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September 16, 2009

VIA FEDEX

Mo Madani
Department of Community Affairs
Building Codes and Standards Office
2555 Shumard Oak Blvd.
Tallahassee, Florida 32399

Re: Petition for Declaratory Statement DCA09-DEC-259; Malibu Lodging Investments, LLC.

Dear Mo:

In order to assist you in your staff analysis of the above referenced (amended) petition for declaratory statement, please find enclosed:

- A hard copy of the amended petition which was electronically filed with the Clerk of the Florida Building Commission on September 14, 2009;
- Engineered drawings of the mural for the Miami location described in the petition; and,
- A sample of the mural material (please excuse the picture on the material, this is the only sample I could get).

After you have reviewed these materials, please feel free to call me with any questions.

Very truly yours,

Robert S. Fine

RSF
Enclosures

STATE OF FLORIDA
BUILDING COMMISSION

IN RE: MALIBU LODGING INVESTMENTS, LLC, a Florida limited liability corporation.	CASE NO. DCA09-DEC-259

AMENDED PETITION FOR DECLARATORY STATEMENT [1]

Malibu Lodging Investments, LLC, ("Malibu") files this amended petition for declaratory statement (the "Petition") and states as follows:

A. Jurisdiction.

1. The Florida Building Commission (the "Commission") has jurisdiction to issue declaratory statements pursuant to section 120.565, Florida Statutes, relating to an agency's interpretation and enforcement of the specific

[1] This Amended Petition amends the Amended Petition filed by electronic mail on Friday, September, 11, 2009, to correct scrivener's errors in paragraphs 13, and 30 of the September 11 petition.

provisions of the Florida Building Code ("FBC"), which the agency is authorized to enforce. *See* § 553.775(3)(a), Fla. Stat.[2]; Ch. 28-105, F.A.C. (2009).

B. The Petitioner.

2. Petitioner's address is 660 N.W. 81st Street, Miami, Florida 33150; its telephone number is (305) 324-0800 and its facsimile number is (305) 547-1820.

3. Petitioner is a Florida limited liability corporation. Petitioner is also the owner of the property located at 660 N.W. 81st Street, Miami, Florida 33150.

4. Petitioner is represented in this petition by Robert S. Fine, Esq., AIA, Greenberg Traurig, P.A., 1221 Brickell Avenue, Miami, Florida 33131; telephone (305)579-0826; facsimile (305) 961-5826.

C. The Code Provision and its effect on Petitioner.

5. Petitioner owns and/or operates a building located at 660 N.W. 81st Street, Miami, Florida. (the "Miami Location"). Petitioner leases the exterior of the building to entities who cover significant portions of certain facades of the building with a lightweight material mural that contains artwork which presents an advertising message. In addition, Petitioner may consider acquiring additional sites in other areas of Florida such as in the general metropolitan areas of Tampa

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[2] All references are to the 2009 Florida Statutes unless otherwise indicated.

and Orlando (as well as additional locations in South Florida) to conduct the same business (lease the exterior of the buildings for advertising murals).

6. Because of the time and costs involved in preparing permit applications and associated submittals (if required), as well as the potential for differing interpretations of Section 105.1 of the FBC by building officials in the various jurisdictions leading to inconsistent standards that Petitioner would have to abide by if expands its business in the state, the questions regarding the application or non-application of Section 105.1 of the FBC (2004, 2007)[3] to Petitioner's business substantially affects Petitioner.

7. Petitioner seeks a declaratory statement as to whether the installation and maintenance of such building facade murals require a building permit, as might otherwise be required by Section 105.1 of the FBC, and certain other related information as set forth below.

D. Nature of Declaratory Statement Sought.

8. Petitioner seeks a declaratory statement answering the following questions:

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[3] Both the 2004 and 2007 edition of the FBC are referred to on purpose. For a building that is currently undergoing construction, alteration or repair pursuant to a master building permit issued under FBC 2004, a subsidiary permit, should it be required, for the installation, replacement, or repair of a vinyl mural, *might* be subject to FBC 2004 as opposed to FBC 2007, even though FBC 2007 is now in effect. *See* § 553.73(6)(d), Fla. Stat.

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(a) Does the installation of lightweight material (such as vinyl mesh) murals on the exterior of existing buildings, where the material does not encroach the public right-of-way, require a building permit under Section 105.1 of the FBC (2004 and 2007 editions); and

(b) If the answer to question (a) above is in the affirmative, then, on an existing building which had a mural as described in question (a) above installed prior to the original effective date of the Florida Building Code (*i.e.*, the 2001 edition), would the lowering and then rehanging the mural material to the existing fasteners periodically for maintenance purposes (or, for example, during hurricane warning through the passing of the storm periods) constitute a repair or an alteration under FBC Existing Building Volume (2007 edition)("FBC-EB"); and,

(c) Regarding the scenarios set forth in questions (a) and (b) above, would the vinyl murals described in questions (a) and (b) above be considered "structural elements" for the purposes of FBC-EB?

9. The FBC's provision requiring permits provides, in pertinent part:

> Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any required impact-resistant coverings, electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit.

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§ 105.1, FBC (2004, 2007).[4]

10. Because the vinyl murals in question do not fall within mandate of Section 105.1 of the FBC, their installation should not require a building permit.

11. Because the vinyl murals in question are not "structural," they should not be considered to be structural elements for the purposes of the FBC-EB. *See* Definition of "Structural Determination," §202, FBC-EB.

MEMORANDUM OF LAW IN SUPPORT OF MALIBU'S AMENDED PETITION FOR DECLARATORY STATEMENT

12. The Florida Building Code contains or incorporates by reference all laws and rules which pertain to and govern the design, construction, erection, alteration, modification, repair, and demolition of public and private buildings, structures, and facilities and enforcement of such laws and rules. § 553.73(1)(a), Fla. Stat.

13. The Florida Building Code is an administrative rule. *Id.;* Rule 9B-3.047. F.A.C. (2009).

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[4] Section 105.1 of the FBC is consistent with Section 553.79(1), Florida Statutes, which sets forth the statutory mandate for when a building permit is required.

14. The Florida Supreme Court has observed: "Our courts have long recognized that the rules of construction applicable to statutes also apply to rules." *Brown v. State of Florida*, 715 So. 2d 241, 243 (Fla. 1998).

i. The murals described in paragraph 8(a) should not require a building permit.

15. Section 101.2 of the FBC provides:

> The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

Note that while this provision discusses what activities the FBC has jurisdiction over, it does not state which activities require a building permit.

16. Section 105.1 of the FBC is the governing section that expressly sets forth what activities require a building permit, as follows:

> Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy *of a building or structure*, or to erect, install, enlarge, alter, repair, remove, convert or replace any required impact-resistant coverings, electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit.

§ 105.1, FBC (2004, 2007)(emphasis added).

17. Because Section 105.1 of the FBC expressly states what activities require a building permit, it would be inappropriate to use Section 101.2 to make a

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determination as to which activities require a building permit. *See Leisure Resorts, Inc. v. Frank J. Rooney, Inc.,* 654 So. 2d 911, 914 (Fla. 1995)("When the legislature has used a term... in one section of the statute but omits it in another section of the same statute, we will not imply it where it has been excluded.").

18. Section 105.1 is comprised of a list of verbs and subjects that define the instances for which a building permit is required. In the sections below, it will be demonstrated that the murals discussed herein are not implicated by any of the verbs listed in Section 105.1 or the subjects contained within Section 105.1

19. "...required impact-resistant coverings, electrical, gas, mechanical or plumbing system[s]," are not in any way related to the issue of vinyl murals, therefore these subjects in Section 105.1 are not applicable to the questions posed in this petition. § 105.1, FBC.

20. Similarly, because the (existing) buildings referred to in this petition are not being constructed, enlarged, repaired, moved, demolished or undergoing a change of occupancy, these verbs in Section 105.1 are inapplicable to the question posed in this petition. *Id.*

21. With the verbs and subjects from Section 105.1 set forth in paragraphs 18 and 19 above excluded from the question posed in this petition, the only remaining verb is "alter." In other words, would the installation of the murals "alter" the existing building.

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22. The FBC does not define the word "alter," but does define "alteration." Alteration is defined as "[a]ny construction or renovation to an existing structure other than a repair or addition." § 202, FBC-EB (2007).

23. Addition is defined as "[a]n extension or increase in floor area, number of floors, or height of a building or structure. *Id.* Therefore, this term is inapplicable to the question posed in paragraph 8(a) above.

24. Repair is defined as "[the] patching, restoration and/or minor replacement of materials, elements, components, equipment and/or fixtures for the purposes of maintaining such materials, elements, components, equipment and/or fixtures in good or sound condition. *Id.* Therefore, this term is inapplicable to the question posed in paragraph 8(a) above.

25. Renovation is not defined in the FBC. However, the dictionary definition of "renovate" is "to restore to a former better state (as by cleaning, repairing, or rebuilding). *See* Merriam-Webster's Online Dictionary, http://www.merriam-webster.com/dictionary/renovation, last accessed September 10, 2009. Therefore, the term "renovation" is inapplicable to the question posed in paragraph 8(a) above.

26. Therefore, the answer to the question posed in paragraph 8(a) above falls to whether the installation of vinyl murals on an existing building is "construction."

27. The word "construction" is defined in the Merriam-Webster dictionary as "the process, art, or manner of constructing something; *also* : a thing constructed." *See* Merriam-Webster's Online Dictionary, http://www.merriam-webster.com/dictionary/construction, last accessed September 10, 2009.

28. The Florida Supreme Court has held, in regard to interpreting statutes and administrative rules: "[w]hen the language to be construed is unambiguous, it must be accorded its plain and ordinary meaning." *Brown*, 715 So.2d at 243.

29. The hanging of a 5 foot by 10 foot American flag outside of a patriots' home's second story window from the window sill would not be considered to be constructed or construction. Similarly, the hanging of the same flag horizontally from the house's façade with tacks in each corner would not be considered "construction."

30. The murals in question are but a larger version of the flag in paragraph 29. And like the flag, they are removable (for maintenance and) in times of severe weather. *See* ¶ 8(b). As such, the murals do not fall within the plain and ordinary meaning of "construction."

ii. The fact that a building permit is not required does not preclude enforcement of FBC requirements.

31. There should be no concern that because a building permit is not required the building code will not be enforced. As discussed below, there are

mechanisms for enforcement of the FBC that do not require effectuating by the issuance of a building permit.

32. Florida Statutes mandate that local governments shall regulate building construction. § 553.80(1), Fla. Stat. However, the statutes do not set forth all manner and methods in which such enforcement must take place. *See* Ch. 553, Part IV, Fla. Stat., *generally*.

33. Using Miami-Dade County as an example, the Code of Miami-Dade County ("MDC Code") incorporates the FBC by reference. § 8-1, 8-2, MDC Code.

34. The MDC Code further provides: "Upon presentation of the proper credentials, the Building Official or his duly authorized representatives may enter, at any reasonable time, any building, structure or premises for the purposes of inspection or to prevent violation of this Chapter." § 8-21.1(c), MDC Code.

35. The FBC bolsters the ability of that building official who has entered a premises (as described above) in enforcing the FBC, whether or not a permit for the work in question was required. One such FBC provision is as follows:

> Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an

> approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

104.11.2, FBC (2004, 2007).

36. Therefore, in the particular case of the murals being discussed herein, the building official may enter the premises in accordance with the FBC and appropriate law, and require that the property owner demonstrate that the murals meet any applicable requirements of the FBC, even if no permit is/was required for the murals. Accordingly, it cannot be argued that by not requiring a building permit, the local government/building official is precluded from assuring itself that the vinyl murals do not meet any applicable FBC requirements.

iii. The vinyl murals described in this petition are not structural elements.

37. The FBC-EB (2007) states as follows:

> **STRUCTURAL DETERMINATION.** For purposes of this code, "structural" shall mean 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 designed live load and the removal of which part, material or assembly could cause, or be expected to cause, all or any portion to collapse or fail.

§ 202, FBC EB 2007. Because the vinyl murals discussed in this petition clearly do not fall within the definition above, they cannot be considered to be structural elements for the purpose of the FBC.

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CONCLUSION

Petitioner respectfully requests that the Commission issue a declaratory statement declaring that the installation of vinyl murals on the exterior of buildings does not require a building permit, although such murals may be subject to applicable FBC requirements; that the lowering and rehanging of such murals for maintenance purposes and during severe weather events do not constitute a repair or alteration; and that such murals are not "structural" elements under the FBC.

Certificate of Service

I hereby certify that I have this day served a copy of the foregoing by Registered E-mail and FedEx upon:

James Richmond, Esq.
Counsel to Florida Building Commission
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

Mo Madani
Staff to Florida Building Commission
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

This 14 day of September, 2009.

By: _____
Robert S. Fine

Counsel for Malibu Lodging Investments, LLC

Greenberg Traurig, P.A. | Attorneys at Law | 1221 Brickell Avenue | Miami, FL 33131 | Tel 305.579.0500 | Fax 305.579.0717 | www.gtlaw.com

MURAL SIGN CONNECTION CALCS

A. DETERMINE MAXIMUM LOAD ON SUPPORT STRAPS

(1.) LOAD ON SIGN — Size SIGN = 130' x 77' = 10000 SF

MAXIMUM WIND LOAD =
+ 20.3
− 21.3

SIGN POROSITY = 50% = + 10.1
− 10.5

TOTAL WIND LOAD =
10.5 x 10000 SF = 105100 #

STRAPS LOCATED @ 2'-0 INTERVALS
AROUND the PERIMETER

∴ PERIMETER = 414 LF
@ 2 = 207 STRAPS

∴ LOAD per Strap = $\frac{105100}{207}$ = 507.7 #/Strap.

(2.) LOAD ON ANCHORS:

Assume TENSION = 507.7 #
& SHEAR = 507.7 #

Edward A. LANDERS, P.E.
CONSULTING ENGINEERS
P.E. #038398
9-1409
(305)823-3938

CITY INN 7927 NW 7TH AVENUE	
MURAL CONN CALCS	
9-1409	1

Try: 3/8" Kwik Bolts: (No Reductions)

Tensile Strength = 1200# > 507.7#

Shear Strength = 1470# > 507.7# (OK)

Nylon Rope 3/8" = 3700# (Ultimate Load)

$\div 4 = \frac{3700}{4} = 925\# > 507.7\#$ (OK)

Check Combined Loads of Anchor:

$$\frac{507.7}{1200} + \frac{507.7}{1470} \leq 1.0$$

$$0.42 + 0.34 = 0.76 < 1.0 \text{ (OK)}$$

USE: 3/8" Nylon Rope w/ 3/8" Kwik Bolts into concrete @ 24" oc ± & 2" Embedment

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CONSULTING ENGINEERS
P.E. #038398
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CALCS

9-14-09

2

WIND05 v1-12

Detailed Wind Load Design (Method 2) per ASCE 7-05

Analysis by: Edward A. Landers **Company Name:** EDWARD A. LANDERS, P.E.
Description: CITY INN, 7927 NW 7TH AVENUE, MIAMI, FLORIDA

User Input Data		
Structure Type	Building	
Basic Wind Speed (V)	90	mph
Struc Category (I, II, III, or I	II	
Exposure (B, C, or D)	C	
Struc Nat Frequency (n1)	1	Hz
Slope of Roof	0.3	:12
Slope of Roof (Theta)	1.2	Deg
Type of Roof	Monoslope	
Kd (Directonality Factor)	0.85	
Eave Height (Eht)	90.00	ft
Ridge Height (RHt)	90.00	ft
Mean Roof Height (Ht)	90.00	ft
Width Perp. To Wind Dir (B	75.00	ft
Width Paral. To Wind Dir (L	125.00	ft

Calculated Parameters	
Type of Structure	
Height/Least Horizontal Dim	1.20
Flexible Structure	No

Calculated Parameters		
Importance Factor	1	
Non-Hurricane, Hurricane (v=85-100 mph) & Alaska		
Table 6-2 Values		
Alpha =	9.500	
zg =	900.000	
At =	0.105	
Bt =	1.000	
Bm =	0.650	
Cc =	0.200	
l =	500.00	ft
Epsilon =	0.200	
Zmin =	15.00	ft

Gust Factor Category I: Rigid Structures - Simplified Method			
Gust1	For rigid structures (Nat Freq > 1 Hz) use 0.85	0.85	
Gust Factor Category II: Rigid Structures - Complete Analysis			
Zm	0.6 * Ht	54.00	ft
Izm	Cc * (33/z)^0.167	0.1842	
Lzm	l*(zm/33)^Epsilon	551.75	ft
Q	(1/(1+0.63*((B+Ht)/Lzm)^0.63))^0.5	0.8789	
Gust2	0.925*((1+1.7*Izm*3.4*Q)/(1+1.7*3.4*Izm))	0.8672	
Gust Factor Summary			
G	Since this is not a flexible structure the lessor of Gust1 or Gust2 are used	0.85	

Fig 6-5 Internal Pressure Coefficients for Buildings, Gcpi

Condition	Gcpi	
	Max +	Max -
Open Buildings	0.00	0.00
Partially Enclosed Buildings	0.55	-0.55
Enclosed Buildings	0.18	-0.18
Enclosed Buildings	**0.18**	**-0.18**

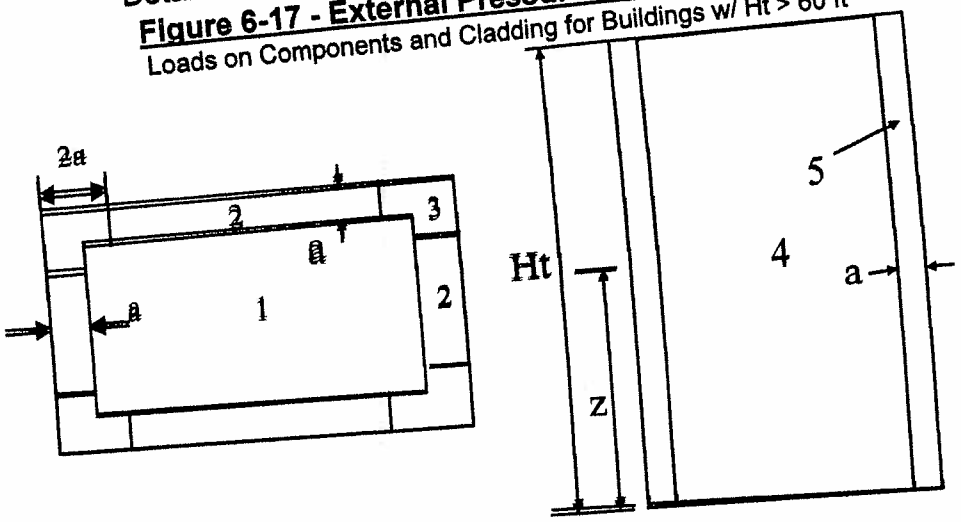
 EDWARD A. LANDERS, P.E.

WIND05 v1-12

Detailed Wind Load Design (Method 2) per ASCE 7-05

Figure 6-17 - External Pressure Coefficients, GCp

Loads on Components and Cladding for Buildings w/ Ht > 60 ft



a = 7.0 ==> 7.55 ft

Double Click on any data entry line to receive a help Screen

Component	Width (ft)	Span (ft)	Area (ft^2)	Zone	GCp Max	GCp Min	Wind Press (lb/ft^2) Max	Wind Press (lb/ft^2) Min	Elev ft
			0.00						
WALL	10	10	100.00	4	0.75	-0.80	20.29	-21.38	
WALL	10	10	100.00	5	0.75	-1.40	20.29	-34.47	
			0.00						
			0.00						

Note: * Enter Zone 1, 2, 3, 4 or 5 (If a parapet >= 3 ft is used then Zone 3 can be treated as Zone 2)
* Use 1H, 2H, and 3H for Roof Overhangs (Per Fig 6-5B)

 EDWARD A. LANDERS, P.E.

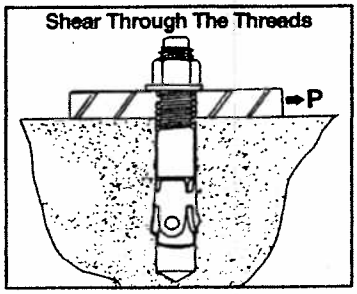
(4)

Kwik Bolt II Expansion Anchor

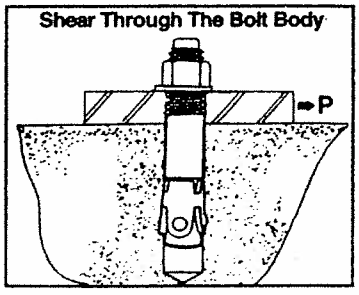
Carbon Steel Kwik Bolt II Allowable Loads in Concrete

Anchor Diameter in. (mm)	Embedment Depth in. (mm)	2000 psi (13.8 MPa)		3000 psi (20.7 MPa)		4000 psi (27.6 MPa)		6000 psi (41.4 MPa)	
		Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)
1/4 (6.4)	1 1/8 (29)	270 (1.2)	430 (1.9)	330 (1.5)	430 (1.9)	380 (1.7)	430 (1.9)	470 (2.1)	430 (1.9)
	2* (51)	560 (2.5)	530 (2.4)	590 (2.6)	530 (2.4)	630 (2.8)	530 (2.4)	670 (3.0)	530 (2.4)
	3 3/4* (95)	670 (3.0)		670 (3.0)		670 (3.0)			
3/8 (9.5)	1 5/8 (41)	530 (2.4)	990 (4.4)	650 (2.9)	1040 (4.6)	750 (3.3)	1100 (4.9)	850 (3.8)	1100 (4.9)
	2 1/2* (64)	1200 (5.3)	1470 (6.5)	1290 (5.7)	1470 (6.5)	1370 (6.1)	1470 (6.5)	1550 (6.9)	1470 (6.5)
	4 1/4* (108)	1330 (5.9)		1390 (6.2)		1440 (6.4)			
1/2 (12.7)	2 1/4 (57)	1170 (5.2)	1940 (8.6)	1310 (5.8)	1970 (8.8)	1450 (6.4)	1970 (8.8)	1730 (7.7)	1970 (8.8)
	3 1/2* (89)	1870 (8.3)	2450 (10.9)	2130 (9.5)	2450 (10.9)	2400 (10.7)	2450 (10.9)	2800 (12.5)	2450 (10.9)
	6* (152)	2080 (9.3)		2310 (10.3)		2530 (11.3)			
5/8 (15.9)	2 3/4 (70)	1600 (7.1)	3070 (13.7)	1870 (8.3)	3070 (13.7)	2130 (9.5)	3070 (13.7)	2670 (11.9)	3070 (13.7)
	4** (102)	2400 (10.7)	3840 (17.1)	2850 (12.7)	3840 (17.1)	3290 (14.6)	3840 (17.1)	4190 (18.6)	3840 (17.1)
	7** (178)	3200 (14.2)		3470 (15.4)		3730 (16.6)			
3/4 (19.1)	3 1/4 (83)	1970 (8.8)	4140 (18.4)	2320 (10.3)	4140 (18.4)	2670 (11.9)	4140 (18.4)	3200 (14.2)	4140 (18.4)
	4 3/4** (121)	2930 (13.0)	5120 (22.8)	4130 (18.4)	5120 (22.8)	4800 (21.4)	5120 (22.8)	5870 (26.1)	5120 (22.8)
	8** (203)	4000 (17.8)		4930 (21.9)		5870 (26.1)		6320 (28.1)	
1 (25.4)	4 1/2 (114)	3330 (14.8)	7070 (31.4)	4050 (18.0)	7600 (33.8)	4670 (20.8)	8140 (36.2)	5070 (22.6)	9200 (40.9)
	6 (152)	4930 (21.9)	9200 (40.9)	6000 (26.7)	9200 (40.9)	7070 (31.4)	9200 (40.9)	8400 (37.4)	
	9 (229)	6670 (29.7)		7670 (34.1)		8670 (38.6)		10670 (47.5)	

* Values shown are for a shear plane acting through the anchor bolt body. When the shear plane is acting through the anchor bolt threads, reduce the shear values by 20%.



** Values shown are for a shear plane acting through the anchor bolt body. When the shear plane is acting through the anchor bolt threads, reduce the shear value by 12%.



All other values shown are for shear plane acting through either body or threads.

Influence of Anchor Spacing and Edge Distance f_A, f_R (h_{min} = minimum embedment)

Load Adjustment Factors (Anchor Spacing) f_A						
Tensile/Shear						
Spacing s in. (mm)	Anchor Diameter					
	1/4	3/8	1/2	5/8	3/4	1
1 1/8 (29)	.70					
1 5/8 (41)	.83	.70				
2 (51)	.93	.77				
2 1/4 (57)	1.0	.82	.70			
2 1/2 (64)		.86	.73			
2 3/4 (70)		.91	.77	.70		
3 1/4 (83)		1.0	.83	.75	.70	
3 3/4 (95)			.90	.81	.75	
4 1/2 (114)			1.0	.89	.82	.70
5 (127)				.95	.86	.73
5 1/2 (140)				1.0	.91	.77
6 (152)					.95	.80
6 1/2 (165)					1.0	.83
7 (178)						.87
8 (203)						.93
9 (229)						1.0

Load Adjustment Factors (Edge Distance) f_R												
	Tensile f_{RN}						Shear f_{RV}					
Edge Distance c in. (mm)	Anchor Diameter						Anchor Diameter					
	1/4	3/8	1/2	5/8	3/4	1	1/4	3/8	1/2	5/8	3/4	1
1 1/8 (29)	.80											
1 5/8 (41)	.97	.80					.50					
2 (51)	1.0	.89					.59					
2 1/4 (57)		.95	.80				.67					
2 1/2 (64)		1.0	.84				.74	.51				
2 3/4 (70)			.89	.80			.81	.56				
3 1/4 (83)			.98	.87	.80		.96	.67				
3 3/4 (95)			1.0	.95	.86		1.0	.77	.56			
4 1/2 (114)				1.0	.95	.80		.92	.67	.54		
5 (127)					1.0	.84		1.0	.74	.61	.51	
5 1/2 (140)						.89			.81	.67	.56	
6 (152)						.93			.89	.73	.61	
6 1/2 (165)						.98			.97	.79	.67	
7 (178)						1.0			1.0	.85	.72	.52
8 (203)										.97	.82	.59
9 (229)										1.0	.92	.67
10 (254)											1.0	.74
12 (305)												.89
14 (356)												1.0

$$f_A = 0.3 \frac{s}{h_{min}} + 0.40 \quad \text{for } s_{cr} > s > s_{min}$$

$$f_{RN} = 0.4 \frac{c}{h_{min}} + 0.40 \quad \text{for } c_{cr} > c > c_{min}$$

$$f_{RV} = 0.333 \frac{c}{h_{min}} \quad \text{for } c_{cr} > c > c_{min}$$

Influence of Anchor Spacing and Edge Distance f_s, f_R (h_{nom} = standard embedment)

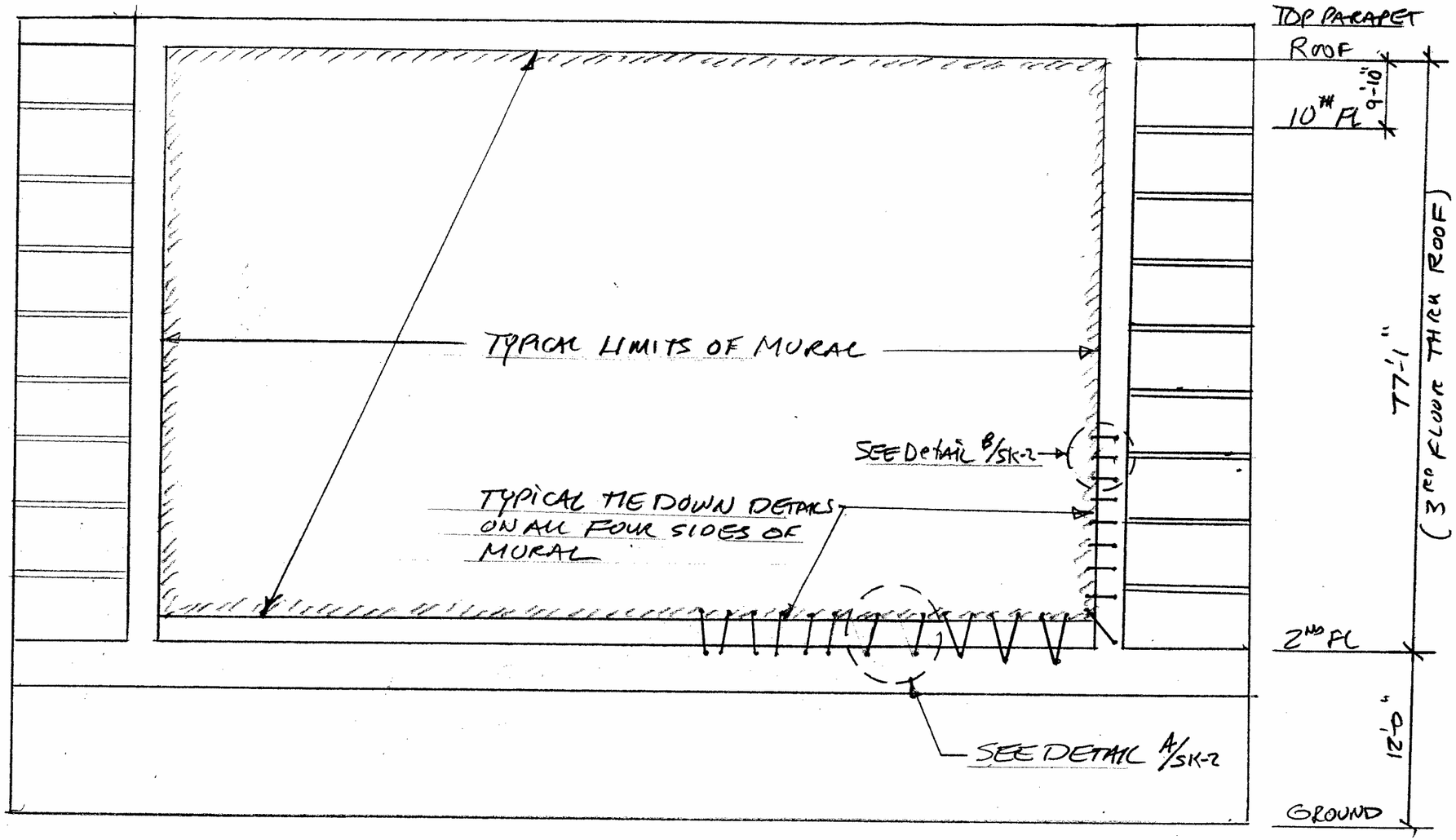
Load Adjustment Factors (Anchor Spacing) f						
Tension/Shear						
Spacing s in. (mm)	Anchor Diameter					
	1/4	3/8	1/2	5/8	3/4	1
2 (51)	.70					
2 1/4 (57)	.74					
2 1/2 (64)	.78	.70				
2 3/4 (70)	.81	.73				
3 1/4 (83)	.89	.79				
3 3/4 (95)	.96	.85	.72			
4 1/2 (114)	1.0	.94	.79	.74		
5 (127)		1.0	.83	.78	.72	
5 1/2 (140)			.87	.81	.75	
6 (152)			.91	.85	.78	.70
6 1/2 (165)			.96	.89	.81	.73
7 (178)			1.0	.93	.84	.75
8 (203)				1.0	.91	.80
9 (229)					.97	.85
10 (254)					1.0	.90
12 (305)						1.0
14 (356)						
16 (406)						
18 (457)						

Load Adjustment Factors (Edge Distance) f_R												
	Tension f_{RN}						Shear f_{RV}					
Edge Distance c in. (mm)	Anchor Diameter						Anchor Diameter					
	1/4	3/8	1/2	5/8	3/4	1	1/4	3/8	1/2	5/8	3/4	1
2 (51)	.80						.59					
2 1/4 (57)	.85						.67					
2 1/2 (64)	.90	.80					.74	.51				
2 3/4 (70)	.95	.84					.81	.56				
3 1/4 (83)	1.0	.92					.96	.67				
3 3/4 (95)		1.0	.83				1.0	.77	.56			
4 1/2 (114)			.91	.85				.92	.67	.54		
5 (127)			.97	.90	.82			1.0	.74	.61	.54	
5 1/2 (140)			1.0	.95	.86				.81	.67	.56	
6 (152)				1.0	.91	.80			.89	.73	.61	
6 1/2 (165)					.95	.83			.97	.79	.67	
7 (178)					1.0	.87			1.0	.85	.72	.52
8 (203)						.93				.97	.82	.59
9 (229)						1.0				1.0	.92	.67
10 (254)											1.0	.74
12 (305)												.89
14 (356)												1.0
16 (406)												
18 (457)												

$$f_A = 0.3 \frac{s}{h_{nom}} + 0.40 \quad \text{for } s_{cr} > s > s_{min}$$

$$f_{RN} = 0.4 \frac{c}{h_{nom}} + 0.40 \quad \text{for } c_{cr} > c > c_{min}$$

$$f_{RV} = 0.333 \frac{c}{h_{min}} \quad \text{for } c_{cr} > c > c_{min}$$



EAST ELEVATION

NTS

Edward A. LANDERS, P.E.
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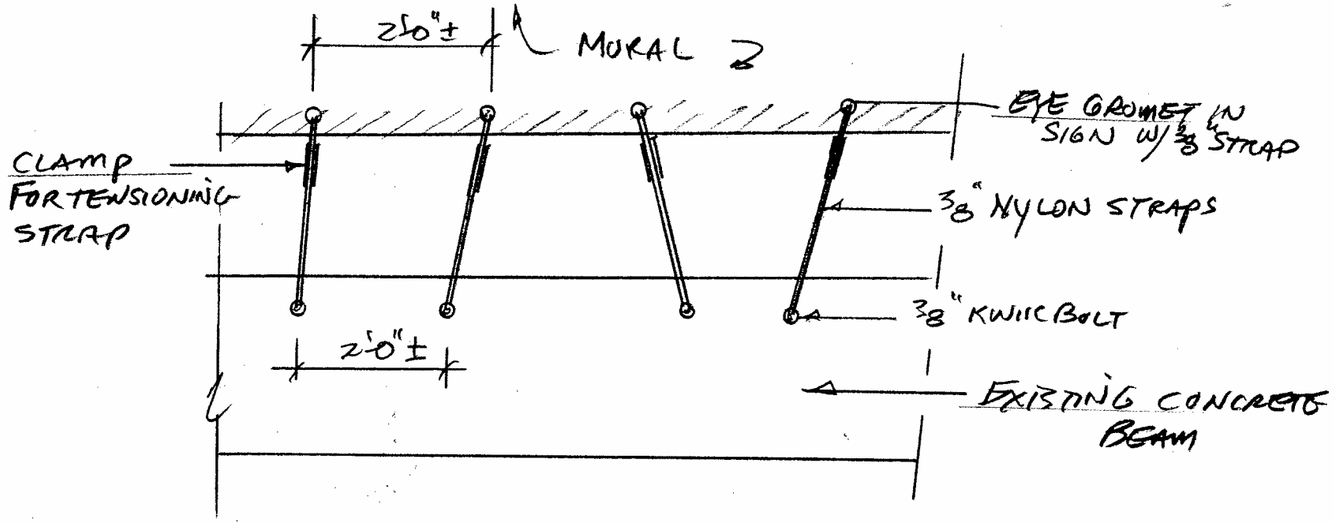
P.E. #38398
9-14-09
(305)823-3938

CITY INN
7922 NW 7TH AVENUE

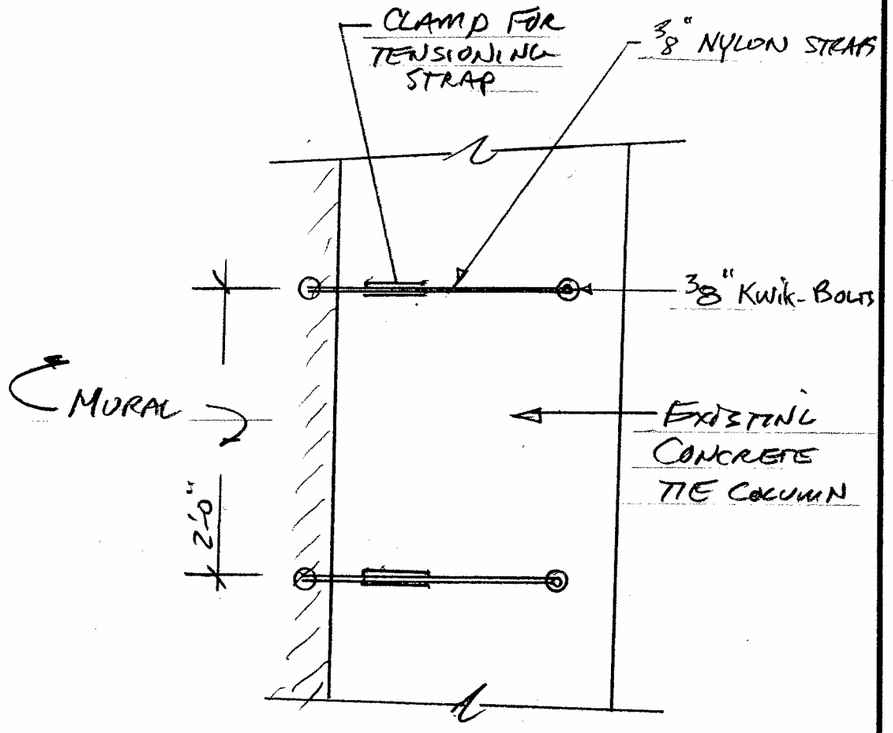
SCALE: NTS	APPROVED BY:	DRAWN BY RDF
DATE: 9-14-09		REVISED

MURAL ATTACHMENT DETAILS

DRAWING NUMBER SK-1



(A) TYPICAL BOTTOM & TOP CONN.
NTS



(B) TYPICAL SIDE CONNECTION STRAPS
NTS

SPECIFICATIONS

A. The perimeter attachment of the mural must be into concrete beams, columns or filled cells.

B. The 3/8" nylon straps must be tied through the mural at grommets and attached to the concrete wall with 3/8" Kwik Bolts with a galvanized washer and the Kwik-bolt must be embedded into the wall two inches.

C. Windload calculations are based on mural regulation Sections 62-601 through 62-617 of the City of Miami Ordinance, which mandates that upon receipt of a mural Permit by the City Zoning Administrator, if a hurricane warning is issued to the County by the National Hurricane Center, all murals shall be removed within 24hrs of the issuance of the warning.

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CITY INN
7927 NW 7TH AVENUE

SCALE: NTS	APPROVED BY:	DRAWN BY EAL
DATE: 9-14-09		REVISED

CONNECTION DETAILS

DRAWING NUMBER S-2