ENGR Laboratories

Materials Testing & Consulting Engineering Services

City of North Bay Village
Attn: Mare Jean PE, Building Official
1666 Kennedy Cause way, Suite 300
North Bay Village, FL 33141

Kennedy House Condominium Association
Attn: Victoria Carbuccia, LCAM
1865 Kennedy Causeway
North Bay Village Florida

August 26th 2021

Re: Structural Inspection for Visible Signs of Distress
Victoria Carbuccia, LCAM
Request for inspection dated 7/21/ 2021
North Bay Village Building Official

Dear Sirs,

The above-referenced property is comprised of 16 story residential condominium building. The residential tower is constructed of steel reinforced column and beam frame with mild steel reinforced two way concrete slabs. The building was constructed in 1965 under the original South Florida Building Code and ACI 318. In general, the building is structurally in fair to good condition with no significant structural issues observed.

We have conducted visual inspections of the condition of exposed elements in the building structure. Exposed building elements are observed for signs of distress including cracks, stains, rust discolorations, concrete spalls, misalignments, obvious building deflections, indications of water intrusions, insect infestations, rot, mildew or other indications of distress in the structural building elements.

OBSERVATIONS:

Building Frame:

The 16 story residential building is constructed of reinforced concrete column and beam frame with flat two way structural concrete slabs. Exterior balconies are partially

cantilevered from the frame with small eyebrows extending beyond the building exterior wall along the length of the building.

A significant structural concrete restoration project was completed on the building in 2017. All identified cracks and spalls were addressed and repaired per ICRI standards. The building exterior and balconies were repainted in 2017.

The reinforced concrete beam and column frame of the building tower is in fair to good condition with no current identified structural cracking or significant spalling. The roofing of the building was replaced approximately 5 years ago and it is in good condition.

We observed a few minor concrete spalls at the balcony edges that do not exceed the scope or extent expected 6 years after the building was last painted. The balcony slabs are not waterproofed under the tenant exterior tile claddings.

62 residential balconies were inspected to verify the balcony railing attachments and to inspect the exterior stucco, paint and sealants. The balcony railings are inspected (per F.S. 509.2112) to verify the structural adequacy and securement of the railings. We observed that more than 50% of the inspected balcony railings were / are loose. Existing original railings do not have the required 4 inch max picket spacing.

To define " loose", we use the height of the railing at 42 inch. Allowable deflection of l/180 per FBC or 0.233 inches. Assume this deflection as plus or minus, so, total allowable deflection of 0.46 inches. Railings identified in the attached table were loose, moving greater than ½ inch under very low applied load.

The railing must restrain 200 pounds applied at any location or the calculated wind load (which is greatest). Railings loaded to 200 pound applied point loading or 50 pound per square foot (1225 ft pound moment at the railing post) must return to 80% of the original un-deflected shape.

We observed that many of the existing sliding glass doors are vintage to the building and are in poor to inoperative condition. Sliding glass doors that leak or cannot be latched may allow water intrusion into the building. It is my opinion that deteriorated window and sliding glass door assembles that cannot be latched and properly sealed will not pass the requirements of the upcoming 60 year recertification and should be replaced.

Seawall:

The seawall is a combination of the original (maybe 60 plus years old) king pile and panel seawall with reinforced concrete beam cap. The original seawall was extended with concrete masonry block and a small reinforced concrete beam cap to accommodate the backfill of the east end of the island.

Structurally the seawall resists wave action and prevents erosion of the soils that are land side of the seawall. To that extent, the seawall is performing without any observed problems of tidal exchange, washout, settlement of soils behind the seawall or deposits of soils along toe of the seawall. It is our opinion that the original seawall is structurally adequate and is not displaying significant signs of structural distress.

We did observe that the seawall panels are showing signs of sulfate ion attach and surface erosion. This is common with older concrete structures submerged in seawater. In the short term, a proper cleaning, surfacing and waterproofing may be required on the concrete panel located between the king piles.

We did not observe signs of structural distress in the lower seawall panels (typically identified as horizontal cracks in the panels with or without deflection). Limited rust staining is observed in sections of the original reinforced concrete seawall cap and upper cap.

The upper concrete masonry seawall extension allowed for the site to be surcharged with an additional approximately 3 feet of soils at the pool terrace deck and planters. The upper wall section restrains then passive soils pressure and increases the surcharge loading on the original lower seawall.

With increased surcharge we specifically look for signs of overturning and of failure of dead-men anchors. The location and configuration of dead-men anchors could not be verified. No overturning is observed in the existing seawall or in the upper seawall extension. Concrete decking at the pool terrace deck appears to be sheading rainwater landside, although deck drainage appears to include percolation into the surcharge soils.

RECOMMENDATIONS:

We recommend that the identified balconies with broken railing assemblies should / must be closed immediately and the railings (3 units) repaired or replaced. We recommend that the balconies with identified loose railings should be closed. Balcony railings that are identified as loose must be repaired/ replaced.

Replaced railings must / should be required to comply with the current Florida Building Code and NFPA Life Safety Code (NFPA 101) regarding railing height, picket or opening spacing and top rail geometry. Balcony railing attachment must be designed per the minimum standards of the current Florida Building Code and as prescribed in ACI 318.

We recommend that a design and specification for new railings on the entire building should be created in accordance with the minimum standards of the current Florida Building Code. Similarly, we recommend that a design and specification for the replacement of inoperative or leaking sliding glass doors should be created in accordance with the minimum standards of the Florida Building Code. Both of the projects should be permitted and constructed before the next required 60 year building recertification.

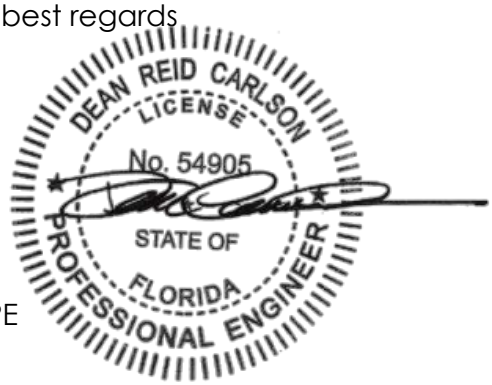
We recommend that a concrete repair restoration design and specification including building repainting and should be provided as needed to permit the repair work and to bid the work to competitive contractors. All concrete repairs will be designed in accordance with ACI 562 "*Code Requirements for Assessment, Repair and Rehabilitation of Existing Concrete Structures"* as a specification for the repair of concrete and concrete clad structures. These recommendations are currently adopted by the Florida Building Code and will be utilized as the current minimum standard for repair.

The attached seawall restoration drawings should be properly permitted and installed within the next 18 to 24 months (depending upon DERM and USACE permitting). The island wide perimeter seawall walkway (proposed) can be accomplished by enlarging the new seawall cap. The design of new railings at the seawall must be considered as part of this design restoration.

Based upon our careful observations, **it is our opinion that the building is basically structurally sound.**
However, In an abundance of caution, we recommend that the balconies identified broken and or loose railing should be closed and the railings must be replaced / repaired as required to comply with the current Florida Building Code.

As a routine matter, in order to avoid possible misunderstanding, nothing in this report should be construed directly or indirectly as a guarantee for any portion of the structure. To the best of my knowledge and ability, this report represents and accurate appraisal of the present condition of the building based upon careful evaluation of observed conditions, to the extent reasonably possible.

Thank you and best regards



Dean Carlson PE
President

Dean R.Carlson, Professional Engineer, State of Florida, License No. 54905
This item has been digitally signed and sealed by Dean R. Carlson, PE , on 08/30/2021.
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the signature must be verified on any electronic copies.

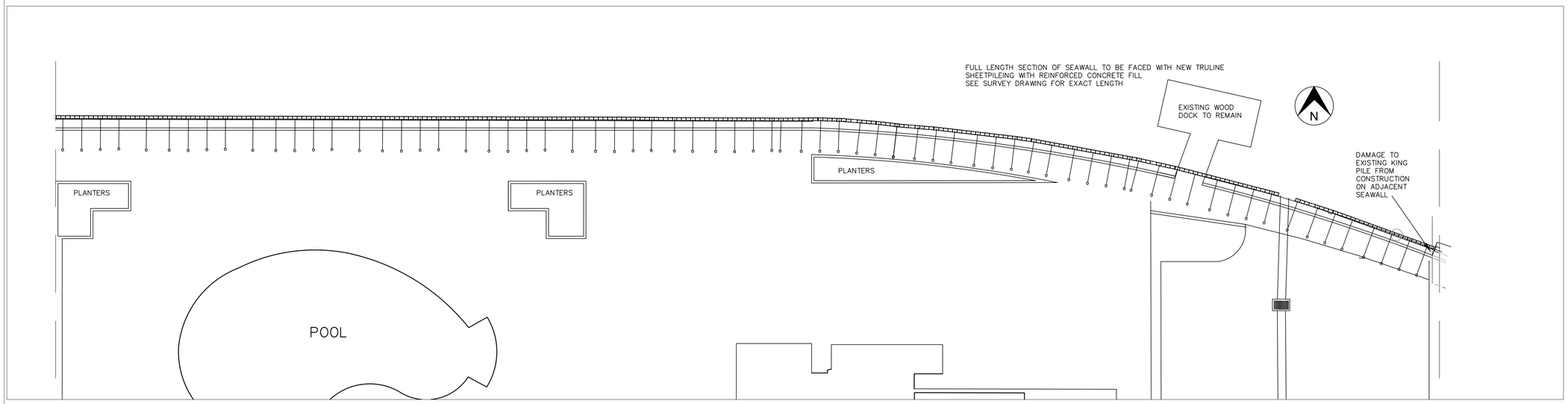
Kennedy House Condominium Balcony Inspection Survey

Kennedy House				
Unit	Railings	Cracks in Concrete	Spalling concrete	Close Balcony
1-I	GOOD	NO	NO	NO
1-L	LOOSE	NO	NO	NO
2-C	GOOD	NO	NO	NO
2-I	GOOD	NO	NO	NO
2-O	GOOD	NO	NO	NO
3-E	LOOSE	NO	NO	YES
3-F	LOOSE	NO	NO	YES
3-H	LOOSE	NO	NO	YES
3-I	GOOD	NO	NO	NO
4-J	GOOD	YES	NO	NO
4-K	GOOD	NO	NO	NO
5-D	LOOSE	NO	NO	YES
5-K	LOOSE	NO	NO	YES
5-M	GOOD	NO	NO	NO
6-A	GOOD	NO	NO	NO
6-B	LOOSE	NO	NO	YES
6-C	GOOD	YES	NO	NO
6-E	GOOD	NO	NO	NO
6-K	LOOSE	NO	NO	YES
6-M	GOOD	NO	NO	NO
7-D	LOOSE	NO	NO	YES
7-E	GOOD	NO	NO	NO
7-I	GOOD	NO	NO	NO
7-M	LOOSE	NO	YES	YES
8-H	GOOD	NO	NO	NO
8-I	LOOSE	YES	NO	YES
8-O	GOOD	NO	NO	NO
9-F	LOOSE	NO	NO	YES
9-I	BROKEN	NO	YES	YES
9-N	GOOD	NO	NO	NO
9-O	GOOD	NO	YES	NO
10-C	GOOD	YES	NO	NO
10-D	GOOD	NO	YES	NO
10-E	GOOD	YES	NO	NO
10-H	GOOD	NO	YES	NO
10-K	LOOSE	NO	NO	YES
10-M	GOOD	NO	NO	NO
11-B	LOOSE	NO	NO	YES
12-F	LOOSE	YES	NO	YES
12-H	LOOSE	NO	NO	YES
12-K	LOOSE	YES	NO	YES
12-M MOLD	LOOSE	NO	NO	YES
14-C	LOOSE	NO	YES	YES
14-D	BROKEN	NO	NO	YES
14-E	GOOD	NO	NO	NO
14-G	LOOSE	NO	NO	YES
14-H	LOOSE	YES	NO	YES
14-I	GOOD	NO	NO	NO

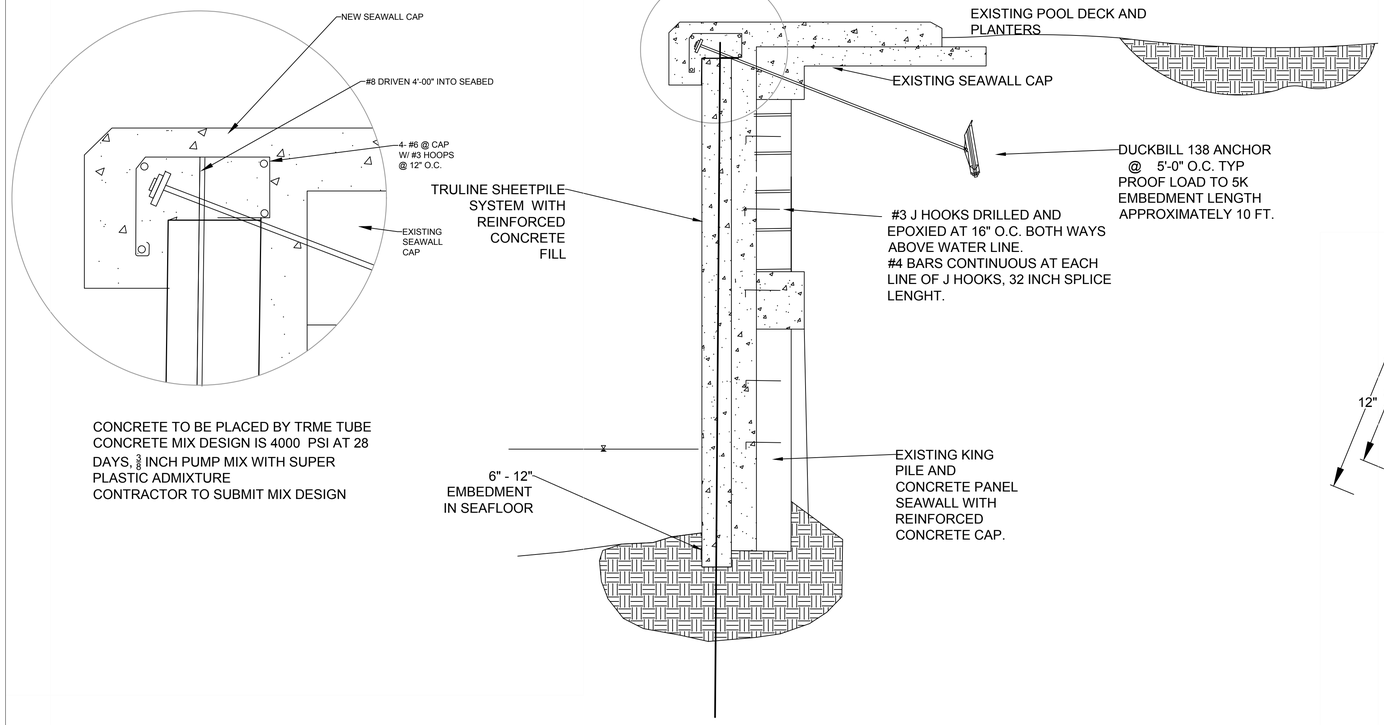
14-L	GOOD	YES	YES	NO
14-O	LOOSE/ BROKEN	NO	YES	YES
15-D	GOOD	NO	YES	NO
15-E	GOOD	NO	NO	NO
15-I	GOOD	NO	YES	NO
15-K	LOOSE	NO	NO	YES
15-N	LOOSE	NO	NO	YES
16-B	GOOD	NO	NO	NO
16-G	GOOD	NO	YES	NO
16-M	GOOD	NO	NO	NO
16-N	GOOD	YES	NO	NO
PH-C	LOOSE	NO	NO	YES
PH-I	GOOD	NO	NO	NO
PH-J	GOOD	NO	NO	NO
PH-0	LOOSE	NO	NO	YES
Kennedy House South Fire Stair Vestibule				
Floor	Railing	Door	Stair steps	Pipe
PH	GOOD	CRACK	CRACKS	CRACKS MOIST
16	GOOD	GOOD	CRACKS	CRACKS MOIST
15	GOOD	GOOD	CRACKS	CRACKS MOIST
14	GOOD	GOOD	EXPOSED REBAR	CRACKS MOIST
12	GOOD	GOOD	SPALL	CRACKS
11	LOOSE	GOOD	GOOD	GOOD
10	GOOD	GOOD	GOOD	CRACKS
9	GOOD	GOOD	GOOD	GOOD
8	GOOD	GOOD	CRACKS	GOOD
7	GOOD	GOOD	CRACKS	GOOD
6	LOOSE	GOOD	CRACKS	GOOD
5	GOOD	GOOD	WATER INTRUSION	GOOD
4	GOOD	GOOD	CRACKS	GOOD
3	GOOD	GOOD	CRACKS	GOOD
2	GOOD	GOOD	CRACKS	GOOD
North Fire Stair Vestibule				
PH	GOOD	GOOD	GOOD	MOIST
16	GOOD	GOOD	GOOD	MOIST
15	GOOD	GOOD	GOOD	GOOD
14	GOOD	GOOD	CRACKS	GOOD
12	GOOD	GOOD	GOOD	GOOD
11	GOOD	EXPOSED REBAR	GOOD	GOOD
10	GOOD	GOOD	GOOD	CRACKS
9	GOOD	GOOD	GOOD	GOOD
8	GOOD	GOOD	GOOD	GOOD
7	GOOD	GOOD	GOOD	GOOD
6	LOOSE	GOOD	GOOD	GOOD
5	LOOSE	LOOSE STUCCO	GOOD	GOOD
4	GOOD	GOOD	GOOD	GOOD
3	GOOD	CRACK IN SILL	GOOD	GOOD
2	GOOD	GOOD	GOOD	GOOD

KENNEDY HOUSE SEAWALL REPAIR

1865 KENNEDY CSWY
NORTH BAY VILLAGE, FL 33141



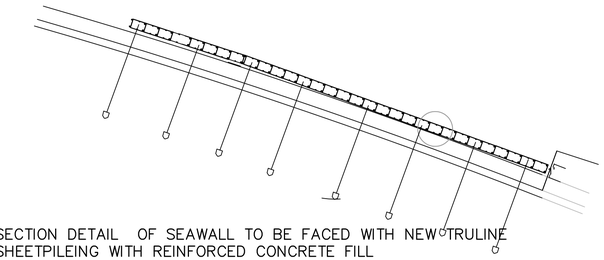
PERIMETER RAILINGS UNDER SEPARATE PERMIT
NOT SHOWN FOR CLARITY



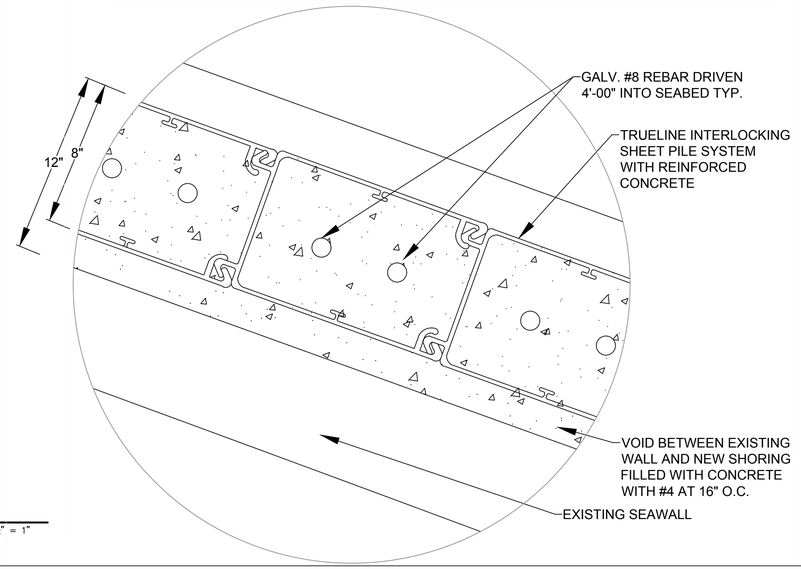
CONCRETE TO BE PLACED BY TRME TUBE
CONCRETE MIX DESIGN IS 4000 PSI AT 28 DAYS, $\frac{3}{8}$ INCH PUMP MIX WITH SUPER PLASTIC ADMIXTURE
CONTRACTOR TO SUBMIT MIX DESIGN

SECTION VIEW OF SEAWALL REPAIR

SCALE: $\frac{1}{4}$" = 1"



SECTION DETAIL OF SEAWALL TO BE FACED WITH NEW TRULINE SHEETPILEING WITH REINFORCED CONCRETE FILL



General Notes

No.	Revision/Issue	Date

ENGR Laboratories, Inc.
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305.219.0641 305.971.1133

CERT. OF AUTHORITY: #31-424

KENNEDY HOUSE CONDO
1865 KENNEDY CAUSEWAY
NORTH BAY VILLAGE

DEAN CARLSON, PE
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MIAMI, FL 33186
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Dean R.Carlson, Professional Engineer, State of Florida, License No. 54905
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Project

Date 8/2021

Scale

Sheet S-101