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EVALUATION REPORT

For Project located at: 7801 ATLANTIC WAY. MIAMI BEACH, FLORIDA. 33141

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FOREWORD

I ,Alioskar Ganem,PE for the state of Florida, license : 74745, was contracted to prepare an evaluation report of the current conditions of the building located at 7801 Atlantic Way, Miami Beach Fl 3314. The report will consist of two mayor components, First component will address fema evaluation and the existing home conditions as it pertains to the 100 year flood guidelines. Second component will address the structural integrity of the building based on site visit and studies conducted. The intent of this report is to assess if the conditions of the current home allow for building remodeling.

DISCLAIMER

The information and implications provided in this report are based on studies performed to determine the structural integrity of the building .To identify areas of concerns and provide a recommendation for the building.
This report represents an accurate representation of the present conditions of the building as per the studies conducted above, no destructive or environmental testing was performed. Further exhaustive studies may need to be conducted to determine the real state of any concealed components.

INTRODUCTION

The inspection of the building in reference (See Exhibit 1 for graphical representation), located at 7801 Atlantic Way, Miami Beach Fl 33141,took place on Wednesday February 22nd, 2023 and was performed by Mr. Alioskar Ganem P.E. The main objective of the inspection was to identify general areas and critical details of the building components that may compromise the integrity of the Structure and represent a hazard to the users of this property and to ensure that all its components were built following the minimum standards of the Florida Building Code current at the time of construction, including a proper evaluation for the city of Miami Beach Building Department for the construction plans and construction inspections .

OBSERVATION, EVALUATION AND RECOMMENDATIONS

Existing buildings under the typical construction methods applied in 1935, that mean foundation, Masonry Framing wall, concrete ground slab, roof, and concrete framing. Every crack concrete beam was evaluated at the building (see Exhibit 1). To measure the concrete strength of every structural member a sclerometer test was performed. Pictures were taken in the critical areas.

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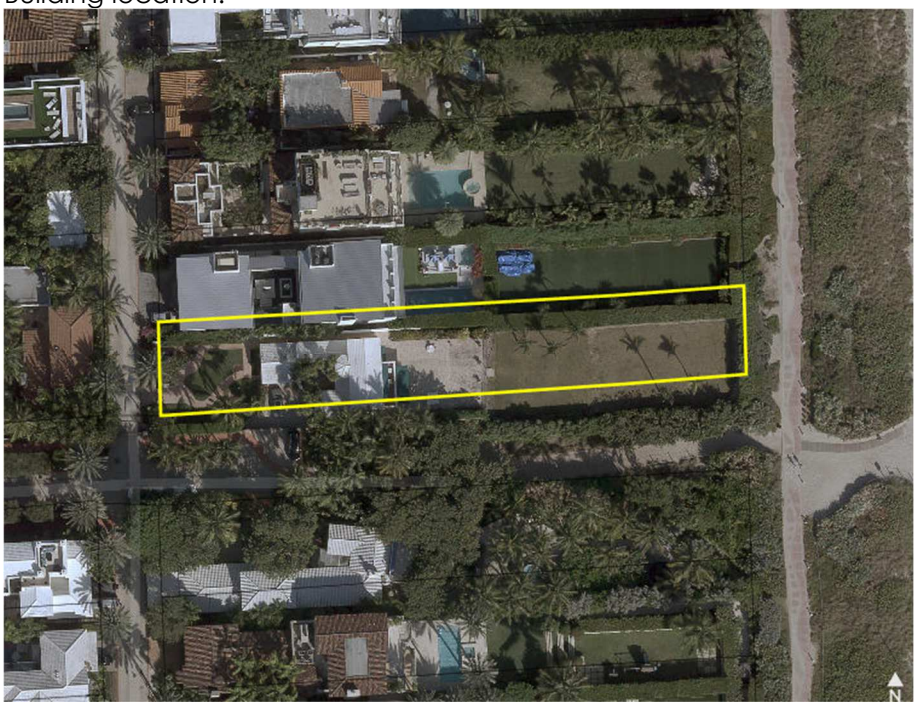
COMPONENT I: FEMA EVALUATION

Building location:

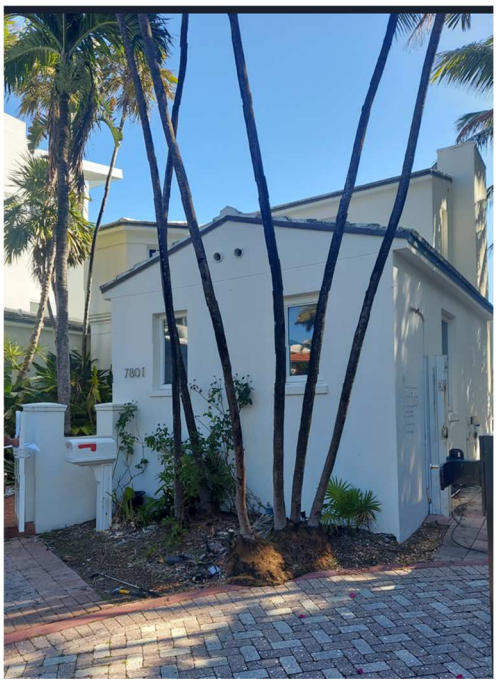


Location: 7801 ATLANTIC WAY. MIAMI BEACH, FLORIDA. 33141
folio number: 02-3202-004-0230
Year Built: 1935

Zoning District: RS-3
Flood zone X/AE
flood map: 12086C0326L,
Base flood elevation +8.00
Existing house elevation: +13.00
Elevation based on the 100 year flood: +18.20- (FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION)

Full legal description:
ALTOS DEL MAR NO 1 PB 31-40
LOT 6 BLK 5
& PORT LYING EAST & ADJACENT WEST
OF EROSION LINE PER PB 105-62
LOT SIZE 16000 SQ FT M/L

Existing Building conditions:



Foundation Type:

The House foundation: Elevated Crawl space. Based on photo evidence the existing building has flood vents.

Mechanical/Electrical equipment location:
All mechanical equipment, although above flood elevation, are located at exterior ground level.

Number of Floors of residence: 2 floors.

Construction type: Concrete block structure (CBS)I unreinforced, patio concrete slab.

Building square footage: 2,542 sf
Building living area: 2,109sf.

FDEP (FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION) Evaluation Criteria:

Considerations based on elevation flood levels were analyzed and the following assessment has been made.
"The one-hundred-year storm elevation requirements for habitable structures located seaward of the coastal construction control line ensure that the lowest horizontal structural member of the building is placed at an elevation above the predicted breaking wave crest."
The existing house has a current elevation of +13'-0". The recommended elevation for the area per FDEP 100 year flood is +18.2'. The current house does not comply with these guidelines.

Based on the intent of the client to remodel the existing house, considerations on elevating the floor to +18.2' may not be possible as this is a two-story home.

Consideration for Flood zone AE as per FEMA Report-
The house located in zone X/AE,

"The A zone is that portion of the SFHA that is not subject to high velocity wave action during the base flood and is not designated as zone V due to primary frontal dune considerations. The source of flooding in an A zone can be a stream or river that overflows its banks; a lake; or coastal storm surge accompanied by wave heights and wave runup depths less than 3 feet. As used in this study, the term "A zone" includes those zones designated on the FIRM as A, A1-30, A-99, AE, AH, AO and AR."
Conditions for the design of building following a special flood hazard area require the structure to be anchored and above the base flood event. Enclosures and openings are to be designed and use of breakaway walls recommended. No breakaways walls in the current design were observed.

Considerations ASCE 24 for Flood Resistant Design and Construction

FEMA deems ASCE 24 to meet or exceed the NFIP (National flood Insurance) requirements for building and structures. Where breakaways walls are recommended to separate from the structure.
The existing building although has integrated to its design flood vents, the structure below the BFE is not breakaway.

Moving forward with the design intent of the client it is important to consider that the design grade is the predicted eroded grade caused by the one-hundred-year storm event and should be considered by the design professional in the calculation of pile capacities and embedment depths of driven piles. ASCE 24 guidelines will need to meet or exceed the design intent. The existing conditions of the house based on the evaluation caried out does not meet or exceed the existing conditions.

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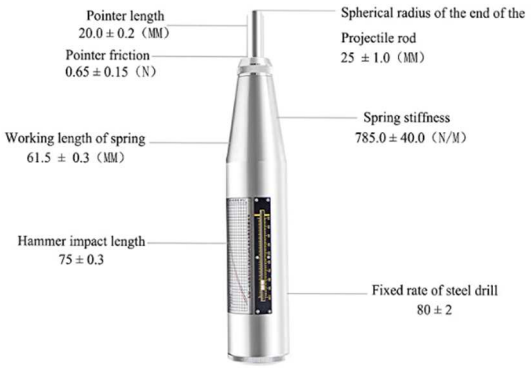
COMPONENT II:
Structural Test Performace

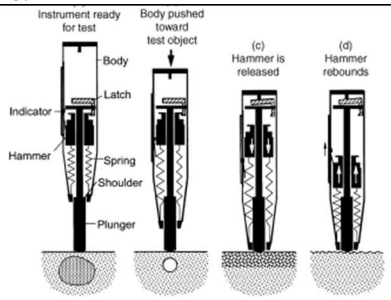
Test Type: Non-Destructive Testing
Standards: ASTM C805: Standard Method for Rebound Number of Hardened
ACI 228.1R: In-place Methods to Estimate Concrete Strength
Instrument: Sclerometer
Purpose: Measures the hardness of a surface. Allows checking the uniformity of the concrete by reading the rebound number; with which the resistance of concrete is estimated.
MEASURING INSTRUMENT: CONCRETE REBOUND HAMMER TESTER

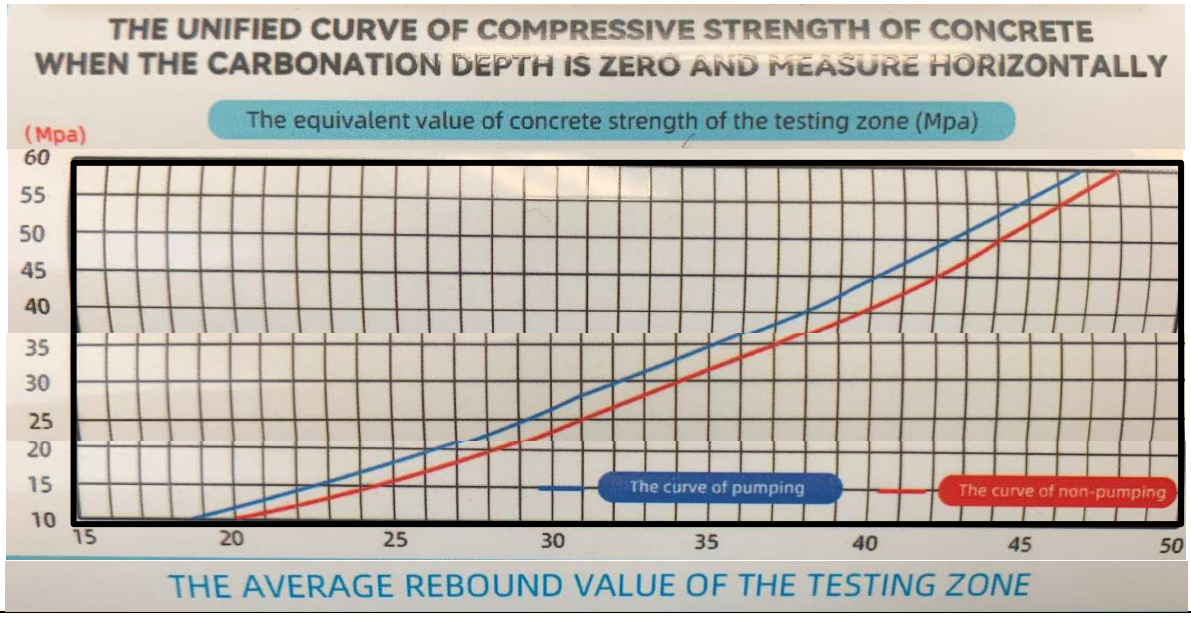
- BRAND: NEWTRY
- MODEL: HT-225
- MEASURE RANGE: 10-60 Mpa

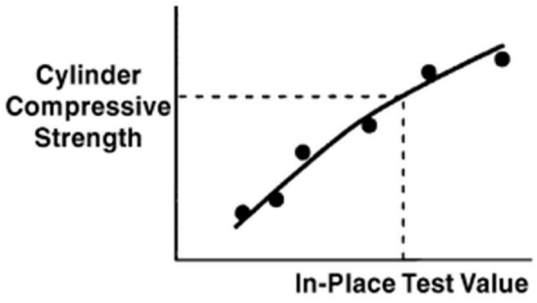
Instrument Parameters	Instrument parts
	

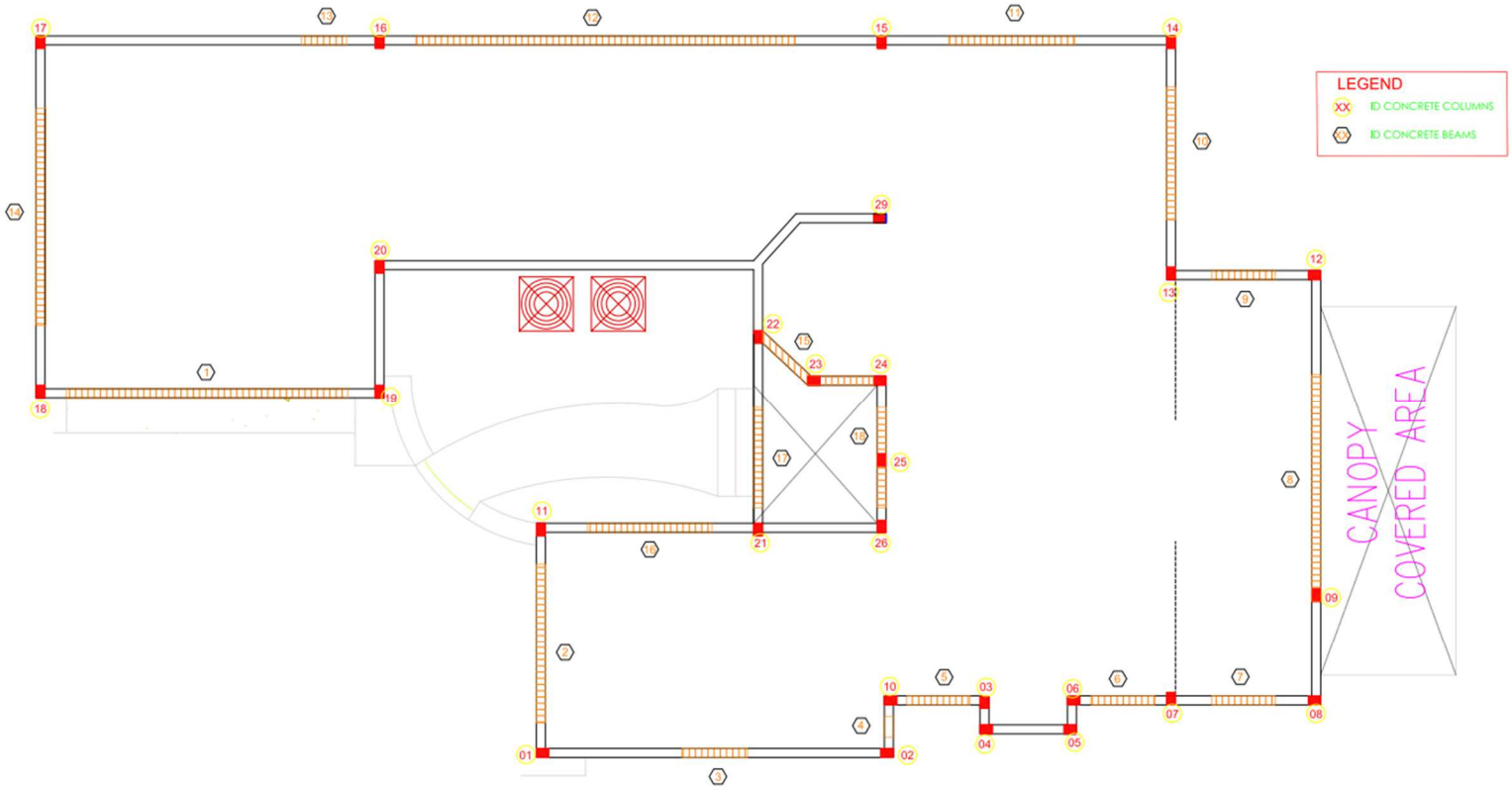
Operation - Procedure

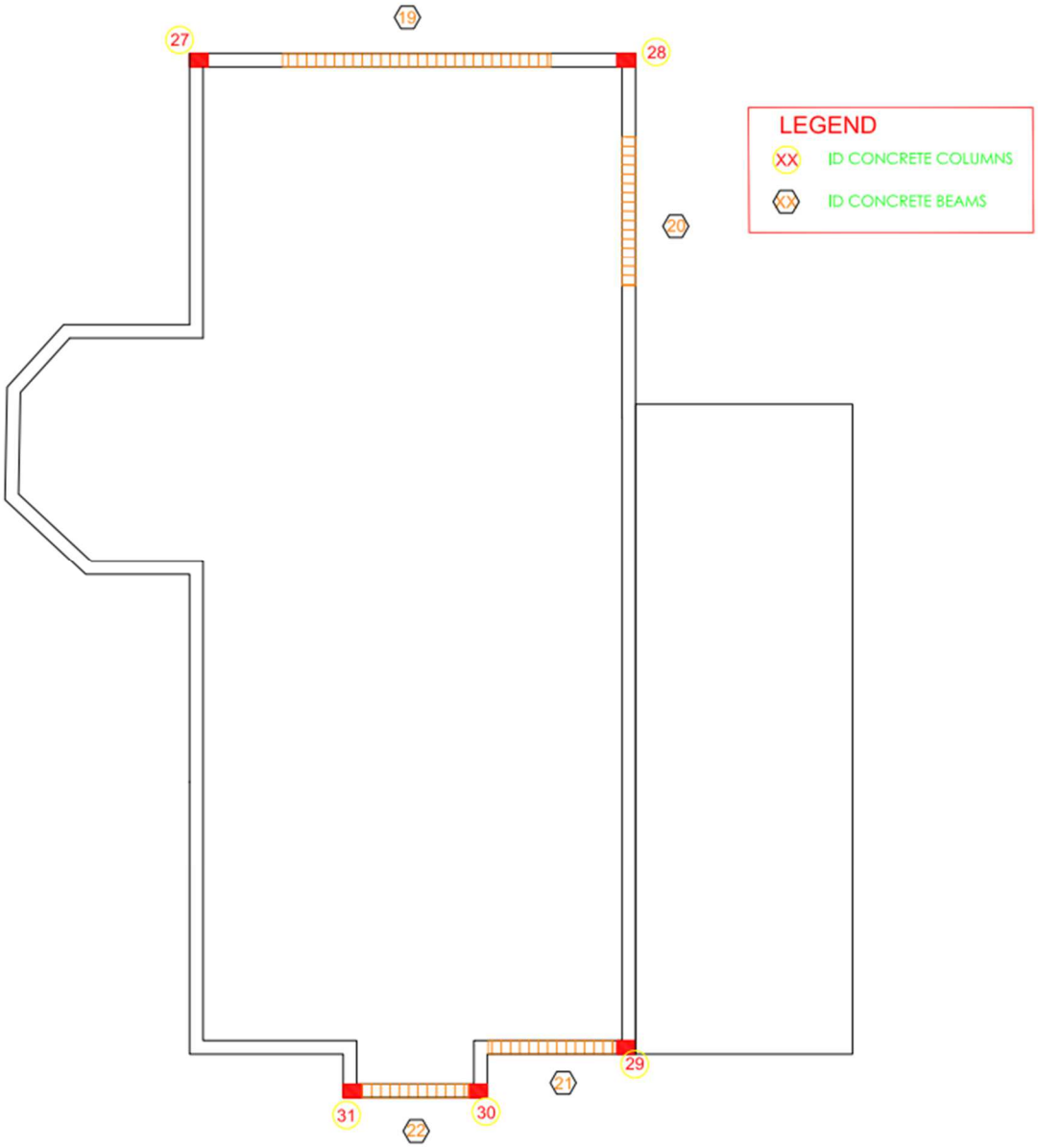
1. Hold the rod against the surface of concrete, press the instrument lightly, release the button, extend the rod when the pressure is relaxed hang the hook on the hammer.
2. Make the axis of the instrument perpendicular to the surface of concrete and apply pressure slowly and evenly. After the hammer is decoupled and impacted, the hammer rebounds and moves the pointer back to a certain position.
3. Make de movement of the instrument continue to stand against to the concrete surface to read and record the rebound value. If the condition is not conducive to reading, press the button, lock the movement and move the instrument to another place to read.

	4. Gradually decompress the instrument so that the projectile bar extends from the instrument to be used next time.
Main Technical Specification	
1. Nominal kinetic energy (Standard impact energy): 2.207 J (0.225 kgfm) 2. Mean value of steel-anvil rating: 80+/-2 3. Overall dimension: □60x280 mm 4. Weight: 1 kg 5. Test thickness: < 700 mm	*Fig. 2.2—Schematic to illustrate operation of the rebound hammer.* Source: ACI 228.1R
Resistance Concrete Calculation	



Schematic Graph for calculation of concrete resistance Source: instrument-photographs	
Procedure: 1. Read the "Average Rebound Value of the Testing Zone" on the axis of the X-Axis. 2. Move vertical-up and intersect the blue-curve. 3. Move horizontal-left and read the Concrete Strength Value [Mpa]	 *Fig. 2.1—Schematic of relationship between cylinder compressive strength and in-place test value.* Source: ACI 228.1R


LEGEND
XX ID CONCRETE COLUMNS
XX ID CONCRETE BEAMS
CANOPY
COVERED AREA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SCLEROMETER TEST RESULTS FOR CONCRETE BEAMS

POINT	*MEASURES*			*AVERAGE*	*CONCRETE f'c (Mpa)*	*CONCRETE f'c (psi)*
SECOND LEVEL BEAMS						
1	34	36	36	35.34	35	5077
2	27	26	25	26.00	19	2756
3	26	26	30	27.34	23	3336
4	32	30	35	32.34	30	4352
5	34	28	32	31.34	29	4207
6	32	33	31	32.00	29	4207
7	30	29	30	29.67	26	3771
8	29	31	32	30.67	27	3917
9	30	34	32	32.00	29	4207
10	36	36	36	36.00	36	5222
11	18	16	18	17.34	FAIL	FAIL
12	24	24	25	24.34	16	2321
13	24	24	26	24.67	17	2466
14	26	28	28	27.34	23	3336
15	27	29	28	28.00	23	3336
16	30	30	28	29.34	25	3626
17	26	26	27	26.34	20	2901
18	26	32	26	28.00	23	3336
ROOF LEVEL BEAMS						
19	25	25	26	25.34	19	2756
20	22	26	26	24.67	18	2611
21	28	28	28	28.00	23	3336
22	27	28	26	27.00	21	3046

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SCLEROMETER TEST RESULTS FOR CONCRETE COLUMNS

POINT	*MEASURES*			*AVERAGE*	*CONCRETE f'c (Mpa)*	*CONCRETE f'c (psi)*
GROUND LEVEL COLUMNS						
1	29	29	28	28.67	24	3481
2	29	30	29	29.34	26	3771
3	25	26	27	26.00	19	2756
4	38	38	35	37.00	38	5512
5	34	35	35	34.67	34	4932
6	35	41	39	38.34	41	5947
7	21	22	22	21.67	14	2031
8	32	29	29	30.00	26	3771
9	31	30	31	30.67	27	3917
10	30	30	30	30.00	26	3771
11	28	28	26	27.34	23	3336
12	35	35	36	35.34	35	5077
13	29	28	31	29.34	25	3626
14	31	31	32	31.34	29	4207
15	30	30	29	29.67	26	3771
16	28	28	29	28.34	24	3481
17	28	28	30	28.67	24	3481
18	30	29	32	30.34	27	3917
19	31	30	32	31.00	28	4062
20	25	28	28	27.00	21	3046
21	30	32	28	30.00	26	3771
22	31	32	32	31.67	29	4207
23	22	24	24	23.34	16	2321
24	30	30	29	29.67	26	3771
25	26	28	28	27.34	23	3336
26	34	36	32	34.00	33	4787

FEMA evaluation						
27	33	34	32	33.00	31	4497
28	26	28	28	27.34	23	3336
29	31	34	31	32.00	29	4207
30	27	28	26	27.00	21	3046
31	32	30	30	30.67	27	3917

ANALYSIS OF THE RESULTS

The evaluation of the existing structure, to produce evidence to determine if it will function safely over residual service life, consisted mainly of the estimation of the concrete resistance to verify compliance with the durability requirements of the Florida Building Code.
According 2020 FBC-excerpt 1904.1, Structural Concrete shall conform to the durability requirements of ACI 318. A concrete exposed to external source of chlorides from seawater (or spray from this zone) is classified as C2 class-Exposure Categories (ACI 318, Table 4.2.1). Based on the exposure class, concrete strength (f'c) shall comply with 5000 psi as minimum and a w/c ratio of 0.40 (ACI 318, Table 4.3.1).

Additionally, as a result of the visual inspection, cracks were observed in bearing elements of reinforced concrete. This is produced as a consequence of the increase in volume of the reinforcing steel produced by an oxidation state. Sulfates attack concrete, forming expansive compounds that cause cracking. Chlorides, if they reach the rebars, cause its corrosion. The cracking caused by sulfates facilitates the penetration of chlorides and the corrosion of the reinforcement. Once the concrete cracks, the integrity and design capacity of the structural element are not guaranteed.
The capacity of the structural elements taking into account their current state (product of a visual inspection) and their compression capacity obtained from the test carried out (around 3000-3500 psi) is compromised to resist future loads, safely and without danger of collapse. Moreover, with the water-cement ratio used to produce a concrete with an f'c of 3000 psi, it is not possible to achieve a w/c ratio equal to 0.40 required by ACI, to ensure the durability of the structure.

Final Assessment

Codes dictated by FEMA, FDEP and ASCE 24 have become more stringent over the years to account for the new studies and evaluation of the damage that 100 year flood can cause. The house built in 1935 did not require to meet at the time the conditions that today are required for new construction. Due to the intent of the client to remodel the house, considerations need to be evaluated and assessed as to whether the existing home is structurally sound to account for new remodeling and that the codes are met or exceeded.

Structural evaluation

It is possible to selectively restore, repair or reconstruct some structural elements in the case of localized failure. However, Failure to meet the required concrete resistance cannot be solved; That is why, based on the results obtained from the tests carried out, a total demolition of the structure is recommended. Future and more exhaustive tests can be carried out to determine additional concealed damages in the different structural elements.
Violation of any code failure status means a complete code violation.

EXHIBIT 1
(GRAPHICAL REFERENCE)

Stucco repair areas at facades

West facade

South façade

South façade

East façade

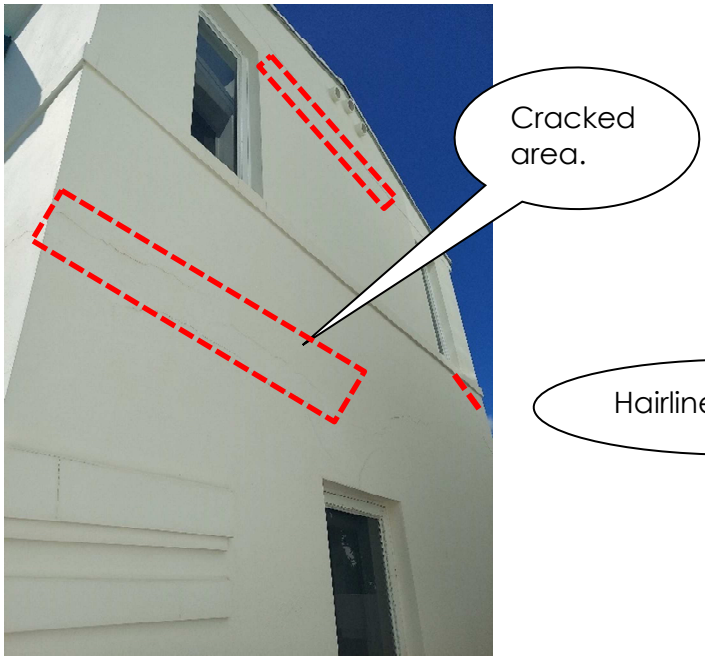
East side

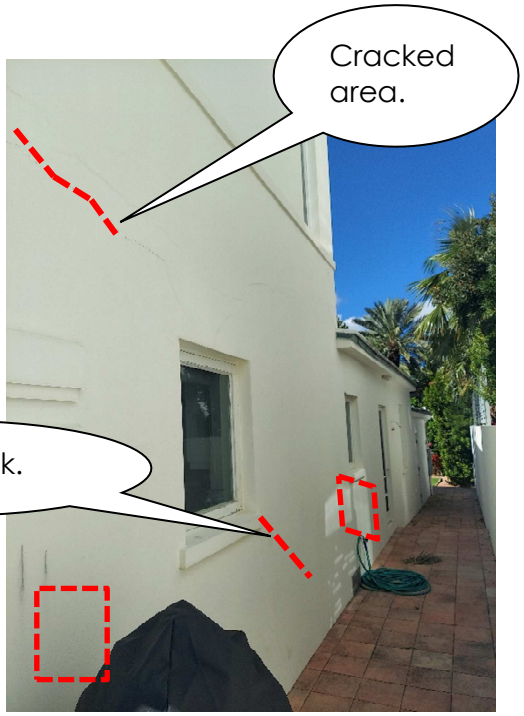
Stucco in poor condition

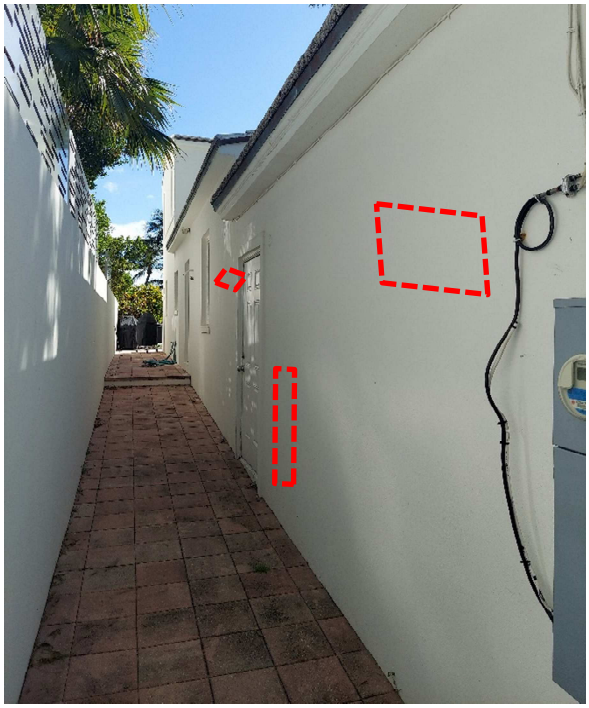
Cracked beam.

East side

North façade





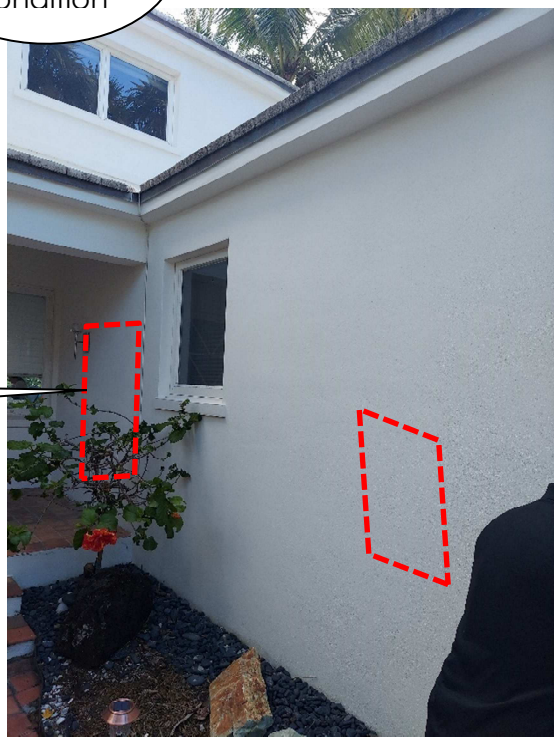



Stucco in poor condition
West side


Stucco in poor condition

Main entrance

Stucco in poor condition



Stucco in poor condition

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Sclerometer test

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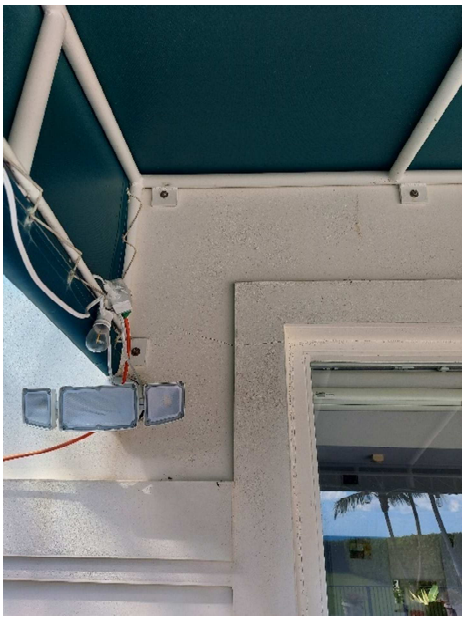
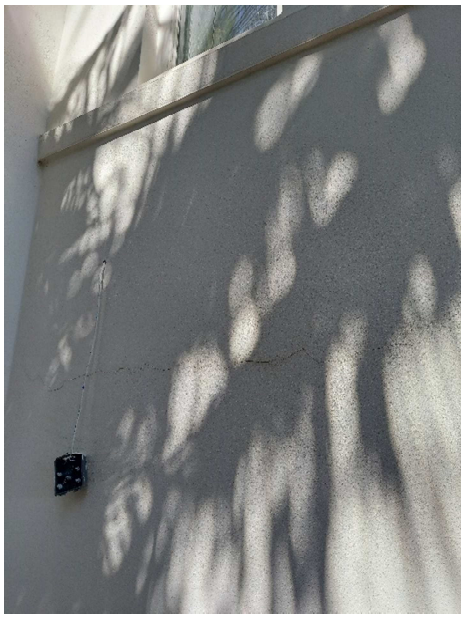
Façade stucco condition





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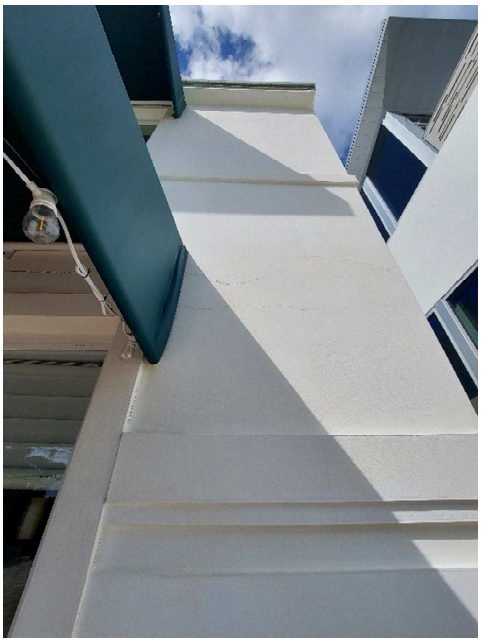
Cracked beam, east side.



This is nc by City of Miami Beach Bu

Alioskar Ganem P.E.
F.L Reg. P.E # 74745

This inspection is made on the basis of what is readily accessible and visible. No attempt was made to uncover, remove or expose hidden areas. This report does not constitute a guarantee of any kind. It is only an inspection report of the current and existing conditions of the property inspected. Alioskar Ganem P.E. will be liable for the findings or lack of the findings of this inspection report. This report is not an attempt to bid on any of the areas needing repairs and or replacement. LIABILITY OF THIS REPORT IS LIMITED TO THE COST OF THE INSPECTION REPORT. This inspection report is the professional opinion of the individual conducting the inspection. Future function of any of the elements inspected is not guaranteed in any way by this report. Acceptance of this report shall constitute agreement of these conditions.

In our opinion, the subject property is generally in fair condition, based on the age* and above noted comments, and assuming that normal and proper construction methods and/or updates or repairs were employed where hidden. This assumes that recommendations or comments made in this report are properly performed, repaired or checked by qualified and/or licensed contractors. Firm quotations should be obtained from licensed contractors for repairs to any of the above items. If you have any questions or need further assistance, please write us.

* Due to the age/condition of the subject property a detailed list of deficiencies and /or needed repairs are beyond the scope of this inspection, and as such are considered part of the regular necessary maintenance of older buildings. This inspection can only determine the visual physical and operational conditions of this property on the day of the inspection (07/16/21 and 07/19/21) . This inspection report is not warranted or guaranteed in any way.

Since I am not licensed pest control operators, I cannot and do not specifically address the presence of wood destroying organisms (including mold or fungus), insects (including termites), or any other pest activity, or identify damages caused by them. It is recommended that a licensed pest control company be employed to inspect for termites, pests, or any other wood destroying organisms, and/or any related material damages.

This report is the expressed opinion of Alioskar Ganem P.E. only and does not bind any party to make any repairs or replacements. This report can only include visible elements and conditions and does not purport to cover inaccessible areas or hidden damages. This report does not intend to replace, supersede, or include the contents of a formal disclosure statement, and it is recommended that a property disclosure statement be obtained for your information

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Thank you for this opportunity of being of service to you, please do not hesitate to contact us if you have any further questions.