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# <u>MEMO</u>

TO: All Building Officials in Miami-Dade County

FROM: Secretary of the Board Automic Board of Rules and Appeals (BORA)

DATE: July 27, 2023

SUBJECT: BORA 30-Year Building Recertification General Considerations and Guidelines

At their meeting of July 20<sup>th</sup>, 2023, the Miami-Dade County Board of Rules and Appeals (BORA) approved the revisions to its Thirty-Year Building Recertification's General Considerations and Guidelines, inclusive of the Structural and Electrical Recertification Inspection Guidelines. This action was based on recommendations received from its Building Sub-Committee meeting held to address recommendations in report to the Board of County Commissioners on Underground Parking Garages (Resolution 960-21, *Evaluation of Potential Impacts of Sea Level Rise, such as Increases in Flooding, on Existing Underground and Lower-Level Garages*), and considerations from the June 15<sup>th</sup>, 2023 National Institute of Standards (NIST) report at their National Construction Safety Team Advisory Committee Meeting on the emphasis given to elevated concrete decks.

The Board also ordered these revisions to become effective with the 2024 Building Recertification reports.

A copy of the revised Thirty-Year Building Recertification General Considerations and Guidelines is attached.

Should you have any questions, please contact Jaime D. Gascon, Board and Code Administration Division Director at (786) 315-2508.

# **GENERAL CONSIDERATIONS & GUIDELINES**

# **SCOPE OF STRUCTURAL INSPECTION**

The fundamental purpose of the required inspection and report is to confirm in reasonable fashion that the building or structure under consideration is safe for continued use under present occupancy. As implied by the title of this document, this is a recommended procedure, and under no circumstances are these minimum recommendations intended to supplant proper professional judgment.

Such inspection shall be for the purpose of determining the general structural condition of the building or structure to the extent reasonably possible of any part, material or assembly of a building or structure which affects the safety of such building or structure and/or which supports any dead or live load, or wind load, and the general condition of its electrical systems pursuant to the applicable Codes.

In general, unless there is obvious overloading, or significant deterioration of important structural elements, there is little need to verify the original design. It is obvious that this has been time tested if still offering satisfactory performance. Rather, it is of importance that the effects of time with respect to degradation of the original construction materials be evaluated. It will rarely be possible to visually examine all concealed construction, nor should such be generally necessary. However, a sufficient number of typical structural members should be examined to permit reasonable conclusions to be drawn.

<u>Visual Examination</u> will, in most cases, be considered adequate when executed systematically. The visual examination must be conducted throughout all habitable and non-habitable areas of the building, as deemed necessary, by the inspecting professional to establish compliance. Surface imperfections such as cracks, distortion, sagging, excessive deflections, significant misalignment, signs of leakage, and peeling of finishes should be viewed critically as indications of possible difficulty.

<u>**Testing Procedures**</u> and quantitative analysis will not generally be required for structural members or systems except for such cases where visual examination has revealed such need, or where apparent loading conditions may be critical.

<u>Manual Procedures</u> such as chipping small areas of concrete and surface finishes for closer examinations are encouraged in preference to sampling and/or testing where visual examination alone is deemed insufficient. Generally, unfinished areas of buildings such as utility spaces, maintenance areas, stairwells and elevator shafts should be utilized for such purposes. In some cases, to be held to a minimum, ceilings or other construction finishes may have to be opened for selective examination of critical structural elements. In that event, such locations should be carefully located to be least disruptive, most easily repaired and held to a minimum. In any event, a sufficient number of structural members must be examined to afford reasonable assurances that such are representative of the total structure.

Evaluating an existing structure for the effects of time, must take into account two basic considerations; movement of structural components with respect to each other, and deterioration of materials.

With respect to the former, volume change considerations, principally from ambient temperature changes, and possibly long-time deflections, are likely to be most significant. Foundation movements will frequently be of

importance, usually settlement, although upward movement due to expansive soils may occur, although infrequently in this area. Older buildings on spread footings may exhibit continual, even recent settlements if founded on deep unconsolidated fine grained or cohesive coils, or from subterraneous losses or movements from several possible causes.

With very little qualifications, such as rather rare chemically reactive conditions deterioration of building materials can only occur in the presence of moisture, largely related to metals and their natural tendency to return to the oxide state in the corrosive process.

In this marine climate, highly aggressive conditions exist year-round. For most of the year, outside relative humidity may frequently be about 90 or 95%, while within air-conditioned building, relative humidity will normally be about 55 to 60%. Under these conditions moisture vapor pressures ranging from about 1/3 to 1/2 pounds per square inch will exist much of the time. Moisture vapor will migrate to lower pressure areas. Common building materials such as stucco, masonry and even concrete, are permeable even to these slight pressures. Since most of our local construction does not use vapor barriers, condensation will take place within the enclosed walls of the building. As a result, deterioration is most likely adjacent to exterior walls, or wherever else moisture or direct leakage has been permitted to penetrate the building shell.

Structural deterioration will always require repair. The type of repair, however, will depend upon the importance of the member in the structural system, and degree of deterioration. Cosmetic type repairs may suffice in certain non-sensitive members such as tie beams and columns, provided that the remaining sound material is sufficient for the required function. For members carrying assigned gravity or other loads, cosmetic type repairs will only be permitted if it can be demonstrated by rational analysis that the remaining material, if protected from further deterioration can still perform its assigned function at acceptable stress levels. Failing that, adequate repairs or reinforcement will be considered mandatory.

Written reports shall be required attesting to each required inspection. Each such report shall note the location of the structure, description of the type of construction, and general magnitude of the structure, the existence of drawings and location thereof, history of the structure to the extent reasonably known, and a description of the type and manner of the inspection, noting problem areas and recommended repairs, if required to maintain structural integrity.

Evaluation: Each report shall include a statement to the effect that the building or structure is structurally safe, unsafe, safe with qualifications, or has been made safe. It is suggested that each report also include the following information indicating the actual scope of the report and limits of liability. This paragraph may be used:

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

# Foundations:

If all of the supporting subterranean materials were completely uniform beneath a structure, with no significant variations in grain size, density, moisture content or other mechanical properties; and if dead load pressures were completely uniform, settlements would probably be uniform and of little practical consequence. In the real world, however, neither is likely. Significant deviations from either of these two idealisms are likely to result in unequal vertical movements.

Monolithic masonry, structures are generally incapable of accepting such movements, and large openings. Since, in most cases, differential shears are involved, cracks will typically be diagonal.

Small movements, in themselves, are most likely to be structurally important only if long term leakage through fine cracks may have resulted in deterioration. In the event of large movements, contiguous structural elements such as floor and roof systems must be evaluated for possible fracture or loss of bearing.

Pile foundations are, in general, less likely to exhibit such difficulties. Where such does occur, special investigation will be required.

# <u>Roofs</u>

Sloping roofs, usually having clay or cement tiles, are of concern in the event that the covered membrane may have deflections, if merely resulting from deteriorated rafters or joists will be of greater import. Valley flashing and base flashing at roof penetration will also be matters of concern.

Flat roofs with built up membrane roofs will be similarly critical with respect to deflection considerations. Additionally, since they will generally be approaching expected life limits at the age when building recertification is required careful examination is important. Blisters, wrinkling, alligatoring, and loss of gravel are usual signs of difficulty. Punctures or loss of adhesion of base flashings, coupled with loose counter-flashing will also signify possibility of other debris, may result in ponding, which if permitted, may become critical.

## **Masonry Bearing Walls**

Random cracking, or if discernible, definitive patterns of cracking, will of course, be of interest. Bulging, sagging, or other signs of misalignment may also indicate related problems in other structural elements. Masonry walls where commonly constructed of either concrete masonry units, or scored clay tile, may have been constructed with either reinforced concrete columns and tie beams, or lintels.

Of most probable importance will be the vertical and horizontal cracks where masonry units abut tie columns, or other frame elements such as floor slabs. Of interest here is the observation that although the raw materials of which these masonry materials are made may have much the same mechanical properties as the reinforced concrete framing, their actual behavior in the structure, however, is likely to differ with respect to volume change resulting from moisture content, and variations in ambient thermal conditions.

Moisture vapor penetration, sometimes abetted by salt laden aggregate and corroding rebars, will usually be the most common cause of deterioration. Tie columns are rarely structurally sensitive, and a fair amount of deterioration may be tolerated before structural; impairment becomes important. Cosmetic type repair involving

cleaning, and parching to effectively seal the member, may often suffice. A similar approach may not be unreasonable for tie beams, provided they are not also serving as lintels. In that event, a rudimentary analysis of load capability using the remaining actual rebar area, may be required.

#### Floor and Roof Systems

Cast in place reinforced concrete slabs and/or beams and joists may often show problems due to corroding rebars resulting from cracks or merely inadequate protecting cover of concrete. Patching procedures will usually suffice where such damage has not been extensive. Where corrosion and spalling has been extensive in structurally critical areas, competent analysis with respect to remaining structural capacity, relative to actual supported loads, will be necessary. Type and extent of repair will be dependent upon the results of such investigation.

Pre-cast members may present similar deterioration conditions. End support conditions may also be important. Adequacy of bearing, indications of end shear problems, and restraint conditions are important, and should be evaluated in at least a few typical locations.

Steel bar joists are, or course, sensitive to corrosion. Most critical locations will be web member welds, especially near supports, where shear stresses are high and possible failure may be sudden, and without warning.

Cold formed steel joists, usually of relatively light gage steel, are likely to be critically sensitive to corrosion, and are highly dependent upon at least nominal lateral support to carry designed loads. Bridging and the floor or roof system itself, if in good condition, will serve the purpose.

Wood joists and rafters are most often in difficulty from "dry rot", or the presence of termites. The former (a misnomer) is most often prevalent in the presence of sustained moisture or lack of adequate ventilation. A member may usually be deemed in acceptable condition if a sharp pointed tool will penetrate no more than about one eighth of an inch under moderate hand pressure. Sagging floors will most often indicate problem areas.

Gypsum roof decks will usually perform satisfactorily except in the presence of moisture. Disintegration of the material and the form-board may result from sustained leakage. Anchorage of the supporting bulb tees against uplift may also be of importance.

Floor and roof systems of cast in place concrete with self-centering reinforcing, such as paper backed mesh and rib-lath, may be critical with respect to corrosion of the unprotected reinforcing. Loss of uplift anchorage on roof decks will also be important if significant deterioration has taken place, in the event that dead loads are otherwise inadequate for that purpose. Expansion joints exposed to the weather must also be checked.

## **Steel Framing System**

Corrosion, obviously enough, will be the determining factor in the deterioration of structural steel. Most likely suspect areas will be fasteners, welds, and the interface area where bearings are embedded in masonry. Column bases may often be suspect in areas where flooding has been experienced, especially if salt water has been involved. Concrete fireproofing will, if it exists, be the best clue indicating the condition of the steel.

## **Concrete Framing Systems**

Concrete deterioration will, in most cases, similarly be related to rebar corrosion possibly abetted by the presence of salt water aggregate or excessively permeable concrete. In this respect, honeycomb areas may contribute adversely to the rate of deterioration. Columns are frequently most suspect. Extensive honeycomb is most prevalent at the base of columns, where fresh concrete was permitted to segregate, dropping into form boxes. This type of problem has been known to be compounded in areas where flooding has occurred, especially involving salt water.

Thin cracks usually indicate only minor corrosion, requiring minor patching only. Extensive spalling may indicate a much more serious condition requiring further investigation.

In spall areas, chipping away a few small loose samples of concrete may be very revealing. Especially, since loose material will have to be removed even for cosmetic type repairs, anyway. Fairly reliable quantitative conclusions may be drawn with respect to the quality of the concrete. Even though our cement and local aggregate are essentially derived from the same sources, cement will have a characteristically dark grayish brown color in contrast to the almost white aggregate. A typically white, almost alabaster like coloration will usually indicate reasonably good overall strength.

Based on preliminary findings from the National Institute of Standards and Technology on the collapse of Champlain Towers South in Surfside, Florida in April of 2022, special attention should be paid to deck slabs and plaza decks. Often, additional load has been added to these structures, so it is incumbent upon the inspecting design professional to look closely at slabs, columns and other transfer members for evidence of distress. This evidence may manifest as efflorescence from water passing through the concrete structures as a white or light-colored powdery substance on the underside of slabs and at the base of columns.

# Windows and Doors

Window and door condition is of considerable importance with respect to two considerations. Continued leakage may have resulted in other adjacent damage and deteriorating anchorage may result in loss of the entire unit in the event of severe windstorms even short of hurricane velocity. Perimeter sealants, glazing, seals, and latches should be examined with a view toward deterioration of materials and anchorage of units for inward as well as outward (suction) pressure, most importantly in high buildings.

# **Structural Glazing**

When installed on threshold buildings, structural glazing curtain wall systems, shall be inspected by the owner at 6-month intervals for the first year after completion of the installation. The purpose of the inspection shall be to determine the structural condition and adhesive capacity of the silicone sealant. Subsequent inspections shall be performed at least once every 5 years at regular intervals for structurally glazed curtain wall systems installed on threshold buildings.

# Wood Framing

Older wood framed structures, especially of the industrial type, are of concern in that long term deflections may have opened important joints, even in the absence of deterioration. Corrosion of ferrous fasteners will in most cases be obvious enough. Dry rot must be considered suspect in all sealed areas where ventilation has been inhibited, and at bearings and at fasteners. Here too, penetration with a pointed tool greater than about one eighth inch with moderate hand pressure will indicate the possibility of further difficulty.

# **Building Facade**

Appurtenances on an exterior wall of a threshold building are elements including, but not limited to, any cladding material, precast appliques, exterior fixtures, ladders to rooftops, flagpoles, signs, railings, copings, guardrails, curtain walls, balcony and terrace enclosures, including greenhouses or solariums, window guards, window air conditioners, flower boxes, satellite dishes, antennae, cell phone towers, and any equipment attached to or protruding from the façade that is mechanically and/or adhesive attached.

# **Loading**

It is of importance to note that even in the absence of any observable deterioration, loading conditions must be viewed with caution. Recognizing that there will generally be no need to verify the original design, since it will have already been "time tested", this premise has validity only if loading patterns and conditions remain <u>un-</u><u>changed</u>. Any material change in type and/or magnitude or loading in older buildings should be viewed as sufficient justification to examine load carrying capability of the effected structural system.

# **Underground or Lower-Level Parking Garages**

Buildings with underground parking garages have unique design and maintenance requirements. In South Florida, there are several unique challenges that affect the viability of underground parking structures. These include low ground elevation, short distance from ground surface to the groundwater table, a highly porous substrate, and a corrosive environment (particularly along the coast), among others. Additionally, due to the area's vulnerability to rainfall events and tidal fluctuations (coastal parcels), storms, and hurricanes, there is a greater risk for flooding underground and lower-level garages. Some underground garages may be in areas where they are below the groundwater table or in locations where the groundwater fluctuates with the tides. With rising sea levels, groundwater levels are also increasing in coastal areas. Incidentally, groundwater levels in tidally influenced areas are expected to continue rising over the coming decades. Therefore, these inspection guidelines include an inspection and information gathering component about the maintenance and performance of existing underground parking garages.

## **Scope of Electrical Inspection**

The purpose of the required inspection and report is to confirm with reasonable fashion that the building or structure and all habitable and non-habitable areas, as deemed necessary by the inspecting professional, to establish compliance are safe for continued use under present occupancy. As mentioned before, this is a recommendation procedure, and under no circumstances are these minimum recommendations intended to supplant proper professional judgment.

# **Electric Service**

A description of the type of service supplying the building or structure must be provided, stating the size of amperage, if three (3) phase or single (1) phase, and if the system is protected by fuses or breakers. Proper grounding of the service should also be in good standing. The meter and electric rooms should have sufficient

clearance for equipment and for the serviceman to perform both work and inspections. Gutters and electrical panels should all be in good condition throughout the entire building or structure.

# **Branch Circuits**

Branch circuits in the building must all be identified, and an evaluation of the conductors must be performed. There should also exist proper grounding for equipment used in the building, such as an emergency generator, or elevator motor.

# **Conduit Raceways**

All types of wiring methods present in the building must be detailed and individually inspected. The evaluation of each type of conduit and cable, if applicable, must be done individually. The conduits in the building should be free from erosion and checked for considerable dents in the conduits that may be prone to cause a short. The conductors and cables in these conduits should be chafe free and their currents not over the rated amount.

# **Emergency Lighting**

Exit sign lights and emergency lighting, along with a functional fire alarm system, if applicable, must all be in good working condition.

## **Infrared Thermography Inspection**

For electrical systems operating at 400 amperes or greater, an infrared thermography inspection with a written report of the following electrical equipment must be provided as applicable or as otherwise indicated below: busways, switchgear, panelboards (except in dwelling unit load centers), disconnects, VFDS, starters, control panels, timers, meter centers, gutters, junction boxes, automatic/manual transfer switches, exhaust fans and transformers. The infrared inspection of electrical equipment shall be performed by a Level-II or higher certified infrared thermographer who is qualified and trained to recognize and document thermal anomalies in electrical systems and possesses over 5 years of experience inspecting electrical systems associated with commercial buildings.

## **Historical Documents and Permitting**

An attempt should be made to investigate the existence of documents with the local jurisdiction to assist with the overall inspection of the building.

Understanding the structural system, building components, and intended design may guide the design professional to investigate certain critical areas of the structure.

**Violations** through the local jurisdiction's code compliance division should be investigated. Cases on file may lead to issues pre-existing with the building, especially any unsafe structure determinations. Depending on the nature of the violation, recertification inspections may be affected.

**Unpermitted activities** may also affect the outcome of a recertification inspection, especially with unpermitted additions to the building. The recertification of a building is conducted on the entire structure including the original construction and any subsequent permitted addition. Unpermitted additions found by the recertification process present an unsafe situation and must be identified in the report, even if found to be properly built. Like a repair process identified by the report, legalizing an unpermitted addition would be a prerequisite to the completion of a successful recertification report. Examples of unpermitted work that may affect recertification include but are not limited to additions, alterations, balcony enclosures, etc.

**Repairs** identified in the recertification report will most likely require permits. Once the initial report is completed it should be immediately submitted to the local jurisdiction for processing, do not proceed to conduct repairs without permits. Some repairs, like changing a bulb in an exit sign, may not require a permit but most other work will require permits. Proceeding without obtaining repair permits may lead to a violation of the code. Additionally, repairs being conducted under a permit will afford additional time to comply with a complete recertification report.

**Completing the reports** concisely is vital to the overall understanding of the conditions of the building and successful completion of the recertification process. The approved report forms provided must be used, proprietary forms will not be accepted. Where required, photos must be in color and with sufficient resolution to detail the conditions being shown. Recertification reports may be audited, and the subject building may be inspected at the discretion of the Building Official. The Building Official reserves the right to rescind or revoke an approved recertification report.

The **Code in Effect** at the time of the original construction is the baseline for the recertification inspections. Subsequent improvements to the original building should be inspected based on the code at the time of permitting. It is not the intent of recertification that buildings must be brought in compliance with current codes.

# MINIMUM INSPECTION PROCEDURAL GUIDELINES FOR BUILDING

# STRUCTURAL RECERTIFICATION

# 1. <u>Description of Structure</u>:

A.	Name of title
B.	Street address
C.	Legal description
D.	Owner's name
E.	Owner's mailing address
F.	Building Official Folio Number
G.	Building Code Occupancy Classification
H.	Present use
I.	General description, type of construction, size, number of stories, and special features.
J.	Additions to original structure
J. K.	Additions to original structure         Number of Stories         Threshold Building per 553.71(12) F.S. Y/N
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K.	Number of Stories Threshold Building per 553.71(12) F.S. Y/N
K. L.	Number of Stories Threshold Building per 553.71(12) F.S. Y/N
K. L.	Number of Stories Threshold Building per 553.71(12) F.S. Y/N Total Building Area of all floors:
K. L.	Number of Stories Threshold Building per 553.71(12) F.S. Y/N Total Building Area of all floors:
K. L. <u>Prese</u>	Number of Stories Threshold Building per 553.71(12) F.S. Y/N         Total Building Area of all floors: <b>at Condition of Structure:</b>
K. L. <u>Prese</u>	Number of Stories Threshold Building per 553.71(12) F.S. Y/N         Total Building Area of all floors: <b>at Condition of Structure:</b> General alignment (note good, fair, poor, explain if significant)         1.       Bulging
K. L. <u>Prese</u>	Number of Stories Threshold Building per 553.71(12) F.S. Y/N         Total Building Area of all floors: <b>at Condition of Structure:</b> General alignment (note good, fair, poor, explain if significant)         1.       Bulging         2.       Settlement
K. L. <u>Prese</u>	Number of Stories Threshold Building per 553.71(12) F.S. Y/N         Total Building Area of all floors: <b>at Condition of Structure:</b> General alignment (note good, fair, poor, explain if significant)         1.       Bulging         2.       Settlement

2.

- B. Portions showing distress (note, beams, columns, structural walls, floors, roofs, other)
- C. Surface conditions describe general conditions of finishes, noting cracking, spalling, peeling, signs of moisture penetration & stains.
- D. Cracks note location in significant members. Identify crack size as HAIRLINE if barely discernible; FINE if less than 1 mm in width: MEDIUM if between 1 and 2 mm in width; WIDE if over 2 mm.
- E. General extent of deterioration cracking or spalling of concrete or masonry; oxidation of metals; rot or borer attack in wood.
- F. Previous patching or repairs \_\_\_\_\_
- G. Nature of present loading indicate residential, commercial, other estimate magnitude.

#### 3. <u>Inspections:</u>

- A. Date of notice of required inspection \_\_\_\_\_
- B. Date(s) of actual inspection
- C. Name and qualification of individual submitting inspection report:
  - 1. Discipline of Practice:
- D. Description of any laboratory or other formal testing, if required, rather than manual or visual procedures.
- E. Structural repair note appropriate line:
  - 1. None required \_\_\_\_\_\_
  - 2. Required (describe and indicate acceptance)
- F. Has property record been researched for violations or unsafe cases (YES/NO):\_\_\_\_\_

1.	Explanation/Comments:
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#### 4. <u>Supporting data:</u>

- A. \_\_\_\_\_\_ sheets written data
- B. \_\_\_\_\_ photographs
- C. drawings or sketches
- D. \_\_\_\_\_ test reports

#### 5. <u>Foundation:</u>

A. Describe building foundation:

B. Is wood in contact or near soil? (Yes/No):

C. Signs of differential settlement? (Yes/No)

D. Describe any cracks or separation in the walls, columns, or beams that signal

differential settlement:

E. Is water drained away from foundation? (Yes/No):

F. Is there additional sub-soil investigation required? (Yes/No):

1. Describe: \_\_\_\_\_

#### 6. <u>Masonry Bearing Walls - indicate good, fair, poor on appropriate lines:</u>

A.	Concrete masonry units
B.	Clay tile or terra cotta units
C.	Reinforced concrete tie columns
D.	Reinforced concrete tie beams
E.	Lintels
	Other type bond beams

G.	Masonry finishes - exterior:										
	1.	Stucco									
	2.	Veneer									
	3.	Paint only									
	4.	Other (describe)									
H.	Mas	onry finishes - interior <u>:</u>									
	1.	Vapor barrier									
	2.	Furring and plaster									
	3.	Paneling									
	4.	Paint only									
	5.	Other (describe)									
I.	Crac	ks:									
	1.	Location - note beams, columns, other:									
	2.	Description:									
 J.	Spal	ling:									
	1.	Location - note beams, columns, other:									
	2.	Description:									
K.	Reba	ar corrosion - check appropriate line:									
	1.	None visible:									
	2.	Minor - patching will suffice :									
	3.	Significant - but patching will suffice:									
	4.	Significant - structural repairs required (describe):									
L.	Sam	ples chipped out for examination in spall areas									
	1.	No									
	2.	Yes - describe color texture, aggregate, general quality									

#### 7. Floor and Roof Systems:

#### A. Roof:

- **1.** Describe (flat, slope, type roofing, type roof deck, condition)
- 2. Note water tanks, cooling towers, air conditioning equipment, signs, other heavy equipment and condition of supports:
- 3. Note types of drains and scuppers and condition:
- 4. Describe parapet construction and current conditions:
- 5. Describe mansard construction and current conditions:
- 6. Describe roofing membrane/covering and current conditions:
- Describe any roof framing member with obvious overloading, overstress, deterioration, or excessive deflection:
- 8. Note any expansion joints and condition:

#### **B.** Floor system(s):

**1.** Describe (type of system framing, material, spans, condition)

- 2. Balconies: Indicate location, framing system, material and condition:
- 3. Stairs and escalators: Indicate location, framing system, material, and condition:
- 4. Ramps: Indicate location, framing system, material, and location:
- 5. Guardrails: describe type, material, and condition:
- **C.** Inspection note exposed areas available for inspection, and where it was found necessary to open ceilings, etc. for inspection of typical framing members.

#### 8. <u>Steel Framing Systems:</u>

- A. Description \_\_\_\_\_
- **B.** Exposed Steel describe condition of paint & degree of corrosion:
- C. Steel connections: describe type and condition:
- D. Concrete or other fireproofing note any cracking or spalling, and note where any covering was removed for inspection \_\_\_\_\_\_
- E. Identify any steel framing member with obvious overloading, overstress, deterioration, or excessive deflection (provide location):

**F.** Elevator sheaves beams & connections, and machine floor beams - note condition:

#### 9. <u>Concrete Framing Systems:</u>

A. Full description of structural system \_\_\_\_\_

#### **B.** Cracking:

- 1. Not significant \_\_\_\_\_
- 2. Location and description of members affected and type cracking:

#### C. General condition:

- D. Rebar corrosion check appropriate line:
  - 1. None visible
  - 2. Location and description of members affected and type cracking \_\_\_\_\_
  - 3. Significant but patching will suffice \_\_\_\_\_
  - 4. Significant structural repairs required (describe)
- E. Samples chipped out in spall areas:
  - 1. No.
  - **2.** Yes, describe color, texture, aggregate, general quality:
- F. Identify any concrete framing member (e.g., slabs and transfer elements) with obvious overloading, overstress, deterioration (e.g., efflorescence at underside of slab or at base of column or wall), or excessive deflection:

#### 10. <u>Windows, Storefronts, Curtainwalls, and Exterior Doors:</u>

#### A. Windows, Storefronts, Curtainwalls:

- 1. Type (Wood, steel, aluminum, jalousie, single hung, double hung, casement, awning, pivoted, fixed, other): \_\_\_\_\_
- 2. Anchorage type & condition of fasteners and latches: \_\_\_\_\_
- 3. Sealants type & condition of perimeter sealants & at mullions:
- 4. Interior seals type & condition at operable vents:
- 5. General condition:
  - a. Describe any repairs needed; \_\_\_\_\_

B. Structural Glazing on the exterior envelope of Threshold Buildings (YES/NO): \_\_\_\_\_

- 1. Previous inspection Date: \_\_\_\_\_\_
- 2. Description of Curtainwall Structural Glazing and adhesive sealant:
- 3. Describe condition of system: \_\_\_\_\_

#### C. Exterior Doors

- 1. Type (Wood, Steel, Aluminum, Sliding Glass Door, other):
- 2. Anchorage type and condition of fasteners and latches:
- 3. Sealant type and condition of sealant:
- 4. General Condition: \_\_\_\_\_
- 5. Describe any repairs needed: \_\_\_\_\_

# 11. <u>Wood Framing:</u>

**A.** Type - fully describe if mill construction, light construction, major spans, trusses:

	Indicate condition of the following:
	1. Walls:
	2. Floors:
	3. Roof Member, roof trusses:
	Note metal fittings i.e., angles, plates, bolts, split pintles, pintles, other, and note condi-
	tion:
	Joints - note if well fitted and still closed:
	Drainage - note accumulations of moisture:
	Ventilation - note any concealed spaces not ventilated:
	Note any concealed spaces opened for inspection:
	Identify any wood framing member with obvious overloading, overstress, deterioration, or
	excessive deflection:
ir	ng Façade Inspection (Threshold Buildings)
	Identify and describe the exterior walls and appurtenances on all sides of the building.
	Identify and describe the exterior walls and appurtenances on all sides of the building. (Cladding type, corbels, precast appliques, etc.)
	(Cladding type, corbels, precast appliques, etc.)
	(Cladding type, corbels, precast appliques, etc.)

12.

#### 13. <u>Special or Unusual Features in the Building:</u>

- A. Identify and describe any special or unusual features (i.e., cable suspended structures, tensile fabric roof, large sculptures, chimneys, porte cochere, retaining walls, seawalls, etc.):
- B. Indicate condition of special feature, its supports, and connections:

## 14. UNDERGROUND OR LOWER-LEVEL PARKING GARAGES N/A:

CHECKLIST ITEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE:

**14 A.** BFE: \_\_\_\_\_ft (NAVD88)

- Do wet season ground water elevations exceed the lowest floor elevation? (YES/NO): \_\_\_\_\_
- Is the garage entrance lower than the base flood elevation?(YES/NO): \_\_\_\_\_

# IF ANSWER TO QUESTION 1 OR 2 ABOVE IS YES, PROVIDE THE FOLLOWING INFORMATION:

- 3. Wet season ground water level: \_\_\_\_\_\_ft (NGVD88)
- 4. Elevation of lowest of parking garage floor: \_\_\_\_\_\_ ft (NGVD88)
- 5. Use of structure above underground parking garage 'roof' slab. (e.g. parking, terrace, deck, occupiable space):
- 6. Does underground parking structure show any evidence of bulging, settlement, cracking or deflection? If yes to any of these, describe.

7. Describe general surface conditions (cracking spalling, peeling, or staining)

# 14. B.

- Do the parking garage slabs (overhead and floor slabs) and/or walls show evidence of leakage (efflorescence at underside of slab or at base of column)? (YES/NO): \_\_\_\_\_. If yes, describe.
- 2. Is there any evidence of previous patching or repairs? (YES/NO): \_\_\_\_\_. If yes, de-scribe.

# MINIMUM INSPECTION PROCEDURAL GUIDELINES FOR BUILDING ELECTRICAL RECERTIFICATION

INSPECTION COMMENCED	<b>INSPECTION MADE BY:</b>
Date:	SIGNATURE
INSPECTION COMPLETED	PRINT NAME:
Date	TITLE:
	ADDRESS:

#### **1. DESCRIPTION OF STRUCTURE:**

- A. NAME OF TITLE \_\_\_\_\_\_
- B. STREET ADDRESS \_\_\_\_\_
- C. LEGAL DESCRIPTION \_\_\_\_\_
- D. OWNERS NAME \_\_\_\_\_
- E. OWNER'S MAILING ADDRESS \_\_\_\_\_
- F. FOLIO NUMBER OF BUILDING: \_\_\_\_\_
- G. BUILDING CODE OCCUPANCY CLASSIFICATION:
- H. PRESENT USE: \_\_\_\_\_
- I. GENERAL DESCRIPTION, TYPE OF CONSTRUCTION, SIZE, AND SPECIAL FEA-TURES.
- J. NUMBER OF STORIES:
- K. IS THIS A THRESHOLD BUILDING AS PER 553.71(12) F.S. (YES/NO):
- L. PROVIDE AN AERIAL OF THE PROPERTY IDENTIFYING THE BUILDING BEING CERTIFIED ON A SEPARATE SHEET. ATTACHED: □
- **M.** ADDITIONAL COMMENT:

#### 2. **INSPECTIONS:**

- DATE OF NOTICE OF REQUIRED INSPECTION: A.
- **B**. DATE(S) OF ACTUAL INSPECTION:
- **C**. NAME AND QUALIFICATIONS OF LICENSEE SUBMITTING REPORT:
- D. ARE ANY ELECTRICAL REPAIRS REQUIRED? (YES/NO): \_\_\_\_\_ IF REQUIRED, DESCRIBE NATURE OF REPAIRS: \_\_\_\_\_
- PROVIDE PHOTOGRAPHS AS NECESSARY TO REFLECT RELEVANT E. CONDITIONS AND INDEX APPROPRIATELY.

#### 3. **ELECTRIC SERVICE:**

A. SIZE: VOLTAGE: (	) AMPERAGE: (	)	FUSES: ( )	BREAKER:(	)
B. PHASE: 36 (	) 1¢ (	)			
C. CONDITION: GOOD (	) FAIR (	)	NEEDS REPAIR (	)	
D. COMMENTS:					

#### 4. **METERING EQUIPMENT :**

Α.	CLEARANCES:	GOOD (	)	FAIR (	)	REQUIRES CORRECTION (	)
в.	COMMENTS:						

#### 5. **ELECTRIC ROOMS :**

Α.	CLEARANCES:	GOOD (	)	FAIR (	)	REQUIRES CORRECTION (	)
B.	COMMENTS:						

#### 6. **GUTTERS:**

A. LOCATION:	GOOD (	) REQUIRES REPAIR (	)
B	GOOD (	): REQUIRES REPAIR (	)
COMMENTS:			

# 7. <u>ELECTRICAL PANELS:</u>

		LOCATION	GOOD (	): NEEDS REPAIR	(	)	
	A. PANEL # (	):					
	B. PANEL# (	):		): NEEDS REPAIR	(	)	
			GOOD (	): NEEDS REPAIR	(	)	
	C. PANEL # (	):	GOOD (	): NEEDS REPAIR	(	)	
	D. PANEL # (	):	,	). 1(2220 1121 1111	,	)	
	E. PANEL # (	).		): NEEDS REPAIR		)	
	E. FANEL# (	)		): NEEDS REPAIR		)	
	F. COMMENTS:						
0							
8.	BRANCH CIRCU						
	A. IDENTIFIED:						
				ED ( ): MUST BE R			
	C. COMMENTS:						
9.	GROUNDING OF	SERVICE	: GOOD	( ): REPAIRS REC	QUIRED (	( )	
	COMMENTS:						
10.	GROUNDING OF	<b>EQUIPMENT</b>	GOOD	( ): REPAIRS REC	QUIRED (	( )	
	COMMENTS:						
11.	SERVICE COND	UIT/RACEWAY	YS: CONDITI	ON: GOOD ( ): REI	PAIRS RE	EQUIRED (	)
	COMMENTS:						
12.	<u>GENERAL</u> CONI	DUIT/RACEWA	YS: CONDIT	TON: GOOD ( ): RE	PAIRS RI	EQUIRED (	)
	COMMENTS:						
13.				): REPAIRS REC			
					-		

14.	<b>BUSWAYS:</b>	CONDITION:	GOOD (	):	REPAIRS REQUIRED (	)
	COMMENTS:					
15.	<b>THERMOGRAPHY INS</b> (ADD SHEETS AS REQUIRED & COMMENTS:	PICTURES IF NE	E <b>DED</b> )			
16.	OTHER CONDUCTORS	: CONDITION:	GOOD (	):	REPAIRS REQUIRED (	)
	COMMENTS:					
17.	TYPES OF WIRING ME	THODS: CONI	DITION:			
	CONDUIT RACEWAYS: MET	ALIC:	GOOD (	):	REPAIRS REQUIRED (	)
	CONDUIT PVC:		GOOD (	):	REPAIRS REQUIRED (	)
	NM CABLE:		GOOD (	):	REPAIRS REQUIRED (	)
	OTHER CONDUCTORS/CABL	ES (LIST)	GOOD (	):	REPAIRS REQUIRED (	)
18.	EMERGENCY LIGHTIN	<u>\G:</u>	GOOD (	):	REPAIRS REQUIRED (	)
	COMMENTS:					
.9.	BLDG. EGRESS ILLUM		x	):	REPAIRS REQUIRED (	)
0.	COMMENTS:			):	REPAIRS REQUIRED (	)
		-				
1.	SMOKE DETECTORS:				REPAIRS REQUIRED (	
	COMMENTS:					
22.	EXIT LIGHTS:		GOOD (	):	REPAIRS REQUIRED (	)
	COMMENTS:					
23.	EMERGENCY GENERA	TOR:	GOOD (	):	REPAIRS REQUIRED (	)
	COMMENTS:					

24. WIRING IN OPEN OR

UNDER CO GARAGE	<b>DVER PARKING</b> REQUIRE ADDITIONAL <b>AREAS:</b> GOOD ( ): ILLUMINATION ( )
COMMENTS:	
PARKING AND EGRI	UNDERCOVERGARAGE AREASREQUIRE ADDITIONALESS ILLUMINATION:GOOD ( ): ILLUMINATION ( )
COMMENTS:	
<u>SWIMMIN</u>	<b><u>G POOL WIRING</u></b> : GOOD ( ): REPAIRS REQUIRED (
COMMENTS:	
WIRING T	<b>O MECHANICAL EQUIPMENT:</b> GOOD ( ): REPAIRS REQUIRED (
COMMENTS:	
<u>UNDERGR</u>	ROUND OR LOWER-LEVEL PARKING GARAGES N/A:
UNDERGR	
UNDERGR CHECKLIST	ROUND OR LOWER-LEVEL PARKING GARAGES N/A:  ITEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE: vels Below Grade:
UNDERGR CHECKLIST Number of Lev A.	ROUND OR LOWER-LEVEL PARKING GARAGES       N/A: □         ITEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE:         vels Below Grade:         Are the sump pumps operational? Select: (Yes/Need Repair/N/A):         If the elevator(s) travel below grade plane:         1.       Are they programmed to return to a level at or above BFE plus freeboard?
UNDERGR CHECKLIST Number of Lev A.	ROUND OR LOWER-LEVEL PARKING GARAGES       N/A: □         ITEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE:         vels Below Grade:         Are the sump pumps operational? Select: (Yes/Need Repair/N/A):         If the elevator(s) travel below grade plane:         1.       Are they programmed to return to a level at or above BFE plus freeboard?         Select: (Yes, No, Needs Repair, Will Retrofit):
UNDERGR CHECKLIST Number of Lev A.	ROUND OR LOWER-LEVEL PARKING GARAGES       N/A: □         ITEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE:         vels Below Grade:         Are the sump pumps operational? Select: (Yes/Need Repair/N/A):         If the elevator(s) travel below grade plane:         1.       Are they programmed to return to a level at or above BFE plus freeboard?
UNDERGR CHECKLIST Number of Lev A.	ROUND OR LOWER-LEVEL PARKING GARAGES       N/A: □         ITEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE:         vels Below Grade:         Are the sump pumps operational? Select: (Yes/Need Repair/N/A):         If the elevator(s) travel below grade plane:         1.       Are they programmed to return to a level at or above BFE plus freeboard? Select: (Yes, No, Needs Repair, Will Retrofit):         2.       Are they equipped with sensors that prevent the cab from descending into
UNDERGR CHECKLIST Number of Lev A.	<ul> <li><b>ROUND OR LOWER-LEVEL PARKING GARAGES</b> N/A: □</li> <li>ITEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE:</li> <li>vels Below Grade: Are the sump pumps operational? Select: (Yes/Need Repair/N/A): If the elevator(s) travel below grade plane:</li> <li>1. Are they programmed to return to a level at or above BFE plus freeboard? Select: (Yes, No, Needs Repair, Will Retrofit):</li> <li>2. Are they equipped with sensors that prevent the cab from descending into a flooded hoist way?</li> </ul>
UNDERGR CHECKLIST Number of Lev A. B.	<ul> <li><b>ROUND OR LOWER-LEVEL PARKING GARAGES</b> N/A: □</li> <li>ITEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE:</li> <li>vels Below Grade:</li> <li>Are the sump pumps operational? Select: (Yes/Need Repair/N/A):</li> <li>If the elevator(s) travel below grade plane:</li> <li>1. Are they programmed to return to a level at or above BFE plus freeboard? Select: (Yes, No, Needs Repair, Will Retrofit):</li></ul>
UNDERGR CHECKLIST Number of Lev A. B.	<ul> <li><b>ACUND OR LOWER-LEVEL PARKING GARAGES</b> N/A:  </li> <li>TTEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE: </li> <li>Are the sump pumps operational? Select: (Yes/Need Repair/N/A): </li> <li>If the elevator(s) travel below grade plane: <ol> <li>Are they programmed to return to a level at or above BFE plus freeboard? Select: (Yes, No, Needs Repair, Will Retrofit):</li></ol></li></ul>
UNDERGR CHECKLIST Number of Lev A. B.	<ul> <li><b>ROUND OR LOWER-LEVEL PARKING GARAGES</b> N/A: □</li> <li>ITEMS TO CONFIRM OR CONSIDER FOR UNDERGROUND PARKING GARAGE:</li> <li>wels Below Grade:</li> <li>Are the sump pumps operational? Select: (Yes/Need Repair/N/A):</li> <li>If the elevator(s) travel below grade plane:</li> <li>1. Are they programmed to return to a level at or above BFE plus freeboard? Select: (Yes, No, Needs Repair, Will Retrofit):</li></ul>

# 29. <u>GENERAL ADDITIONAL COMMENTS:</u>