PORT HUENEME QUARTERS D
CONDITIONS ASSESSMENT REPORT

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TABLE OF CONTENTS

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SECTION I - INTRODUCTION

A. General Building Information

The Edward and Mary Farrell House (Quarters D) is located on Patterson Road in the Naval Base Ventura County (NBVC), Port Hueneme near Oxnard, California. The house was constructed in 1918 and it has been determined eligible for listing in the National Register of Historic Places (NRHP) under Criterion C as a distinct representation of the California Bungalow style and possibly the only such structure remaining in the region. The barn was constructed in 1915 and was also determined eligible for the NRHP under Criterion C. The milk house was also surveyed, but determined ineligible for designation. The house, barn, and milk house have been vacant for several years, but retain a good degree of historical integrity and remain in good to fair overall condition.

B. Purpose of the Report

This Conditions Assessment Report is intended to provide information necessary to evaluate the feasibility of rehabilitating the historic home and barn versus potential demolition. This report includes a summary of the existing building conditions, basic rehabilitation recommendations, and associated construction costs for returning the home to a useable condition or alternatively, demolishing the buildings. This report includes:

- Architectural Assessment and Recommendations
- Structural Assessment and Recommendations
- Mechanical, Plumbing, and Electrical Assessment and Recommendations
- Conceptual Opinion of Probable Construction Costs for rehabilitation and Demolition.

Field investigation for this report was conducted on February 7, 2018 by Carmen Pauli of Heritage Architecture & Planning[1]; Andres Medina and Rosa Ocegueda of Critical Structures; and Craig Moya of Engineered Systems. The field investigation included a visual survey of accessible exterior and interior areas of the site and buildings. All interior spaces where accessible with the exception of the interior of the barn and the milk house.

Prior to the field investigation, the team reviewed background information provided by ASM Affiliates, including the undated Historical Summary for Quarters D and the November 28, 2019 Project Review Memorandum from ASM Affiliates. There were no available historical photographs or drawings. The field survey includes digital photography and selective measuring to create key plans which are include as Figures 2 and 3 in the following section of this report.

[1] Heritage Architecture & Planning staff member, Carmen Pauli, is qualified in architecture and historic architecture under *The Secretary of the Interior's Professional Qualification Standards.* Professional qualifications established by *The Secretary of the Interior's Standards and Guidelines for Archaeological and Historic Preservation* have been developed to assist State, Federal, and Local agencies, and other in identifying qualified professionals under the disciplines of history, archaeology, architectural history, and historic architecture.

C. Preservation Objectives

This Conditions Assessment Report for the Quarters D property is primarily intended to provide an understanding of the work that will be required to make the house habitable as well as an understanding of the associated costs so a determination can be made regarding the potential rehabilitation or demolition of the buildings. The Quarters D property has been determined eligible for historical designation. Therefore, all recommendations included in this report are intended to comply with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* (*The Standards*).

SECTION II – ARCHITECTURAL ASSESSMENT

CONSTRUCTION CHRONOLOGY

The following chronology summarizes the development and construction of the Quarters D property and alterations made to the buildings and site through February 2019. This information is based on written data and field observations.

1847 U.S. Navy establishes a presence at Port Hueneme with the construction of a lighthouse on land donated by Thomas Bard.

1872 The City of Port Hueneme is incorporated.

1918 Construction of the Edward and Mary Farrell House (now Quarters D) is completed.

1938 A $1.75 million bond is issued to dredge and develop a port near the wharf of Port Hueneme.

1940 Port construction is completed making Port Hueneme the only deep water port between Los Angeles and San Francisco.

1942 Advance Based Depot (ABD) at Port Hueneme is established by the U.S. Navy. The base is expanded and the U.S. Navy purchases the Farrell House property and surrounding sites.

EXISTING CONDITIONS ASSESSMENT

Quarters D is a two-story single-family Craftsman style home. The main house (Quarters D) and barn have been identified as contributors to the Edward and Mary Farrell House District. The milk house has been identified as a non-contributor.

This assessment is arranged in the following order; site, main house (Quarters D), and Barn with an exterior description of the buildings followed by the interior description. The interior architectural description for each building is arranged by floor (bottom to top) and labeled according to room use. Refer to the attached floor plans included in this section of the report for reference. Where interior room dimensions are indicated they are given with the north/south dimension first followed by the east/west dimension (N/S x E/W). The non-contributing milk house structure was not surveyed as part of this report.

Site

The Quarters D property is located in Patterson Road near the north end of the Naval Construction Battalion Center Port Hueneme base. The property included the main house (Quarters D), a barn, and small milk house. The three buildings are situated on a large relatively flat lot that is approximately 1.5 acres (refer to Figure 1 and Photo 1). All three buildings are currently vacant.

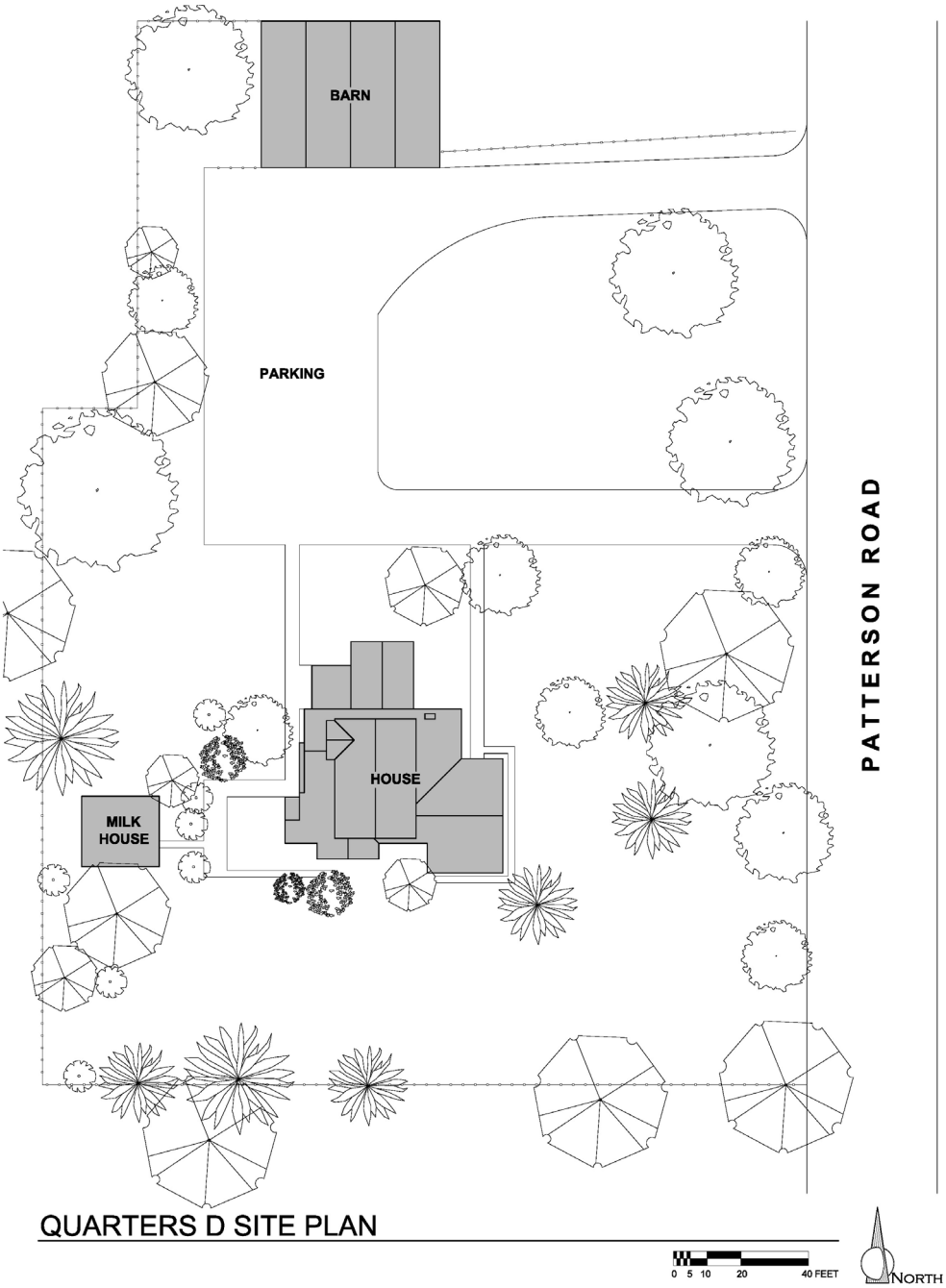

Figure 1: The Quarters D property.

Exterior

Porch:

The front porch is a prominent architectural element. It features a low-sloped front gable roof supported on wide brick columns with a heavy exposed beam roof structure (refer to Photos 1, 7, 8, and 9). The porch has a scored concrete floor. Some minor damage was noted on the existing brick

columns. Additional structural beam deterioration is noted in the structural assessment. Paint finishes are generally deteriorated.

Roof:
The roof of Quarters D features a complex arrangement of low-sloped cross-gables (refer to Photos 2-5). Typical of Craftsman style construction, structural elements including beam and rafter ends are exposed on the eaves and rakes. The roof is clad with asphalt shingles. This type of roofing has a normal lifespan of approximately 20 years. The age of the existing roofing is unknown, but it appears likely that future rehabilitation would include replacement of the roofing.

Exterior Walls:
The exterior walls of Quarters D are clad with original wood shingles (refer to Photo 10). The shingles are 16" long and approximately 6" wide. They are installed with a typical exposure of 14". The shingles are currently painted white. The paint finish is deteriorated in many locations revealing older layers of paint and stain. The original finish appears to have been a dark brown opaque stain (refer to Photo 14). There are multiple locations, particularly on the lower walls, where small sections of the existing shingles are missing leaving the stud framing of the exterior walls exposed (refer to Photos 12 and 13). These areas should be repaired to prevent further damage to the structure.

Windows:
The original wood windows remain extant at Quarters D. There are five basic historic window types:

- Type A: One-over-one (1/1) double-hung wood window. These are the most prevalent window type at Quarters D and they are generally located at most rooms on the first floor with the exception of the breakfast room and the two existing bathrooms. They vary in size with larger windows in the primary interior spaces and smaller ones in the kitchen and utility room. Refer to Photo 16.
- Type B: Fixed single-light windows. There are two existing historic fixed wood windows, one at the large east-facing window in the living room and the other at the north facing window in the study. In both cases, the fixed sash is flanked on both sides by smaller operable windows. Refer to Photo 17.
- Type C: Single-light wood casement windows with obscured glass. This window type occurs at all three of the existing bathrooms. Refer to Photo 18.
- Type D: Single-light wood casement windows with clear glass. This window type occurs at bedrooms 2 and 3, the upper hallway, and the living room. Refer to Photo 19. Non-historic single-hung aluminum windows have been added to the second floor bedroom windows and the original wood framed screens have been removed. Future rehabilitation should include the removal of the non-historic aluminum inserts and replication of the original screens at all casement windows.
- Type E: Three-light wood casement windows. This window type occurs at the breakfast room which features two sets of three, three-light casement windows Refer to Photo 20.

Many of the original windows on the north, east, and south façade of the home include wood shutters (refer to Photo 10). The shutters are fixed in place and were intended as a decorative (non-functional)

feature. They are typically comprised of three vertical 1x6 boards with horizontal 1x4 rails at the top and bottom. They are fastened directly to the exterior wall surface without operational hardware. The shutters are generally in good condition but should be repainted, ideally using the original color scheme.

The following is an inventory of the existing windows at Quarters D. Refer to the first and second floor plans for window locations (Figures 2 and 3). Existing windows are generally in fair condition, needing paint, and routine maintenance/repair.

W01 One type B window with two type D windows, one on each side. Historic exterior shutters.
W02 Two type A windows with historic exterior shutters.
W03 One type A window.
W04 One type A window with historic exterior shutters.
W05 One type C window.
W06 One type C window.
W07 One type A window.
W08 Two type A windows with historic exterior shutters.
W09 One type A window.
W10 Window type unknown, window blocked with plywood on both sides.
W11 Two type A windows.
W12 Three type E windows, latch hardware is missing.
W13 Three type E windows, latch hardware is missing.
W14 One type A window.
W15 One type B with two type A windows, one on each side.
W16 One type A window with historic exterior shutters.
W17 One type A window with historic exterior shutters.
W18 Window type unknown, window blocked with plywood on both sides.
W19 Window type unknown, window blocked with plywood on both sides.
W20 Three type D windows with historic exterior shutters.
W21 Three type D windows with historic exterior shutters.
W22 Three type D windows with historic exterior shutters.
W23 Three type D windows.
W24 Two type D windows.
W25 One type C window.
W26 Two type D windows.

Exterior Doors:

There are three exterior doors (D01, D11, and D13). The main front entry door (D01) providing access from the front porch to the living room includes the original screen door and the original three-light entry door, including the original hardware. The screen has been cut from the screen door and one pane of glass is broken on the entry door. There are two rear doors, one at the utility room (D11) and the other at the dining room (D13). The door to the utility room is non-historic with non-historic hardware. The door to the dining room is a non-historic French door with non-historic hardware.

Exterior Lighting:

Existing exterior lighting at Quarters D is limited to three wall or ceiling mounted light fixtures located near the three exterior doors. None of the existing fixtures are historic. Future rehabilitation should include installation of period-appropriate exterior lighting. Depending on future use, additional motion sensor security lighting may also be appropriate.

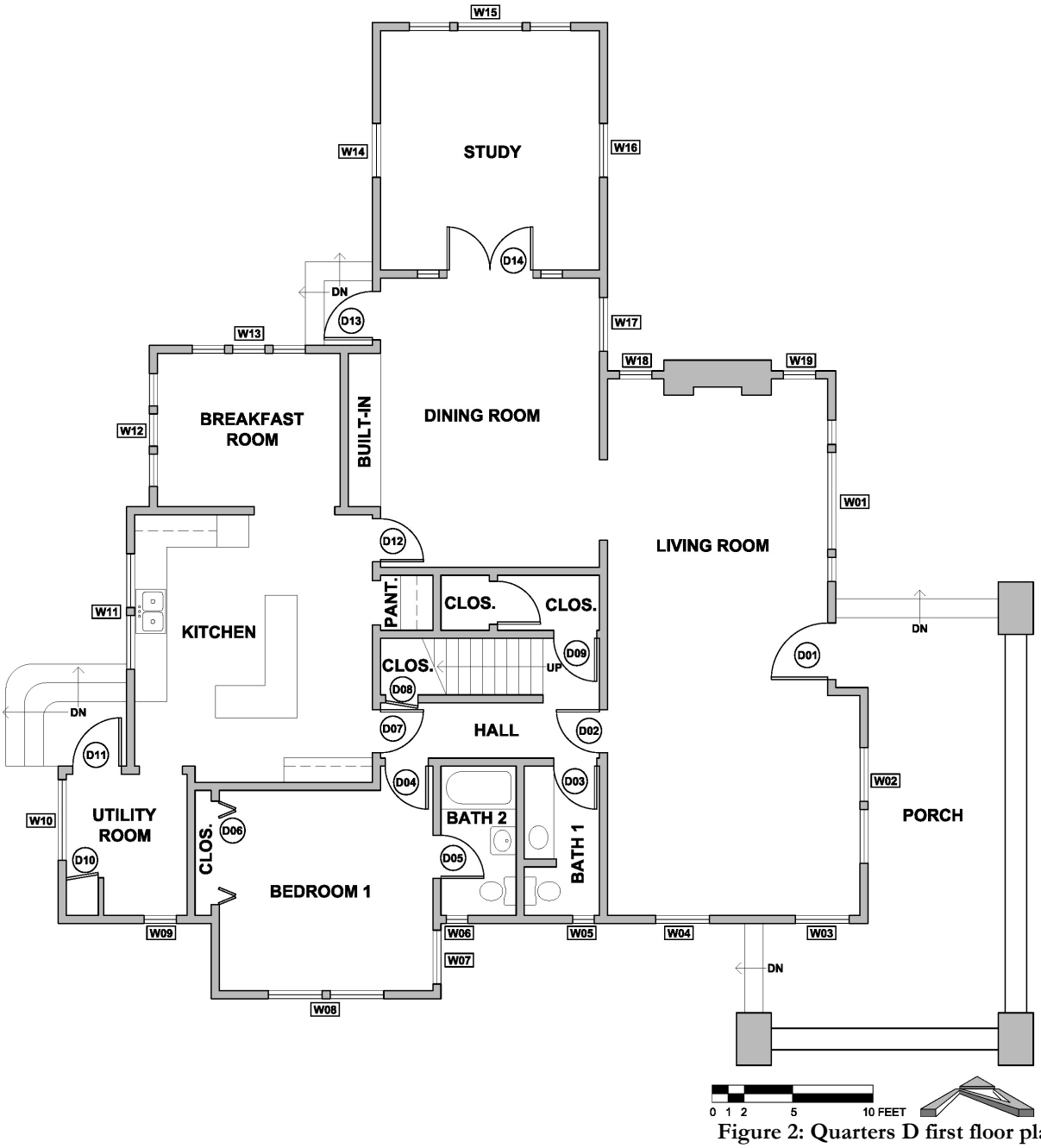

Figure 2: Quarters D first floor plan.

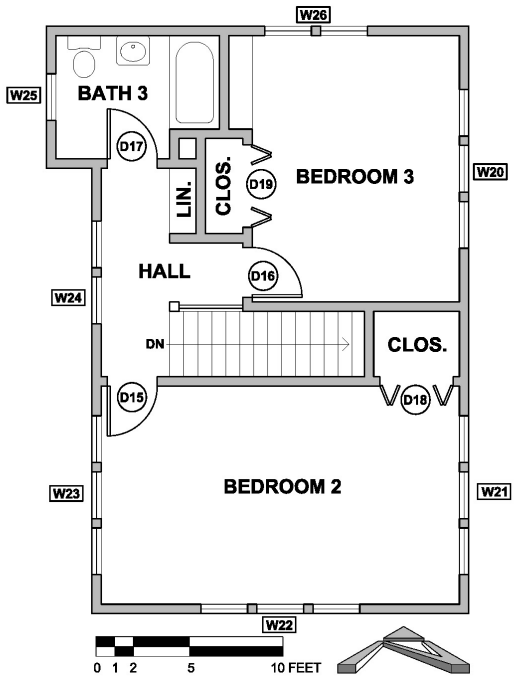

Figure 3: Quarters D second floor plan.

Interior

Quarters D is a two story single-family residence with three bedrooms and 2 ½ baths. The total size of the house is approximately 2621 GSF (1969 GSF on the first floor and 652 GSF on the second floor). Refer to Figures 2 and 3 for first and second floor room layout. The interior wall layout of the home does not appear to have been altered since its original construction in 1918. The three bathrooms and kitchen have been somewhat altered to replace plumbing fixtures, lighting, and built-in cabinetry (refer to Photos 26, 30, 33, and 37).

Interior Wall and Ceiling Finishes:

The original interior walls and ceilings are finished with wood lath and plaster. The plaster and lath have been removed from the ceilings and the upper 12" of the walls in most of the first floor rooms including the living room, dining room, bedroom 1, bathroom 1, bathroom 2, hall, kitchen, and breakfast room (refer to Photos 20-24). Elsewhere the original plaster remains and it is generally in good overall condition with the exception of the ceiling in bathroom 3 on the second floor which is damaged from an apparent previous roof leak (refer to Photo 38).

Interior Floor Finishes:

The original wood floors remain in many of the interior rooms including the living room, dining room, study, halls, and bedrooms (refer to Photos 22-24, 34-36, and 39-40). In general, the original wood flooring is in fair condition with some deterioration and water staining. Future rehabilitation efforts should include refinishing existing wood flooring. Non-historic VCT and resilient sheet flooring have been added in the kitchen, breakfast room, utility room, and all three bathrooms. This resilient flooring and VCT is generally in poor condition and it should be replaced. Non-historic carpet has been added on the stairs. The carpet is poor condition and it should be replaced.

Interior Lighting:
Most of the existing interior light fixtures have been removed along with the ceiling finishes on the first floor. There is one period-style ceiling mounted light fixture in the utility room that may be historic (refer to Photo 28). Other remaining light fixtures in the study, and the second floor bedrooms and bath appear to be non-historic dating from approximately the 1950s or later.

Interior Doors:
Many of the original interior doors remain and they are generally in good overall condition. Historic interior doors are three-panel wood doors with a paint finish, two butt hinges, and bronze knobs with simple circular rosettes (refer to Photo 21). The following is an inventory of the existing doors at Quarters D. Refer to the first and second floor plans (Figures 2 and 3) for door locations.

D01 Historic front door, see exterior door notes.
D02 Historic three-panel wood door with original knobs and hinges.
D03 Non-historic wood slab door with non-historic knobs
D04 Historic three-panel wood door with original knobs and hinges.
D05 Historic three-panel wood door with original knobs and hinges.
D06 Non-historic wood louvered bi-fold closet door
D07 Historic three-panel wood door with original knobs and hinges.
D08 Historic three-panel wood door with original knobs and hinges.
D09 Historic three-panel wood door with original knobs and hinges.
D10 Historic three-panel wood door with original knobs and hinges.
D11 Non-historic door, see exterior door notes.
D12 Historic three-panel wood door with original knobs and hinges.
D13 Non-historic door, see exterior door notes.
D14 Historic three-light wood doors with three-light sidelights on both sides.
D15 Historic three-panel wood door with original knobs and hinges.
D16 Historic three-panel wood door with original knobs and hinges.
D17 Non-historic wood slab door with non-historic knobs.
D18 Non-historic wood bi-fold doors.
D19 Non-historic wood bi-fold doors.

First Floor Summary

Living Room: (refer to Photos 22-23)
Approx. Rm. Size: 33'-4" x 15'-8"
Floor Finish: Wood
Wall Finish: Plaster
Ceiling Finish: Missing
Lighting: None
Fireplace: Historic fireplace with original wood mantel.
Built-in Book Cases: Existing book cases on either side of the fire place have been substantially altered.

Dining Room: (refer to Photo 24)
Approx. Rm. Size: 17'-11" x 14'-1"
Floor Finish: Wood

Wall Finish:	Plaster
Ceiling Finish:	Missing
Lighting:	None.
Built-in Buffet:	There is a built-in buffet on the west wall the lower cabinets appear to be original but the top has been altered to remove original upper cabinets and install a large mirror.

Study: (refer to Photo 25) This room appears to have been altered, possibly 1950s era.

Approx. Rm. Size:	14'-10" x 14'-0"
Floor Finish:	Wood
Wall Finish:	Wood paneling (possibly 1950s era)
Ceiling Finish:	Plaster
Lighting:	One non-historic ceiling-mounted fixture.

Kitchen: (refer to photo 26)

Approx. Rm. Size:	16'-7" x 14'-9"
Floor Finish:	Non-historic resilient flooring
Wall Finish:	Plaster
Ceiling Finish:	Missing
Lighting:	None
Fixtures & Appliances:	Existing sink is non-historic, appliances are missing.
Cabinetry:	Cabinetry has been altered and cabinet doors are missing.

Breakfast Room:

Approx. Rm. Size:	9'-6" x 11'-4"
Floor Finish:	Non-historic resilient flooring
Wall Finish:	Plaster
Ceiling Finish:	Missing
Lighting:	None

Utility Room: (refer to Photo 27)

Approx. Rm. Size:	9'-3" x 7'-6"
Floor Finish:	Non-historic resilient flooring
Wall Finish:	Plaster
Ceiling Finish:	Plaster
Lighting:	One period-style ceiling mounted light fixtures, possibly historic (refer to Photo 28)

Hall: (refer to Photos 29 and 31)

Approx. Rm. Size:	Hall is 3'-5" x 14'-5", stairs are 3'-6" x 14'-5" with lower landing
Floor Finish:	Wood with non-historic carpet at the stairs
Wall Finish:	Plaster
Ceiling Finish:	Missing
Lighting:	None

Bathroom 1: (refer to Photo 30)
Approx. Rm. Size: 9'-3" x 4'-8"
Floor Finish: Non-historic resilient flooring
Wall Finish: Plaster
Ceiling Finish: Missing
Lighting: None
Plumbing Fixtures: The existing plumbing fixtures appear to be non-historic.

Bedroom 1: (refer to Photo 32)
Approx. Rm. Size: 12'-5" x 13'-3"
Floor Finish: Wood
Wall Finish: Plaster
Ceiling Finish: Missing
Lighting: None

Bathroom 2: (refer to Photo 33)
Approx. Rm. Size: 9'-2" x 4'-8"
Floor Finish: Non-historic VCT
Wall Finish: Plaster
Ceiling Finish: Missing
Lighting: None
Plumbing Fixtures: The existing plumbing fixtures and cabinetry are non-historic.

Second Floor Summary:

Bedroom 2: (refer to Photo 34)
Approx. Rm. Size: 11'-8" x 19'-2"
Floor Finish: Wood
Wall Finish: Plaster
Ceiling Finish: Plaster
Lighting: One non-historic ceiling-mounted light fixture

Bedroom 3: (refer to Photos 35-36)
Approx. Rm. Size: 14'-3" x 11'-2"
Floor Finish: Wood
Wall Finish: Plaster
Ceiling Finish: Plaster
Lighting: One non-historic ceiling-mounted light fixture.
Built-in Desk: The built-in desk on the west wall appears to be non-historic (refer to Photo 36).

Bathroom 3: (refer to Photo 37)
Approx. Rm. Size: 6'-7" x 5'-7"
Floor Finish: Non-historic VCT
Wall Finish: Plaster
Ceiling Finish: Plaster, damaged (refer to Photo 38)
Lighting: One non-historic ceiling-mounted light fixture/fan.

Plumbing Fixtures:	The existing plumbing fixtures and cabinetry are non-historic.

Hall: (refer to photo 39)

Approx. Rm. Size:	7'-2" x 7'-7"
Floor Finish:	Wood, with non-historic carpet on stairs.
Wall Finish:	Plaster
Ceiling Finish:	Plaster
Lighting:	One non-historic ceiling-mounted light fixture.
Linen Cabinet:	The existing built-in linen cabinet on the east wall appear to be original. It has wood drawer pulls and flat-faced cabinet doors and drawer faces (refer to Photo 40).

Barn

Approx. Rm. Size:	40'-6" x 56'-6"
Floor Finish:	Concrete
Wall Finish:	Wood, paint finish
Ceiling Finish:	Wood, paint finish
Lighting:	Multiple non-historic exterior and interior light fixtures

The barn has been identified as a contributor to the Edward and Mary Farrell House Historic District. The building is approximately 2,328 GSF and it contains one large open interior space with a vaulted double-height space in the middle. The wood structural farming is exposed on the interior and finished with a white-wash/paint finish. The exterior of the building is clad with vertical wood board-and-batten siding. The siding is rough-sawn with 1x6 boards and 1x3 battens. The original front barn doors have been removed and replaced with a wood fence and gate. The rear doors remain.

The structure including framing members and the exterior siding appears to be in good overall condition with no apparent sign of significant deterioration. A future use for the barn has not yet been determined. Assuming the use would continue as a garage/storage, the required rehabilitation for this building would be minimal. If a different future use is identified, any changes in occupancy may trigger additional, structural, egress, accessibility, and life-safety improvements depending on what the future use is.

Milk House

The milk house has been identified as a non-contributor to the Edward and Mary Farrell House Historic District. Therefore, it is assumed that this structure will be demolished regardless of the eventual outcome for Quarters D and the barn. The field survey completed for this report did not include an assessment of the exterior or interior of the milk house.

SUMMARY OF CHARACTER-DEFINING FEATURES

Terminology

This Architectural Evaluation includes an identification of those architectural features that are character-defining due to their individual contribution to the overall historic value of the property and reflect the building or site's period of significance.[1] As per the Project Review Memorandum provided by ASM Affiliates, a recommended period of significance for the property is 1915-1918, dating the years of construction for the barn and house.

Character-defining features may be further described as "premiere" or "important" as defined below. Items that are non-character-defining may be historic or non-historic. They have been described as non-character-defining because, unless otherwise noted, they do not individually make a significant contribution to the overall historic value of the property. Non-character-defining features are further described as contributing or non-contributing as defined below. All premiere, important, and contributing features, elements and finishes should be preserved in the course of future project rehabilitation efforts.

1. Premiere
   A feature (building, site, structure, or object) that adds to the historic architectural qualities, historic associations, or archaeological values for which a property is significant, because it was present during the period of significance and possesses historic integrity or is capable of yielding important information about the period. In addition, the feature possesses a high degree of specialized craftsmanship that would require all future restoration or replication to be completed by a qualified conservator or specialized craftsperson. In other words, the feature cannot be restored or reproduced using current standard construction techniques, or readily available materials.

2. Important
   A feature (building, site, structure, or object) that adds to the historic architectural qualities, historic associations, or archaeological values for which a property is significant, because it was present during the period of significance and possesses historic integrity or is capable of yielding important information about the period. In addition, the feature possesses a moderate degree of specialized craftsmanship that would require all future restoration or replication to be completed by a skilled contractor with specialized experience related to the specific construction techniques using currently available materials and tools.

3. Contributing
   An item (building, site, structure, or object) that adds to the historic architectural qualities, historic associations, or archaeological values for which a property is significant, because it was present during the period of significance and possesses historic integrity or is capable of yielding important information about the period. The feature can be restored or replicated using standard construction practices by a qualified contractor or staff member.

[1] Period of Significance is the length of time when a property was associated with important events, activities, or persons, or attained the characteristics which qualify it for National Register listing. Period of significance usually begins with the date when significant activities or events began giving the property its historical significance; this is often a date of construction.

4. Non-Contributing
   A feature (building, site, structure, or object) that does not add to the historic architectural qualities, historic associations, or archaeological values for which a property is significant because (a) it was not present during the period of significance, or (b) due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity and it is incapable of yielding important information about the period. The feature can therefore be altered or replaced by a contractor or maintenance staff using standard construction materials and methods. Care should always be exercised to eliminate impact to the adjacent or related character-defining features.

Premier Character-Defining Features

- Overall form, scale, and massing of the historic house (Quarters D) including low-sloped gabled roofs, exterior walls, window/door locations, front porch, and chimney.
- Overall form scale and massing of the barn.
- Contextual relationship of the house and the barn on the existing site.

Important Character-Defining Features

- Exposed structural beams and rafters of the roof and porch.
- Wood shingle siding.
- Existing wood windows.
- Existing wood decorative shutters.
- Front door including screen door.
- Original interior wall layout.
- Original interior wood doors.
- Original fireplace and wood mantel.
- Original interior wood floors.
- Existing exposed structure and vertical board-and-batten siding on the barn.

Contributing Features

- Original interior lath and plaster wall and ceiling finish.
- Existing period-style ceiling-mounted light fixture in the utility room.
- Existing lower cabinets at the built-in buffet in the dining room.

Non-Contributing Features

- Existing exterior paint color.
- Existing asphalt shingle roofing (house and barn).
- Existing exterior and interior light fixtures (except on fixture in the utility room).
- Existing non-historic rear exterior doors.
- Existing non-historic wood slab interior doors and bi-fold closet doors.
- Existing non-historic fixtures, cabinetry, and appliances in the kitchen and three bathrooms.
- Altered built-in book cases next to the fireplace in the living room.
- Existing VCT, resilient flooring, and carpeting.
- Existing built-in desk in bedroom 3.

- Milk House.

REHABILITATION RECOMMENDATIONS

The following recommendations are intended to provide a baseline scope of work to make Quarters D habitable for residential occupancy as a single-family officers quarters. The items listed in this report do not address any possible changes in use. Additional tenant improvements may be desired depending on the future occupants.

Site:

- Remove dead/overgrown vegetation and provide landscaping and irrigation upgrades (property is approximately 1.5 acres).
- Demolish existing milk house and adjacent asphalt pad (structure is approximately 480 SF, asphalt pad and walkways are approximately 400 SF).
- Re-surface asphalt driveway.
- See additional notes for the Barn.

Exterior General:

- Inspect and treat home for termites.
- Remove plywood window protection and clean debris from home.
- Remove and replace existing asphalt shingle roofing. This task should include inspection of existing sheathing and selective replacement as needed (assume 10% replacement for budgeting).
- Replace missing and damaged exterior wood shingles (assume 10% replacement for budgeting).
- Determine original exterior color scheme and repaint exterior including shingles, doors, window frames/sashes, trim, and exposed roof framing members.
- Demolish non-historic aluminum shade structure at dining room entry.
- Install new period-appropriate exterior light fixtures at front porch and two rear entrances.
- Remove and replace existing gutters and downspouts.

Windows:

- Restore and repaint all existing historic wood windows. There are approximately 15 double-hung wood windows (type A), two fixed wood windows (type B), three single-light obscured glass casement windows (type C), 18 single-light clear glass casement windows (type D), six three-light casement windows (type E), and three additional windows of unknown style/condition.
- Remove non-historic aluminum window inserts from 14 type D windows on the second floor and replicate missing wood-framed insect screens.
- Replace missing latch hardware on windows W12 and W13 (six casement sashes total).

Exterior Doors:

- Repair original front door and screen door.
- Replace two non-historic exterior rear doors at the utility room and dining room.

General Interior Finish Notes:

- Sand and refinish existing historic wood flooring in the living room, dining room, study, halls, and three bedrooms. Repair water damage in front of door to bathroom 3.
- Replace existing non-historic VCT and resilient flooring in the kitchen, utility room, breakfast room, and three bathrooms.
- Replace existing non-historic carpet at the stairs.
- Per structural recommendations, remove existing lath and plaster finish on interior face of first floor exterior perimeter walls (only where lath and plaster has already been removed from the ceilings and upper walls) to install new full-height gypsum board sheathing. On all other interior walls at the first floor, install new drywall finish at ceilings and upper walls in the living room, dining room, bathrooms, lower level hall, kitchen, breakfast room, and bedroom 1. Use new wood picture rail trim to conceal transition between new drywall and existing plaster.
- Paint throughout (all rooms).
- Install new period-appropriate light fixtures throughout (all rooms except utility room).
- Preserve and protect existing period-style light fixture in the utility room.
- Remove non-historic mirror above built-in buffet in dining room. Restore existing lower cabinets and install new period-appropriate upper cabinets.
- Install period-appropriate cabinet doors on existing built-in book cases next to the historic fireplace.

Interior Doors:

- Restore existing historic interior doors. There are 10 historic three-panel wood interior doors and one historic French door with sidelights at the study.
- Remove and replace two existing non-historic interior slab doors with replicated three-panel wood doors.
- Remove and replace non-historic wood bi-fold doors at the three bedroom closets.

Bathrooms:

- Remove and replace existing plumbing fixtures and built-in cabinetry in three bathrooms.

Kitchen:

- Remove and replace existing cabinetry and countertops. Assume custom grade wood cabinets with recessed panel doors, paint finish and solid surface countertops.
- Remove and replace existing sink.
- Install new appliances (premium grade stainless steel).

Barn:

- Remove and replace existing asphalt shingle roofing.
- Determine original exterior color scheme and repaint exterior and interior including wood board-and-batten siding, doors, trim, and exposed structural framing members.
- Install new period-appropriate lighting (exterior and interior).
- Remove non-historic wood fence and gate on the south façade and install new period-appropriate barn doors to match doors on north facade.

EXISTING CONDITIONS PHOTOGRAPHS

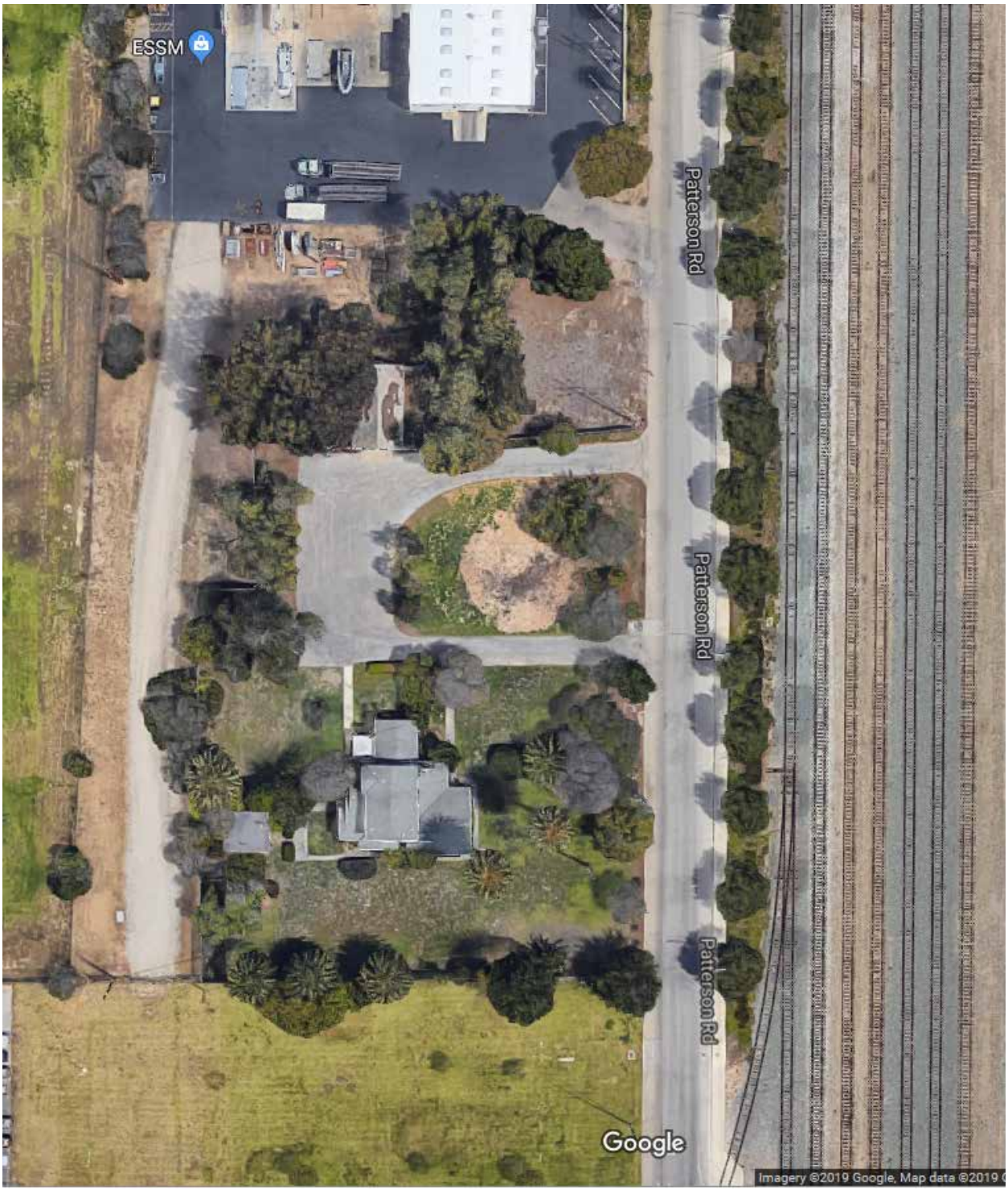

Photo 1: Aerial view of the Quarters D property, courtesy of Google Maps.

Photo 2: The east (front) elevation of Quarters D looking west from the front yard.

Photo 3: The southwest corner of Quarters D showing the rear (west) and side (south) elevations.

Photo 4: The west (rear) elevation of Quarters D.

Photo 5: The north elevation.

Photo 6: Brick Chimney on the north side of the living room.

Photo 7: The front porch looking south. Note the two beams supporting the roof have twisted.

Photo 8: A damaged wood beam at the southeast corner of the porch.

Photo 9: Brick columns and low walls at the porch.

Photo 10: Boarded up living room window on the east elevation. Note the original decorative shutters and shingle cladding.

Photo 11: Typical wood and paint deterioration at the roof.

Photo 12: Missing shingles below the south window of bedroom 1. The original foundation vent screen and adjacent shingles are missing.

Photo 13: Missing shingles on the upper wall above the south window of bedroom 1.

Photo 14: Typical paint deterioration on exterior wood shingles. The original dark brown stain color is visible below multiple layers of white paint.

Photo 15: Typical paint deterioration on the west elevation.

Photo 16: A pair of Type A (1/1 double-hung) windows on the east wall of the living room.

Photo 17: A Type B (fixed) window flanked by two type D (casement) windows on the east wall of the living room.

Photo 18: A Type C (casement with obscured glass) in bathroom 1.

Photo 19: A pair of Type D (casement) windows on the north wall of bedroom 3. Note the non-historic aluminum window inserts that have been added on the exterior side of the windows.

Photo 20: Three Type E (three-light casement) windows on the north wall of the breakfast room.

Photo 21: A typical historic 3-panel wood door in the downstairs hallway.

Photo 22: The living room looking north toward the fireplace. Note the original wood floor and missing plaster on the upper walls and ceiling.

Photo 23: The living room looking south. Note the original wood floor and missing plaster on the upper walls and ceiling.

Photo 24: The dining room looking west at the modified original built-in buffet. Original wood flooring remains but plaster is missing from the uppers walls and ceiling.

Photo 25: The study looking northwest. Wood paneling has been added on the walls.

Photo 26: The kitchen looking northwest at modified/non-historic kitchen cabinets and counter tops. Cabinet doors and appliances have been removed.

Photo 27: The south wall of the utility room.

Photo 28: A period-style light fixture in the utility room.

Photo 29: The downstairs hall looking east from the kitchen.

Photo 30: Bathroom 1 looking south. The vanity, fixtures, and cabinet are non-historic.

Photo 31: The stairs looking west toward the second floor. Non-historic carpet has been added.

Photo 32: Bedroom 1 looking southwest. Plaster has been removed from the upper walls and ceiling. Original wood floors remain. Daylight is visible through the wall due to missing exterior shingles and interior plaster.

Photo 33: Bathroom 2 looking northeast toward the tub.

Photo 34: Bedroom 2 looking west. Original interior doors, wood flooring, and plaster wall and ceiling finish remain.

Photo 35: Bedroom 3 looking southwest.

Photo 36: A non-historic built-in desk on the west wall of bedroom 3. The bi-fold closet doors are also non-historic.

Photo 37: Bathroom 3. Existing fixtures and cabinetry are non-historic.

Photo 38: Damaged plaster ceiling and non-historic light fixture in bathroom 3.

Photo 39: Original wood balustrade at the upper stair landing.

Photo 40: Original built-in linen cabinet in the upstairs hall. Note the water damage on the original wood floor in front of the bathroom door.

Photo 41: The south (front) elevation of the barn looking north from the main parking area.

Photo 42: The interior of the barn looking north. The original timber framing remains in good condition.

Photo 43: The barn looking east toward the roof and exterior board-and-batten siding. The siding appears to be in good condition.

Photo 44: The east elevation of the milk house. This structure has been determined non-contributing and it will be demolished.

CRITICAL STRUCTURES
BALANCING ENVIRONMENT AND DESIGN

April 11, 2019

Ms. Carmen Pauli
Principal
Heritage Architecture & Planning
633 Fifth Ave
San Diego, CA 92101
Via email: carmen@heritagearchitecture.com
O: 619.239.7888

Subject: **Structural Assessment of Quarters D and adjacent Barn within Port Naval Base Ventura County located at Port Hueneme, CA**
Project No. 18-412

Dear Ms. Pauli:

We are pleased to present this report related to the structural assessment of existing visible conditions of historic Quarters D and adjacent Barn.

Introduction

Critical Structures, Inc. performed a site visit on February 7, 2019, with Ms. Carmen Pauli of Heritage Architecture & Planning and Ms. Laura Voisin George of ASM Affiliates, to visually review readily accessible areas of the historic, two-story, wood-framed Quarters D and adjacent one-story barn built in 1918; no probes or testing were performed. The purpose of the structural assessment is to observe the type and general condition of the existing structural system and conceptually delineate mandatory structural requirements and recommended voluntary structural upgrades should the structure be renovated.

Structural System

Quarters D is a wood-framed, single-family dwelling with a partial second story and an irregular footprint, overall plans dimensions are, 60'-6" in the north-south direction and 50'-6" in the east-west direction (Photo 1). The main entrance faces to the east. A detached, single story, partially enclosed, wood-framed barn is located to the north. The barn has a rectangular footprint with overall plan dimensions of 41'-9" in the north-south direction and 53'-9" in the east-west direction. The barn has openings on the north and south elevations with no other observed fenestrations (Photo 2).

The quarters D dwelling is raised off grade with 9" tall 2x4 cripple walls supported on a 7" wide continuous cobble aggregate concrete footing at the perimeter and isolated intermittent concrete piers at the interior (Photo 3,4).

The first floor is constructed of 2x8 wood joists at 16" on center spanning in the north-south direction and covered with diagonal sheathing on top. The second floor is constructed of 2x10 wood joists at 16" on center spanning in the east-west direction and covered with straight sheathing on top

(Photo 5). The low roof framing covering the single-story portions of the residence is constructed of 2x4 rafters at 32" on center covered with straight sheathing. The high roof framing covering the second story was not exposed for observation.

Walls are constructed of 2x4 studs spaced at 16" on center. Perimeter walls are sheathed with wood shingle siding on the exterior and covered with wood lath and plaster on the interior (Photo 6, 7).

The barn is supported on a concrete slab on grade foundation (Photo 8). The interior of the barn was fenced off and inaccessible, thus framing member dimensions were not recorded. The roof of the barn is constructed of rafters with collar ties spanning in the east-west direction at approximately 32" on center sheathed with straight sheathing on top (Photo 9). The high roof is supported on a post and beam system, the posts continue to the slab on grade foundation and create a column grid within the barn. The low roof is supported by the internal column grid and the north-south wood stud walls. The exterior of the barn is covered with board and batten (Photo 10).

Condition

The dwelling gravity framing appears to be in generally good condition. Currently, there is no evidence of significant distress from deteriorated or inadequate structural framing.

Sill plate, siding and posts in close proximity to grade do not show extensive signs of decay or rotting (Photo 11, 12).

Floor framing appears in good condition and no signs of deterioration were noted in the observed areas. Water staining was observed in some locations (Photo 13).

The lath and plaster was observed to have been systematically removed from approximately the top 12" of the walls at all locations (Photo 14, 15).

Exterior porch beams appear to have warped and twisted some time ago and have currently been dry packed over existing unreinforced brick pilasters (Photo 16). The grout of the unreinforced brick pilasters shows signs of deterioration and one brick is absent near the base. Ornamental faux beams may have inadequate support, the toe nail connection of one has failed and the beam was found on the ground (Photo 17). Due to the painted outline it is likely it was attached to the brick chimney (Photo 18). Other faux beams were determined to have similar susceptible connections (Photo 19).

The exterior patio cover was observed to have sustained some impact (Photo 20).

The barn framing appears to be in generally good condition from what could be observed. An interior post was observed to have sustained some impact (Photo 21).

Conceptual Structural Requirements for Proposed Renovation

Other than the requirements of the Building Code to maintain the building in a safe and sanitary condition, assuming the building has no proposed change in use or occupancy, there is no structural trigger for mandatory rehabilitation to current code. Additionally, at this time no increase in building weight or size is planned which could also trigger the mandatory rehabilitation to current code.

The existing lateral force resisting system consisting of lath and plaster would need to be repaired due to the discontinuity caused by the removal of the plaster adjoining the wall top plate. Conceptually this would involve removal of the lath and plaster at the perimeter walls and adding new plywood sheathing or gypsum wallboard sheets for the full height of the wall from sill to top plate; with specific boundary fastening in accordance with current code.

Structurally, strengthening will be required of the connections of the faux beams to the building façade. This would conceptually involve adding new brackets/hardware to provide adequate load path for the self-weight of the beam. The patio cover roof sheet metal may be replaced in kind or removed if not historically significant. At minimum the rotated beam at the porch roof should be anchored in place to prevent further movement and minimize the falling hazard during a seismic event. Conceptually this would involve attaching hardware to the wood beams and utilizing post installed anchors to attach to the brick pillars.

Repair of the barn post will be required to maintain its structural integrity. This would conceptually involve temporarily shoring the adjacent beams, removing the wood post, installing a new wood post, and finally removing shoring. Other posts in the barn appear to be performing well thus the existing foundation and hardware may be able to be reutilized.

Conceptual Structural Recommendations for Proposed Renovation

As is typical of construction of that time period, relatively few if any anchor bolts are provided from structure to concrete foundations. We recommend that prescriptive cripple wall strengthening, and sill anchorage be added to the crawl space of the dwelling. Conceptually this would involve adding plywood sheathing panels from top plate to sill of the cripple walls in accordance with the Existing Building Code. Post installed anchors would need to be drilled and set into the existing footing in accordance with the prescriptive requirements and manufacturer instructions. Typical code minimum sill anchorage may be added to the sill plate of the barn perimeter walls.

To further increase structural performance during a seismic event bridging/blocking between joists at support locations may be added, top plates can be repaired, strapped, and spliced where discontinuous (Photo 22, 23).

Bracing of the chimney would reduce the risk of collapse during a seismic event, due to its separation from the roof line, traditional bracing may be aesthetically unpleasing. Alternatives could conceptually include strengthening with reinforced concrete, replacing with a light framed option, or removal (Photo 24).

To help the longevity of the unreinforced brick pilasters in the porch, we recommend repointing of the grout.

To ensure the longevity of wood framing; regrading or chemical treatments may be explored for wood members in close proximity to grade.

Conclusions

Renovation is structurally feasible, conceptual recommendations are provided in the preceding sections.

This report does not express or imply any warranty associated with the existing structure and was developed based upon visual observations made during the site visit to the building.

We trust this letter report responds to your current structural engineering requirements. Please do not hesitate to contact us if you have any questions or require additional information.

Very truly yours,

Critical Structures, Inc.

Andres Medina, P.E.
Project Engineer

Photo 1 – Exterior Façade of Dwelling

Photo 2 – South Elevation of Barn

Photo 3 – Perimeter Footing and Sill Plate

Photo 4 – Interior Concrete Piers

Photo 5 – 2nd Floor Framing

Photo 6 – Interior Lath and Plaster

Photo 7 – Exterior Wood Shingle Siding

Photo 8 – Slab on Grade Foundation at Barn

Photo 9 – Interior view of Barn framing

Photo 10 – Board and Batten siding at Barn

Photo 11 – Close up of sill plate on footing

Photo 12 – Post base in contact with grade

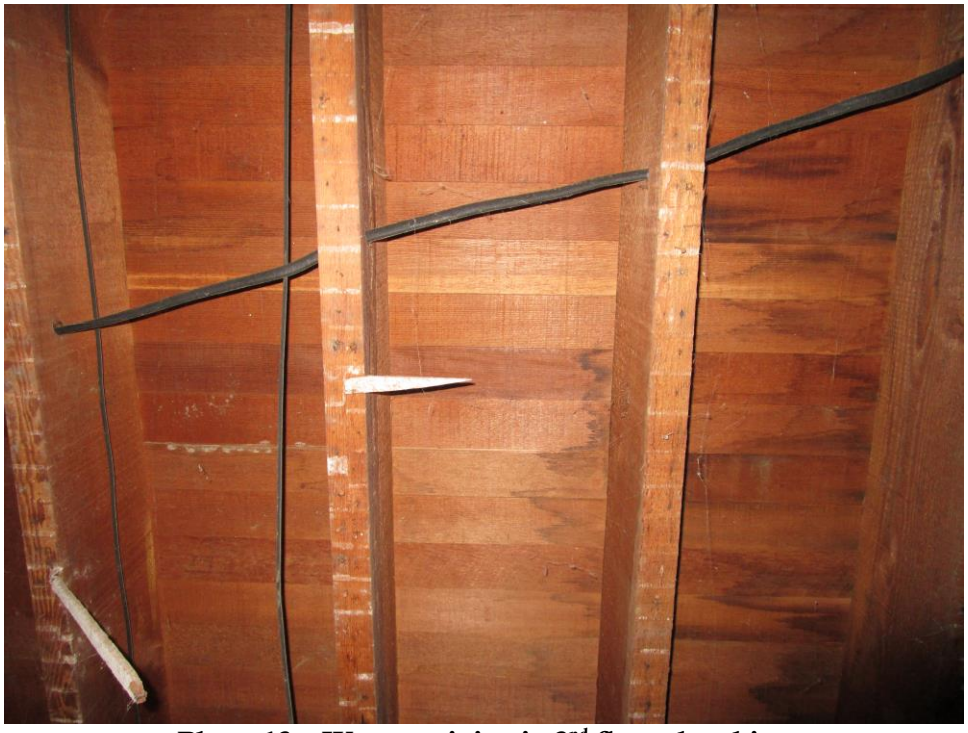

Photo 13 – Water staining in 2nd floor sheathing

Photo 14 – View of discontinuous lath and plaster

Photo 15 – Close up of discontinuous lath and plaster

Photo 16 – Close up dry pack below rotated beam

Photo 17 – Failed faux beam connection

Photo 18 – Original location of failed faux beam

Photo 19 – Susceptible toe nail connection of faux beam

Photo 20 – Impacted patio cover roof

Photo 21 – Impacted column within barn

Photo 22 – Lack of blocking and top plates in select locations

Photo 23 – Notched top plates without strapping

Photo 24 – Unbraced brick chimney

MECHANICAL SYSTEMS

Description

The residence is heated by a gas-fired boiler with a large vertical storage tank. There is no air conditioning. The boiler, storage tank and circulating pump are located in a small building behind the residence.

Heating hot water is pumped to wall-mounted fin tube convectors at each room of the residence. The convector cabinets are typically located below windows, where the heat loss is the greatest.

The heating hot water system piping is galvanized steel. The exposed piping appears to be in good condition, but it is very likely to be internally corroded. Water has been standing in the horizontal sections of the piping since the system was shut down.

Condition

The heating system boiler and the circulating pump may all be non-operational. They appear to be relatively old and in poor condition. The vertical storage tank and the heating water piping show no signs of corrosion, but they tend to corrode from the inside out, so their appearance may be deceiving. The wall-mounted fin tube radiators are in poor condition.

Recommendations

The existing heating system should be removed. Its condition makes it more expensive to repair than the cost of replacement.

We are concerned about the lack of air conditioning in the residence. The coastal climate is very mild, so under most conditions, air conditioning is not needed. There are short periods when the prevailing winds are from the east and temperatures, even along the coast, can reach into the mid- to high-90s.

What is a greater concern is the humidity. There will be significant periods of time when the humidity levels may make the residence uncomfortable.

Normally, adding air conditioning to a furnace system requires the upsizing of everything from the furnace, to the ductwork and the grilles. This is because cooling systems require much more airflow than heating systems. However, because we recommend addressing the humidity and not trying to maintain 75 degrees under all conditions, upsizing can be minimized. Systems designed to reduce humidity should be undersized, so the system will run for a longer period of time, constantly removing humidity from the air. So furnaces and ductwork that are undersized for systems designed to reduce the air temperature are adequate for systems designed to address humidity.

We recommend installing a condensing-type gas-fired furnace, sized for heating, with a direct-expansion cooling coil to dehumidify the residence. The furnace should be readily accessible, so it may be properly maintained. This will require dedicating a closet space for its installation. The closet may be located at either the first or second floor. Soffits may be required to conceal ductwork. If located at the second floor, a duct chase through the first floor to the crawl space may be necessary. Ductwork in the crawl space must be rigid. Rodents can easily destroy

flexible ductwork and use it as a path to enter the residence. We recommend spiral seam steel ductwork. Flexible ductwork may be used elsewhere in the residence. Because the system will primarily be used for space heating, floor registers are preferred over high sidewall registers or ceiling diffusers for air distribution.

The cooling coil will be connected to an outdoor condensing unit with insulated refrigerant piping. A condensate drain will be required at the coil, terminating at an approved point of disposal, such as a lavatory p-trap. The condensing unit should be installed on a concrete pad at grade, avoiding windows. New condensing units are not loud, but there will be compressor and fan noise generated. They should not be located near indoor quiet areas.

PLUMBING SYSTEMS

Description:

A 1/2-inch galvanized steel water line serves the residence. A separate ¾-inch line also runs to the small building with the mechanical equipment. And a ¾-inch line serves the barn. No water meter or backflow device was found on the site.

A 4-inch cast-iron cleanout is located in the back wall of the residence. We believe it is the upstream terminal of the building waste line that runs in the crawl space.

A small natural gas service and regulator is located outside the small building which houses the mechanical equipment. It serves the boiler only. There is no meter at the service.

Fixtures:

All three bathrooms include a single lavatory and a floor mounted flush tank water closet. One first floor bathroom and the second floor bathroom have a bathtub/shower combination.

The kitchen is equipped with a two compartment sink with a single-lever kitchen faucet and a separate spray nozzle. There are provisions for an adjacent dishwasher.

The laundry room contains piping for a clothes washer and an electric dryer. A 40-gallon electric tank-type water heater has been placed in the room, but it is not connected. The piping for the water heater is located in a first floor closet under the staircase. There is no expansion tank.

We believe there is a restroom in the barn, but we were unable to access the interior of the building. There is a hose bibb on an exterior wall at the barn.

Condition

The visible water, gas, waste and vent and vent piping all appear to be in fair to poor condition. Most of the piping exposed on exterior walls is corroded on the outside surfaces. We observed no signs of leakage in any of the lines.

All water closets, lavatories, sinks, faucets, bathtubs and showers are in poor condition as well. All are showing signs of age and wear.

The water heater is in fair condition, but is likely internally corroded if it has been unused for several months.

Recommendations

The 1/2-inch water service to the residence is not adequate. We recommend replacing it with a minimum ¾" service. The entire water piping system should also be replaced, with Schedule 40 PVC used for the underground piping, and copper or cross-linked polyethylene (PEX) used for all piping above grade.

All above grade hot water lines should be insulated with closed-cell plastic insulation, such as Armaflex.

We recommend relocating the natural gas service to the residence, to supply a new furnace and a gas-fired water heater. The water heater should be installed in the laundry room, with a new flue run through a chase at the second floor to a roof cap, or if a power vent type heater is used, through the wall to an approved cap. The current codes do not allow the installation of an appliance under a stair. We recommend adding an expansion tank and running the pressure and relief valve drain to a location outside the building that is not near areas where residents or visitors may congregate.

All plumbing fixtures should be replaced. All water closets should be ultra low-flow (1.28 gallons per flush) type. We recommend replacing all lavatory faucets in the residence with single-lever type with flow restrictors. All showers in the residence should also be replaced with low-flow shower heads, complying with the California Green Code and all shower controls replaced with single-lever type with pressure balancing type valves.

LIGHTING SYSTEMS

Interior

The lighting system in the residence consists mainly of surface-mounted 120-volt incandescent fixtures. There are multiple fixture types, including pendants, surface-mount incandescent sockets, decorative sconces, and others. Where ceilings have been removed, only a junction box remains where a fixture had been located. Lighting controls are limited to wall switches.

There are three 48-inch multi-lamp fluorescent fixtures in the barn. They are suspended from the roof structure.

Exterior Lighting

The exterior lighting at the residence is also a mix of incandescent fixture types, with surface-mounted cylinder fixtures at the front porch, and incandescent flood lights at the back entry. Mounted high on a pole near the back entry is a cobra head street light fixture. No exterior lighting control system was found.

A similar cobra head fixture is located over the front opening of the barn.

Condition
The interior and exterior lighting fixtures appear to be in fair to poor condition.

Recommendations
We recommend replacing the interior and exterior fixtures with more attractive, period correct units. Fixtures with an LED light source should be used wherever possible. They are available in numerous styles, with light color ranging from warm white to daylight.

POWER SYSTEMS

Description
The electrical service to the residence is a 150 amp, 3-pole main circuit breaker. A 3-pole fused disconnect is located upstream of the circuit breaker. There is a meter located on the exterior wall of the small building behind the residence.

The main breaker serves a 12-circuit load center. Six of the spaces contain residential-type double breakers. Two spaces contain 20-amp standard single-pole circuit breakers. The remaining two spaces are empty.

The main also serves a small load center with a 15 amp, single pole circuit breaker serving the porch, a 50 amp, 2-pole circuit breaker serving the water heater, and a 60 amp, 3-pole circuit breaker for the electric range/oven.

A small load center is located in the small building behind the residence. We were unable to verify its size.

There is no indication that any load center is subfed from another, which would normally be the case. The panel directories show no identical loads between them. We must conclude that all are active.

The receptacles in the residence are 3-wire grounded type, located in the walls. The only exterior receptacle found is a quad outlet located under a second floor roof overhang at the back of the building. It appears to have been installed to serve communications or security equipment.

Conductors routed to the residence exterior and within the barn are run in conduit. Cloth-covered conductors, pre-dating Romex has been used extensively in the interior of the residence.

Condition
There is paint overspray on the main circuit breaker box and both load centers in the residence. There is no door on the load center with the water heater circuit breaker. The overspray may affect the operation of the three exposed breakers. Otherwise, the load centers appear to be in good condition. The meter socket at the small building is badly corroded.

The receptacles are in generally fair condition. A few are missing their cover plates.

Recommendations

We recommend rewiring all of the receptacles, fixtures and devices downstream of the existing load centers. The age of the conductors is likely far beyond safe limits and we were unable to determine if the conductors are copper or aluminum. The use of Romex is allowed in residential construction. It should be properly organized and routed in a logical manner, run parallel or perpendicular to the structural elements from which it is supported.

All bathroom receptacles in the residence should be replaced with GFI type. All other receptacles should be arc fault current interrupter (AFCI) type.

All abandoned wiring should be removed. This includes telephone and data wiring.

PHOTOGRAPHS

Mechanical:

Heating water boiler and the associated flue and vertical storage tank.

Heating water circulating pump, the makeup water station and the small building load center.

Typical fin tube convector on wall. This one has an air vent at the grille.

Plumbing:

Water service entering the residence (1/2 inch)

Water service entering the barn (3/4 inch)

Water closet, vanity with countertop built-in lavatory and bath/shower in the upstairs bathroom.

Lighting:

Bedroom incandescent lighting fixture without the shade/diffuser.

Porch incandescent lighting fixtures.

Pole mounted lighting fixture.

Barn exterior lighting fixture.

Barn interior fluorescent lighting fixtures.

Electrical:

Electrical service, main breaker cabinet, and two load centers.

12-circuit load center.

Porch lighting, water heater and range/oven circuit breakers in load center with paint.

Electrical meter at small building behind the residence.

Conductors with cloth insulation at ceiling junction box.

Receptacle at exterior wall.

Port Hueneme Quarters D

San Diego, CA

3/19/2019

Concept Cost Estimate
based on
Conditions Assessment Report

Prepared for:

HERITAGE
ARCHITECTURE & PLANNING

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Executive Summary

Area: 4,811

	Total	$ / SF	Area	Comment
Option 1 - Renovate				
Building	$1,256,264	$261.12	4,811	
Site	$367,017	$5.61	65,475	
Total	**$1,623,280**			
Option 2 - Demolish	**$209,783**	**$43.60**	**4,811**	

BASIS OF ESTIMATE

Project Overview

The project comprises renovations at Port Huememe Quarters D - Option 1 - Renovate; Option 2 - Demolish

Drawings / Documents

Conditions Assessment Report	07-Mar-19

Procurement

The project will be procured using a hard bid delivery method with 5 preselected general contractors

Contingency and Allowances

Design Contingency	15%	Covers scope creep during design
Construction Contingency		Carried elsewhere in owners budget
Escalation	5%	Covers material and labor price increases
Market Factor	10%	Covers bidding risk
General Contractor Mark-Ups		
General Requirements	5%	Site set-up and safety
Supervision	5%	Management
Insurance and Bonding	2.5%	
Profit	5%	
Sub-Contractor Mark-Ups		Included within detailed estimate

Schedule

Construction Start Date	1-Jul-19	Construction End Date	31-Dec-20
Mid-date of Construction	31-Mar-20	Construction Duration	18 months
Escalation Period	13 months		

Building and Site Areas

Floor	Area
Level 1	1,864 SF
Level 2	619 SF
Barn	2,328 SF
Sub-Totals	**4,811**
Gross Building Area	**4,811 SF**
Level 1 Porch	338 SF
Site Area	N/A

BASIS OF ESTIMATE

Assumptions / Inclusions / Exclusions / Clarifications

Assumptions

- Title-24 compliant
- Project will bid at the time and with the procurement method listed above

Exclusions

- Professional design fees and other fees outside the general contractor costs
- Land acquisition
- Site surveys
- Hazardous materials investigation and abatement
- Site utility connection charges and fees
- Work off site, unless otherwise specified
- Permits
- Construction and Owners contingency
- Off ours working and phasing, unless otherwise identified
- Furniture
- Low voltage equipment and wire - tel/data, security, AV
- Items defined as Vendor / Owner supplied and Vendor / Owner installed
- Unknow subsurface conditions

Masterformat Summary (CSI) **Area:** 4,811

#	Division	%	Option 1	$ / SF	Option 2	$ / SF	Comments
01	General Requirements		68,402	$14.22	8,840	$1.84	
02	Existing Conditions		59,910	$12.45	109,580	$22.78	
03	Concrete						
04	Masonary		5,000	$1.04			
05	Metals		1,203	$0.25			
06	Wood, Plastic, composite		84,065	$17.47			
07	Thermal & Moisture Protection		124,053	$25.79			
08	Openings		89,750	$18.66			
09	Finishes		178,135	$37.03			
10	Specialties		16,000	$3.33			
11	Equipment		8,000	$1.66			
12	Furnishings						
13	Special Construction						
14	Conveying Equipment						
21	Fire Supression						
22	Plumbing		56,146	$11.67			
23	HVAC		48,745	$10.13			
25	Intergrated Automation						
26	Electrical		118,125	$24.55			
27	Communications		4,811	$1.00			
28	Electrical Safety and Security						
31	Earthwork		23,000	$4.78	23,000	$4.78	
32	Exterior Improvements		138,450	$28.78			
33	Utilities		70,500	$14.65			
34	Transportation						
35	Waterway and Marine Constructior						
Direct Cost			**1,094,295**	**$227.46**	**141,420**	**$29.40**	
	Design Contingency	15.0%	153,884	$31.99	19,887	$4.13	
	Construction Contingency						
	Escalation	5.4%	63,905	$13.28	8,259	$1.72	
	Market Factor	10.0%	124,368	$25.85	16,073	$3.34	
	General Contractor Costs						
	General Requirements						See Division 01
	Supervision	5.0%	71,823	$14.93	9,282	$1.93	
	Insurance and Bonding	2.5%	37,707	$7.84	4,873	$1.01	
	Profit	5.0%	77,299	$16.07	9,990	$2.08	
Estimate Total			**1,623,280**	**$337.41**	**209,783**	**$43.60**	

BCG BUILDING COST GROUP

Uniformat II Summary **Area:** 4,811

	Section	%	Option 1	$ / SF	Option 2	$ / SF	Comments
A	**Substructrue**						
	A10 Foundations						
	A20 Basement Construction						
B	**Shell**		**293,118**	**60.93**			
	B10 Superstructure		61,315	12.74			
	B20 Exterior Closure		117,372	24.40			
	B30 Roofing		114,431	23.79			
C	**Interiors**		**205,088**	**42.63**			
	C10 Interior Construction		88,475	18.39			
	C20 Stairways						
	C30 Interior Finishes		116,613	24.24			
D	**Services**		**227,827**	**47.36**			
	D10 Conveying						
	D20 Plumbing		56,146	11.67			
	D30 HVAC		48,745	10.13			
	D40 Fire Protection						
	D50 Electrical		122,936	25.55			
E	**Equipment and Furnishings**		**8,000**	**1.66**			
	E10 Equipment		8,000	1.66			
	E20 Furnishings						
F	**Special Construction and Demolition**		**59,910**	**12.45**			
	F10 Special Construction						
	F20 Selective Building Demolition		59,910	12.45			
G	**Building Sitework**		**231,950**	**48.21**	**132,580**	**27.56**	
	G10 Site Preparation		23,000	4.78	132,580	27.56	
	G20 Site Improvements		138,450	28.78			
	G30 Mehanical Utilities		55,500	11.54			
	G40 Electrical Utilities		15,000	3.12			
	G50 Other Site Construction						
Direct Cost			**1,025,893**	**213.24**	**132,580**	**27.56**	
	Design Contingency	15.0%	153,884	31.99	19,887	4.13	
	Construction Contingency						Not included
	Escalation	5.4%	63,905	13.28	8,259	1.72	
	Market Factor	10.0%	124,368	25.85	16,073	3.34	
	Adjusted Direct Cost		**1,368,049**	**284.36**	**176,798**	**36.75**	
	General Contractor Costs						
	General Requirements	5.0%	68,402	14.22	8,840	1.84	
	Supervision	5.0%	71,823	14.93	9,282	1.93	
	Insurance and Bonding	2.5%	37,707	7.84	4,873	1.01	
	Profit	5.0%	77,299	16.07	9,990	2.08	
Estimate Total			**1,623,280**	**337.41**	**209,783**	**43.60**	**total add-ons 58.23%**

Ref	CSI	Description	Quantity	Unit	Rate	Total	Comments
1							
2		**A10 Foundations**		N/A			
3							
4		**A10 Foundations**					**$0 / SF**
5							
6							
7		**A20 Basement Construction**		N/A			
8							
9		**A20 Basement Construction**					**$0 / SF**
10							
11							
12		**B10 Superstructure**					
13							
14		House					
15	6	Termite inspection and repair - includes structure and façade	4,811	SF	2.00	9,622	
16	6	Structurally, strengthening will be required of the connections of the faux beams to the building façade - add new brackets/hardware to provide adequate load for the self-weight of the beam	1	LS	2,000.00	2,000	
17	6	Add plywood sheathing panels from top plate to sill of the cripple walls in accordance with the Existing Building Code. Post installed anchors would need to be drilled and set into the existing footing in accordance with the prescriptive requirements and manufacturer instructions	210	LF	100.00	21,000	
18	6	Bridging/blocking between joists at support locations may be added, top plates can be repaired, strapped, and spliced where discontinuous	2,483	SF	3.00	7,449	
19	6	Chemically treat timber with close proximity to grade	4,811	SF	1.00	4,811	
20							
21		Barn					
22	6	Remove the wood post, install new wood	1	EA	2,000.00	2,000	
23							
24	6	Misc blocking, metals, etc	4,811	SF	3.00	14,433	
25							
26		**B10 Superstructure**				**61,315**	**$12.74 / SF**
27							
28							
29		**B20 Exterior Closure**					
30							
31		House					
32	9	Remove plywood window protection and clean debris from home	1	LS	2,000.00	2,000	
33	9	Replace missing and damaged exterior wood shingles (assume 10% replacement for budgeting)	460	SF	25.00	11,500	

Ref	CSI	Description	Quantity	Unit	Rate	Total	Comments
34	9	Repaint exterior including shingles, doors, window frames/sashes, trim, and exposed roof framing members	1	LS	10,000.00	10,000	
35	4	Unreinforced brick pilasters in the porch, by repointing the grout	1	LS	5,000.00	5,000	
36							
37		Barn					
38	9	Repaint exterior and interior including wood board-and-batten siding, doors, trim, and exposed structural framing members.	1	LS	7,000.00	7,000	
39	8	Install new period appropriate barn doors to match doors on north façade	1	LS	15,000.00	15,000	
40							
41		Windows					
42	8	Restore and repaint all existing historic wood windows					
43	8	Double hung wood windows (type A)	15	EA	1,000.00	15,000	
44	8	Fixed wood windows (type B)	2	EA	750.00	1,500	
45	8	Single-light obscured glass casement windows (type C)	3	EA	750.00	2,250	
46	8	Single-light clear glass casement windows (type D)	18	EA	1,000.00	18,000	
47	8	Six three-light casement windows (type E)	6	EA	1,500.00	9,000	
48	8	Windows of unknown style/condition	3	EA	1,000.00	3,000	
49	8	Replace missing latch hardware on windows W12 and W13 (six casement sashes total).	6	EA	250.00	1,500	
50							
51		Doors					
52	8	Repair original front door and screen door	2	EA	1,000.00	2,000	
53	8	Replace two non-historic exterior rear doors at the utility room and dining room	2	EA	2,500.00	5,000	
54							
55	7	Misc sheet metal and caulking	4,811	SF	2.00	9,622	
56							
57		**B20 Exterior Closure**				**117,372**	**$24.4 / SF**
58							
59							
60		**B30 Roofing**					
61							
62		House					
63	7	Replace existing asphalt shingle roofing	2,330	SF	20.00	46,600	Includes insulation
64	7	Inspect of existing sheathing and selective replacement as needed - 10%	233	SF	7.00	1,631	
65	7	Remove and replace existing gutters and downspouts	1	LS	5,000.00	5,000	
66	7	Bracing of the chimney	1	LS	3,000.00	3,000	
67							
68		Barn					
69	7	Replace existing asphalt shingle roofing	2,910	SF	20.00	58,200	Includes insulation
70							
71		**B30 Roofing**				**114,431**	**$23.79 / SF**

Ref	CSI	Description	Quantity	Unit	Rate	Total	Comments
72							
73							
74		**C10 Interior Construction**					
75							
76		Partitions					subtotal $31,022
77							
78	9	New gypsum wallboard sheets for the full height of the wall from sill to top plate,	2,300	SF	8.00	18,400	
79	9	Stud repair	1	LS	3,000.00	3,000	
80	9	Misc drywall, patch drywall	4,811	SF	2.00	9,622	
81							
82		Interior Doors and Windows					subtotal $17,500
83							
84	8	Restore existing historic interior doors. There are 10 historic three-panel wood interior doors and one historic French door with sidelights	11	EA	500.00	5,500	
85	8	Replace two existing non-historic interior slab doors with replicated three-panel wood doors	2	EA	3,000.00	6,000	
86	8	Replace non-historic wood bi-fold doors at the three bedroom closets	3	EA	2,000.00	6,000	
87							
88		Fittings					subtotal $39,953
89							
90		Casework					
91	10	Restore existing lower cabinets and install new period-appropriate upper cabinets at built-in buffet in dining room.	10	LF	250.00	2,500	
92	10	Install period-appropriate cabinet doors on existing built-in book cases next to the historic	8	LF	500.00	4,000	
93							
94		Kitchen					
95	6	Replace existing cabinetry and countertops. Assume custom grade wood cabinets with recessed panel doors, paint finish and solid surface countertops	35	LF	650.00	22,750	
96							
97		Restroom specialties					
98	10	Remove and replace existing plumbing fixtures and built-in cabinetry in three	3	EA	3,000.00	9,000	
99							
100		Misc					
101	5	Architectural metals	4,811	GSF	0.25	1,203	
102	10	Fire extinguishers	2	EA	250.00	500	
103							
104		**C10 Interior Construction**				**88,475**	**$18.39 / SF**
105							
106							
107		**C20 Stairways**					
108							

Ref	CSI	Description	Quantity	Unit	Rate	Total	Comments
109		No work					
110							
111		**C20 Stairways**					**$0 / SF**
112							
113							
114		**C30 Interior Finishes**					
115							
116		Wall Finishes					subtotal $20,750
117							
118	9	Paint throughout	6,500	SF	1.10	7,150	
119	9	Restroom wall tile	680	SF	20.00	13,600	
120							
121		Floor Finishes					subtotal $58,583
122							
123	9	Restroom tile floor	130	SF	20.00	2,600	
124	9	Sand and refinish existing historic wood flooring in the living room, dining room, study,	1,200	SF	10.00	12,000	
125	9	Repair water damage in front of door to bathroom 3	1	LS	500.00	500	
126	9	New wood flooring - kitchen, utility room, breakfast room, and three bathrooms	1,100	SF	35.00	38,500	Where VCT was removed
127	9	Replace existing non-historic carpet at the stairs	50	SF	50.00	2,500	
128	9	Base allowance	2,483	SF	1.00	2,483	
129							
130		Ceiling Finishes					subtotal $37,280
131							
132	9	Install new drywall finish at 1st floor ceilings	1,864	SF	20.00	37,280	
133							
134		**C30 Interior Finishes**				**116,613**	**$24.24 / SF**
135							
136							
137		**D10 Conveying**		N/A			
138							
139		**D10 Conveying**					**$0 / SF**
140							
141							
142		**D20 Plumbing**					
143							
144		Plumbing fixtures					subtotal $26,400
145							
146	22	WC	3	EA	2,000.00	6,000	
147	22	Washroom sink	3	EA	1,800.00	5,400	
148	22	Kitchen sink, double	1	EA	2,000.00	2,000	
149	22	Tub / shower	2	EA	3,000.00	6,000	
150	22	Water heater	1	EA	3,500.00	3,500	
151	22	Dishwasher	1	EA	2,000.00	2,000	
152	22	Garbage disposal	1	EA	1,000.00	1,000	
153	22	Fridge / Freezer - connection only	1	EA	500.00	500	
154							
155		Pipework					subtotal $26,246

House: 2,483
Barn: 2,328
Total: 4,811

Detailed Estimate - Option 1

Ref	CSI	Description	Quantity	Unit	Rate	Total	Comments
156							
157	22	Rough in fixtures	13	EA	750.00	9,750	
158	22	Sanitary waste and vent system,	1	LS	3,000.00	3,000	
159	22	Domestic water					
160	22	Hot (insulated)	75	LF	45.00	3,375	
161	22	Cold	76	LF	46.00	3,496	
162	22	Connect to existing	3	EA	875.00	2,625	
163	22	Gas distribution	1	LS	3,000.00	3,000	
164	22	Valves and specialties	1	LS	1,000.00	1,000	
165							
166		Miscellaneous plumbing requirements					subtotal $3,500
167							
168	22	Site supervision, mob/demob, general conditions, general requirements, documentation	1	LS	3,500.00	3,500	
169							
170		**D20 Plumbing**				**56,146**	**$11.67 / SF**
171							
172							
173		**D30 HVAC**					
174							
175	23	Install a condensing-type gas-fired furnace	1	EA	5,500.00	5,500	
176	23	Ductwork, registers	2,483	SF	15.00	37,245	
177	23	Controls	1	LS	5,000.00	5,000	
178	23	Water heater vent	1	EA	1,000.00	1,000	
179							
180		**D30 HVAC**				**48,745**	**$10.13 / SF**
181							
182							
183		**D40 Fire Protection**		N/A			
184							
185		**D40 Fire Protection**					**$0 / SF**
186							
187							
188		**Electrical**					
189							
190		Distribution					
191	26	Panel	1	EA	3,500.00	3,500	
192							
193	26	Machine and equipment power - exhaust fan, furnace, boiler	3	EA	750.00	2,250	
194							
195		Lighting, wiring, controls					
196		House					
197	26	Install new period-appropriate exterior light fixtures at front porch and two rear	4	EA	1,500.00	6,000	
198	26	Interior - install new period-appropriate light fixtures throughout (all rooms except utility room).	24	EA	1,000.00	24,000	
199	26	Preserve and protect existing period-style light fixture in the utility room	1	EA	500.00	500	

House: 2,483
Barn: 2,328
Total: 4,811

Detailed Estimate - Option 1

Ref	CSI	Description	Quantity	Unit	Rate	Total	Comments
200		Barn					
201		Install new period-appropriate lighting (exterior and interior)					
202	26	Interior	3	EA	1,500.00	4,500	
203	26	Exterior	2	EA	1,000.00	2,000	
204	26	Wire	1,190	LF	8.00	9,520	
205	26	Controls	1	LS	24,100.00	24,100	
206							
207		Convenience power					Floor boxes for tables
208	26	Outlets	30	EA	350.00	10,500	
209	26	Wire	900	LF	8.00	7,200	
210							
211	27	Telecom/data/AV	4,811	SF	1.00	4,811	Conduit, back boxes ONLY
212							
213	28	Fire Alarm - modifications		n/a			
214							
215	27	CCTV		n/a			
216							
217	26	Miscellaneous Electrical	4,811	SF	5.00	24,055	
218							
219		**D50 Electrical**				**122,936**	**$25.55 / SF**
220							
221							
222		**E10 Equipment**					
223							
224		Install new kitchen appliances (premium grade stainless steel).					
225	11	Range	1	EA	3,000.00	3,000	
226	11	Hood	1	EA	2,000.00	2,000	
227	11	Fridge / Freezer	1	AE	3,000.00	3,000	
228							
229		**E10 Equipment**				**8,000**	**$1.66 / SF**
230							
231							
232		**E20 Furnishings**					
233							
234	12	Blinds					Not included
235							
236		**E20 Furnishings**					**$0 / SF**
237							
238							
239		**F10 Special Construction**		N/A			
240							
241		**F10 Special Construction**					**$0 / SF**
242							
243							
244		**F20 Selective Building Demolition**					
245							
246	2	Demolish non-historic aluminum shade structure at dining room entry	1	LS	1,000.00	1,000	

Ref	CSI	Description	Quantity	Unit	Rate	Total	Comments
247	2	Remove of the lath and plaster at the perimeter walls	2,300	SF	2.00	4,600	
248	2	Remove non-historic wood fence and gate on the south façade	1	LS	500.00	500	
249	2	Remove non-historic aluminum window inserts from 14 type D windows on the second floor and replicate missing wood-framed insect	14	EA	25.00	350	
250		Remove existing asphalt shingle roofing					
251	2	House	2,330	SF	2.00	4,660	
252	2	Barn	2,910	SF	2.00	5,820	
253	2	Remove two existing non-historic interior slab doors	2	EA	150.00	300	
254	2	Remove non-historic wood bi-fold doors at the three bedroom closets	3	EA	150.00	450	
255	2	Remove non-historic mirror above built-in buffet in dining room	10	LF	10.00	100	
256	2	Remove existing cabinetry and countertops	35	LF	25.00	875	
257	2	Remove existing non-historic VCT and resilient flooring in the kitchen, utility room, breakfast	1,100	SF	2.00	2,200	
258	2	Misc removal	1	LS	10,000.00	10,000	
259	2	Haul off	1	LS	5,000.00	5,000	
260	2	Hazmat abatement	4,811	SF	5.00	24,055	
261							
262		**F20 Selective Building Demolition**				**59,910**	**$12.45 / SF**
263							
264							
265		**G10 Site Preparation**					
266							
267	31	Demolish existing milk house and adjacent asphalt pad (structure is approximately 480 SF, asphalt pad and walkways are approximately	1	LS	3,000.00	3,000	
268	31	Remove existing landscape	1	LS	10,000.00	10,000	
269							
270	31	Earthwork	1	LS	5,000.00	5,000	
271	31	Erosion control	1	LS	5,000.00	5,000	
272							
273		**G10 Site Preparation**				**23,000**	**$4.78 / SF**
274							
275							
276		**G20 Site Improvements**					
277							
278	32	Design and install new landscaping and irrigation for entire property (approximately 1.5 acres).	59,475	SF	2.00	118,950	
	32	Trees	5	EA	1,500.00	7,500	
279	32	Re-surface asphalt driveway	6,000	SF	2.00	12,000	
280							
281		**G20 Site Improvements**				**138,450**	**$28.78 / SF**

House: 2,483
Barn: 2,328
Total: 4,811

Detailed Estimate - Option 1

Ref	CSI	Description	Quantity	Unit	Rate	Total	Comments
282							
283							
284		**G30 Mehanical Utilities**					
285							
286		Water					
287	33	New 3/4" service to house	500	LF	55.00	27,500	
288	33	Water meter	1	LS	3,000.00	3,000	
289	33	POC	1	EA	1,500.00	1,500	
290							
291		Gas					
292	33	New 1" service to house	500	LS	40.00	20,000	
293	33	Gas meter	1	LS	2,000.00	2,000	
294	33	POC	1	EA	1,500.00	1,500	
295							
296	33	Stormwater control					Not required
297							
298		**G30 Mehanical Utilities**				**55,500**	**$11.54 / SF**
299							
300							
301		**G40 Electrical Utilities**					
302							
303	33	Site lighting	1	LS	15,000.00	15,000	
304							
305		**G40 Electrical Utilities**				**15,000**	**$3.12 / SF**
306							
307							
308		**G50 Other Site Construction**		N/A			
309							
310		**G50 Other Site Construction**					**$0 / SF**

House: 2,483
Barn: 2,328
Total: 4,811

Detailed Estimate - Option 2

Ref	CSI	Description	Quantity	Unit	Rate	Total	Comments
1							
2		**G10 Site Preparation**					
3							
4	2	Remove House	2,483	SF	15.00	37,245	
5	2	Remove Barn	2,328	SF	10.00	23,280	
6	31	Demolish existing milk house and adjacent asphalt pad (structure is approximately 480 SF, asphalt pad and walkways are approximately	1	LS	3,000.00	3,000	
7	2	Haul off	1	LS	25,000.00	25,000	
8	2	Hazmat abatement	4,811	SF	5.00	24,055	
9	31	Erosion control	1	LS	20,000.00	20,000	
10							
11		**G10 Site Preparation**				**132,580**	**$27.56 / SF**
12							
13							
14		**G20 Site Improvements**		N/A			
15							
16		**G20 Site Improvements**					**$0 / SF**
17							
18							
19		**G30 Mehanical Utilities**		N/A			
20							
21		**G30 Mehanical Utilities**					**$0 / SF**
22							
23							
24		**G40 Electrical Utilities**		N/A			
25							
26		**G40 Electrical Utilities**					**$0 / SF**
27							
28							
29		**G50 Other Site Construction**		N/A			
30							
31		**G50 Other Site Construction**					**$0 / SF**