APPENDIX F
Structural Review of Field Conditions

DATE:	April 18, 2023	JOB #:	
PROJECT:	6110 Camino De La Costa	WEATHER:	Overcast
LOCATION:	La Jolla, CA		
PRESENT:	Matthew Segal (on site videos and photos); Jonathan Deck (review of videos and photos)		

This updated document dated April 18, 2023 is intended as a supplement to the August 9, 2022 Field Report and March 10, 2023 Structural Review of Field Conditions. All guidance, recommended repairs, conditions are still applicable for the previously reviewed portion. This review is intended to address the additional information provided for the foundation & crawlspace under the western portion of the existing building as well as the garage, site walls, and other site improvements in the form of added commentary on the HABS drawing markup.

On April 18, 2023, DCI Engineers was provided additional photos of the western portion of the existing residence, site walls, and garage located at 6110 Camino De La Costa in La Jolla, CA. These portions of the primary building were described in the previous review of field conditions report on March 10, 2023. However, the commentary was not yet added to the prior report in the form of markups on the HABS plan. DCI's opinion is that the western portion exhibits similar degradation as the portions observed in the August 9, 2022 report. DCI's opinion is that the observations and recommendations noted in the previous report are also applicable for this portion of the building. In addition, photos were provided showing various site improvements and the garage which were added to the HABS markups

Sincerely,

DCI Engineers

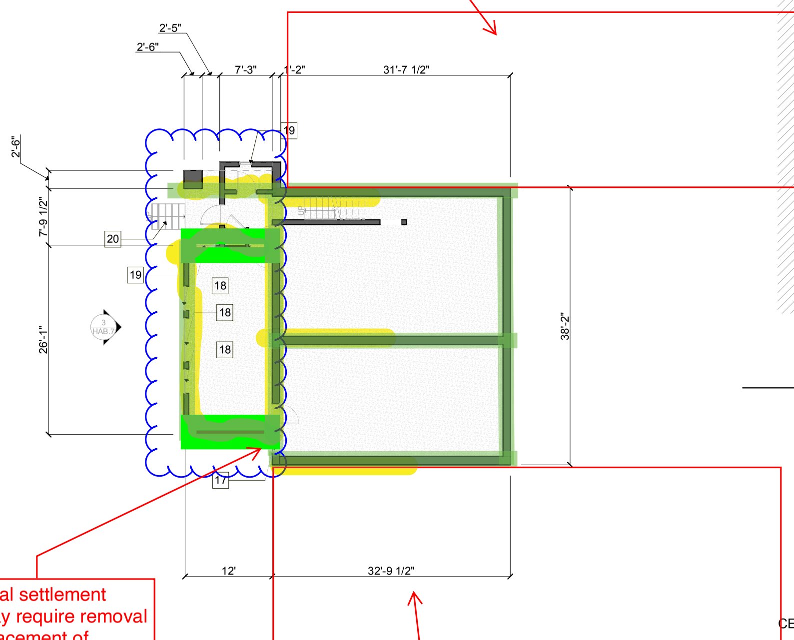
Jonathan Deck, PE, SE
Associate Principal

REGISTERED PROFESSIONAL ENGINEER
JONATHAN M. DECK
S6473
Exp. 12/31/22
STRUCTURAL
STATE OF CALIFORNIA

Enclosures : Additional Photos (Figure A and B on page 2) and markups to HABS.2 and HABS.3 drawings

Figure A - Stairs Failing, Offset in Building Walls, Cracking in Multiple Site Walls

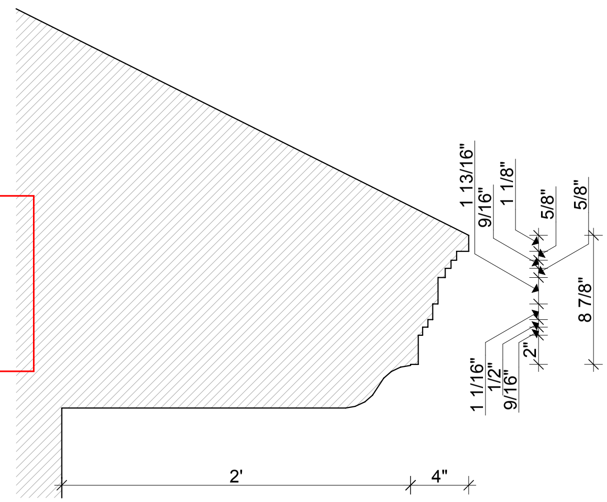
Figure B - Cracking in Garage Ceiling, Doors Racking adjacent crawl space marked up on following sheets



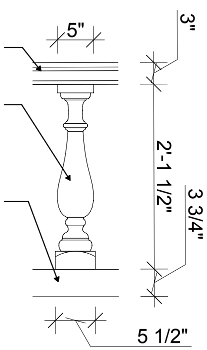
differential settlement here, may require removal and replacement of foundations and jacking of existing structure to original location

adjacent crawl space marked up on following sheets

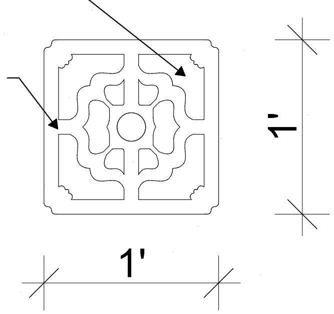
-1. Basement (1)
SCALE: 1/8" = 1'-0"



EAVE PROFILE (2)
SCALE: 3" = 1'-0"



CEMENT RAILING (4)
SCALE: 1 1/2"= 1'-0"



DECORATIVE MEDALIONS (3)
SCALE: 3" = 1'-0"

KEYNOTES

1	CONCRETE DRIVEWAY
2	PAINTED CONCRETE WALK/PAVING
3	STUCCO SIDING
4	METAL RAILING
5	CEMENT RAILING
6	TILE STEPS
7	CLAY TILE ROOFING
8	FLAT ROOF
9	CHIMNEY
10	TILE FOUNTAIN
11	EXTERIOR WOOD STAIRS
12	WATER HEATER
13	WOOD SINGLE CASEMENT WINDOW
14	ALUMINUM WINDOW (NH)
15	TILE ROOFING
16	BUILT-UP ROOFING
17	LOUVERED VENT
18	WOOD FIXED PICTURE WINDOW
19	WOOD DOUBLE CASEMENT WINDOW
20	CONCRETE STEPS
21	COVERED DECK (NH)
22	WOOD DECKING
23	WOOD STEPS
24	WOOD GATE
25	WOOD ENTRY DOORS
26	COVERED ARCHWAY
27	ABUTMENT
28	GUTTER
29	DOWNSPOUT
30	FIREPLACE
31	DECORATIVE COLUMN
32	CHAINLINK FENCE
33	SITE WALL
34	PARAPET WALL
35	RETAINING WALL
36	DRIVEWAY CURB
37	GARAGE DOOR
38	DECORATIVE MEDALION

NORTH

PROJECT:
CASA DE LOS AMIGOS
HRB# XXX
6110 CAMINO DE LA COSTA
LA JOLLA, CA 92037
357-141-05-00
PROJECT #: 106610

ARCHITECT:
JONATHAN SEGAL FAIA
3000 UPAS STREET SUITE 101
SAN DIEGO, CA 92104
619-993-6269 www.jonathansegalarchitect.com

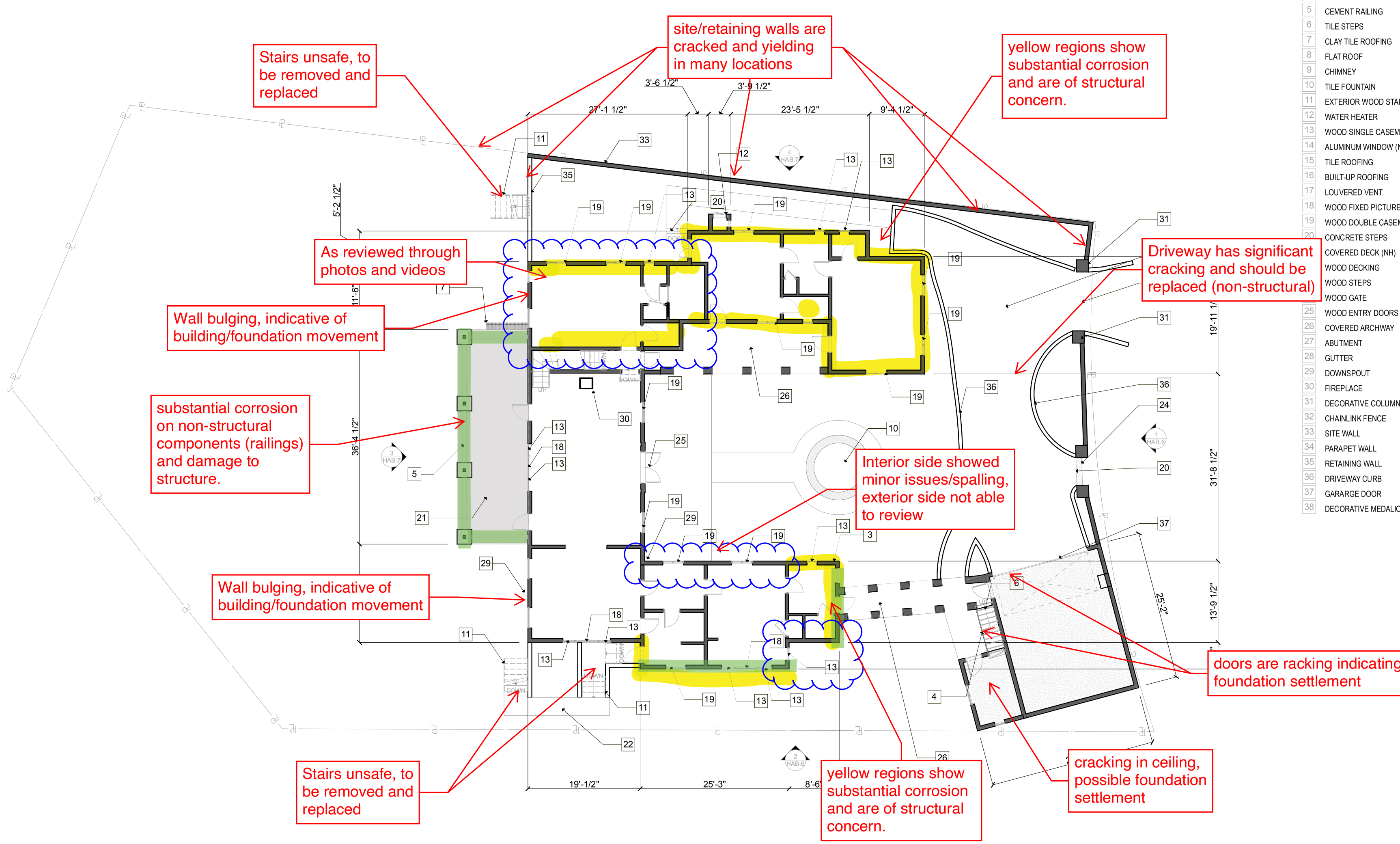
REVISIONS

MARK	DATE	DESCRIPTION

DATE: 3/1/23
SCALE:

-1. BASEMENT

HABS.2
SHEET



0. Level 1
SCALE: 1/8" = 1'-0"

KEYNOTES

1	CONCRETE DRIVEWAY
2	PAINTED CONCRETE WALK/PAVING
3	STUCCO SIDING
4	METAL RAILING
5	CEMENT RAILING
6	TILE STEPS
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27	ABUTMENT
28	GUTTER
29	DOWNSPOUT
30	FIREPLACE
31	DECORATIVE COLUMN
32	CHAINLINK FENCE
33	SITE WALL
34	PARAPET WALL
35	RETAINING WALL
36	DRIVEWAY CURB
37	GARARGE DOOR
38	DECORATIVE MEDALION

NORTH

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HRB# XXX
6110 CAMINO DE LA COSTA
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REVISIONS

MARK	DATE	DESCRIPTION

DATE: 3/1/23
SCALE:

1. LEVEL 1

HABS.3
SHEET

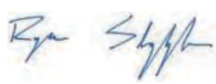
DATE:	March 10, 2023	JOB #:	
PROJECT:	6110 Camino De La Costa	WEATHER:	Overcast
LOCATION:	La Jolla, CA		
PRESENT:	Matthew Segal (on site videos and photos); Ryan Slaybaugh (review of videos and photos)		

This updated document dated March 10, 2023 is intended as a supplement to the August 9, 2022 Field Report. All guidance, recommended repairs, conditions are still applicable for the previously reviewed portion. This review is intended to address the additional information provided for the foundation & crawlspace under the western portion of the existing building.

On March 10, 2023, DCI Engineers was provided photos and videos of the western portion of the existing residence located at 6110 Camino De La Costa in La Jolla, CA. This portion of the building was not accessed in the prior visit. DCI's opinion is that the western portion exhibits similar degradation as the portions observed in the August 9, 2022 report. DCI's opinion is that the observations and recommendations noted in the previous report are also applicable for this portion of the building.

Sincerely,

DCI Engineers



Ryan Slaybaugh, PE, SE
Principal

More specific observations from the March 10, 2023 are shown and described in the following Figures A, B & C.

Figure A - Rebar Corrosion, Cracking and Spalling in Concrete Grade Beams at Western Portion of Building

Figure B - Spalling, corrosion, delamination and displacement in a foundation beam.

Figure C - Notch in foundation beam to accommodate ductwork.

DATE:	August 9, 2022	JOB #:	
PROJECT:	6110 Camino De La Costa	WEATHER:	Sunny
LOCATION:	La Jolla, CA		
PRESENT:	Jonathan Deck (DCI Engineers), Matthew Segal (JSAIA)		

On August 9, 2022, DCI Engineers performed a site visit to the existing residence located at 6110 Camino De La Costa in La Jolla, California with the intent of providing a limited visual structural assessment of the building. The information included in this report is intended to provide guidance to the owner as to the general condition, potential required or recommended repairs, and future life of the building based upon limited observation. It is not intended to assess all portions of the structure or serve as a warranty or guarantee of future performance. If repairs are elected to be performed, intrusive methods may be required to expose portions of the structure to provide access to fully assess all elements.

The residence is a three story, single family, light-framed structure with a detached garage. The main/entry level is at grade when approached from the street (east), though is the second story of the house. Stairs lead down to a partial lower level which daylights towards the ocean (west). Access to crawlspace is via an exterior door, viewed from the interior space, or from a hatch in the floor of one of the main level bedroom closets. A partial third floor is accessed via a stair off of the primary living room.

South Wing Observations – The crawlspace below the south wing was observed from the inside and outside. On the inside, specifically on the east wall there was substantial cracking, spalling, and corrosion of reinforcing in concrete beam and column systems supporting the house (Figure 1).

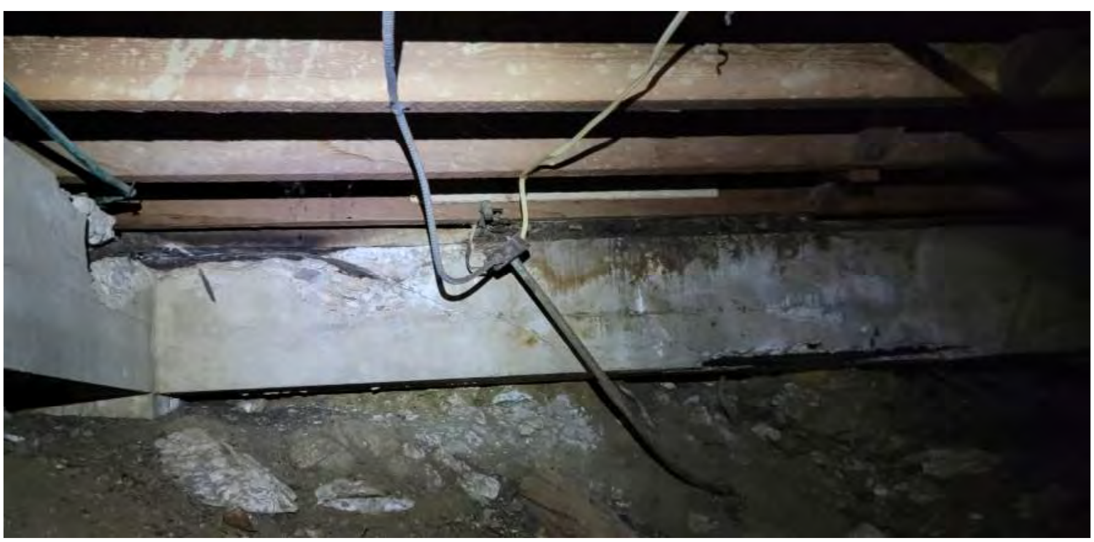


Figure 1 – Rebar Corrosion, Cracking and Spalling in Concrete Grade Beams at South Wing

It appeared that some reinforcing had lost a significant portion of effective area to corrosion and beams were noted to be deflecting. Beams are in contact with soil in many locations, condition of blind side of beams was not able to be viewed or verified.

Figure 2 – Reinforcing shows substantial loss of area, Grade beams in South Wing

Figure 3 – Substantial Diagonal Crack (Shear), Spalling of Concrete, Corrosion of Rebar in South Wing Grade Beams.

On the west side, the damage is not as substantial in walls and beams. However, both walls and beams do have a significant number of cracks. Locations and types of cracks appears to indicate settlement of the western portion of the structure.

Figure 4 – Smaller Cracks in Grade Beam on Southwest side.

Figure 5 – Smaller Crack in Grade Beam/Column interface on Southwest Side

Figure 6 – West wall of South Wing, Wall on right slopes down towards the west with gap size increasing to the west. West portion of building appears to have settled and been shimmed to re-level structure above.

The exterior of the south wing shows numerous cracks and evidence of settlement/building movement.

Figure 7 – Southwest Corner, Exterior, Appears to show patching of finish with movement of structure above relative to concrete walls/beams below.

Figure 8 – Exterior Patio Area and Surrounding Walls Cracking and showing signs of settlement/distress.

North Wing Observations – The crawlspace below the north east wing was observed from the inside and outside. On the inside, the majority of grade beams and columns showed significant damage and deterioration. Some grade beam reinforcing had deteriorated completely, and no cross section remained.

Figure 9 – Rebar Corrosion, Cracking and Spalling in Concrete Column and grade beam at North Wing. Note that both corners are spalling substantially as is blind side of beam.

Figure 10 – Opposite End of Grade Beam shown in Figure 9 showing substantial spalling and corrosion

Figure 11 – Opposite Side of Column shown in Figure 10 showing substantial deterioration.

Figure 12 – Grade Beam showing deterioration and flexural failure and deflection.

Figure 13 – Grade Beam and column showing significant deterioration. Reinforcement in corner has corroded and is completely broken.

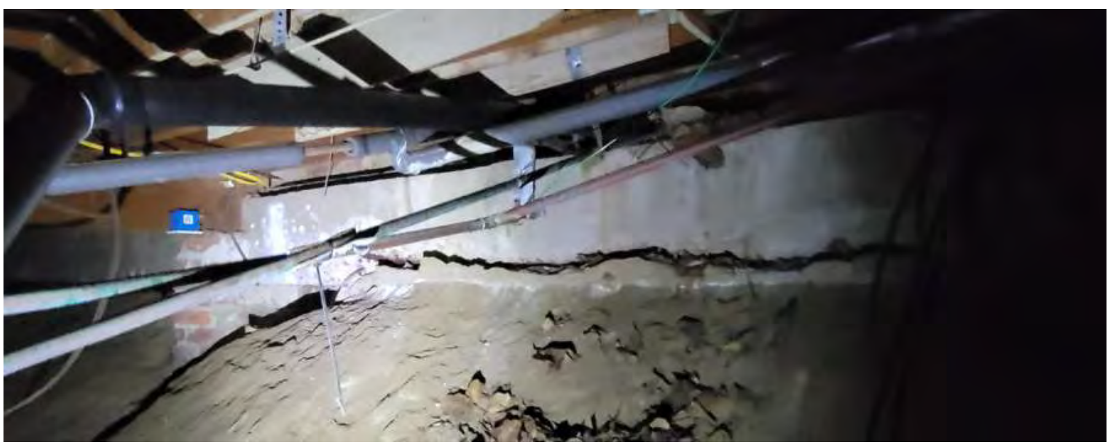


Figure 14 – Grade Beam showing significant spalling and corrosion. Reinforcement in bottom of beam is siginificantly corroded and exposed to soil. Beam is noticeable sagging.

Additional Observations – The lowest level in the middle of the residence is interior space being used as storage. There is less structure visible, but cracking is evident in concrete walls which appears to indicate some settlement/building movement.

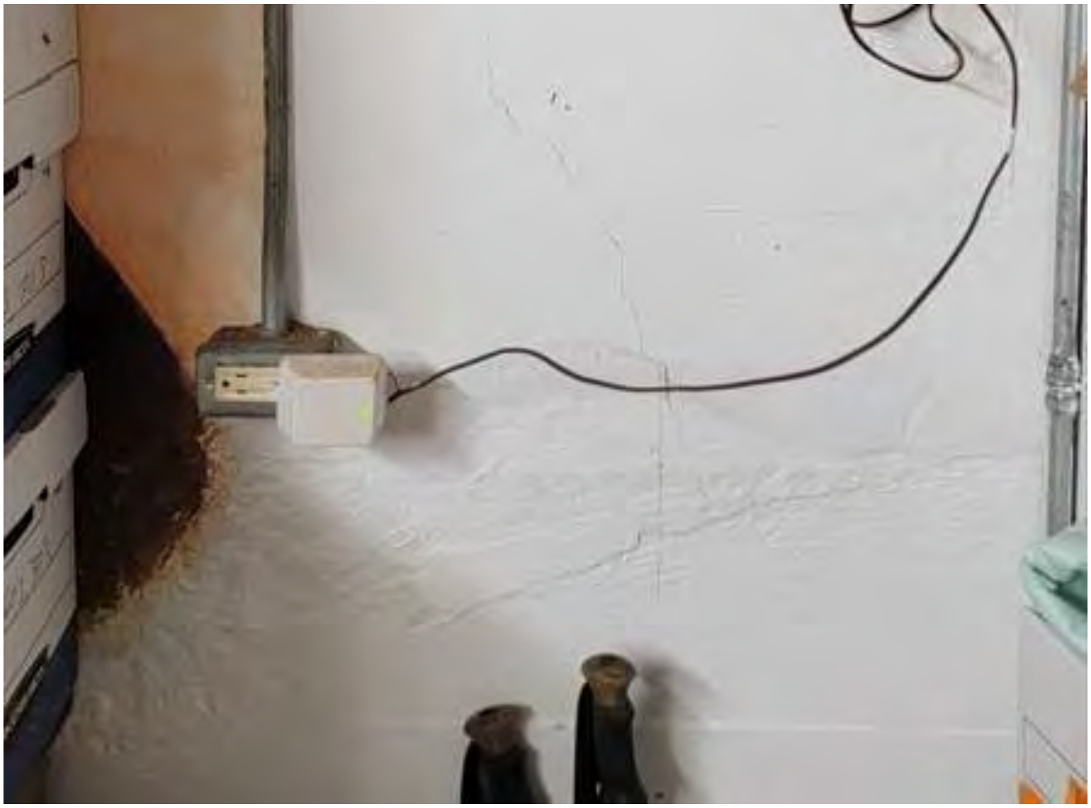


Figure 14 – Cracking of concrete basement walls in central lower level.

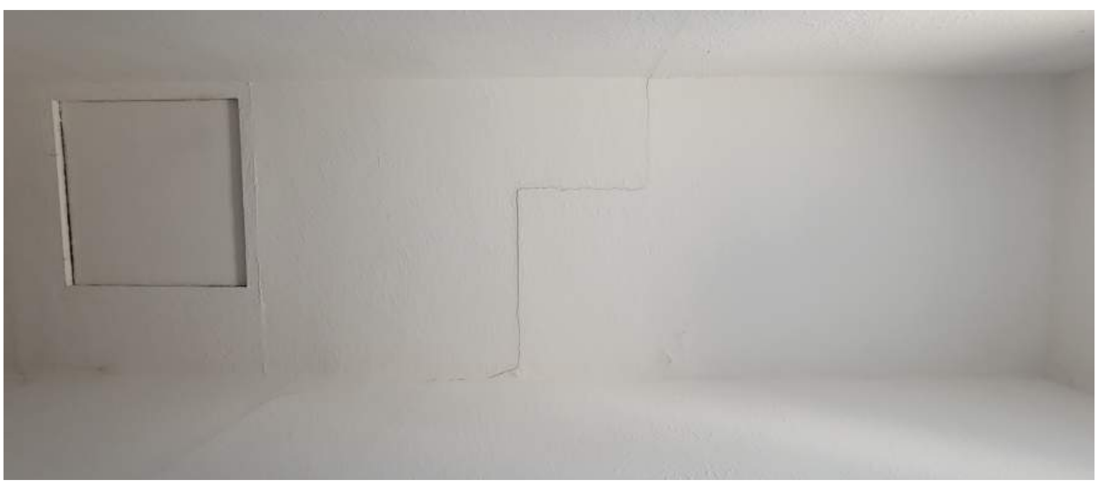


Figure 15 – Cracking of stair ceiling between main level and upper level. Cracking is indicative of building movement/settlement.

Conclusions and Recommendations –

1. The grade beam and column foundation structure is showing signs of substantial corrosion and deterioration in a large percentage of structural elements. Some beams are in advanced stages of flexural failure and appear to be deflecting to and resting upon soil. Other beams are exhibiting shear cracks and are in various stages of failure. Multiple columns have substantial spalling and corrosion in reinforcing and could begin to fail in compression as spalling continues or in shear in a seismic event. While a complete failure of any element may not be imminent, the substructure is in a stage of significant distress which will eventually result in structural failure and should be addressed as soon as is viable. It is our opinion that the majority of the beam and column substructure will require some level of repair or replacement. Possible levels of repair/replacement are described below and need to be assessed on an element-by-element basis.

   a. Minor Cracking – Clean elements of soil and debris and take samples of concrete to determine chloride/salt content. If chloride content is within acceptable range, seal cracks and concrete surfaces. This fix is anticipated to be applicable to some walls and those beams/columns in the south wing in the best condition.

   b. Moderate to Substantial Cracking/Corrosion – Clean elements of soil and debris. Remove loose material and corroded steel and test chloride/salt content of concrete. If required, chloride extraction techniques should be used to return concrete to acceptable ranges. Cleaned reinforcing should be epoxy painted and concrete patched back to original dimensions with non-shrink repair grout. Carbon fiber or fiber glass reinforcing should be applied to exterior of beams to replace all corroded reinforcing. In columns, added wraps should be provided to provide confinement per current code. This fix is anticipated to apply to the majority of beams/columns in the substructure. Note that these retrofit methods often have limited life span and will likely ultimately require complete removal and replacement in the future.

   c. Substantial or Extreme Cracking/Corrosion – Some elements appear to be in a condition beyond that which is typically repaired/retrofitted and should be removed and replaced.

2. The structure is showing evidence of settlement and movement throughout. In addition to the retrofit/replacement of existing substructure elements, DCI would recommend a more complete grid of beams and columns be installed to aid in control of future building movement and settlement. Movement of the structure is evident in structural and non-structural elements and should be addressed to prevent further deterioration of the residence. Finishes and other non-structural elements should be removed as needed to completely assess the condition of the structure beneath.

Summary -

The structure is in a state of disrepair and distress which should be remedied as soon as possible. Substantial repairs and retrofit/replacement are required and, if elected, should be performed prior to new owner occupation of the residence. A qualified contractor will be required in combination with a licensed structural engineer and geotechnical engineer in order to establish the entire scope of retrofit and replacement.

If you have any questions regarding this memorandum, or are prepared to move forward with a retrofit, please do not hesitate to contact us.

Sincerely,

DCI Engineers

Jonathan Deck, PE, SE
Associate Principal

REGISTERED PROFESSIONAL ENGINEER
JONATHAN M. DECK
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