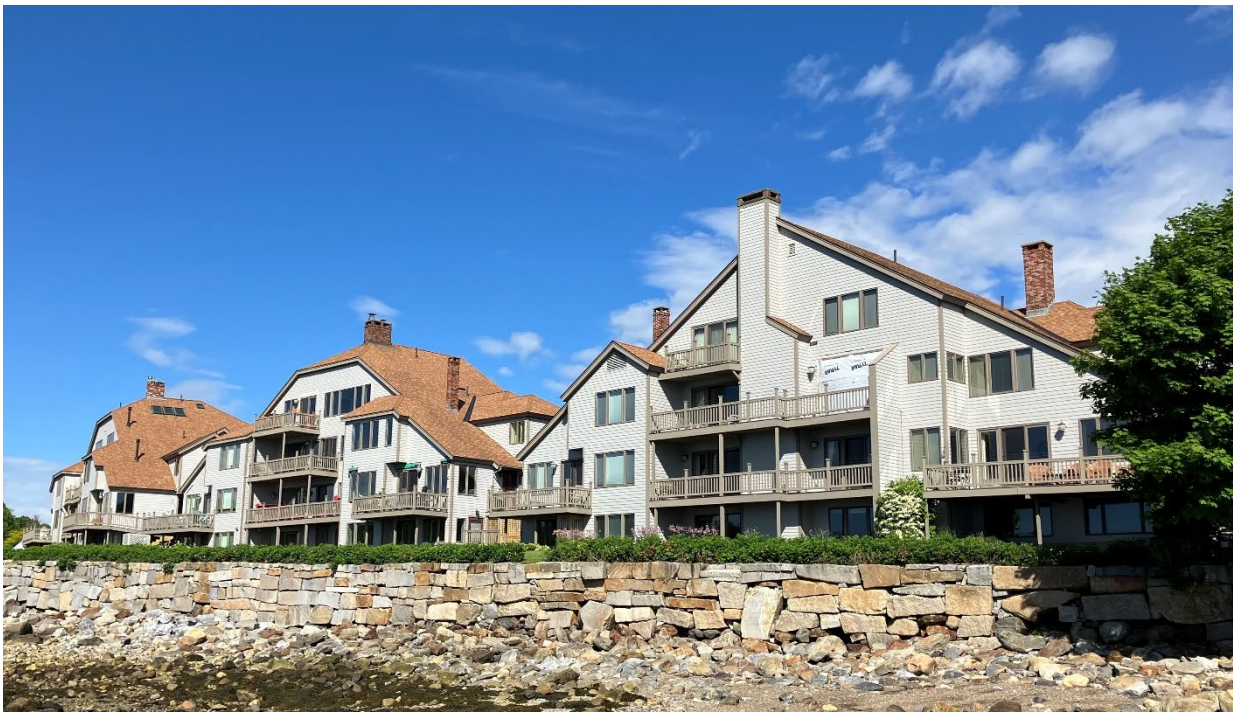
HARBOR HOUSE CAMDEN CONDOMINIUM ASSOCIATION
ELEVATED DECK EVALUATION REPORT
CAMDEN, MAINE

Prepared for
Harbor House Camden Condominium Association



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SCOPE OF WORK

Harbor House Camden Condominium Association ("Association") is concerned with the integrity of the seventeen (17) elevated decks and associated guardrails. The Association engaged Gartley & Dorsky Engineering & Surveying to perform a structural evaluation of the existing elevated decks and guardrails.

We conducted multiple site visits between September 24, 2025 and October 14, 2025 to observe the existing construction and apparent material condition for the 17 elevated decks and associated guardrails on the exterior of the three buildings that comprise the Harbor House complex on Ocean Way in Camden, Maine. Based on our observations and documentation, we evaluated the existing typical deck framing, deck ledger-to-building connections and guardrail post connections. We have also reviewed Maine Uniform Building and Energy Code (MUBEC) prescriptive deck and guardrail construction guidelines and the Town of Camden Zoning Ordinance as it pertains to deck expansion. We reviewed (verbally) non-structural flashing details with Broad Cove Builders who dismantled and reinstalled the deck on Unit 5 last year.

This written evaluation report includes observations, assessments and general recommendations for repair or replacement of the elevated decks and guardrails. The body of the report addresses overall deck and guardrail findings. A Deck Key Chart is presented in Appendix A (matching Deck Key Chart in original proposal). Detailed, unit-specific deck observations are included in Appendix B.

Decks and boardwalks on grade are not included in this scope of work.

ASSESSMENT

Based on our observations and analysis, the decks are in varying degrees of disrepair.

The following decks and/or deck elements are *unsafe*:

- **Unit 6 deck**
- **Unit 7 decks (2 levels)**
- **Guardrails (all units)**

Unsafe decks shall not be occupied. Unsafe guardrails shall not be relied upon for fall protection.

Despite not being deemed unsafe at this time, significant and pervasive deck deficiencies exist, including:

- Deficient connection of the decks to the building structures
- Deficient uplift connections, particularly at multistory decks
- Deficient post capacity, particularly at multistory decks

Additionally, localized deficiencies exist, including, but not limited to: undersized beams, corroded fasteners, corroded connectors, spliced members, notched members, out-of-plumb elements, split members, offset support conditions and poor connections.

Refer to Appendix B – Deck Observations by Unit for additional detail.

RECOMMENDATIONS

IMMEDIATE

Unit 6 and 7 decks shall be immediately removed and deck entrances secured.

NEAR-TERM

We recommend complete replacement of all guardrails and most decks.

Multistory decks pose the highest risk and include some of the most egregious deficiencies. We recommend complete replacement of all multistory decks. If all multistory decks cannot be replaced promptly and/or at the same time, we recommend prioritizing as follows:

1. Building B, Unit 6 and 7 decks (B6-1E, B7-2E, B7-3E)
2. Building A, Unit 2 and 3 decks (A2-1E, A3-2E, A3-3E)
3. Building C, Unit 10, 11, 12 and 13 decks (C10-1E, C11-2E, C12-1E, C13-2E)

We also recommend complete replacement of single-story decks, except those sections that are less than 10 years old (unless desired for consistency). We recommend prioritizing single-story decks as follows:

4. Building C, Unit 14 (C14-1E/S)
5. Building A, Unit 1 (A1-1E)
6. Building A, Unit 4 (A4-1E); Building B, Unit 5 and 8 (B5-1E, B5-1N, B8-1E/S); and Building C, Unit 9 (C9-1E/N)

Note: It may be feasible to repair and upgrade some (or all) of the single-story decks in place. However, complete replacement of single-story decks is recommended for the following reasons:

- Deficiencies to remain: Some deficiencies will likely remain despite engineer and contractor efforts to expose and repair as many deficiencies as possible. Existing flashing details at the deck-to-wall interface will be challenging, if not impossible, to upgrade without removing the decks.
- Guardrail detailing: Since the framing and construction varies among the decks, it may be challenging to coordinate a uniform guardrail post attachment detail that works with the new construction and varying existing conditions to remain.
- Future replacement: If the decks are repaired and upgraded rather than replaced, they may have dissimilar aged elements which may result in early replacement of certain elements in the future.

REPLACEMENT DECK DESIGN CONSIDERATIONS

CODE COMPLIANT CONSTRUCTION

Maine Uniform Building and Energy Code (MUBEC) is in effect statewide and applies in Camden, Maine. MUBEC references the International Existing Building Code (IEBC 2021) and the International Building Code (IBC 2021) which apply to the decks and any modification or reconstruction of the decks. MUBEC represents the minimum standard for compliant construction. All existing decks are deficient in some way compared to MUBEC.

Replacement decks shall comply with MUBEC. Although the Harbor House decks can generally be replaced in the same style, configuration, etc., compliance will require modification to some components of the decks. A summary of primary elements and anticipated modifications that may be required to achieve code compliance is presented below.

Element	Anticipated Alteration
Guardrail	Guardrails require compliant anchorage and spacing (4" maximum gap). Better anchorage will likely require additional guardrail posts and different post attachments to provide sufficient lateral stability. If cables are used in the railing, they shall be spaced closer together and properly maintained to ensure that when stretched apart, the gap between the cables and/or cables and top rail is not greater than 4".
Decking	Decking orientation may change for some decks in Building A. Decking may be salvaged and re-used or replaced in-kind.
Joists	Joist orientations may change for some decks in Building A. Joist sizes and spacings are anticipated to be similar (2x6 or 2x8 at 16" on-center).
Beams	Beam sizes may increase in some locations. Some flush beams may change to dropped beams. Some new beams may be introduced where joist orientations change.
Ledgers	Ledgers will likely be attached directly to the building structure (no gap); some ledgers may be doubled. Flashing at the deck to building interface and at deck patio doors shall be improved. Flashing upgrades will likely require removal of some exterior finishes (e.g., shingles, trim).
Posts	Post sizes may increase, particularly on the lower levels of multistory decks. Some additional posts may be added.
Piers/Footings	Piers and footings shall be investigated to verify existing conditions. Existing piers with no footings may be acceptable for single-story decks but will likely require replacement if they support multistory decks.
Lateral deck ties	Lateral deck ties will be required. Installation of deck ties may require removal of interior finishes in some units although it is hoped this may be avoided.
Framing connectors	New connectors, including hangers, post caps, post bases, angles, straps, etc., will be stainless steel.
Mechanical fasteners	New fasteners will be stainless steel.

ARCHITECTURAL MODIFICATIONS

Additional, code compliant, voluntary modifications may also be permitted. Trim, ceiling, finishes, guardrail aesthetics, and other non-structural elements may be modified per architect recommendation and/or Association request.

DECK EXPANSION

Expansion may be permitted where decks can be expanded without encroaching on the 25' setback from the normal high water line. Based on a preliminary review of the existing conditions and the current Town of Camden Zoning Ordinance, we anticipate expansion options/limitations to be as follows:

Deck No.	**Anticipated expansion potential**
A1-1E	Expansion north and south may be permitted; no east expansion permitted
A2-1E	No expansion permitted
A3-2E	No expansion permitted
A3-3E	Expansion up to the extent of the footprint of the larger Unit 3 deck below (A3-2E) may be permitted
A4-1E	Expansion south may be permitted; no expansion north or east
B5-1N	Expansion north and east may be permitted
B5-1E	Expansion north and south (angled) may be permitted; no expansion east
B6-1E	Expansion east up to approximately the 25' setback from the normal high water line may be permitted
B7-2E	Expansion up to the extent of the footprint of the larger Unit 6 deck below (B6-1E) and potentially further east up to approximately the 25' setback from the normal high water line may be permitted
B7-3E	Expansion up to the extent of the footprint of the larger Unit 6 deck below (B6-1E) and potentially further east up to approximately the 25' setback from the normal high water line may be permitted
B8-1E/S	Expansion north, south and east, up to approximately the 25' setback from the normal high water line, may be permitted
C9-1E/N	Expansion north, south and east, up to approximately the 25' setback from the normal high water line, may be permitted
C10-1E	Expansion north, south and east, up to approximately the 25' setback from the normal high water line, may be permitted
C11-2E	Expansion north, south and east, up to approximately the 25' setback from the normal high water line, may be permitted
C12-1E	Expansion north, south and east, up to approximately the 25' setback from the normal high water line, may be permitted
C13-2E	Expansion north, south and east, up to approximately the 25' setback from the normal high water line, may be permitted
C14-1E/S	Expansion north, and south (angled) and east (angled), up to approximately the 25' setback from the normal high water line, may be permitted

The Town of Camden would make the final determination on permissibility of any proposed deck expansion, considering municipal and shoreland setback requirements, existing conditions, prior expansions, etc.

REPLACEMENT DECK DESIGN APPROACH

We recommend engaging a design team to develop construction documents for deck replacement. Gartley & Dorsky can provide structural engineering services for the replacement decks. We recommend engaging a qualified architect to develop specifications for non-structural components, including flashing, finishes, etc.

Deciding on any voluntary modifications (e.g., guardrail aesthetics) and/or deck expansions will be the first task on the critical path to deck replacement. Gartley & Dorsky is available to provide guidance on

the permissibility and practicality of any proposed expansion. A qualified architect can assist with guardrail aesthetics and other non-structural modifications, including expansion aesthetics.

The architect and engineer should be tasked to coordinate on the design as needed. The Association and unit owners should be prepared to review proposed designs and deliverables and make decisions in a timely manner until all unsafe conditions are remedied. Upgrade or replacement of decks and elements that are not deemed unsafe can take place over a longer period if necessary.

UNIT 6 & 7 REPLACEMENT DECK DESIGN TIMELINE

Given the unsafe conditions that exist, time is of the essence. We understand the intent is to replace Unit 6 and 7 decks, at a minimum, by May 2026. Accomplishing this will require an expedited schedule. A tentative proposed timeframe to permit successful reconstruction of Unit 6 and 7 decks by May 2026, while accommodating a competitive bid process, is below for reference:

Deliverable/Decision/Task (Unit 6 and 7 decks only)	**Proposed timeline**
Association to engage Architect and Structural Engineer	December 5, 2025
Association to confirm any desired/proposed expansion	December 19, 2025
Architect to develop a guardrail design (Engineer input included)	January 9, 2026
Architect/Engineer to generate 95% Construction Documents (CDs)	February 6, 2026
Association to review and approve 95% CDs	February 13, 2026
Architect/Engineer to issue CDs for competitive bidding	February 17, 2026
Architect/Engineer to apply for permits, as required	February 20, 2026
Contractor bids due	March 6, 2026
Association to award contract	March 27, 2026
Substantial completion	May 21, 2026

We recommend replacing prioritized decks and all guardrails as soon as feasible. The proposed timeline above is for reference only and addresses unsafe Unit 6 and 7 decks only. The timeframe can be adjusted to accommodate additional deck replacements and/or a phased approach. Note that competitively bidding numerous phases will add time and cost. Consideration of how to simplify the contracting process while allowing for phased construction may be worthwhile.

LIMITATIONS

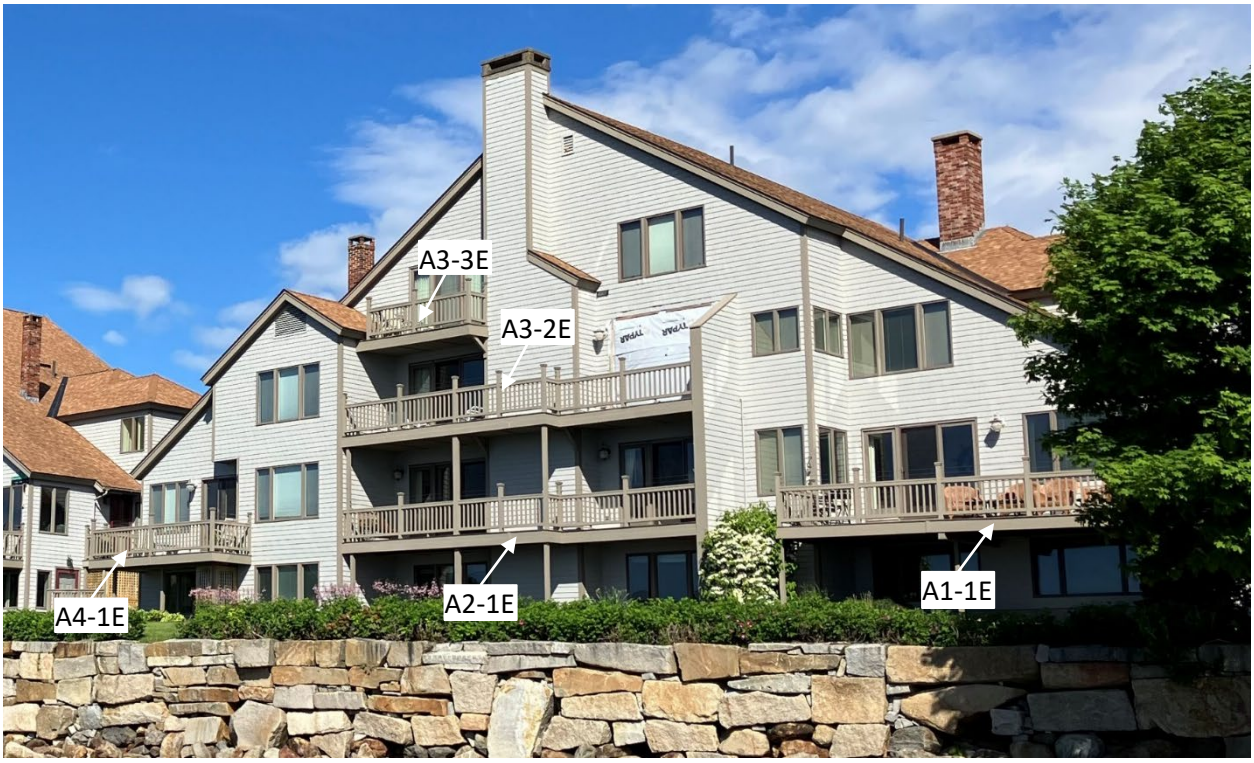
This evaluation aims to provide an understanding of the existing condition of the structural components of the decks at the time of our site visit. This report includes: (1) descriptions of the primary structural elements and construction (Appendix B); (2) assessments of the condition and adequacy of the primary structural elements and components; and (3) general recommendations for next steps. This report and all recommendations included herein are preliminary; this report is not to be construed as a construction document.

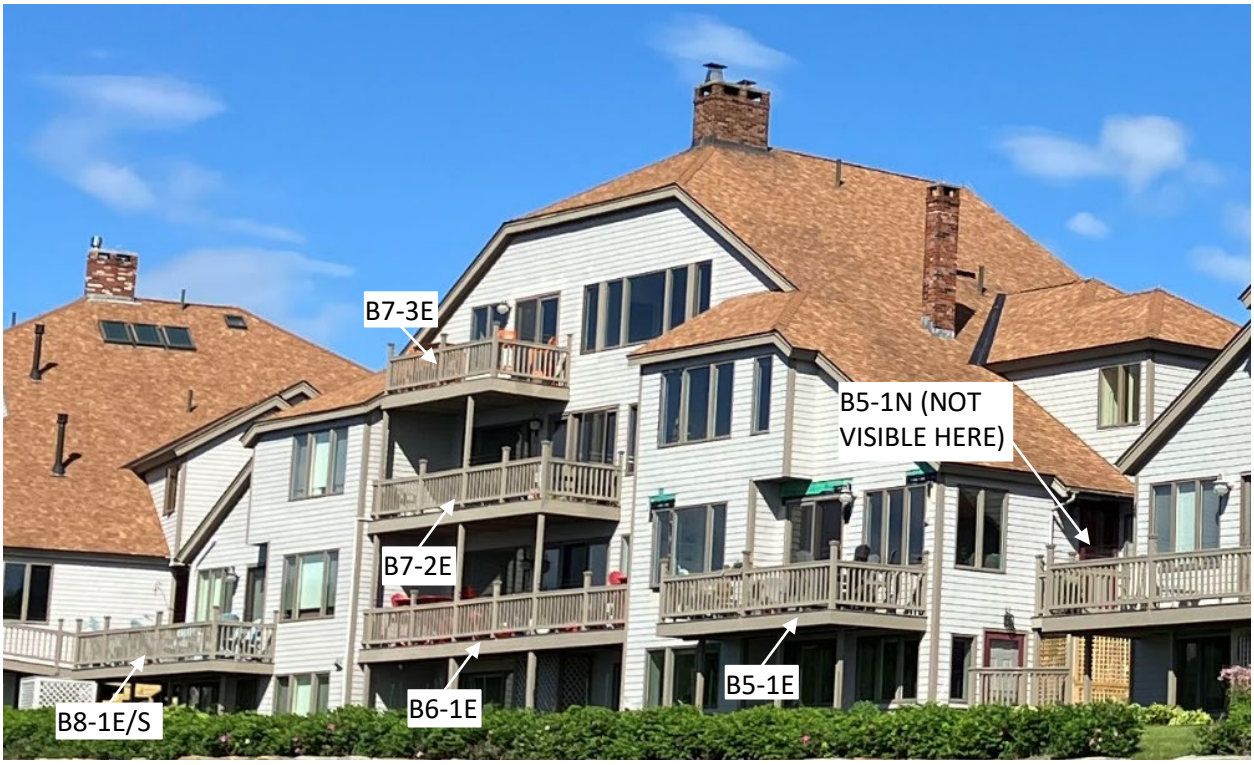
Note that observation of some elements was limited due to existing finishes (decking, ceilings, trim, etc.). The observations outlined in Appendix B are based on visual observation, with some assumptions based on anticipated repetitive construction techniques in similar or matching construction. Existing conditions may vary. Additional deficiencies are likely to exist.

APPENDIX A

Deck Key Chart

Harbor House Camden Condominium Association				
Deck Key Chart				
Deck No.	**Building**	**Unit**	**Level**	**Side**
A1-1E	A	1	1	East (E)
A2-1E	A	2	1	East (E)
A3-2E	A	3	2	East (E)
A3-3E	A	3	3	East (E)
A4-1E	A	4	1	East (E)
B5-1N	B	5	1	North (N)
B5-1E	B	5	1	East (E)
B6-1E	B	6	1	East (E)
B7-2E	B	7	2	East (E)
B7-3E	B	7	3	East (E)
B8-1E/S	B	8	1	East (E)/South (S)
C9-1E/N	C	9	1	East (E)/North (N)
C10-1E	C	10	1	East (E)
C11-2E	C	11	2	East (E)
C12-1E	C	12	1	East (E)
C13-2E	C	13	2	East (E)
C14-1E/S	C	14	1	East (E)/South (S)




B7-3E
B5-1N (NOT VISIBLE HERE)
B7-2E
B8-1E/S
B6-1E
B5-1E


C11-2E
C13-2E
C14-1E/S
C9-1E/N
C12-1E
C10-1E

APPENDIX B

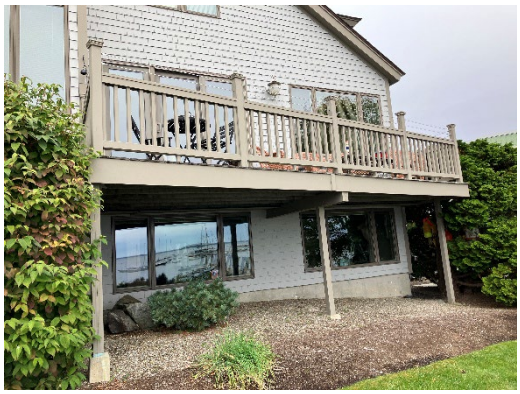
Deck Observations by Unit

A summary of key structural observations for each deck is presented below. For orientation, the waterside of the residences is considered east throughout this report. See Appendix A – Deck Key Chart for Deck Number.

Abbreviations:

PT = Preservative Treated
OC = On-center
CIP = Cast-in-place
SS = Stainless Steel

Deck No. A1-1E



Configuration

- Single level, first story, trapezoidal deck

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger at south end anchored to building wall with (2) approximately 3/8" diameter fasteners near the building corner; approximately 1" gap between ledger and building with PT spacer blocks around fasteners (limited observation)
- 2x8 PT joists spaced 16" OC spanning north-south with Simpson LUS28Z joist hangers at north and south ends, toe-nailed and gusseted at butt joint over center dropped beam
- (2) 2x8 PT east edge joists
- (3) 2x8 PT flush beam at south end; (3) 2x8 PT dropped beam at center; (2) 2x8 PT flush beam at north end
- (1) 4x4 PT post with Simpson ABA44Z post base and (2) Simpson A23Z post caps; (1) 4x4 PT post with Simpson ABA44Z post base and toe-screwed at top; (1) 4x4 PT post with no base and (2) toe-screws at top
- (1) newer 6" square precast concrete pier
- (1) approximately 6 ½" x 7 ½" CIP concrete pier
- (1) buried pier (size/shape unknown)
- Footings unknown (if any)

Typical Guardrail Construction

- 4x4 PT posts, notched to 2" width below deck and fastened to edge joist and north flush beam with (2) approximately ½" diameter thru bolts
- (1) 4x4 PT post set on flush south beam (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

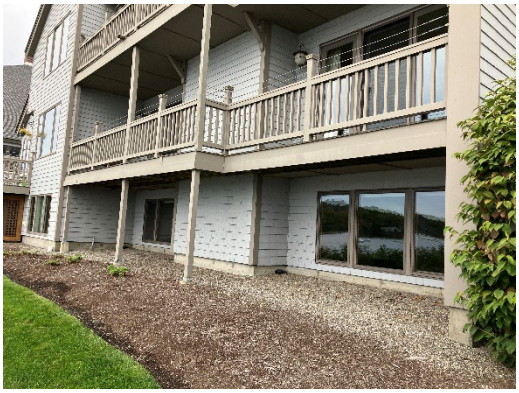
- South (3) 2x8 PT flush beam is not connected to building and has no support at west end; all load must transfer through fasteners to extended end of 2x8 ledger board then transfer through (2) 3/8" diameter fasteners at building corner.
- South 2x8 ledger board does not bear on south corner post; all load must transfer through fasteners to (3) 2x8 which partially bears on post at east end.
- Center (3) 2x8 PT beam is rotated slightly
- North (2) 2x8 PT flush beam is not connected to building and has no support at west end; all load must transfer through end nails into the west edge joist
- South 2x8 ledger/edge beam is cracked along length; ledger has holes from prior anchors which were removed and the holes filled with spray foam
- Posts are offset from pier center points
- Ceiling inhibits observation of condition along west edge of deck at building; debris and moisture are likely trapped where joists run north-south
- PT wood is stained and weathered but not degraded
- North 4x4 PT post is slightly buried at base
- Southeast rail post sits on wood framing (no extension below decking)

- (2) notched guardrail posts are split with some wood missing at thru bolts (inadequate edge and edge distances); prior 1x3 repair is inadequate
- Guardrail is degraded and cables are loose (non-compliant, >4” spacing)
- Guardrail is wobbly
- Decking is weathered

Additional Notes

- An unused concrete pier and a combination of painted and unpainted members suggest prior repair and/or alteration. It is anticipated that the deck was expanded from rectangular to its current trapezoidal shape. The trapezoidal shape was likely driven by the angle of the shoreline and the 25’ setback from the normal high water line.

Deck No. A2-1E



Configuration

- First story, rectangular deck extending full width of the building alcove with 2 decks above (A3-2E and A3-3E); north bay is inset approximately 1'-10" (narrower)

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with (1) approximately 3/8" diameter fastener spaced 16" OC; approximately 1" gap between ledger and building with PT spacers
- 2x8 PT joists spaced 16" OC spanning north-south with Simpson LUS28Z joist hangers at both ends
- Combination of (2) 2x8 PT and (3) 2x8 PT flush beams at north and south sides of chimney; beams are ledgered to chimney north and south walls then extend out to posts at the east edge of the deck
- (2) 4x4 PT posts with Simpson AB44Z post bases and (2) Simpson A23Z post caps; 4x6 PT post with Simpson post base and (2) Simpson A23Z post caps
- (3) approximately 6" square precast concrete piers
- Footings unknown (if any)

Typical Guardrail Construction

- (3) 4x4 PT posts, continuous to deck above (3A-2E)
- 4x4 PT posts, anchored to flush framing by vertical threaded ¾" diameter rod into post end grain
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

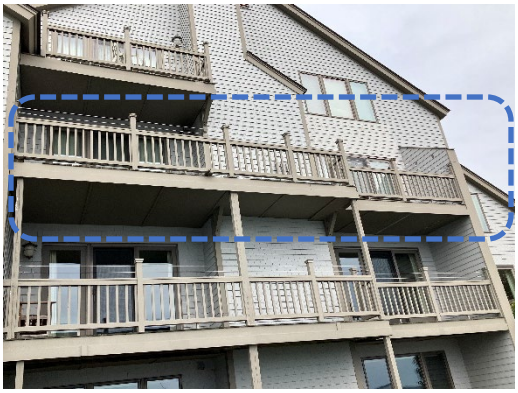
Observable Deficiencies

- South end of south joists are minorly split along their length
- Poor quality PT material used
- No straps are visible connecting lower level posts to deck posts above
- Posts are offset from pier center points
- Ceiling inhibits observation of condition along west edge of deck at building; debris and moisture are likely trapped where joists run north-south
- Multiple joists are rotated and/or not straight/true
- Plies of (2) 2x8 PT edge beam are not fastened together
- Built-up east-west spanning beams each side of chimney lack proper connections at ends, and potentially between elements
- Nails attaching edge joist in center bay to building are too short to penetrate structure; 1 spacer block missing (or fell out)
- Spacer block at north ledger is loose
- Nuts and washers on guardrail threaded rod are loose in at least (1) location
- Guardrail is degraded and cables are loose (non-compliant, >4" spacing)
- 4x6 PT post to deck above is bowed
- (1) 4x4 PT post is out of plumb 1/8" per 4'

Additional Notes

- A combination of painted and unpainted members suggests prior repair and/or alteration which is corroborated by the historic exterior photo in the Camden Herald article (Appendix C). It is anticipated that the deck was expanded from two decks, one each side of the chimney, to one contiguous deck. The original decks are anticipated to have been the depth (east-west) of the narrower north section which appears to also match the depth of deck A3-3E (two stories above).

Deck No. A3-2E



Configuration

- Second story, rectangular deck extending full width of the building alcove with 1 deck above (A3-3E); north bay is inset approximately 1'-10" (narrower)

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with (1) approximately 3/8" diameter fastener spaced 16" OC (or equal); approximately 1" gap between ledger and building with PT spacers
- 2x8 PT joists spaced 16" OC spanning north-south with Simpson LUS28Z joist hangers at both ends; joists in the center bay (east of chimney) are sistered with an additional 2x4
- Combination of (2) 2x8 PT and (3) 2x8 PT flush beams at north and south sides of chimney; beams are ledgered to chimney north and south walls then extend out to posts at the east edge of the deck; steel angles are present at the connection of the beam at the south side of the chimney to the flush (3) 2x8 edge beam
- (2) 4x4 PT posts; (1) 4x6 PT post
- (2) 45 degree braces, at the north and south sides of the chimney

Typical Guardrail Construction

- 4x4 PT posts; although not visible, posts are anticipated to be anchored to flush beams by vertical threaded ¾" diameter rod into post end grain
- 2x4 PT end post fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

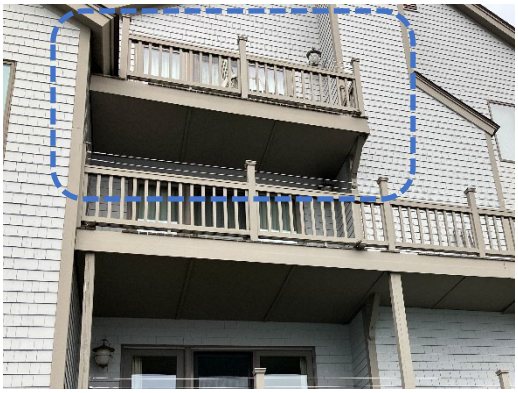
Observable Deficiencies

- Posts do not appear to have caps or straps; connections appear to be toe-nailed
- Poor quality PT material used
- Ceiling inhibits observation of condition along west edge of deck at building; debris and moisture are likely trapped where joists run north-south
- Some ledger anchors are loose
- Some ledger anchors appear to be bent (heads rotated)
- West edge joists are attached to ledger with one Simpson LS70 or (2) Simpson A23Z stacked (one side); most are rotated and have apparent gaps at the connectors
- Plies of (2) 2x8 PT edge beam are not fastened together
- Built-up east-west spanning beams each side of chimney lack proper connections at ends, and potentially between elements
- Diagonal braces at the chimney lack reliable load paths; braces are redundant with built-up beam at same location; it seems likely adjacent posts were added after original construction
- North diagonal brace is split; ceiling around brace is sagging
- Tops of joists are split due to excess decking fasteners penetrations over the years
- Guardrail is degraded and cables are loose (non-compliant, >4" spacing)
- Guardrail is wobbly

Additional Notes

- A combination of painted and unpainted members and the redundant braces suggest prior repair and/or alteration which is corroborated by the historic exterior photo in the Camden Herald article (Appendix C). It is anticipated that the deck was expanded from two decks, one each side of the chimney, to one contiguous deck. The original decks are anticipated to have been the depth (east-west) of the narrower north section which appears to also match the depth of deck A3-3E (two stories above).

Deck No. A3-3E



Configuration

- Third story, rectangular deck extending from building wall to south side of chimney

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with (1) approximately 3/8" diameter fastener spaced 16" OC at the south end and (2) approximately 3/8" diameter fasteners spaced 16" OC at the north end; approximately 1" gap between ledger and building with PT spacers
- 2x8 PT joists spaced 16" OC spanning north-south with Simpson LUS28Z joist hangers at both ends
- (2) 2x8 PT flush beam at east edge
- (1) 45 degree brace at the south side of the chimney (north end of deck)

Typical Guardrail Construction

- 4x4 PT posts anchored to flush beams by vertical threaded ¾" diameter rod into post end grain
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

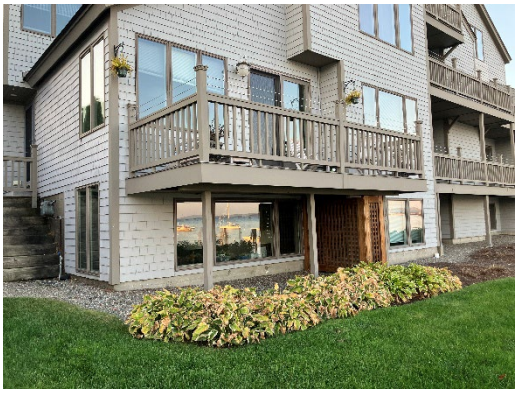
Observable Deficiencies

- Ceiling inhibits observation of condition along west edge of deck at building; debris and moisture are likely trapped where joists run north-south
- Plies of (2) 2x8 PT edge beam are not fastened together
- Connections are deficient
- Diagonal brace lacks reliable load path
- Tops of joists are split due to excess decking fasteners penetrations over the years
- Guardrail is degraded and cables are loose (non-compliant, >4" spacing)
- Guardrail is wobbly
- Flashing at west edge joist around door appears deficient

Additional Notes

- Based on the historic exterior photo in the Camden Herald article (Appendix C), this deck appears to match the original geometry. Expanding this deck eastward to align the east face of the deck with the decks below (A3-2E and A2-1E) would permit direct posting to the foundation which would elimination the diagonal brace at the south side of the chimney and simplify the load path for this deck.

Deck No. A4-1E



Configuration

- Single level, first story, rectangular deck with small inset corner at north end
- Mechanical unit with enclosure below deck
- 1 rectangular vent (approximately 4”x6”) at north end of ledger

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with approximately 3/8” diameter fasteners spaced 16” OC, staggered; gap between ledger and building unknown
- 2x6 PT joists spaced 16” OC spanning east-west with Simpson LUS26Z joist hangers at west end, toe-nailed to dropped beam and end nailed to rim board at cantilevered east end
- 2x8 PT rim and edge joists
- (3) 2x6 PT dropped support beam inset approximately 2’ from east edge of deck
- (3) 4x4 PT posts with Simpson ABA44Z post bases and (2) Simpson A23Z post caps
- Approximately 7” square CIP concrete piers
- Footings unknown (if any)

Typical Guardrail Construction

- 4x4 PT posts, notched to 2” square below deck and fastened to edge joist and rim board with (2) approximately ½” diameter thru bolts
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16” diameter SS cables near the top

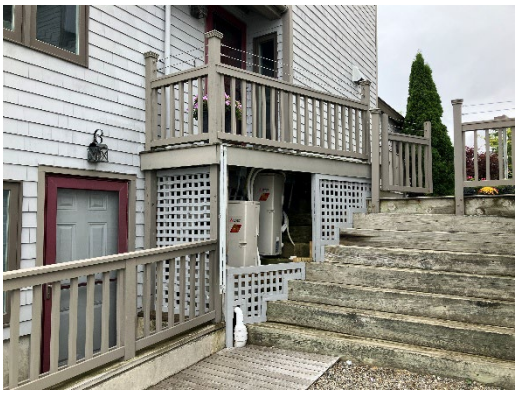
Observable Deficiencies

- (4) unfilled holes are drilled through south end of ledger (purpose unknown)
- Posts are offset from pier center points
- Inner ply of dropped beam is spliced within beam spans
- Edge joists do not bear on dropped beam
- Guardrail is wobbly
- Guardrail is degraded and cables are loose (non-compliant, >4” spacing)

Additional Notes

- The historic exterior photo in the Camden Herald article (Appendix C) appears to show the deck more square than rectangular, suggesting this deck may have been expanded south at some point since original construction.

Deck No. B5-1N



Configuration

- Single level, first story entry deck built partially over timber retaining structure
- Mechanical unit with detached enclosure below deck

Typical Deck Construction

- 1x4 Ipe decking
- 2x6 PT joists with 2x2 PT spacers on top spanning east-west with Simpson LUS26Z joist hangers at east end, toe-nailed to flush rim board at west end (1 hangered joist at west end)
- 2x6 PT rim and edge joists
- (2) 4x4 PT continuous posts to PT sill plate on concrete foundation wall at east end; (1) 4x4 PT continuous post to timber retaining wall at northwest corner
- Anchorage to building unknown; 1 anchor is visible through the south edge joist near the east side of the entry door

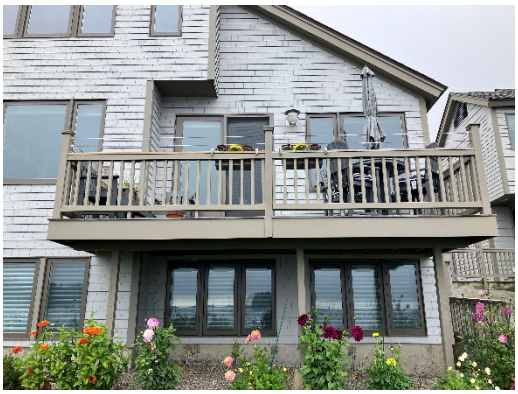
Typical Guardrail Construction

- 4x4 PT posts, continuous from below deck to top of rail
- 2x2 PT balusters with (2) approximately 3/16” diameter SS cables near the top

Observable Deficiencies

- Two of three full length joists are notched 2 ½” deep for approximately 32” (long) near midspan to accommodate the mechanical unit below the deck
- Posts have minor material degradation (“soft”)
- Joists at southeast corner are headered oddly; load path is indirect
- Guardrail is degraded and cables are loose (non-compliant, >4” spacing)

Deck No. B5-1E



Configuration

- Single level, first story, rectangular deck with small inset corner at south end
- Deck was removed and re-installed in fall 2024 to facilitate proper flashing and siding replacement around replacement windows and door

Typical Deck Construction

- 1x4 Ipe decking
- (2) 2x8 PT ledger anchored directly to building wall (no gap) with (2) 3/8" diameter thru bolts spaced 32" OC
- 2x6 PT joists spanning east-west with Simpson LUS26Z joist hangers at west end, toe-nailed to dropped beam and end nailed to rim board at cantilevered east end
- 2x8 PT rim and edge joists
- (3) 2x6 PT dropped support beam inset approximately 2' from east edge of deck
- (3) 4x4 PT posts with Simpson ABA44Z post bases and (2) Simpson A23Z post caps
- Approximately 7" square CIP concrete piers
- Footings unknown (if any)

Typical Guardrail Construction

- 4x4 PT posts, notched to 2" square below deck and fastened to edge joist and rim board with (2) approximately ½" diameter carriage bolts at end posts and (2) GRK RSS screws at center post
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

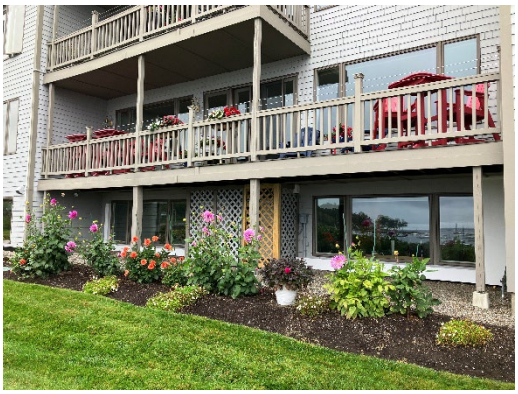
Observable Deficiencies

- Posts are offset from pier center points
- Inner ply of dropped beam is spliced within beam spans
- Edge joists do not bear on dropped beam
- Guardrail elements are degraded; guardrail has been reinforced but remains wobbly; guardrail cables are loose (non-compliant, >4" spacing)

Additional Notes

- Construction suggests this deck may have been previously expanded (north) which is corroborated by the historic exterior photo in the Camden Herald article (Appendix C) which appears to show the original deck more square than rectangular.

Deck No. B6-1E



Configuration

- First story, rectangular deck extending full width of building alcove with 2 decks above (B7-2E and B7-3E)
- Mechanical units with attached enclosure below deck
- 1 round vent (approximately 4" dia.) and 1 rectangular vent (approximately 3"x10") at south end of ledger (rusted)

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with approximately 3/8" diameter fasteners spaced 32" OC; approximately 1 ½" gap between ledger and building with PVC pipe around fasteners
- 2x8 PT joists spanning east-west with Simpson LUS28Z joist hangers at both ends
- (3) 2x8 PT flush beam at east edge of deck
- (2) 4x4 PT post with Simpson ABA44Z post base and (2) Simpson A23Z post caps; (1) 4x6 PT post with Simpson ABA46Z post base, (2) Simpson A23Z post caps plus additional straps and caps; (1) 6x6 PT post with Simpson ABU66SS post base, (2) Simpson A23Z post caps post caps plus additional straps and caps
- (2) newer 6" square tapered precast concrete piers (typically 10" square at base)
- (2) older precast or CIP approximately 7 ½" square concrete piers
- Footings unknown (if any)

Typical Guardrail Construction

- 4x4 PT posts, anchored to edge beam by vertical threaded ¾" diameter rods into post end grain
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

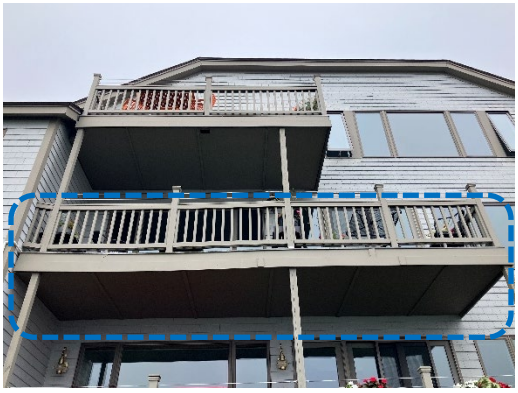
Observable Deficiencies

- Western ply of edge beam is severely degraded; deflection is visible in south bay
- Decking is pushing upward where joists/hangers are failing at east edge in the south bay
- Posts are offset from pier center points
- Edge beam is spliced within beam spans
- Guardrail is wobbly
- Guardrail cables are loose (non-compliant, >4" spacing)
- Deck is UNSAFE

Additional Notes

- Construction suggests this deck may have been previously expanded (north).

Deck No. B7-2E



Configuration

- Second story, rectangular deck extending part of width of building alcove with 1 deck above (B7-3E) and 1 deck below (B6-1E)

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with approximately 3/8" diameter fasteners, spacing unknown; approximately 1" gap between ledger and building with PT spacer blocks around fasteners
- 2x8 PT joists spaced 16" OC spanning east-west with joist hangers at both ends
- (3) 2x8 PT flush beam at east edge of deck
- (3) 4x4 PT posts with Simpson AC4 post caps

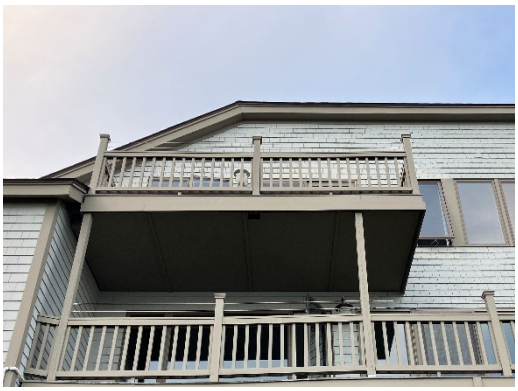
Typical Guardrail Construction

- 4x4 PT posts, anchored to edge beam by vertical threaded ¾" diameter rods into post end grain (assumed based on 6B-1E)
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

- Base of 4x4 support posts are degraded (at 6B-1E deck elevation)
- No straps are visible connecting to deck posts above
- Western ply of edge beam is severely degraded; deflection is visible in south bay; trim is cracked (structural)
- Decking is pushing upward where joists/hangers are failing at east edge in the south bay
- Guardrail is severely out of level in short south section between building and south post
- Guardrail is wobbly
- Guardrail is degraded and cables are loose (non-compliant, >4" spacing)
- Deck is UNSAFE

Deck No. B7-3E



Configuration

- Third story, rectangular deck extending part of width of building alcove with 2 decks below (B7-2E and B6-1E)

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger
- 2x8 PT joists spanning east-west with joist hangers at both ends
- (3) 2x8 PT flush beam at east edge of deck; beam cantilevers approximately 2'-6" beyond north post to support northern section of deck
- (2) 4x4 PT posts with Simpson AC4 post caps

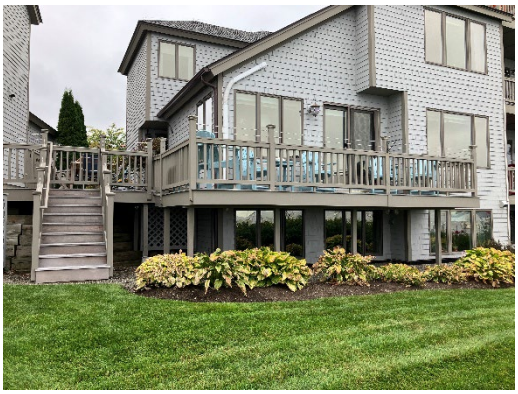
Typical Guardrail Construction

- 4x4 PT posts, anchored to edge beam by vertical threaded ¾" diameter rods into post end grain
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

- Edge beam deflection is visible in cantilevered section; trim is cracked over north post (structural)
- Guardrail is wobbly
- Guardrail is degraded and cables are loose (non-compliant, >4" spacing)
- Deck is UNSAFE

Deck No. B8-1E/S



Configuration

- Single level, first story, wrap-around deck with ramp section connecting to extension of on-grade boardwalk (not in scope) with gated stairs to front (east) lawn
- Mechanical unit with attached enclosure below deck
- Deck has been expanded multiple times; original deck presumably comprised north, rectangular section (although it may have been smaller and squarer); 2018 expansion included south extension and ramp with level deck to connect to on-grade boardwalk (not in scope); 2024 expansion included expansion of deck connected to on-grade boardwalk and stairs to the front lawn

Typical Deck Construction

Original Deck (North, rectangular section)

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with approximately 3/8" diameter fasteners spaced 16" OC, staggered; 1" gap between ledger and building with PT spacers
- 2x6 PT joists spaced 16" OC spanning east-west with Simpson LUS26Z joist hangers at west end, toe-nailed to dropped beam and end nailed to rim board at cantilevered east end
- 2x8 PT rim and edge joists
- (3) 2x6 PT dropped support beam inset approximately 2' from east edge of deck
- (3) 4x4 PT posts with Simpson ABA44Z post bases and (2) Simpson A23Z post caps
- Approximately 7" square CIP concrete piers
- Footings unknown (if any)

South Deck Expansion (2018)

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with Simpson SDWS screws
- Southeast deck and ramp:
  - 2x6 PT joists spaced 16" OC spanning east-west with Simpson LUS26SS joist hangers at west end, toe-nailed to dropped beam and end nailed to rim board at cantilevered east end; ramp joists are hangered at both ends with Simpson LUS26SS
  - 2x8 PT rim
  - (3) 2x6 PT dropped support beam inset approximately 2' from east edge of deck; (2) 2x8 PT flush support beam aligned with east face of building; beam is hangered to ledger with Simpson LUS28-2SS hanger at north end and bears on post at south end
- Extension at on-grade boardwalk:
  - 2x6 PT joists spaced 16" OC spanning north-south with Simpson LUS26SS joist hangers at north end, toe-screwed to flush nailer at south end where abuts on-grade boardwalk
  - 2x8 PT edge joist
- (3) 4x4 PT posts with Simpson ABU44SS post bases and Simpson SDWS screws to framing; (2) east posts bear on concrete piers; west post bears on timber retaining wall
- (2) approximately 6" square precast concrete piers
- Footings unknown (if any)

Stair Deck Expansion (2024)

- 1x4 Ipe decking
- 2x6 PT joists spaced 16" OC spanning north-south with Simpson LUS26SS joist hangers at south end
- (2) 2x6 PT edge joist
- (2) 2x6 PT dropped support beams inset approximately 1' from north and south extents of new deck
- (4) 4x4 PT posts with Simpson ABU44SS post bases and Simpson BCS2-2/4SS caps; (3) posts bear on the timber retaining wall; northeast post bears on concrete pier
- (1) approximately 6" square precast concrete piers with 1'-4" square base (per plan)
- Stair framing is not in scope of work

Typical Guardrail Construction

Original Deck (North, rectangular section)

- 4x4 PT posts, notched to 2" square below deck and fastened to edge joist and rim board with (2) approximately ½" diameter thru bolts
- 2x4 PT end post fastened to building wall at northwest corner (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

South (2018) Deck Expansion

- 4x4 PT posts, notched and lapped to exterior face of edge joist and fastened with (1) Simpson DTT2SS lateral deck tie and (1) approximately ½" diameter lag bolt
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Stair Deck Expansion (2024)

- 4x4 PT posts, lapped to exterior face of edge joist and fastened with (1) Simpson DTT2SS lateral deck tie and (1) ½" diameter SS lag bolt
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

Original Deck (North, rectangular section)

- Joists, beams and rim are weathered although not notably degraded
- Fasteners in Simpson A23Z are missing at south post of original deck
- Two of three plies of (3) 2x6 dropped beam have minimal bearing at south post of original deck
- Posts are offset from pier center points
- Edge joists do not bear on dropped beam
- Center post is out of plumb approximately 1 ½" in 4'
- Center guardrail post tenon below deck is split; prior repair not sufficient
- Guardrail is wobbly
- Guardrail elements are degraded; guardrail cables are loose (non-compliant, >4" spacing)

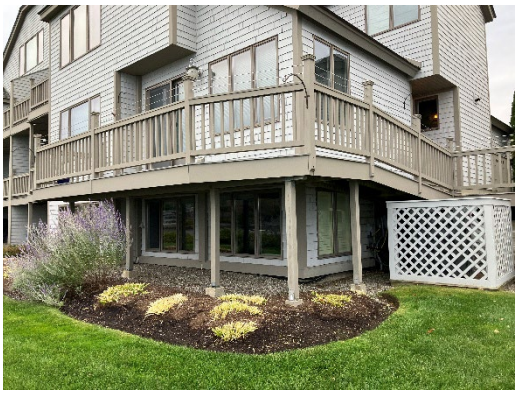
South (2018) Deck Expansion

- Guardrail top rail is degraded at east side of deck
- Some Simpson SDWS screws are corroded

Stair Deck Expansion (2024)

- None

Deck No. C9-1E/N



Configuration

- Single level, first story, deck composed of original rectangular east deck with small inset corner at south end and a 2014 north deck expansion which connected the east deck to the north entry deck

Typical Deck Construction

Original Deck (East)

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with approximately 3/8" diameter fasteners; approximately 1" gap between ledger and building
- 2x6 PT joists spanning east-west with Simpson LUS26Z joist hangers at west end, toe-nailed to dropped beam and end nailed to rim board at cantilevered east end
- 2x8 PT rim and edge joists
- (3) 2x6 PT dropped support beam inset approximately 2' from east edge of deck
- (3) 4x4 PT posts with Simpson ABA44Z post bases and (2) Simpson A23Z post caps
- (1) approximately 7" square CIP concrete pier; (2) approximately 6 ½" x 8" CIP concrete piers
- Footings unknown (if any)

North (2014) Deck Expansion

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with Tapcon concrete screws
- 2x6 PT joists spanning east-west at east expansion (matching original construction); 2x8 ramp joists spaced 16" OC spanning east-west between (2) 2x8 flush beams; 2x8 joist spaced 16" OC spanning north-south between 2x8 ledger at south end and (2) 2x8 flush beam at north end
- 2x8 PT rim and edge joists
- (2) 2x6 PT dropped support beam inset approximately 2' from east edge of deck
- (2) 4x4 PT posts with Simpson ABU44SS post bases and Simpson BC4Z post caps on precast concrete piers
- (2) 4x4 PT posts on timber retaining wall

Typical Guardrail Construction

Original Deck (East)

- 4x4 PT posts, notched to 2" square below deck and fastened to edge joist and rim board with (2) approximately ½" diameter carriage bolts
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

North (2014) Deck Expansion

- 4x4 PT posts, notched and lapped to exterior face of edge joist and fastened with GRK RSS screws
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

Original Deck (East)

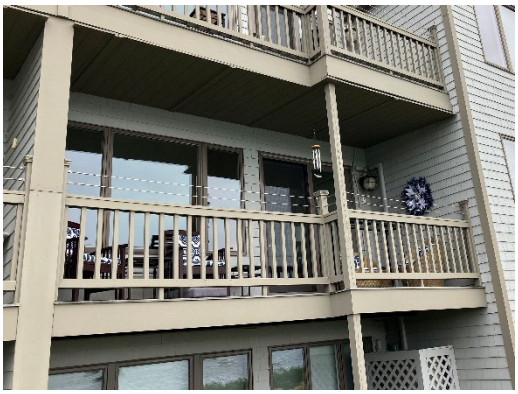
- Some unpainted Simpson post caps are corroded (Z-max finish)
- One Simpson A23Z is not nailed at the top of the post
- Nails protrude more than normal from one post base
- Posts are offset from pier center points

- Edge joists do not bear on dropped beam
- Notched guardrail posts are split with some wood missing at thru bolts (inadequate edge and edge distances); prior 1x3 repair is inadequate
- Guardrail elements are degraded; guardrail cables are loose (non-compliant, >4" spacing)

North (2014) Deck Expansion

- (2) 2x6 dropped beam is rotated at northeast post
- Ramp joists were specified to be (2) 2x8 but are only (1) 2x8; sloped joist hangers were not used
- Holes for guardrail post fasteners are overdriven, reducing connector capacity
- (2) 2x8 at east end of ramp is split
- GRK RSS screws are corroded

Deck No. C10-1E



Configuration

- First story, rectangular deck extending half the width of the building alcove with 1 deck above (C11-2E); south bay is inset approximately 1' (narrower)
- Mechanical unit with detached enclosure below deck

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with (2) approximately 3/8" diameter fasteners spaced 32" OC; approximately 1" gap between ledger and building with PT spacers
- 2x8 PT joists spanning east-west with Simpson LUS28Z joist hangers at both ends
- (2) 2x8 PT flush beams at east edge of deck; south end of south beam attaches to cantilevered edge joist with Simpson LS70; north end of south beam is hangered to (2) 2x8 joist with Simpson LUS28-2Z; south end of north beam bears on 4x4 PT post; north end of north beam attaches to cantilevered edge joist with Simpson LS70
- (1) 4x4 PT post with Simpson ABA44Z post base and (2) Simpson A23Z post caps
- (1) CIP approximately 6 ½" x 7 ½" concrete pier
- Footing unknown (if any)

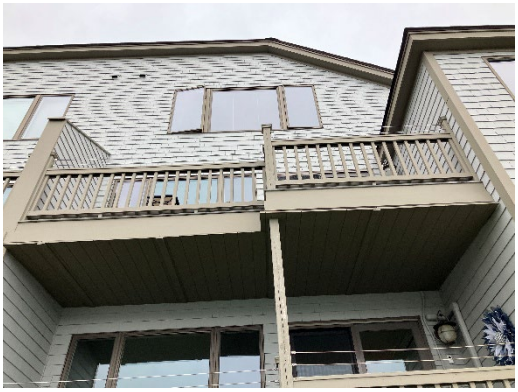
Typical Guardrail Construction

- (1) 4x4 PT post, continuous to deck above (C11-2E)
- (1) 4x4 PT post, anchored to (2) 2x8 joist (at deck offset) by vertical threaded ¾" diameter rod into post end grain
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

- Unfilled holes drilled through ledger in some locations (purpose unknown)
- Edge beams do not attach directly to building wall at the north end or exterior privacy wall at south end
- 4x4 PT post below deck is bowed (not straight/vertical)
- No straps are visible connecting lower level posts to deck posts above
- Post is offset from pier center point
- Guardrail cables are loose (non-compliant, >4" spacing)

Deck No. C11-2E



Configuration

- Second story, rectangular deck extending half the width of the building alcove; south bay is inset approximately 1' (narrower)

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with (2) approximately 3/8" diameter fasteners spaced 32" OC; approximately 1" gap between ledger and building with PT spacers
- 2x8 PT joists spanning east-west with Simpson LUS28Z joist hangers at both ends
- (2) 2x8 PT flush beams at east edge of deck; south end of south beam attaches to cantilevered edge joist with Simpson LS70; north end of south beam is hangered to (2) 2x8 joist with Simpson LUS28-2Z; south end of north beam is toenailed to continuous 4x4 PT post; north end of north beam attaches to cantilevered edge joist with Simpson LS70
- (1) 4x4 PT post

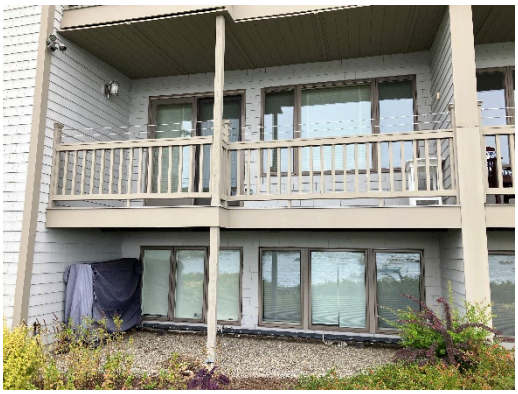
Typical Guardrail Construction

- (1) 4x4 PT post, may be continuous to deck below (C10-1E)
- (1) 4x4 PT post, anchored to (2) 2x8 joist (at deck offset) by vertical threaded ¾" diameter rod into post end grain
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

- South (2) 2x8 flush beam is split at the north end near the hanger
- Edge beams do not attach directly to building wall at the north end or exterior privacy wall at south end
- Intersecting beams abut continuous post and appear to be attached with only (3) 10d toenails on each exposed face (no hangers or direct bearing)
- Some ledger anchors appear to be bent (heads rotated)
- Guardrail is degraded and cables are loose (non-compliant, >4" spacing)

Deck No. C12-1E



Configuration

- First story, rectangular deck extending half the width of the building alcove with 1 deck above (C13-2E); north bay is inset approximately 1' (narrower)

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with (2) approximately 3/8" diameter fasteners spaced 32" OC; approximately 1" gap between ledger and building with PT spacers
- 2x8 PT joists spanning east-west with Simpson LUS28Z joist hangers at both ends
- (2) 2x8 PT flush beams at east edge of deck; south end of south beam attaches to cantilevered edge joist with Simpson LS70; north end of south beam bears on 4x4 PT post; south end of north beam is hangered to (2) 2x8 joist with Simpson LUS28-2Z; north end of north beam attaches to cantilevered edge joist with Simpson LS70
- (1) 4x4 PT post with Simpson ABA44Z post base and (2) Simpson A23Z post caps
- (1) CIP approximately 6 ½" x 7 ½" concrete pier
- Footing unknown (if any)

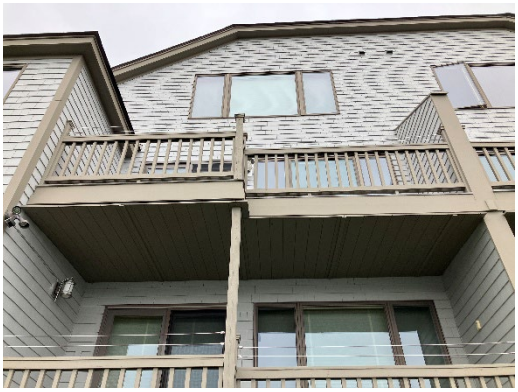
Typical Guardrail Construction

- (1) 4x4 PT post, continuous to deck above (C13-2E)
- (1) 4x4 PT post, anchored to (2) 2x8 joist (at deck offset) by vertical threaded ¾" diameter rod into post end grain
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

- Edge beams do not attach directly to building wall at the south end or exterior privacy wall at north end
- 4x4 PT post is split at base
- Simpson ABA44Z post base at 4x4 PT post below deck is deformed
- No straps are visible connecting lower level posts to deck posts above
- Post is offset from pier center point
- Concrete pier is irregular shaped and poorly formed
- Guardrail is degraded and cables are loose (non-compliant, >4" spacing)

Deck No. C13-2E



Configuration

- Second story, rectangular deck extending half the width of the building alcove; north bay is inset approximately 1' (narrower)

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with (2) approximately 3/8" diameter fasteners spaced 32" OC; approximately 1" gap between ledger and building with PT spacers
- 2x8 PT joists spanning east-west with Simpson LUS28Z joist hangers at both ends
- (2) 2x8 PT flush beams at east edge of deck; south end of south beam attaches to cantilevered edge joist with Simpson LS70; north end of south beam bears on 4x4 PT post; south end of north beam is hangered to (2) 2x8 joist with Simpson LUS28-2Z; north end of north beam attaches to cantilevered edge joist with Simpson LS70
- (1) 4x4 PT post

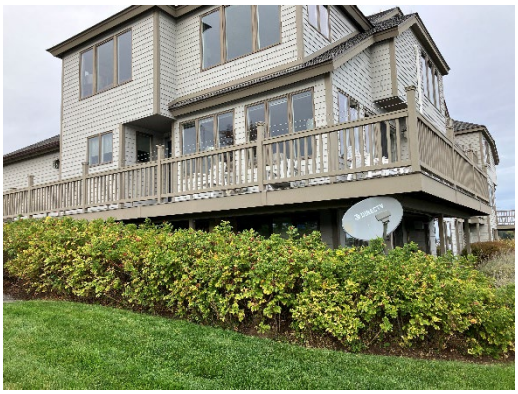
Typical Guardrail Construction

- 4x4 PT posts, anchored to (2) 2x8 joist (at deck offset) by vertical threaded ¾" diameter rod into post end grain
- 2x4 PT end posts fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

- Edge beams do not attach directly to building wall at the south end or exterior privacy wall at north end
- Intersecting beams abut continuous post and appear to be attached with only (3) 10d toenails on each exposed face (no hangers or direct bearing)
- Guardrail is degraded and cables are loose (non-compliant, >4" spacing)
- Guardrail is wobbly
- Central east guardrail post is severely out of plumb (top leaning eastward)

Deck No. C14-1E/S



Configuration

- Single level, first story, wraparound deck extending along entire south wall of Building C and east wall of Unit 14
- Mechanical unit with attached enclosure below south deck

Typical Deck Construction

- 1x4 Ipe decking
- 2x8 PT ledger anchored to building wall with (2) approximately 3/8" diameter fasteners spaced 32" OC, staggered; approximately 1" gap between ledger and building; west ledger is sistered and extends to south (3) 2x8 beam clear spanning approximately 5'
- 2x6 PT joists spaced 16" OC spanning east-west at east deck and north-south at south deck with Simpson LUS26Z joist hangers at west/north ends, toe-nailed to dropped beams and end nailed to rim board at cantilevered east/south ends
- 2x8 PT rim and edge joists
- (3) 2x8 PT dropped support beam inset approximately 2' from east/south edges of deck; south (3) 2x8 is hangered to east (3) 2x8 at southeast corner with Simpson LUS28-3Z
- 4x4 PT posts with Simpson ABA44Z post bases and (2) Simpson A23Z post caps
- Approximately 7" square CIP concrete piers
- Footings unknown (if any)

Typical Guardrail Construction

- 4x4 PT posts, notched to 2" square below deck and fastened to edge joist and rim board with (2) approximately ½" diameter thru bolts
- 2x4 PT end post fastened to building wall (connection unknown)
- 2x2 PT balusters with (2) approximately 3/16" diameter SS cables near the top

Observable Deficiencies

- Failed joist hangers at west end of deck; hangers have corroded through entirely
- Severe post cap and post base corrosion
- South support beam hanger is corroded at southeast corner connection
- Inner ply of dropped beam is spliced within beam spans
- West ledger is split; ledger anchor bolts appear to be crushing into ledger
- Beams appear deflected
- Posts are offset from pier center points
- Edge joists do not bear on dropped beam
- Guardrail is wobbly
- Guardrail is degraded and cables are loose (non-compliant, >4" spacing)

APPENDIX C

Historic Exterior Image
from Camden Herald article (date unknown)