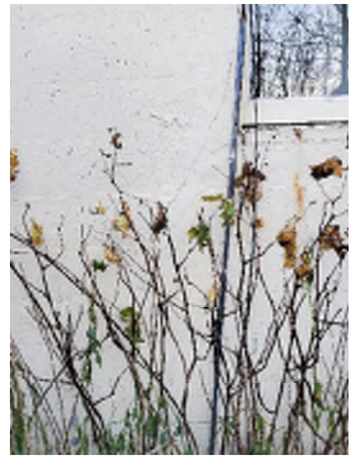

Figure 2-8. Cracks in the Concrete Wall. One crack has been patched.

Figure 2-9. East Side of Building With Moss on the Roof.

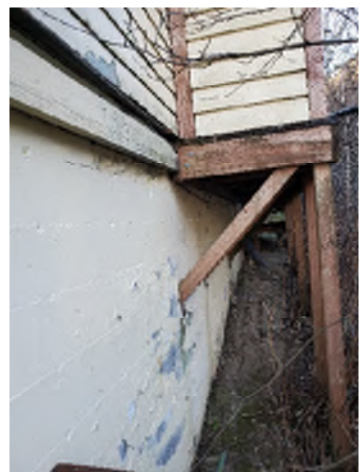

Figure 2-10. Paint Flaking Off the Concrete Wall and Spalled Concrete at the Top of the Concrete Wall.

Figure 2-11. North Side of the Building.

Figure 2-12. Tank Is Not Seismically Anchored.

INTERIOR ATTIC

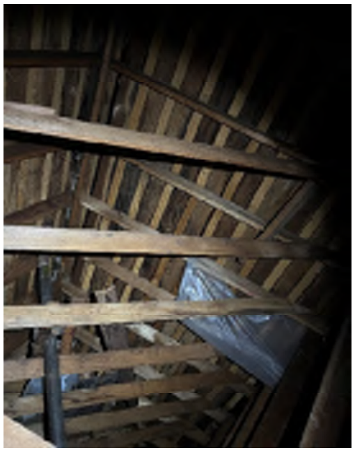

Figure 2-13. Attic Trusses and Most of the Wood Appears Dry. The roof rafters and site built trusses are under sized for current snow loads.

Figure 2-14. Masonry Chimney Constructed With an Angle at the Top. The chimney is unreinforced masonry; if an earthquake occurred, the chimney may collapse.

Figure 2-15. Daylight Is Visible Through Holes in the Northwest Corner of the Roof, Which Allows Water to Penetrate the Roof. This is the cause of the water damage seen on the ceiling of the second level. A roof replacement is in progress.

Figure 2-16. Indications of Previous Leak Repairs. Water infiltration can cause the structural members to rot. The roof rafters and site built trusses are under sized for current snow loads.

INTERIOR SECOND FLOOR

Figure 2-17. Significant Water Damage to the Ceiling Below the Roof Leak. The light fixture was not tested because of signs of water infiltration.

Figure 2-18. Ceiling Paint Is Cracked and Falling From the Water Infiltration. How extensive the water damage is or if there is mold is unknown without a destructive investigation.

Figure 2-19. Inadequate Framing to Support the Closet Used for Attic Access.

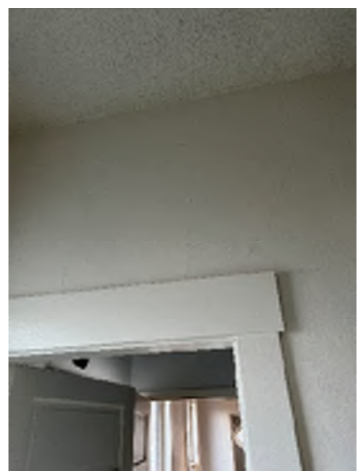

Figure 2-20. Sheetrock Cracks on the Wall in the Bathroom.

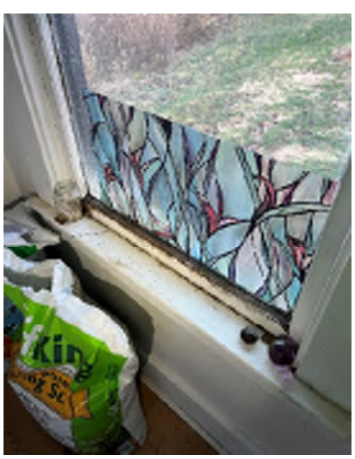

Figure 2-21. Rotting Window Frames.

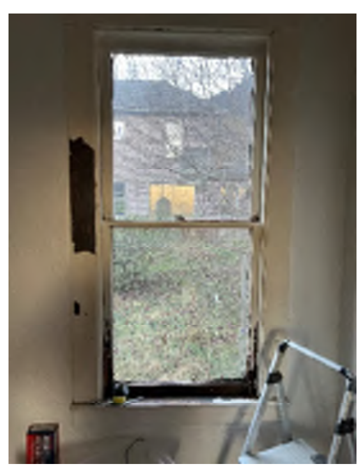

Figure 2-22. Rot in the Window Frames.

RESPEC

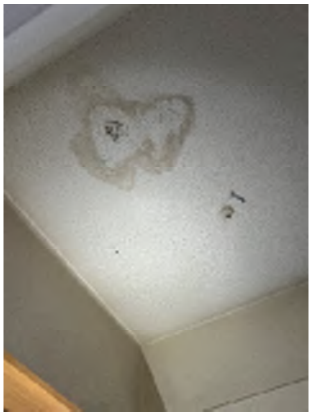

Figure 2-23. Water Damage, Cracks, and Exposed Wiring in the Closet on the Northeast Side of the Building.

Figure 2-24. Sagging Ceiling Panel in the Kitchen From Water Damage.

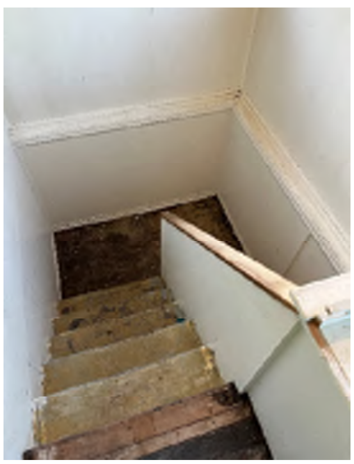

Figure 2-25. Much of the Flooring Was Removed, Leaving the Subfloor Unprotected.

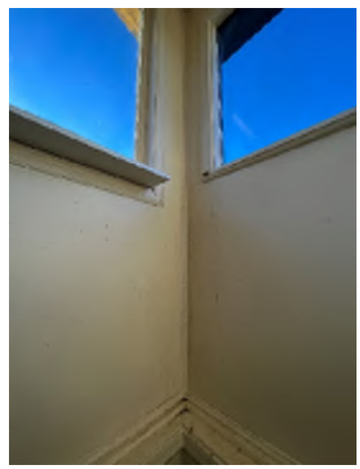

Figure 2-26. Water Staining on the Wall Indicating Leaking Windows.

INTERIOR FIRST FLOOR

Figure 2-27. Wall Finishes Have Detached.

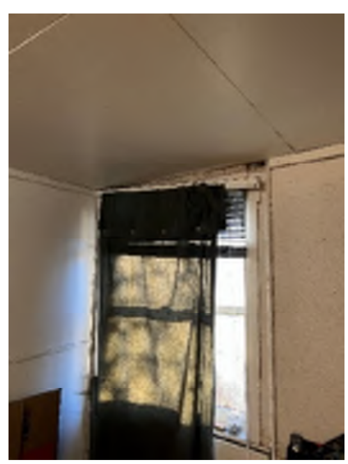

Figure 2-28. The Curtain Rod Is Detached From the Wall.

Figure 2-29. Wall Panel Has Detached From the Wall.

Figure 2-30. Bottom of the Wall Panel Has Water Damage.

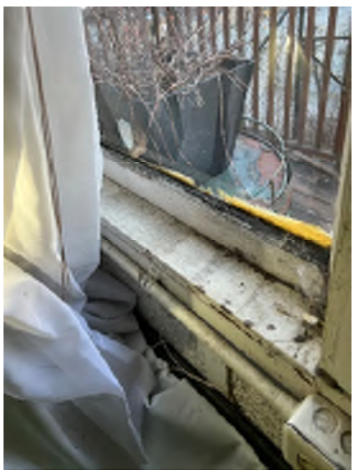

Figure 2-31. Window Sill Is Rotten.

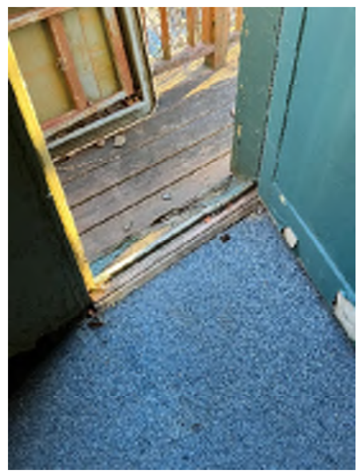

Figure 2-32. Door Jam Is Rotten. The door does not fully seal in the frame.

Figure 2-33. Signs of Leaks Exist With the Staining on the Side of the Unit.

Figure 2-34. Signs of Leaks Exist at the Pipe Connections.

Figure 2-35. Signs of Leaks and Corrosion Exist at the Pipe Connections.

Figure 2-36. No Seismic Strapping Around the Water Heater.

Figure 2-37. Columns Are Toe-Nailed at the Top to the Beam. No positive connection at the base of the column to the concrete exists.

Figure 2-38. A Pipe Supporting a Beam With No Positive Connections at the Top or Base.

2.3 DISCUSSION/CONCLUSION

This building has visually deteriorated. Chipped paint, siding, and a lack of floor coverings exist. It appears the roof was in the process of being replaced, but there are holes in the old portion of the roof. Rot in the window frames, mold on the siding, and signs of pipe leaks indicate water has infiltrated the building. With the finishes in place, the extent of the water damage and the effect on the structural elements is unknown. The framing of the building is with rough-sawn, old-growth lumber. Most of the visible wood appears to be dry.

Buildings constructed in the early 1900s do not have the same standards for code minimums that we do today. Reinforcement in the concrete walls or slab is unlikely; if it does exist, it most likely does not meet current minimum standards.

The attic is poorly insulated. The heat loss of the building through the roof is likely melting the snow. If the attic was insulated to current standards, the roof would have a higher load, likely exceeding the roof framing and connections capacity. If additional insulation is considered, the roof will need to be analyzed, and the trusses will likely need to be replaced.

The lateral resisting system is inadequate. The columns observed are sitting directly on the slab without a connection to the concrete. The top of the columns may or may not be toe-nailed to the beam they are supporting. In a seismic event, posts can shift out from under the beam they are supporting without positive connections. The roof and floor diaphragms appear to consist of tongue-and-groove boards. Without plywood, the tongue-and-groove boards can resist lateral forces well in one direction but not in the other direction. While the building has stood since 1900, its shear walls would not meet current seismic demands. In general, the lateral load path is lacking proper seismic detailing, including connections, between the roof and floor diaphragms to the shear walls and the foundation.

Although the structure would not meet the requirements of the current codes, the International Existing Building Code contains provisions for existing and historic buildings. If the finishes are removed, a more thorough inspection could be performed of the structural members. The building could be analyzed for current standards, and a framing and seismic retrofit could be performed. Rotten wood could be replaced, mold could be remediated, and deteriorated finishes could be replaced. At a minimum, the home needs to be remodeled and retrofitted. Unless the building is saved as a historic building, it is likely not economically feasible for CBJ to own or rent the property.

3.0 128 DIXON STREET, JUNEAU, ALASKA

Residence Inspected:	128 Dixon Street
Date of Inspection:	October 24, 2023
Inspectors:	Janice Wells, PE, and Zach Miller, EIT

3.1 GENERAL INFORMATION

Located on Telephone Hill in downtown Juneau, Alaska, the building at 128 Dixon Street was built in 1935, according to the City and Borough of Juneau (CBJ) Assessor's Database. The residence is three-stories with primarily wood-framing, a concrete retaining wall on one side of the basement, and a gable roof system with rafters. The building appears to have a conventional footing with an boards over an unfinished floor. The neighborhood is located on shallow bedrock. The project site is illustrated in Figure ES-1. The residence's main portion was unoccupied during RESPEC's inspection; the apartment was occupied by a tenant.

RESPEC visually inspected the structural condition of the residence. No finishes were removed as part of the inspection. RESPEC assumes that Dixon Street runs north to south and is located on the east side of the residence.

3.2 OBSERVATIONS/PHOTOGRAPHS

RESPEC's observations and photographs of the site are illustrated in Figures 3-1 through 3-42.

EXTERIOR

Figure 3-1. East Side of the Building.

Figure 3-2. Drainpipe Is Disconnected and the Deck Framing Appears Rotten.

Figure 3-3. Plant Growth indicates Build-up in Gutter.

Figure 3-4. Rotten Gates, Railings, and Deck Framing Pose a Safety Hazard and Should Not Be Used.

Figure 3-5. North Side of the Building.

Figure 3-6. The Beam Supporting the Deck Is Shimmed Likely Due to Rot. No connection exists between the beam to deck framing.

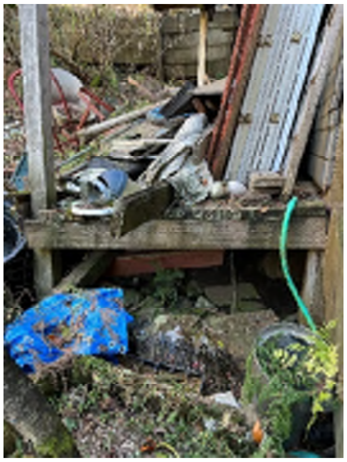

Figure 3-7. Moss and Rot on the Deck.

Figure 3-8. Failed Wooden Retaining Wall.

Figure 3-9. Peeling Paint and Fixtures Missing Bulbs; Open Fixtures or Exposed Wiring Can Be Hazardous.

Figure 3-10. Rotten Windowsill and Siding in Poor Condition.

Figure 3-11. West Side of the Building.

Figure 3-12. The Collapsed Greenhouse.

Figure 3-13. South Side of the Building and Rotten Deck.

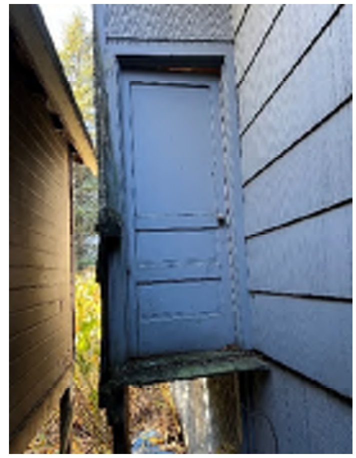

Figure 3-14. A Door Without Stairs Approximately 6 Feet Above the Ground. Some of the framing around the door is rotten.

Figure 3-15. Failed Chimney Foundation Wall. Collapse Hazard.

Figure 3-16. Cracked Concrete Wall/ Failed Foundation, Possibly From Flexure and Shifting. No reinforcement was observed. Collapse Hazard.

Figure 3-17. Long Crack at the Top of the Wall.

Figure 3-18. Concrete Blocks Not Adequately Secured. The new stack is partially supported on a rotten piece of plywood.

INTERIOR MAIN LEVEL

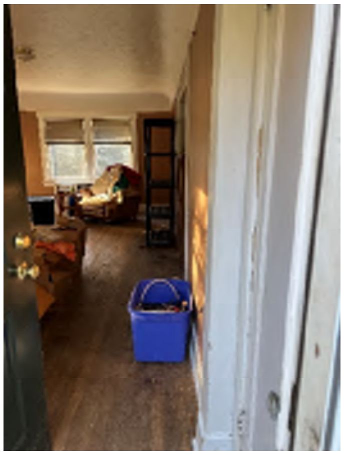

Figure 3-19. The Floor Slopes Downward Toward the East Wall and the Door Rubs on the Floor.

Figure 3-20. Significant Sheetrock Damage in the Closet.

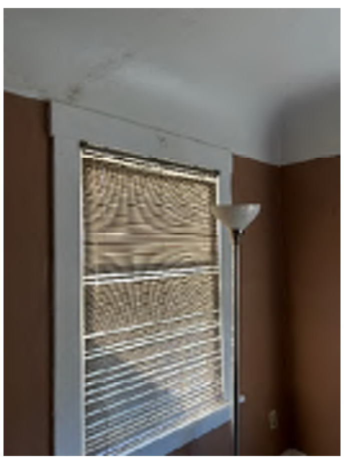

Figure 3-21. Sheetrock Cracks in the Ceiling and Walls.

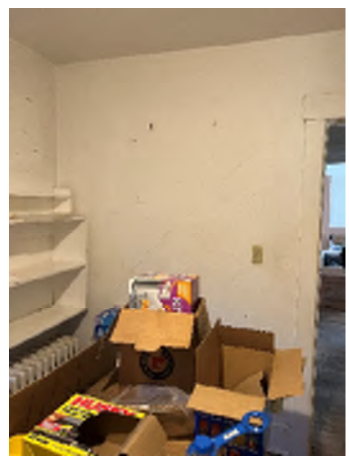

Figure 3-22. Wall Cracks Extending Diagonally Across the Entire Wall.

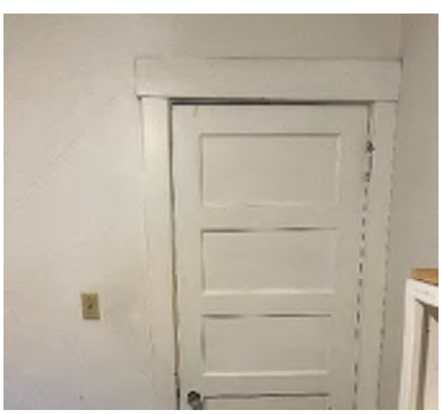

Figure 3-23. Door Does Not Sit Square in the Door Frame.

Figure 3-24. Sheetrock Cracks and Water Damage on the Ceiling.

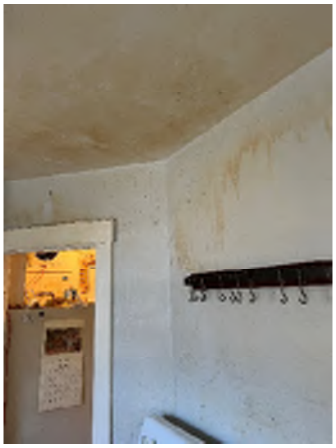

Figure 3-25. A Significant Amount of Discoloration on the Sheetrock Above the Stove in the Kitchen, Water Damage.

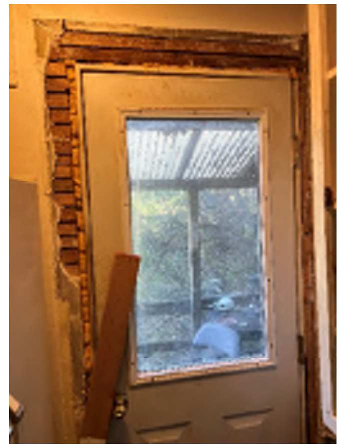

Figure 3-26. Damage to Plaster Around the Door because of Missing Trim.

Figure 3-27. Floor Damage.

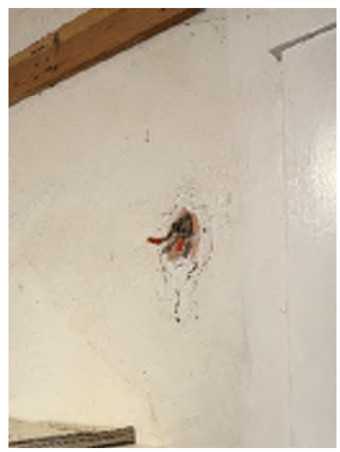

Figure 3-28. Exposed Wiring Was Observed in Multiple Locations, Creating a Hazard. One location did not have wires caps.

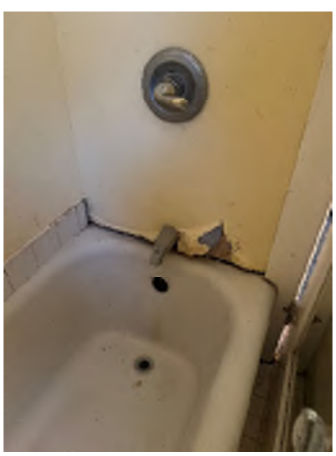

Figure 3-29. Wall Finish Damage in the Bathroom. Water could enter the wall cavity. Water has likely been infiltrating the wall cavity and causing damage.

Figure 3-30. A Beam Hanger Observed at the Framing Near the Stair Opening.

INTERIOR APARTMENT

Figure 3-31. Ceiling Damage From a Roof Leak.

Figure 3-32. More Damage From a Roof Leak Under the Bag.

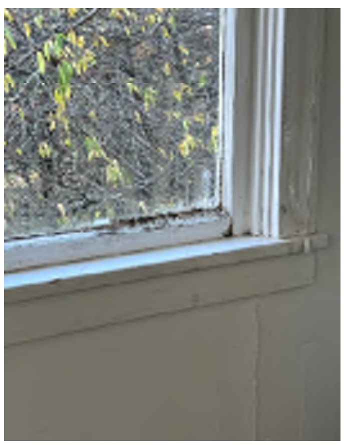

Figure 3-33. Mold in the Windowsill.

Figure 3-34. Mold and Holes in the Windowsill. The holes can lead to water infiltration.

Figure 3-35. Blue Tape Where the Tenant Found Cracks.

Figure 3-36. Sheetrock Crack in the Closet and Mold on the Baseboard.

BASEMENT

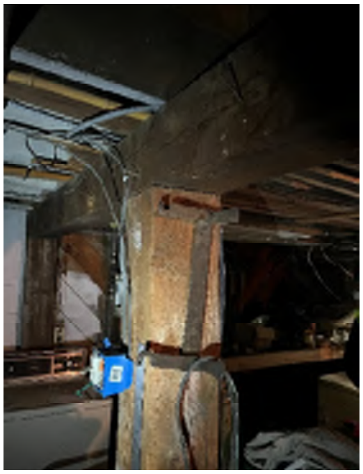

Figure 3-37. No Hardware Providing Connections from the Columns to Beam Above.

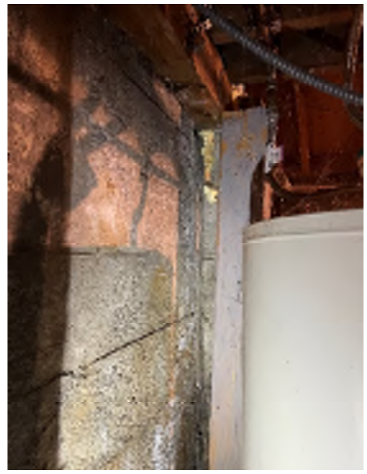

Figure 3-38. No Positive Connection From this Column to the Beam Above and the Column Has Shifted.

Figure 3-39. Significant Checking in this Column.

Figure 3-40. No Seismic Strapping Around the Water Heater.

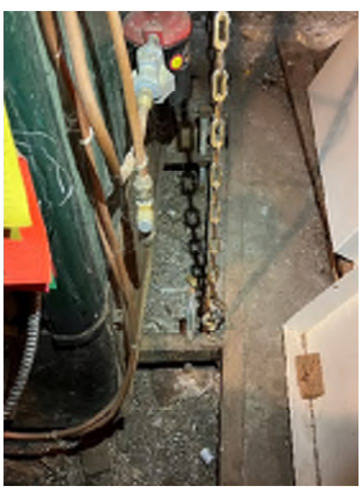

Figure 3-41. Unsecured Mechanical Equipment; the Threaded Rods Do Not Have a Nut. Floor is Boards over Unfinished Floor.

Figure 3-42. Notched Large Beam at the Bottom of the Stairs to prevent head injury.

3.3 DISCUSSION/CONCLUSION

This building has significant deterioration and is hazardous. The lack of eaves on the north and south of the building have caused significant wear to the siding, windowsills, and there is likely water infiltration in some of the wall cavities. The north deck framing is rotten and the railings have fallen apart, and the south apartment door is more than 6 feet above ground with no stairs; both situations are dangerous hazards. At the old chimney location, a few remaining bricks remain, creating a fall hazard and the new stack is partially supported on rotten plywood. The roof leak in the apartment caused damage to the ceiling finishes; the amount of damage to the roof members is unknown.

Buildings constructed in the early 1900s do not have the same standards for code minimums that we do today. Reinforcement in the concrete walls is unlikely; if it does exist, it most likely does not meet current minimum standards. No reinforcements were observed where the wall was cracked and had shifted. Both the chimney and building foundation walls have cracked, settled, and failed.

Many settlement indications exist, including a noticeable floor slope from east to west on the main level, long lateral cracks across east to west walls, a door not sitting square in the frame, and the concrete basement wall that has cracked and shifted. Because of the age of the building and the many unknowns concerning how the foundation was constructed. The foundation is at the end of its useful life.

The heat loss of the building through the roof is likely melting the accumulated snow (referred to as a hot roof). If the roof insulation was increased to meet current standards, the roof would retain more snow, which could exceed the roof framing and connection capacity. If additional insulation is considered, the roof must be analyzed and retrofitted.

The lateral force resisting system is inadequate. The observed columns are sitting directly on the slab without connecting to the concrete. The top of the columns may or may not be toe-nailed to the beam it is supporting. During an earthquake, posts can shift from under the beam they are supporting without positive connections. While the building has stood since 1935, its shear walls would not meet current seismic demands. In general, the lateral load path is lacking proper seismic detailing, including connections, between the roof and floor diaphragms to the shear walls and the foundation.

Although the structure would not meet the requirements of the current codes, the International Existing Building Code contains provisions for existing and historic buildings. However, with the number of settlement and structural issues observed, this building is at the end of its useful life and should be demolished. In our opinion, a remodel is not feasible and the building is hazardous and should not be occupied.

4.0 135 AND 139 WEST 2ND STREET, JUNEAU, ALASKA

Residence Inspected:	135 and 139 West 2nd Street
Date of Inspection:	October 24, 2023
Inspectors:	Janice Wells, PE, and Tobias Bjerklie, EIT

4.1 GENERAL INFORMATION

Located on Telephone Hill in downtown Juneau, Alaska, the buildings at135 and 139 West 2nd Street were built in 1882, according to the historic plaque mounted on the side of the residence. The 135 West 2nd Street residence is a two-story, wood-framed building with a hip roof system with rafters. The 139 West 2nd Street residence is a one-story, wood-framed building with a hip roof system with rafters. The foundation for both residences is conventional footing with concrete basement wall and a partial slab-on-grade. This residence has had additions built onto it over the years. The neighborhood is located on shallow bedrock. The 139 West 2nd Street residence was unoccupied during RESPEC's inspection. The project site is illustrated in Figure ES-1.

RESPEC visually inspected the structural condition of the residence. No finishes were removed as part of the inspection. RESPEC assumes that Dixon Street runs north to south and is located on the west side of the residences.

4.2 OBSERVATIONS/PHOTOGRAPHS

RESPEC's observations and photographs of the site are illustrated in Figures 4-1 through 4-36.

EXTERIOR

Figure 4-1. North Side of the Building.

Figure 4-2. Exposed, Rotting Wood on the Eave.

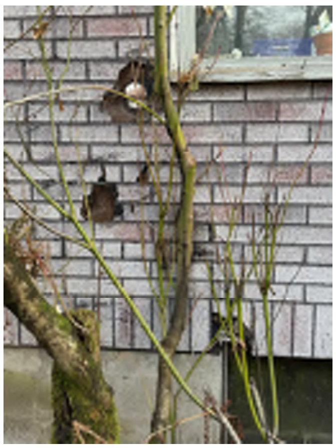

Figure 4-3. Holes in the Siding.

Figure 4-4. Siding Replaced With Roof Shingles and Spray Foam.

Figure 4-5. East Side of the Building.

Figure 4-6. Deteriorated Siding and Windowsills.

Figure 4-7. South Side of Building.

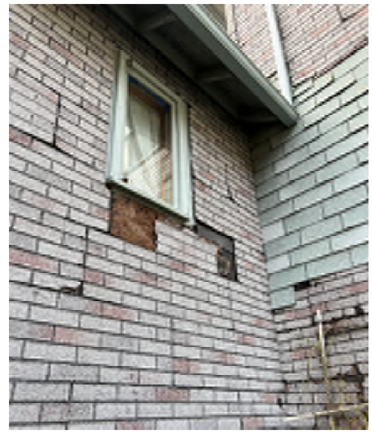

Figure 4-8. Deteriorated/Missing Siding.

Figure 4-9. West Side of Building.

Figure 4-10. Large Hole Where Pipe Exits the Basement and Cracking Between the Different Concrete Pours Under Window.

Figure 4-11. Tarp Covering the East Roof. There are known leak issues at the interface of the lower roof and wall.

Figure 4-12. Tarp Covering the West Roof.

INTERIOR ATTIC

Figure 4-13. Cut Rafter Member and Extensive Water Damage From Past Events.

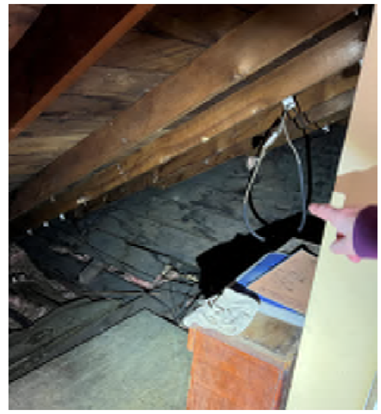

Figure 4-14. New Roof Framed Over the Original Roof. Water damage in the insulation and original roof boards.

INTERIOR SECOND FLOOR OF 135 WEST 2ND STREET

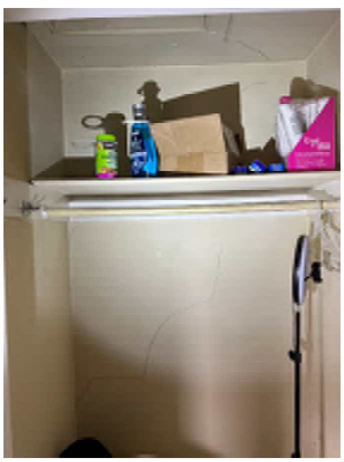

Figure 4-15. Crack Going up the Wall Onto the Ceiling.

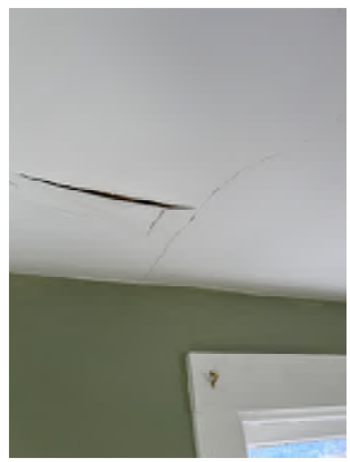

Figure 4-16. Cracked Sheetrock and Peeling Paint on the Ceiling.

Figure 4-17. Deteriorating Windowsill.

Figure 4-18. Steps Leading to the Second Floor Are in Poor Shape.

INTERIOR FIRST FLOOR OF 135 WEST 2ND STREET

Figure 4-19. Peeled Paint With Signs of Water Damage on the Ceiling and Cracking in the Trim and Wallboards.

Figure 4-20. Rotting Window Frame.

Figure 4-21. Sagging Ceiling and Signs of Water Damage in the East Entryway.

Figure 4-22. Rotting Storm Window and Window Frame.

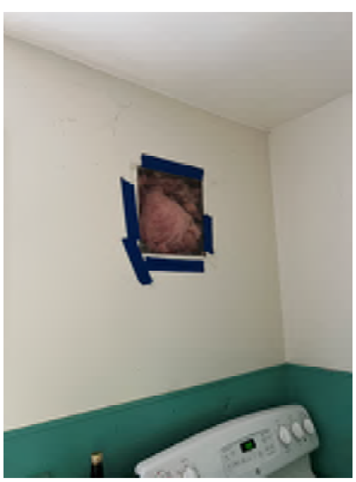

Figure 4-23. Hole in the Wall Exposing Insulation.

Figure 4-24. Cracked and Bubbled Paint likely from Water Infiltration.

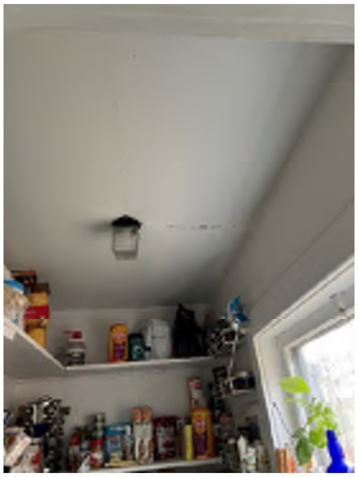

Figure 4-25. Sheetrock Cracks at Panel Edges.

Figure 4-26. Staining on Ceiling.

INTERIOR FIRST FLOOR OF 139 WEST 2ND STREET

Figure 4-27. Main Room.

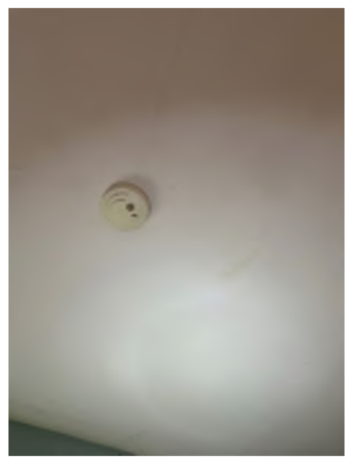

Figure 4-28. Sheetrock Cracks on the Ceiling.

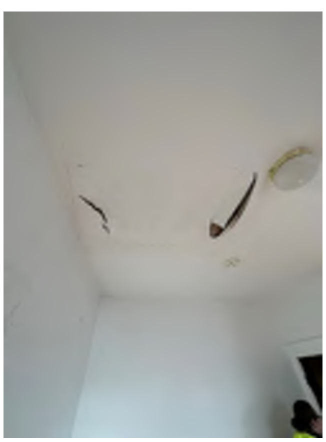

Figure 4-29. Peeled Paint and Cracked Sheetrock on the Ceiling from Water Damage.

Figure 4-30. Cracking on the Ceilings and Walls and Signs of Water Damage.

INTERIOR BASEMENT

Figure 4-31. Deteriorated Ceiling.

Figure 4-32. Rotting Floorboards.

Figure 4-33. Trench Around the Perimeter for Water Flow.

Figure 4-34. Nonstandard Beam Support.

Figure 4-35. Column Sitting Directly on the Foundation With No Positive Connection to the Concrete or to the Beam.

Figure 4-36. Drain Leads Directly Under the Foundation, Potentially Undermining the Foundation.

4.3 DISCUSSION/CONCLUSION

This building is in poor condition. The roof is covered in moss and has a tarp on the east and west low roofs in an attempt to prevent water leaks. The siding has deteriorated and is missing in some locations. The exterior windowsills are deteriorating and rotten. The windows and window frames are in rough condition; many of them have blue tape around the interior to prevent drafts in the winter. In the interior, many finishes are stained, bubbled, or peeling from leaks and water damage at different times. It is unknown if the leaks have caused mold to grow in the wall cavities or rot to the structural members, without removing finishes to inspect. The rafters in the attic spaces show signs of water damage, and in some locations, the rafter members had been cut, which increases the loads to the surrounding members. The rafter members are under designed for current snow loads and likely the only reason they have not collapsed is because the heat from the building melts the snow during the winter, so it never builds up.

The concrete basement walls appear to be in decent condition for their age. However, buildings constructed in the late 1800s do not have the same standards for code minimums that we do today. Reinforcement is unlikely; if it does exist in the walls or slab, it most likely does not meet current minimum standards.

The lateral resisting system is inadequate. The columns observed in the basement sit directly on the slab/pilasters without connection to the concrete. The top of the columns may or may not be toe-nailed to the beam it supports. In a seismic event, posts can shift from under the beam they are supporting without positive connections. While the building has stood since 1882, its shear walls would not meet current seismic demands. In general, the lateral load path is lacking proper seismic detailing, including connections, between the roof and floor diaphragms to the shear walls and the foundation. Multiple additions over the years could have unforeseen seismic defects.

Although the structure would not meet the requirements of the current codes, the International Existing Building Code contains provisions for existing and historic buildings. If the finishes were removed, a more thorough inspection could be performed of the structural members, especially with the many observed signs of water damage. The building could be analyzed for current standards and a framing and seismic retrofit could be performed. Rotten and missing members could be replaced, mold could be remediated, and deteriorated finishes could be replaced. At a minimum, the home will need to be remodeled and retrofitted. Unless the building is registered as a historic building, it is likely not economically feasible for the CBJ to own or rent the property.

5.0 214 DIXON STREET, JUNEAU, ALASKA

Residence Inspected:	214 Dixon Street
Date of Inspection:	November 1, 2023
Inspectors:	Janice Wells, PE, and Tobias Bjerklie, EIT

5.1 GENERAL INFORMATION

Located on Telephone Hill in downtown Juneau, Alaska, the building at 214 Dixon Street was built in 1913, according to the City and Borough of Juneau (CBJ) Assessor's Database. The residence is three-stories with concrete basement walls, wood-framing above, and a gable roof system with roof rafters / site built trusses. The building appears to have a conventional footing with a slab-on-grade. The neighborhood is located on shallow bedrock. The project site is illustrated in Figure ES-1.

RESPEC visually inspected the structural condition of the residence. No finishes were removed as part of the inspection. RESPEC assumes that Dixon Street runs north to south and is located on the east side of the residence.

5.2 OBSERVATIONS/PHOTOGRAPHS

RESPEC's observations and photographs of the site are illustrated in Figures 5-1 through 5-32.

EXTERIOR

Figure 5-1. East Side of the Building.

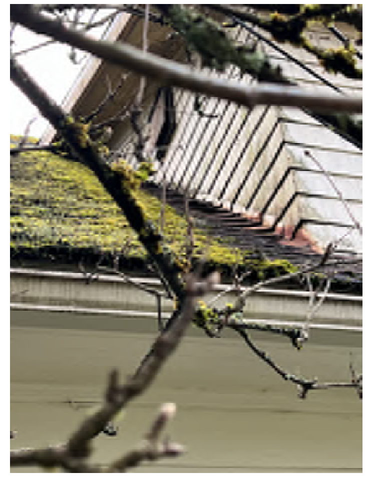

Figure 5-2. Moss on the Roof and Deteriorating Shingles and Siding.

Figure 5-3. Cracking in the Concrete Wall. The tank is not seismically anchored and the framing is rotten.

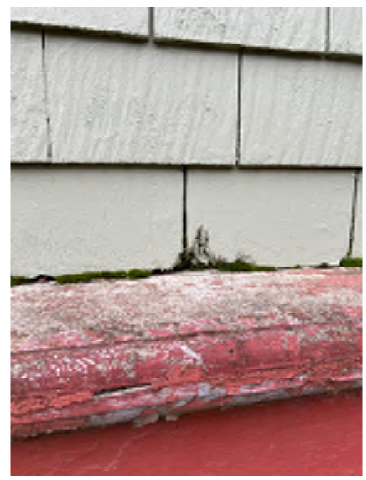

Figure 5-4. Deteriorated Siding With Moss Growing in the Gaps.

Figure 5-5. Southeast Corner of the Building.

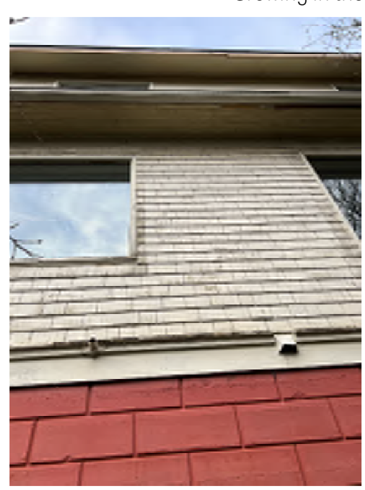

Figure 5-6. Deteriorating Siding and Eave.

Figure 5-7. Northwest Side of the Building.

Figure 5-8. Undermined Walkway on the West Side of the Building.

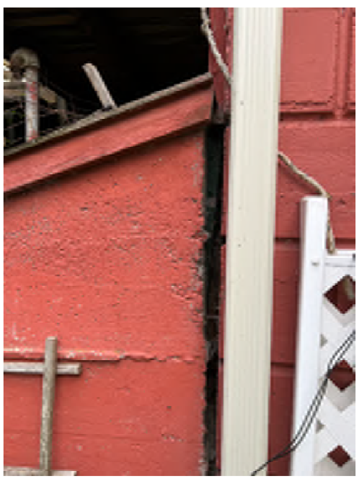

Figure 5-9. Concrete Fuel Tank Storage Detached From the Concrete Basement Wall.

Figure 5-10. Rotted Deck and Stairs. Deck posts are not anchored and have no positive connection to joists.

Figure 5-11. Column is Sitting on a Rock.

Figure 5-12. Rotten Beam Support and Deck.

Figure 5-13. North Side of the Building. No Shear Wall / Lateral System on Front on Garage.

Figure 5-14. Moss on the Roof and Peeling Paint on the Eave.

Figure 5-15. South Side of Garage. Moss on the roof.

Figure 5-16. West Side of Garage. Paint on the siding has significantly deteriorated.

Figure 5-17. Gutter Drainage Splashed on the Garage and Caused Significant Moss to Grow and the Plywood to Rot.

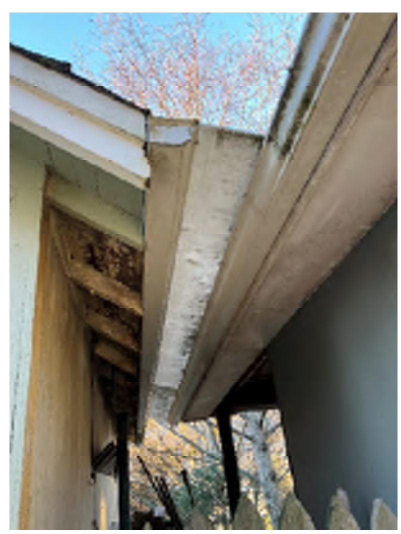

Figure 5-18. Deterioration Under the Eave.

INTERIOR ATTIC

Figure 5-19. Indications of Water Damage on the Roof Rafters.

Figure 5-20. Deteriorating Chimney.

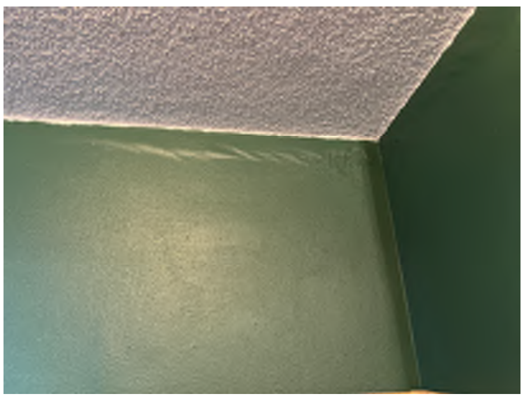

Figure 5-21. Bubbled Paint.

Figure 5-22. Cracked Ceiling Drywall.

Figure 5-23. Deteriorating Windowsill.

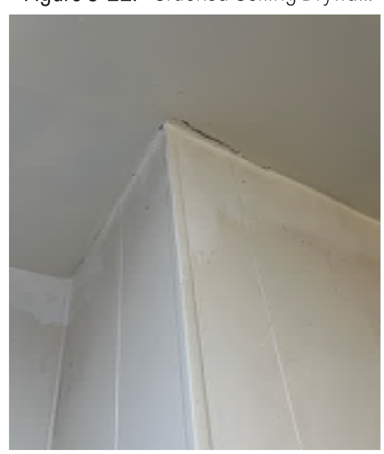

Figure 5-24. Continuous Ceiling Crack Around a Corner.

INTERIOR FIRST FLOOR

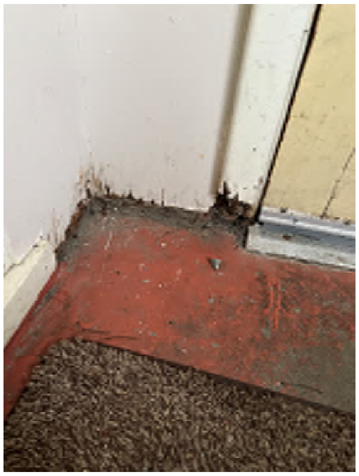

Figure 5-25. Rotting Wood Next to the Entryway Door.

Figure 5-26. Indications of Water Damage on Windowsill.

Figure 5-27. Water Damage Around Light Wiring Cover.

Figure 5-28. Cracks in the Ceiling Above the Dropped Ceiling in the Kitchen.

INTERIOR BASEMENT

Figure 5-29. Shimmed Column With No Positive Connection to the Beam.

Figure 5-30. Significant Corrosion on the Boiler.

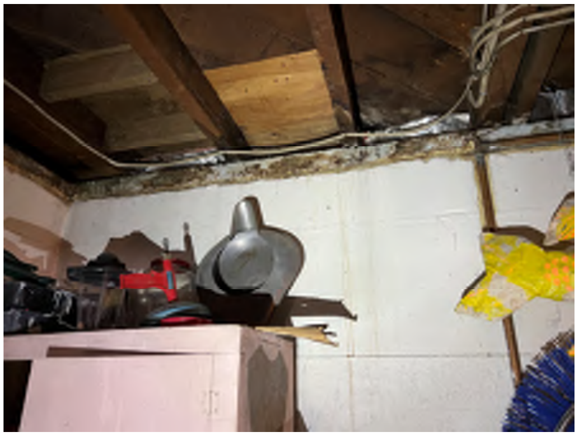

Figure 5-31. Water-Damaged Insulation and Water Marks Running Down the Concrete Basement Wall.

Figure 5-32. Large Crack on the Interior of the Concrete Basement Wall.

5.3 DISCUSSION/CONCLUSION

This building has some deterioration. The roof is covered in moss except for the recently replaced peak. The siding has moss growing in some of the gaps. The deck and stairs at the northeast corner of the building are rotten and have become dangerous. The columns supporting the stair and deck framing do not have positive connections at the base or to the beam its supporting. The exterior of the concrete basement walls have cracking spanning significant lengths. The roof members have watermarks, most likely from past water infiltration before the roof peak was replaced. The roof rafters / site built trusses are under designed for current snow loads and likely the only reason they have not collapsed is because the heat from the building melts the snow during the winter, so it never builds up. Cracked drywall and signs of water damage exist throughout the building. A particular area of concern is the watermarks on the ceiling around many of the light fixtures. If the light fixtures consistently experience water infiltration, the wiring may corrode and create a fire hazard.

The interior of the concrete basement wall has significant cracking in a few locations, and watermarks indicate previous water infiltration. Buildings constructed in the early 1900s do not have the same standards for code minimums that we do today. Reinforcement in the concrete walls or slab is unlikely; if it does exist, it most likely does not meet current minimum standards.

The lateral force resisting system is inadequate. The observed columns are sitting directly on the slab/rock without connection to the concrete. The top of the columns may or may not be toe-nailed to the beam it is supporting. In a seismic event, posts can shift from under the beam they are supporting without positive connections. While the building has stood since 1913, its shear walls would not meet current seismic demands. In general, the lateral load path is lacking proper seismic detailing, including connections, between the roof and floor diaphragms to the shear walls and the foundation.

Although the structure would not meet the requirements of the current codes, the International Existing Building Code contains provisions for existing and historic buildings. If the finishes are removed, a more thorough inspection could be performed of the structural members. The building could be analyzed for current standards and a framing and seismic retrofit could be performed. Rotten members could be replaced, foundation cracks could be patched, and deteriorated finishes could be replaced. At a minimum, the exterior wood stairs should be demolished and rebuilt to prevent an injury, and the home needs to be retrofitted. Unless the building is saved as a historic building, it is likely not economically feasible for CBJ to own or rent the property.

6.0 211 DIXON STREET, JUNEAU, ALASKA

Residence Inspected:	211 Dixon Street
Date of Inspection:	November 2, 2023
Inspectors:	Janice Wells, PE, and Tobias Bjerklie, EIT

6.1 GENERAL INFORMATION

Located on Telephone Hill in downtown Juneau, Alaska, the building at 211 Dixon Street was built in 1917, according to the City and Borough of Juneau (CBJ) Assessor's Database. The residence is three-stories with partial height concrete basement walls, wood-framing above, and a gable roof with rafters. The building appears to have a conventional footing with a slab-on-grade on part of the basement and unfinished floor on the other part. The neighborhood is located on shallow bedrock. The project site is illustrated in Figure ES-1.

RESPEC visually inspected the structural condition of the residence. No finishes were removed as part of the inspection. RESPEC assumes that Dixon Street runs north to south and is located on the west side of the residence.

6.2 OBSERVATIONS/PHOTOGRAPHS

RESPEC's observations and photographs of the site are illustrated in Figures 6-1 through 6-27.

EXTERIOR

Figure 6-1. West Side of the Building.

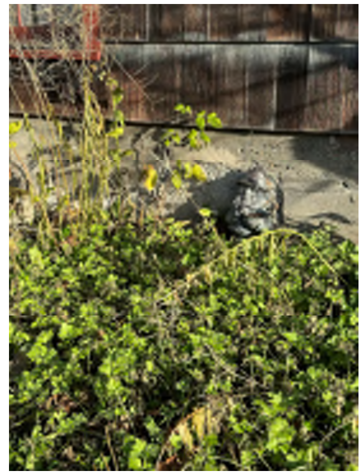

Figure 6-2. Cracking in the Concrete Foundation.

Figure 6-3. Damaged Concrete Post.

Figure 6-4. Large Gap Between the Door and Doorframe.

Figure 6-5. North Side of the Building.

Figure 6-6. Cracking in the Concrete Foundation at the Northeast Corner of the Building.

Figure 6-7. East Side of the Building.

Figure 6-8. Fuel Tank Is Not Seismically Anchored.

Figure 6-9. Deteriorating Window Sill.

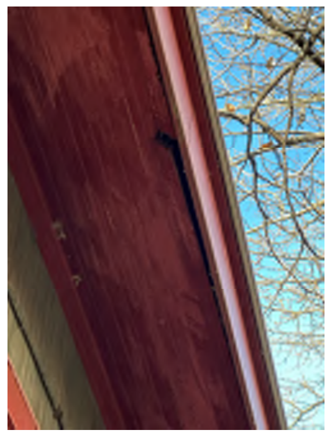

Figure 6-10. Damaged Eave.

Figure 6-11. Drainpipe Is Rusted.

Figure 6-12. South Side of the Building.

Figure 6-13. Gap in the Storm Window.

Figure 6-14. Crack in the Storm Window.

INTERIOR ATTIC

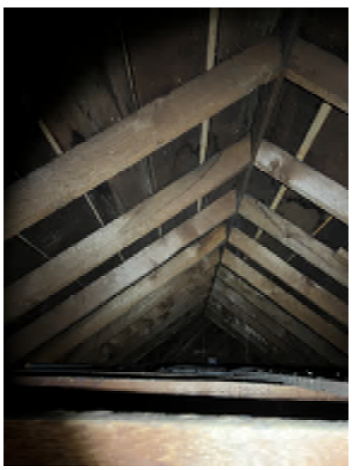

Figure 6-15. Signs of Old Water Damage. New roof sheathing exists above the old boards that appears to be in good condition.

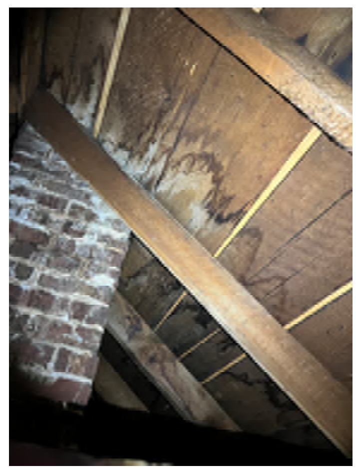

Figure 6-16. Significant Amount of Old Water Damage Around the Chimney.

INTERIOR SECOND FLOOR

Figure 6-17. Cracking and Peeling Paint on the Ceiling.

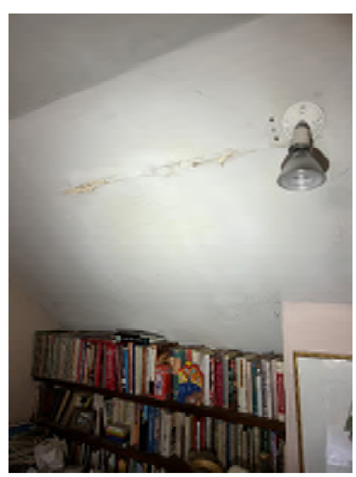

Figure 6-18. Cracking and Indications of Water Damage on the Ceiling.

Figure 6-19. Cracking and Water Damage Indications Above the Stairs.

INTERIOR FIRST FLOOR

Figure 6-20. Cracked Drywall and Drooping Ceiling.

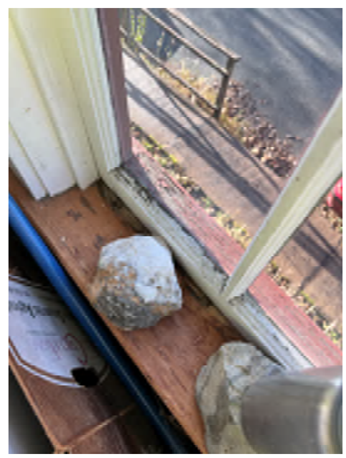

Figure 6-21. Indications of Water Damage on the Windowsill.

INTERIOR BASEMENT

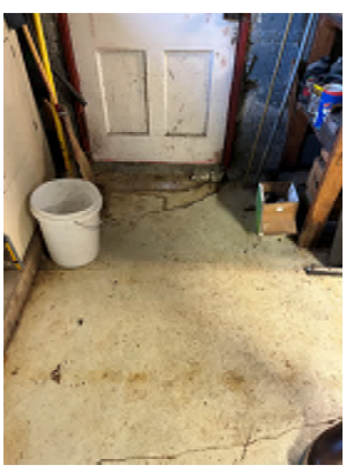

Figure 6-22. Cracked Slab-on-Grade at the North Basement Entrance.

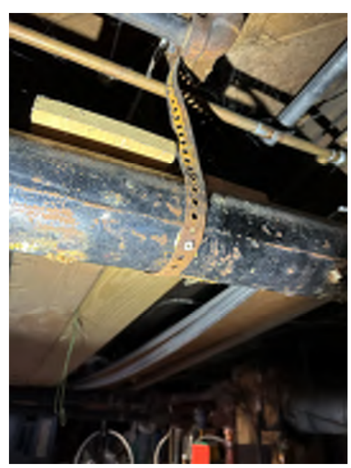

Figure 6-23. Rusted Strap.

Figure 6-24. Wood Post Supported Eccentrically by Stem Wall With a Chunk of Concrete Missing Directly Below the Post.

Figure 6-25. No Lateral Restraint/Connection From Beam to Column. The wood column is placed directly on top of the rock.

Figure 6-26. No Seismic Strapping on the Water Heater.

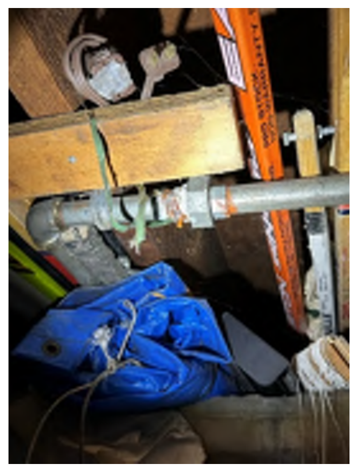

Figure 6-27. Pipe Leak Has Stained the Concrete Floor.

6.3 DISCUSSION/CONCLUSION

This building is in fair condition for its age. The siding has some moss. The roof was replaced recently, and watermarks on the roof rafters appear to be from old leaks and have since dried. There is cracked drywall throughout the building and signs of past water damage in some locations. The extent of the water damage and the effect on the structural elements is unknown with the finishes in place. In the basement, some of the pipes and support straps have rust. The perimeter concrete wall appears to be in good condition; however, the interior concrete walls have significant cracking and are missing chunks of concrete in some locations.

Buildings constructed in the early 1900s do not have the same standards for code minimums that we do today. Reinforcement in the concrete walls or slabs is unlikely; if it does exist, it most likely does not meet current minimum standards. No reinforcements were observed.

The lateral resisting system is inadequate. The columns observed sit directly on the concrete without connection. The top of the columns may or may not be toe-nailed to the beam it supports. In a seismic event, posts can shift from under the beam they are supporting without positive connections. While the building has stood since 1917, its shear walls would not meet current seismic demands. In general, the lateral load path is lacking proper seismic detailing, including connections, between the roof and floor diaphragms to the shear walls and the foundation.

Although the structure would not meet the requirements of the current codes, the International Existing Building Code contains provisions for existing and historic buildings. If the finishes were removed, the structural members could be inspected more thoroughly. The building could be analyzed for current standards, and a framing and seismic retrofit could be performed. Rotten members could be replaced, mold remediated, and deteriorated finishes replaced. At a minimum, the home will need to be remodeled and retrofitted. Unless the building is saved as a historic building, it is likely not economically feasible for CBJ to own or rent the property.

7.0 203 WEST 3RD STREET, JUNEAU, ALASKA

Residence Inspected:	203 West 3rd Street
Date of Inspection:	October 29, 2023
Inspectors:	Janice Wells, PE

7.1 GENERAL INFORMATION

Located on Telephone Hill in downtown Juneau, Alaska, the building on 203 West 3rd Street was built in 1947, according to the City and Borough of Juneau (CBJ) Assessor's Database. The residence is a four-stories with concrete basement walls, wood-framing above, and a hip and gable roof systemrafters. The building appears to have a conventional footing with a slab-on-grade. The neighborhood is located on shallow bedrock. The project site is illustrated in Figure ES-1.

RESPEC visually inspected the structural condition of the residence. No finishes were removed as part of the inspection. RESPEC assumes that Dixon Street runs north to south and is located on the east side of the residence.

7.2 OBSERVATIONS/PHOTOGRAPHS

RESPEC's observations and photographs of the site are illustrated in Figures 7-1 through 7-54. Note that Unit D was not inspected.

EXTERIOR

Figure 7-1. East Side of the Building.

Figure 7-2. There Is Some Deterioration to the Exterior, Including a Cracked Window and Spalled Concrete.

Figure 7-3. Moss on the Concrete Stairs.

Figure 7-4. Soft Wood at the Base of the Siding.

Figure 7-5. South Side of the Building.

Figure 7-6. Unprotected Plywood Sheathing by the Siding and Rust Around the Man Door.

Figure 7-7. A Rusted Tank That Is Not Seismically Secured.

Figure 7-8. Leaning Handrails.

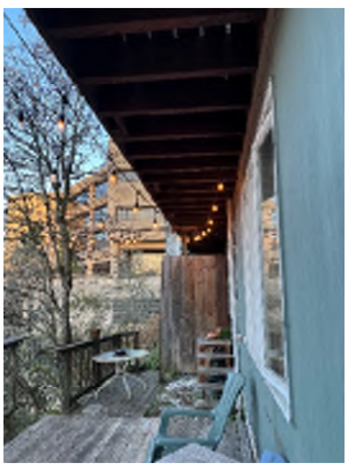

Figure 7-9. West Side of the Building.

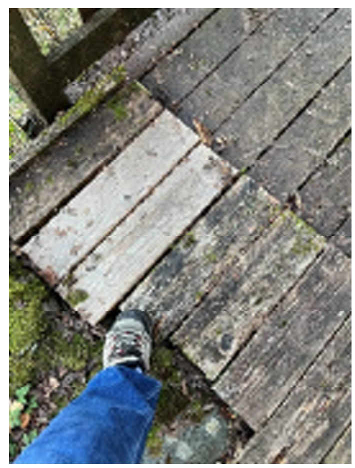

Figure 7-10. Rotten Boards on the Deck That Is a Hazard if Someone Steps Wrong and Falls Through.

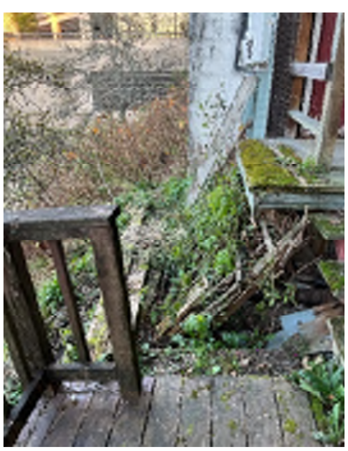

Figure 7-11. Moss on the Stair Landing and a Pile of Wood on the Ground.

Figure 7-12. A Broken Pipe Below the Pile of Wood That May Be a Sewer Pipe.

INTERIOR ATTIC

Figure 7-13. A Long Crack Up the Side of the Chimney.

Figure 7-14. Concrete Falling Off the Side of the Chimney.

Figure 7-15. Water-Stained Chimney With Visible Cracks.

Figure 7-16. A Basement Broken Window, Which Is Not Adequately Sealed, That Can Allow Water or Animals Inside.

Figure 7-17. North Side of the Building.

Figure 7-18. Missing Soffit Panels. The column is sitting on a concrete pile.

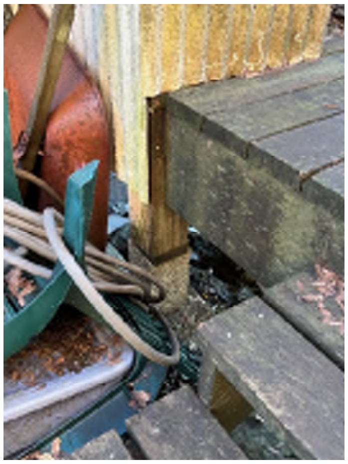

Figure 7-19. Moss Growing on the Deck. The column is shimmed and sitting on a concrete pile.

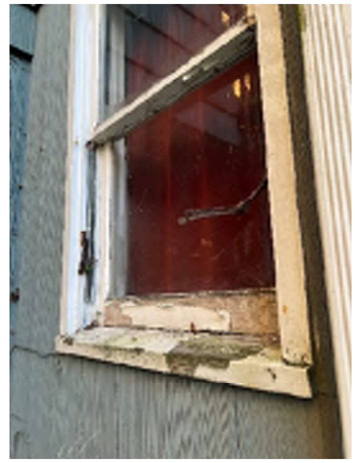

Figure 7-20. Rot at the Windowsill.

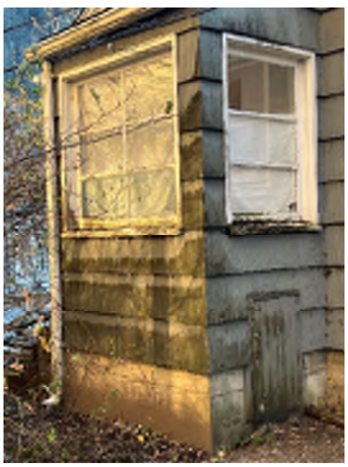

Figure 7-21. Moss on the Windowsills and Siding on Unit A's Back Entryway and Rot on the Windowsills.

Figure 7-22. Deteriorated and Rotted Portions of the Walkway Railings.

Figure 7-23. A Rotated Walkway Support Connector.

Figure 7-24. Deterioration to the Underside of the Eave.

Figure 7-25. Garage/Shed on the South Side of the Building. No Lateral System on Front.

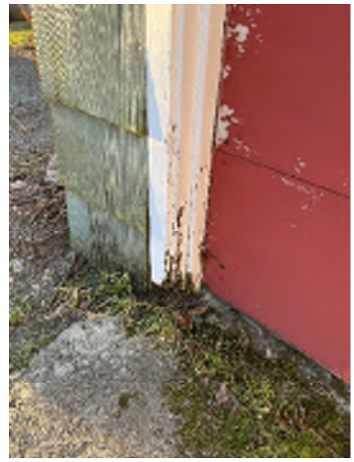

Figure 7-26. Rot Near the Ground.

Figure 7-27. West Side of the Garage Building.

Figure 7-28. Moss Growing on Main Column Supports That Are not Pressure Treated. These columns can rot quicker untreated.

UNIT A

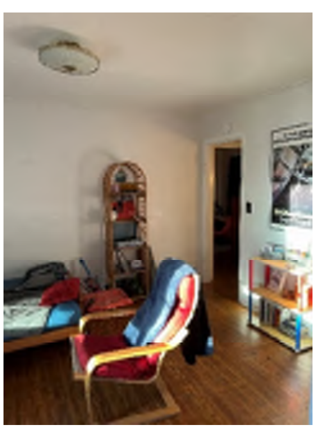

Figure 7-29. Small Cracks at the Sheetrock Panel Edges.

Figure 7-30. Moisture Damage and Rot in the Back Entryway.

UNIT B

Figure 7-31. An Upper-Level Sink Leaked.

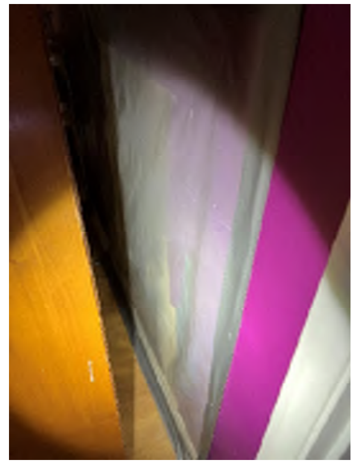

Figure 7-32. Back of the Wall That Was Opened to Repair the Leak and Covered With Vapor Barrier.

Figure 7-33. Damage to the Finishes Caused by the Sink Leak.

Figure 7-34. Mold Is Growing Under the Vapor Barrier. The Extent of Damage in the Wall Cavity Is Unknown.

Figure 7-35. Rot Under Some Windows.

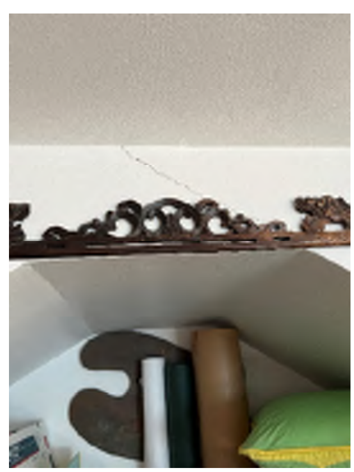

Figure 7-36. Sheetrock Cracks Through the Unit.

Figure 7-37. Paint Is Chipped, and the Sheetrock Fasteners Are Visible in Some Places.

Figure 7-38. Paper Came off the Insulation, and the Insulation Corners Are Falling in the Attic Space.

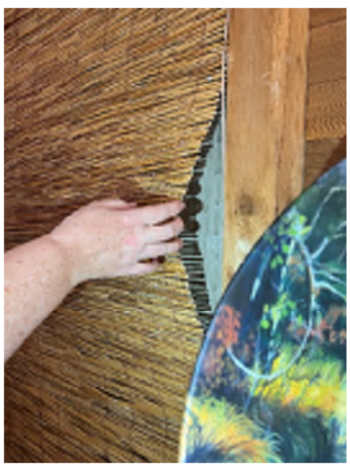

Figure 7-39. Tiles Were Found Behind the Old Fireplace Hearth. Approximately one-third of the tiles have fallen off the wall.

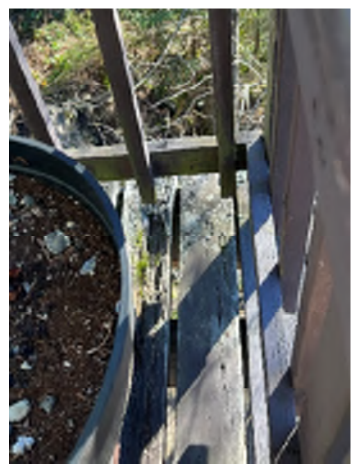

Figure 7-40. Rotten Boards on the corner of the Elevated Deck.

UNIT C

Figure 7-41. Finishes Appeared to Be in Good Condition.

Figure 7-42. The Window Frame Has Some Deterioration.

UNIT E

Figure 7-43. More Finishes Appeared to Be in Good Condition.

Figure 7-44. One Window No Longer Opens Properly.

BASEMENT

Figure 7-45. No Grout Columns Were Observed in the Visible Portion of the Masonry Wall. This wall is likely unreinforced.

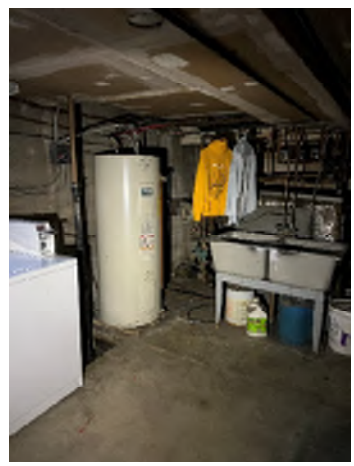

Figure 7-46. Water Heater Does Not Have Seismic Straps.

Figure 7-47. Multiple Signs of Water on the Basement Floor. There is a small trench for water around the perimeter.

CRAWL SPACE

Figure 7-48. One Column Is Sitting on the Bedrock With No Connections. There are shims at the top of the column.

Figure 7-49. A Large Shim at the Top of the Column.

Figure 7-50. The Column Is on a Concrete Block That Is Not Sitting Fully on the Concrete Below.

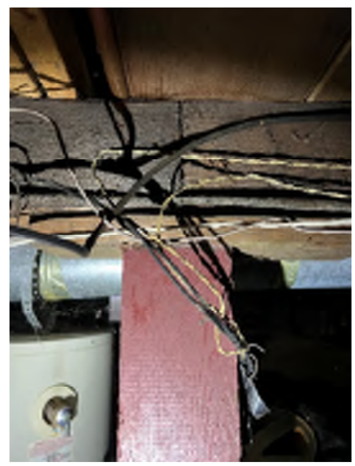

Figure 7-51. The Top of the Column Has a Shim. Even if toe-nails were present, it may not reach the beam its supporting.

Figure 7-52. The Tank Is Not Seismically Secured.

Figure 7-53. The Tank Is Not Seismically Secured.

RESPEC

7.3 DISCUSSION/CONCLUSION

This building appears to be in fair condition for its age. The exterior has significant moss, and the back deck is in poor condition. The railings and deck boards are rotten and pose a hazard for occupants. The elevated deck has some rotten locations but can be more dangerous because it is on the second level. The chimney has many cracks and some locations where the concrete has broken off. The broken pipe in the back appears to be a sewer pipe, and its contents are draining down the hill.

The lateral resisting system is inadequate. The observed columns have shims above or below the post. If toe nails exist, they do not reach the beam. In a seismic event, posts can shift from under the beam they are supporting without positive connections. The concrete block wall in the basement likely does not contain reinforcement that meets current minimum standards. While the building has stood since 1947, its shear walls would not meet current seismic demands. In general, the lateral load path is lacking proper seismic detailing, including connections, between the roof and floor diaphragms to the shear walls and the foundation.

The heat loss of the building through the roof is likely melting the accumulated snow (referred to as a hot roof). If the roof insulation was increased to meet current standards, the roof would retain more snow, which could exceed the roof framing and connection capacity. If additional insulation is considered, the roof must be analyzed and retrofitted.

Although the structure would not meet the requirements of the current codes, the International Existing Building Code contains provisions for existing and historic buildings. If the finishes are removed, a more thorough inspection could be performed of the structural members. The building could be analyzed for current standards, a framing and seismic retrofit could be performed, and deteriorated finishes could be replaced. At a minimum, the exterior decks should be demolished and rebuilt to prevent an injury, and the home needs to be retrofitted. Unless the building is saved as a historic building, it is likely not economically feasible for CBJ to own or rent the property.