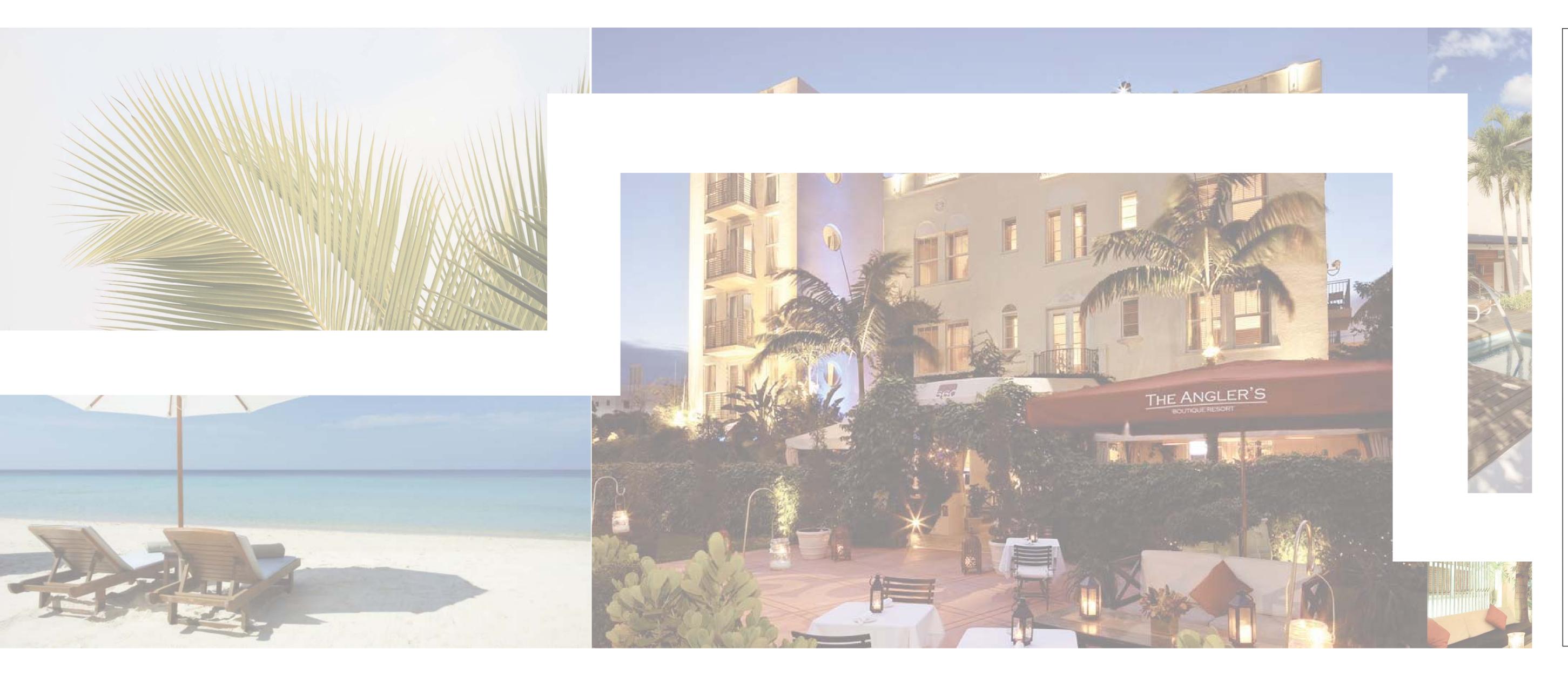




# FINAL SUBMITTAL - VARIANCES FOR SIGNAGE AND DRIVE ISLE 08.21.2017



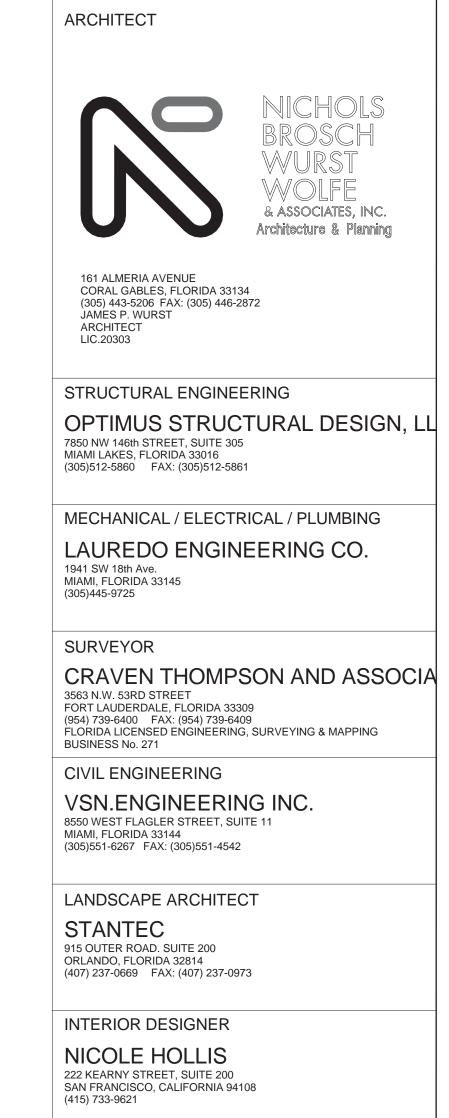






























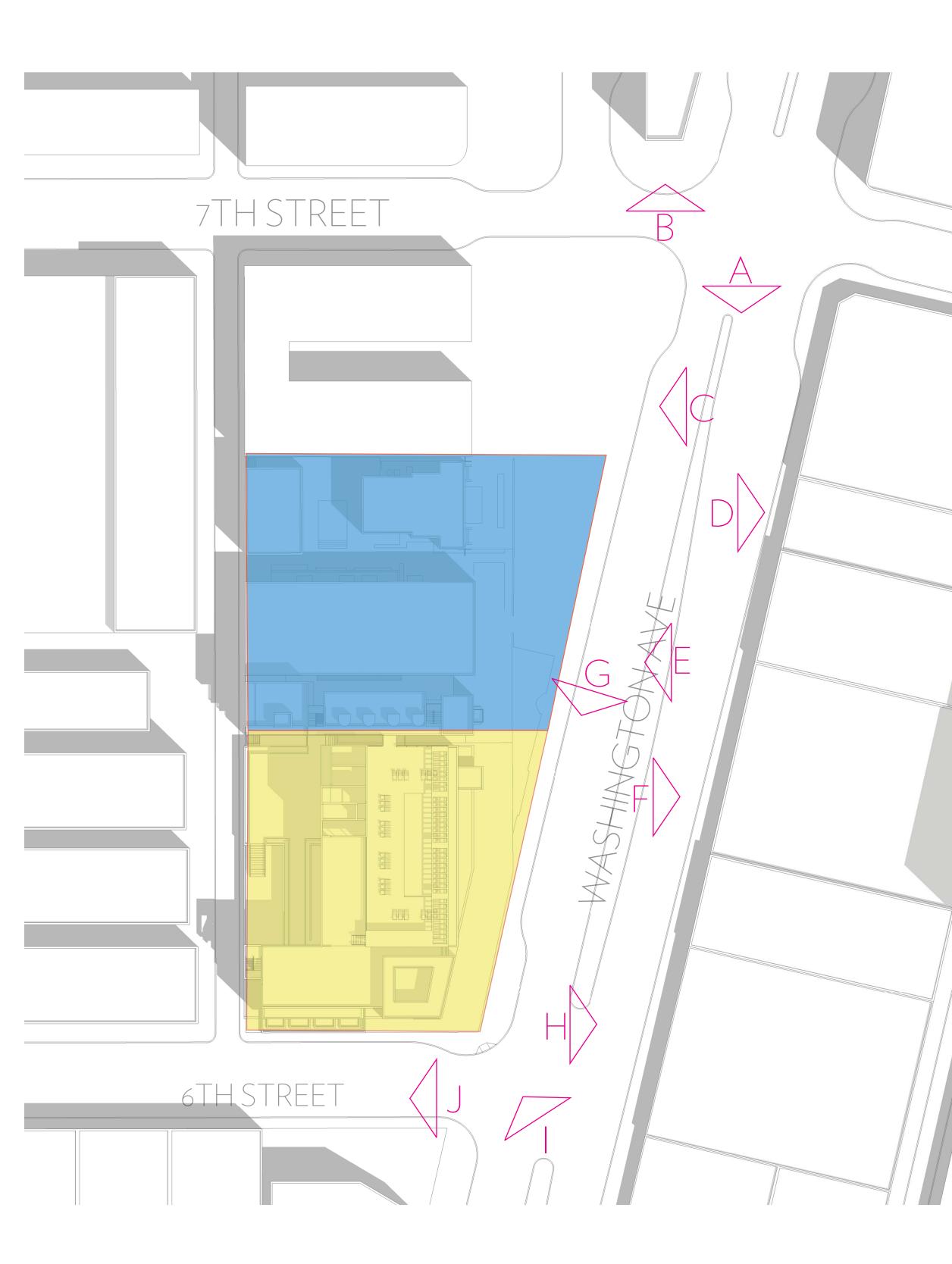




















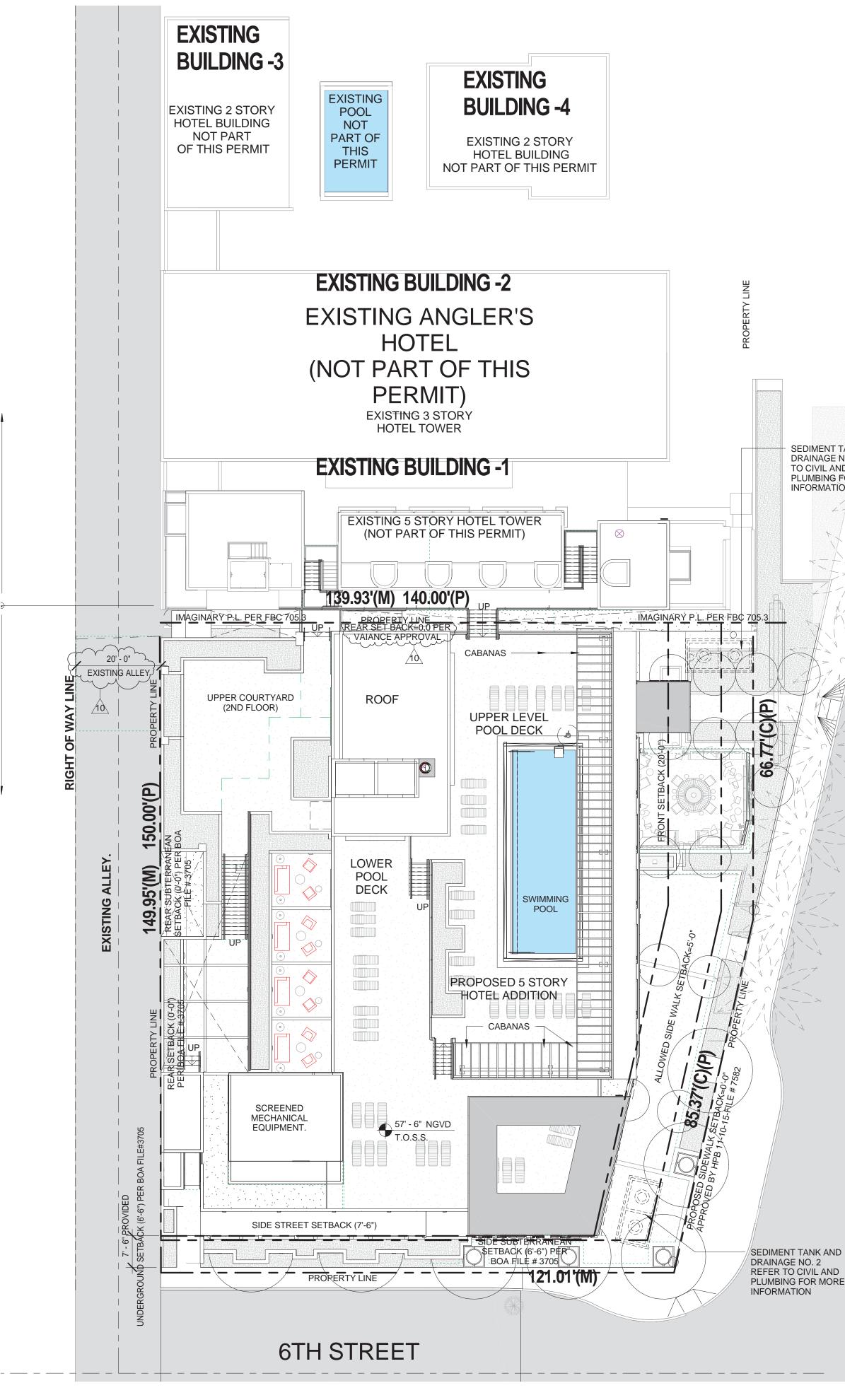


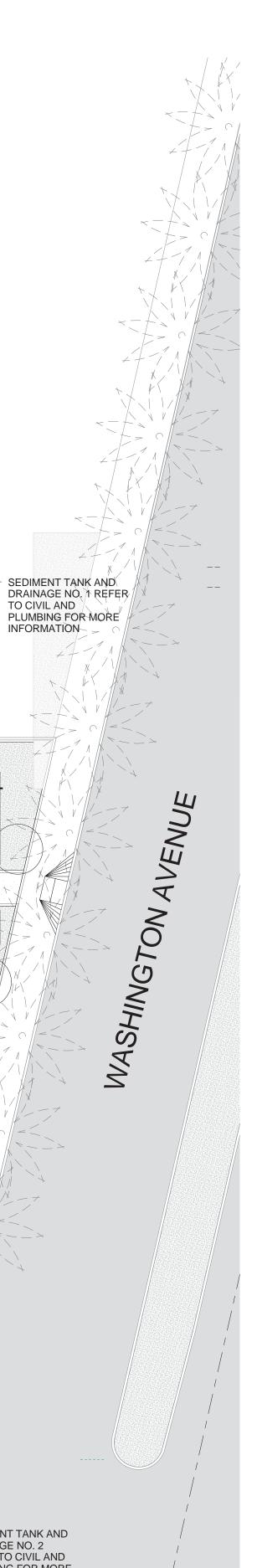


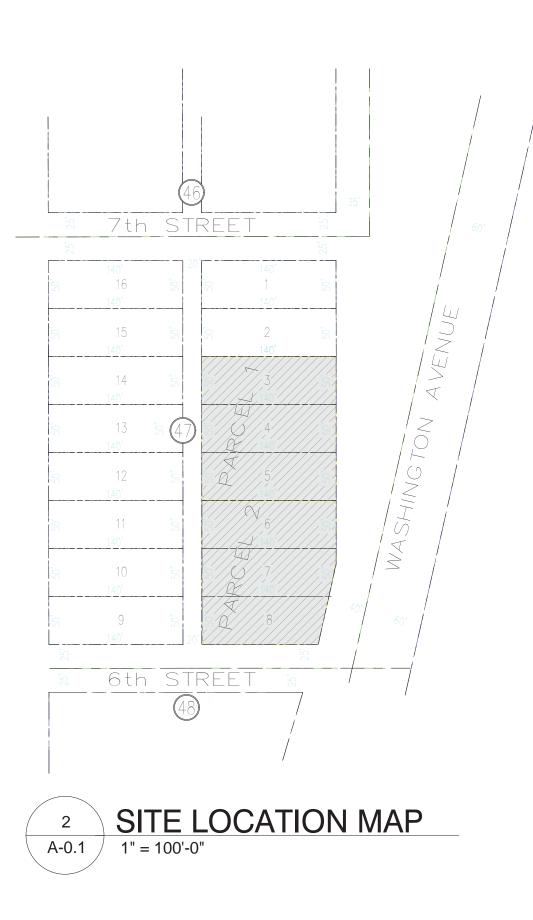




NICHOLS BROSCH WURST WOLFE & ASSOCIATES, INC.





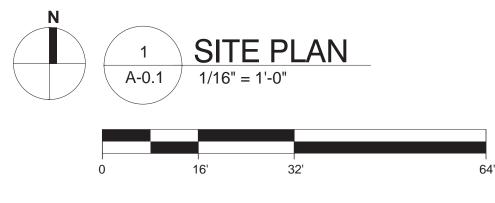


#### SCOPE:

- SCOPE OF ARCHITECTURAL PORTION OF PERMIT AS FOLLOWS:
- 1. REINTRODUCTION OF HISTORIC SIGN

### HOTEL GUESTROOMS PER FLOOR LEVEL:

HOTEL LEVELS	NUMBER OF GUESTROOMS		
LEVEL - 100	5 UNITS		
LEVEL - 200	17 UNITS		
LEVEL - 300	21 UNITS		
LEVEL - 400	21 UNITS		
LEVEL - 500	21 UNITS		
LEVEL - 600	NONE		
TOTAL NUMBER OF UNITS = 85			









#### SETBACKS

FRONT FRONT SIDE WALK SE

FRONT - UNDERGRO

SIDE STREET SUM OF THE SIDE YA EQUAL 16% OF LOT W

SIDE STREET - UNDER

SIDE STREET SIDEWA

REAR

**REAR - UNDERGROU** 

#### PARKING

HOTEL USE For Hotels less than 1 Space per Unit.\* (Per 0 Beach Ordinance # 13

RETAIL 1 Space per 400SF, mi (2,465, SF) - (85 units :

### MEETING ROOM FOR REGISTERED HO

BAR

1 Space Per 4 Seats, every 2 Units. Total number of Seats Total number of Rooms  $\frac{85/2 = 42.5}{\text{Total parking req.=(68-)}}$ 

TOTAL

100% VALET PARKI



ZON		<u>(SIS</u>
RICT		
	RM-2	
	BEACH ADDITION NO. 3, ACCORDI GE 81, OF THE PUBLIC RECORDS	
	SF <b>20,192.73</b>	ACRES <b>0.4635</b>
LDING	ALLOWED <b>AREA = 42,000</b>	PROVIDED <b>AREA = 32,312</b>
KISTING SITE PEI	R 42,000 - 32,312= 9,688	
SEC.142-216		PROVIDED
EXISTING SITE:	40,385.46 <b>9,688.00</b>	40.022
ALLOWED:	50,073.00	49,933
SEC.142-217	ALLOWED	PROVIDED
	5 STORY/ 50 FT	53'-0" (VARIANCE APPROVED BY BOARD OF ADJUSTMENT 11-10-2015 FILE # 7582
SEC.142-218	·	PROVIDED
SET BACK	20' 15'-0"	<b>20'-0''</b> (VARIANCE APPROVED BY BOARD OF ADJUSTMENT 11-10-2015 FILE # 7582
OUND	20'-0"	<b>7'-6''</b> (VARIANCE APPROVED AT BOARD OF ADJUSTMENT HEARING ON 12/05/2014)
ARDS SHALL WIDTH	7'-6" MIN. OR 8% OF LOT WIDTH (WHICHEVER IS GREATER) 8% OF LOT WIDTH = 24'-0"	<b>7'-6" MIN</b> (VARIANCE APPROVED AT BOARD OF ADJUSTMENT HEARING ON 12/05/2014)
RGROUND	5'-0" MIN. OR 5% OF LOT WIDTH (WHICHEVER IS GREATER) 5% OF LOT WIDTH = 15'-0"	<b>6'-6''</b> (VARIANCE APPROVED AT BOARD OF ADJUSTMENT HEARING ON 06/09/2015)
ALK SET BACK	5'-8" 10% OF LOT DEPTH = 14'-0"	<b>O'-O''</b> (VARIANCE APPROVED BY BOARD OF ADJUSTMENT 11-10-2015 FILE # 7582 <b>O'-O''</b> (VARIANCE APPROVED
JND	NON-OCEANFRONT LOTS-0'-0"	AT BOARD OF ADJUSTMENT HEARING ON 12/05/2014) <b>0'-0''</b>
	REQUIRED	PROVIDED
00 Units, 1/2 City of Miami 30-339(4)	42.5	43
ninus 7.5 SF per l s x 7.5SF)=2,465 -		5
OTEL GUEST US	E ONLY 0	0
, minus 1 seat for	6.4	6
s = 68 ns=85		
3-42.5) /4 = 6.38	53.5 (54)	54
KING	TANDEM SPACE ALLOWED	TRIPLE SPACE (VARIANCE APPROVED AT BOARD OF ADJUSTMENT HEARING ON 12/05/2014)







































Ш

ERTY

SOUTH

6TH STREET





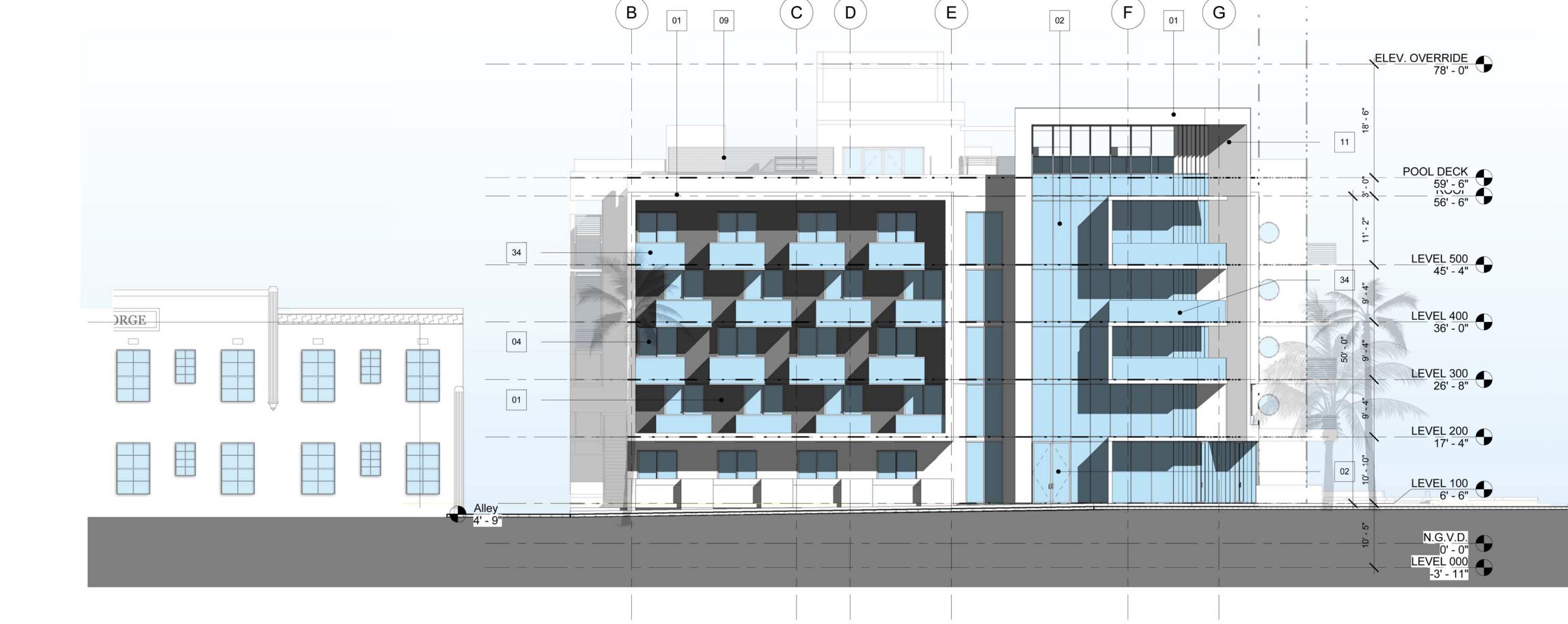


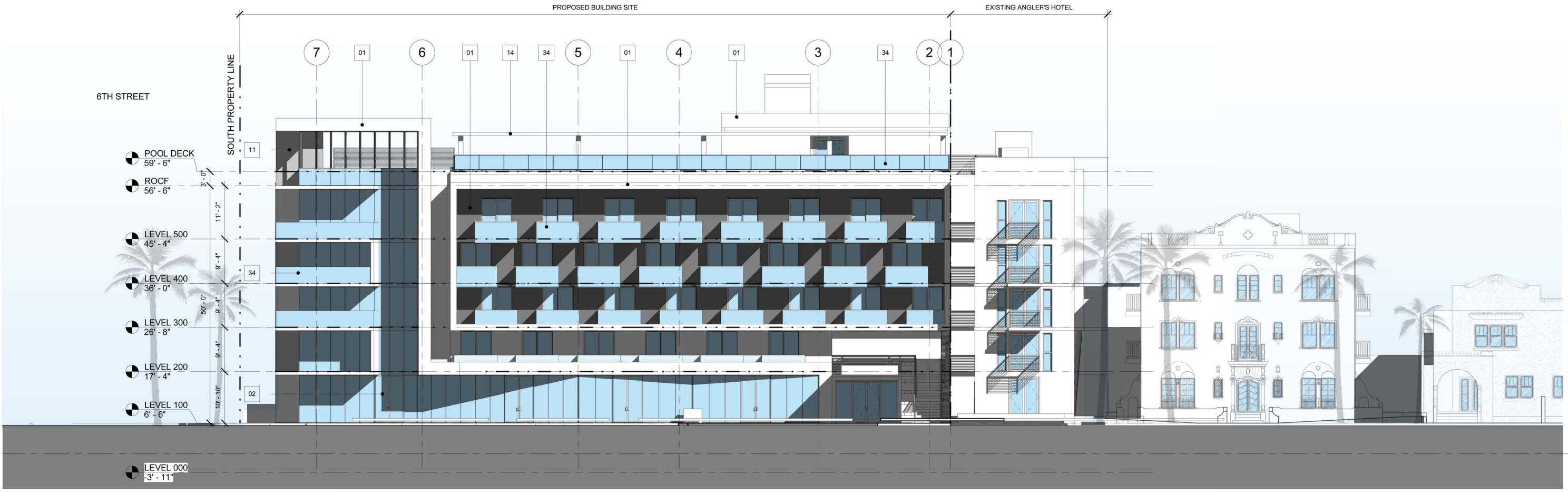


2 OVERALL SOUTH ELEVATION A-2.0 1/16" = 1'-0"

1 OVERALL EAST ELEVATION A-2.0 1/16" = 1'-0"











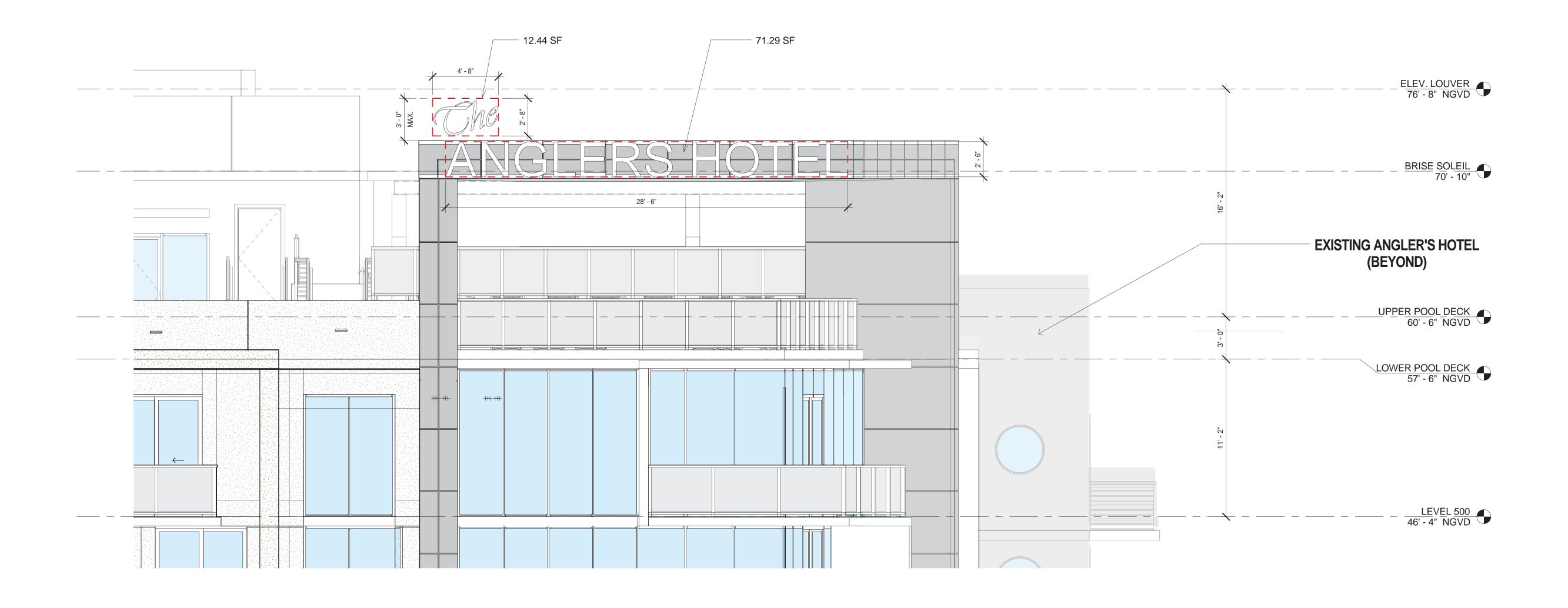


# 1 ENLARGED EAST ELEVATION A-2.1 3/32" = 1'-0"

KEYNOTE LEGEND						
KEY VALUE DESCRIPTION						
01 MASONRY: CMU/CONCRETE SUBSTRATE W/SMOO STUCCO FINISH, HIGH BUILD, ACRYLIC WATERPROOFING COATING (THOROCOAT BY BAS BUILDING SYSTEMS, OR ACCEPTABLE EQUIVALEN COLOR PAINT TO BE SELECTED BY ARCHITECT.						
02	ALUMINUM WINDOW/DOOR WALL ASSEMBLY W/KYNAR FIN. W/LAMINATED TINTED GLASS W/ A HIGH PERFORMANCE COATING; TO MEET WIND LOAD REQUIREMENTS. PROVIDE SAMPLES TO ARCHITECT FOR REVIEW.					
04	ALUMINUM GLASS DOOR ASSEMBLY W/KYNAR FIN. W/ LAMINATED TINTED GLASS W/ A HIGH PERFORMANCE COATING; TO MEET WIND LOAD REQUIREMENTS; PROVIDE SAMPLES TO ARCHITECT FOR REVIEW.					
09 ALUMINUM EXTRUDED HORIZONTAL VISION BAI GRILL.						
11	ALUMINUM COMPOSITE MATERIAL BUILDING PANEL W/ KYNAR FINISH.					
14	EXTRUDED ALUMINUM TRELLIS SYSTEM WITH KYNAR FINISH. COLOR TO BE SELECTED BY ARCHITECT;PROVIDE SHOP DWGS. AND PRODUCT SAMPLES TO ARCHITECT FOR REVIEW. DESIGNED TO MEET WIND LOAD REQUIREMENTS (REFER TO STRUCT DRAWINGS FOR WIND LOADS).					
15	STAINLESS STEEL CABLE RAILING SYSTEM - 3" DIA. IPE WOOD HANDRAIL WITH 1/4" DIA. 1X19 TYPE 316 STAINLESS STEEL HORIZONTAL CABLES (TO RESIST A 4" DIAM. OBJECT) AND TYPE 316 STAINLESS STEEL BAR VERTICAL POST SET IN GROUT. SYSTEM TO MEET REQUIREMENTS OF THE FLORIDA BUILDING CODE.					
34	ALUMINUM/GLASS GUARDRAIL ASSEMBLY: KYNAR FINISH AND 9/16" LAMINATED GLASS; DESIGNED TO MEET THE WIND LOAD REQUIREMENTS (REFER TO STRUCT. DRAWINGS FOR WIND LOADS).					

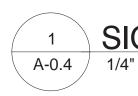






BUILDING FACADE ON 6TH STREET = ALLOWED SIGNAGE AREA = PROPOSED SIGN AREA=

98'-4" 98'-4" X .75 = 73.72 SF 83.73 SF



\* REINTRODUCTION OF HISTORIC SIGN







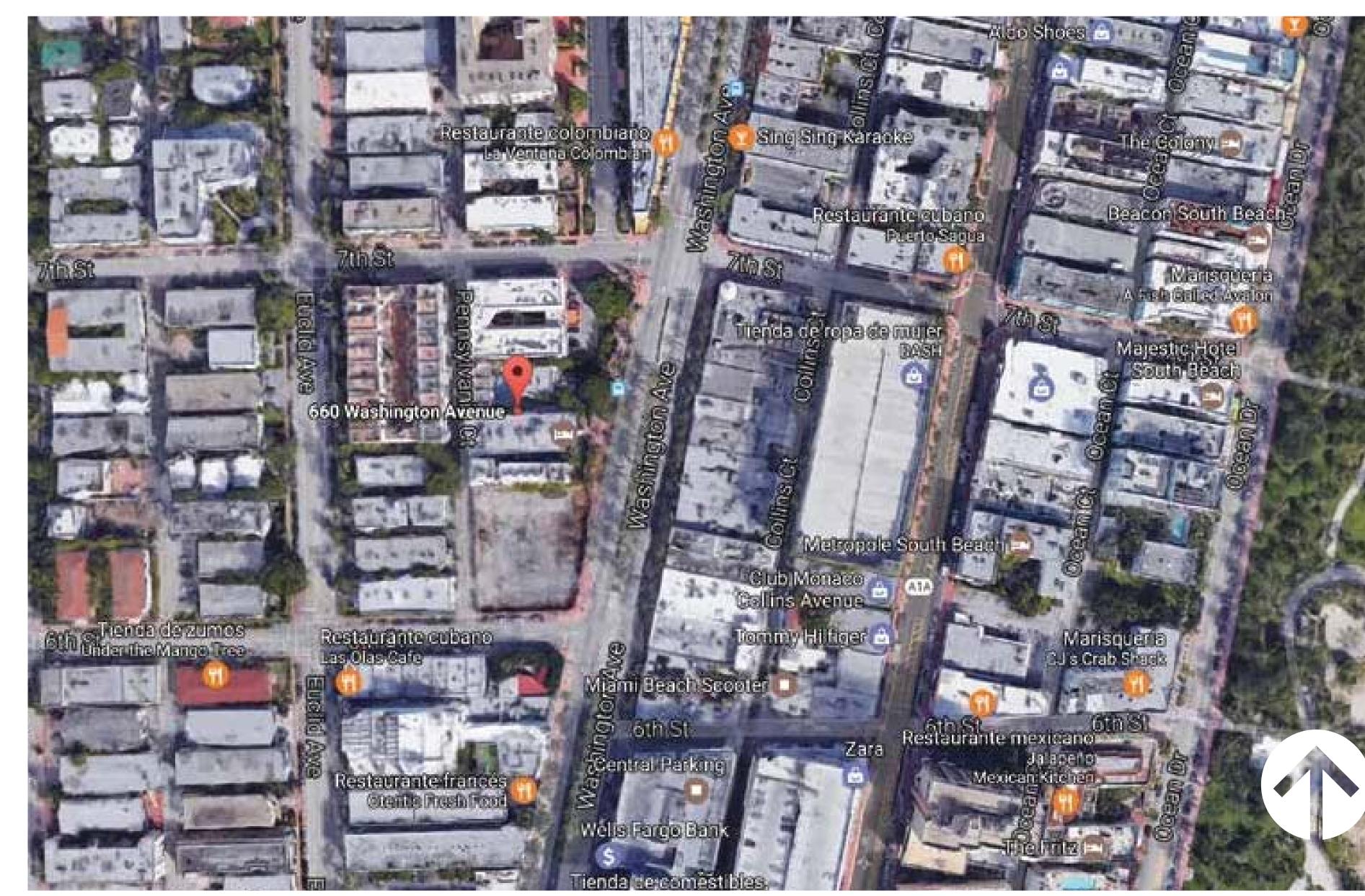
# 1 SIGNAGE DIMENSIONS A-0.4 1/4" = 1'-0"



# **PERMIT DRAWING**

# The Anglers Hotel **Top View**

Ν

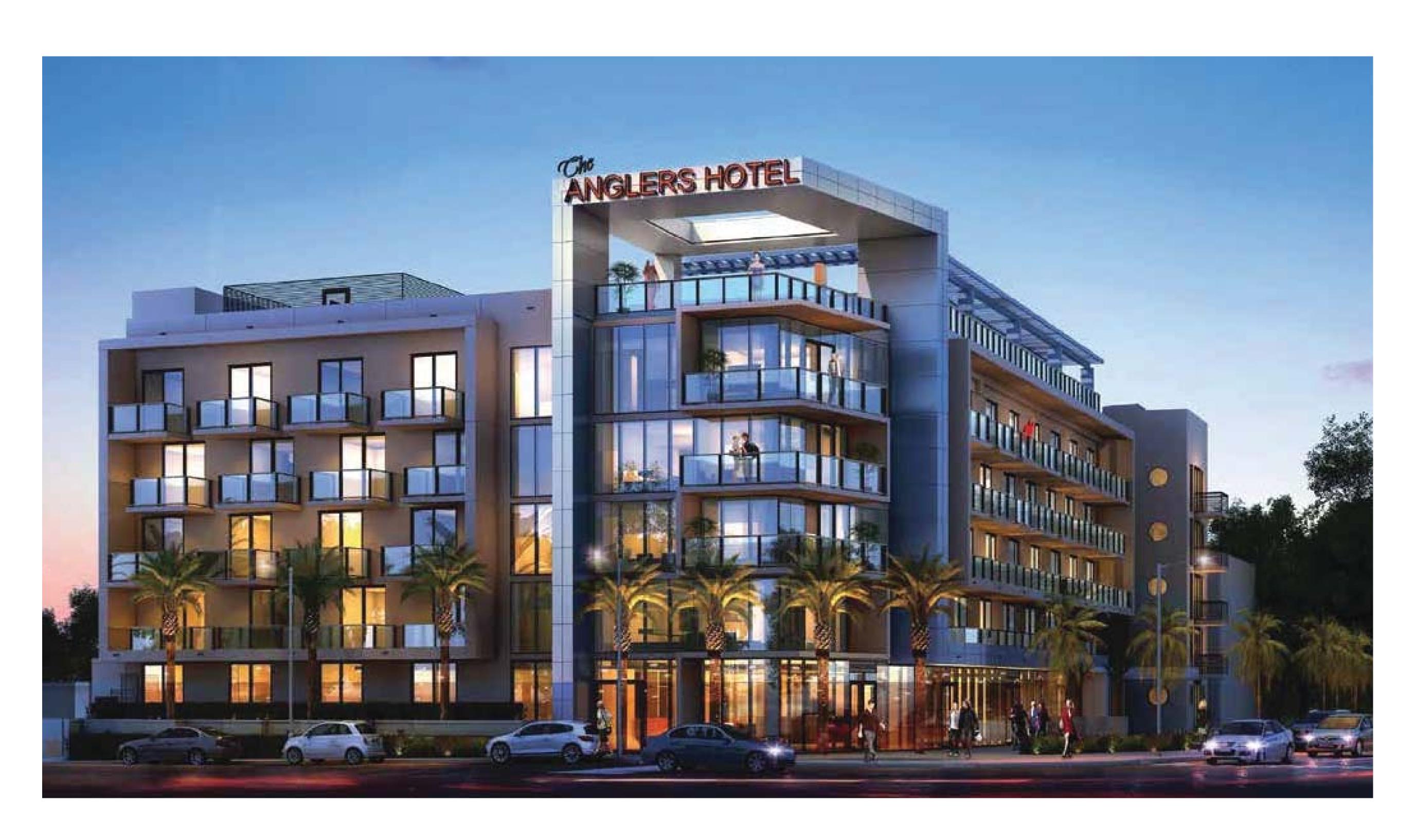


### **AERIAL VIEW**

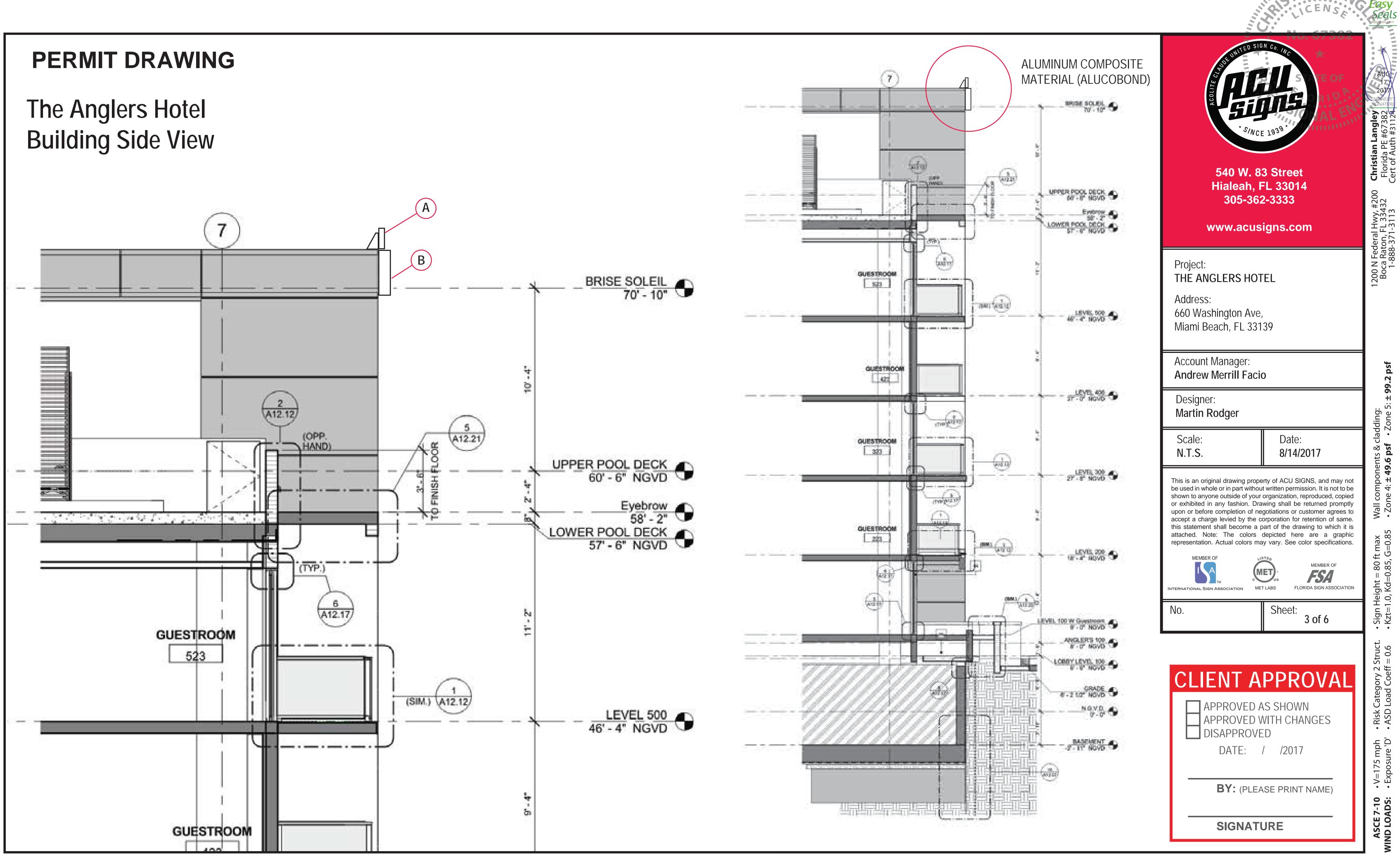


# **PERMIT DRAWING**

# The Anglers Hotel **Front View**



<image/> <text></text>	3 Street -L 33014 2-3333	deral Hwy, #200 <b>Christian Langley</b> 54 ton, FL 33432 Florida PE #67382 252 8-371-3113 Cert of Auth #31124
Project: THE ANGLERS HOT Address: 660 Washington Ave Miami Beach, FL 331	1	1200 N Federa Boca Raton, 1-888-37
Account Manager: Andrew Merrill Facio Designer: Martin Rodger	0	dding: Zone 5: <b>± 99.2 psf</b>
Scale: N.T.S.	Date: <b>8/14/2017</b>	nts & clao <b>6 psf</b>
be used in whole or in part without shown to anyone outside of your or exhibited in any fashion. Dra upon or before completion of ne accept a charge levied by the of this statement shall become a p attached. Note: The colors representation. Actual colors ma	erty of ACU SIGNS, and may not it written permission. It is not to be organization, reproduced, copied awing shall be returned promptly gotiations or customer agrees to orporation for retention of same. bart of the drawing to which it is depicted here are a graphic to vary. See color specifications.	<ul> <li>Sign Height = 80 ft max</li> <li>Wall compone</li> <li>Kzt=1.0, Kd=0.85, G=0.85</li> <li>Zone 4: ± 49.</li> </ul>
APPROVED A APPROVED V DISAPPROVE DATE:	WITH CHANGES ED / /2017 ASE PRINT NAME)	<b>ASCE 7-10</b> •V=175 mph •Risk Category 2 Struct. <b>WIND LOADS:</b> •Exposure 'D' •ASD Load Coeff = 0.6



General Notes:

Design is in accordance with the requirements of the Fla Bldg Code 5th Ed (2014) for use within & outside the structural integrity of those systems, components, and/or other construction explicitly specified herein.
 Electrical notes, details, & specifications are provided by and are the sole responsibility of the electrical contractor. No electrical contractor. No electrical review has been performed and no certification of such is intended.

# **PERMIT DRAWING**

# The Anglers Hotel Channel Letters and Open Face Channel Letter with Neon

**QUANTITY 1** 

CITY MAX. ALLOWED SQ FT: PROPOSED SQ FT: 83.73

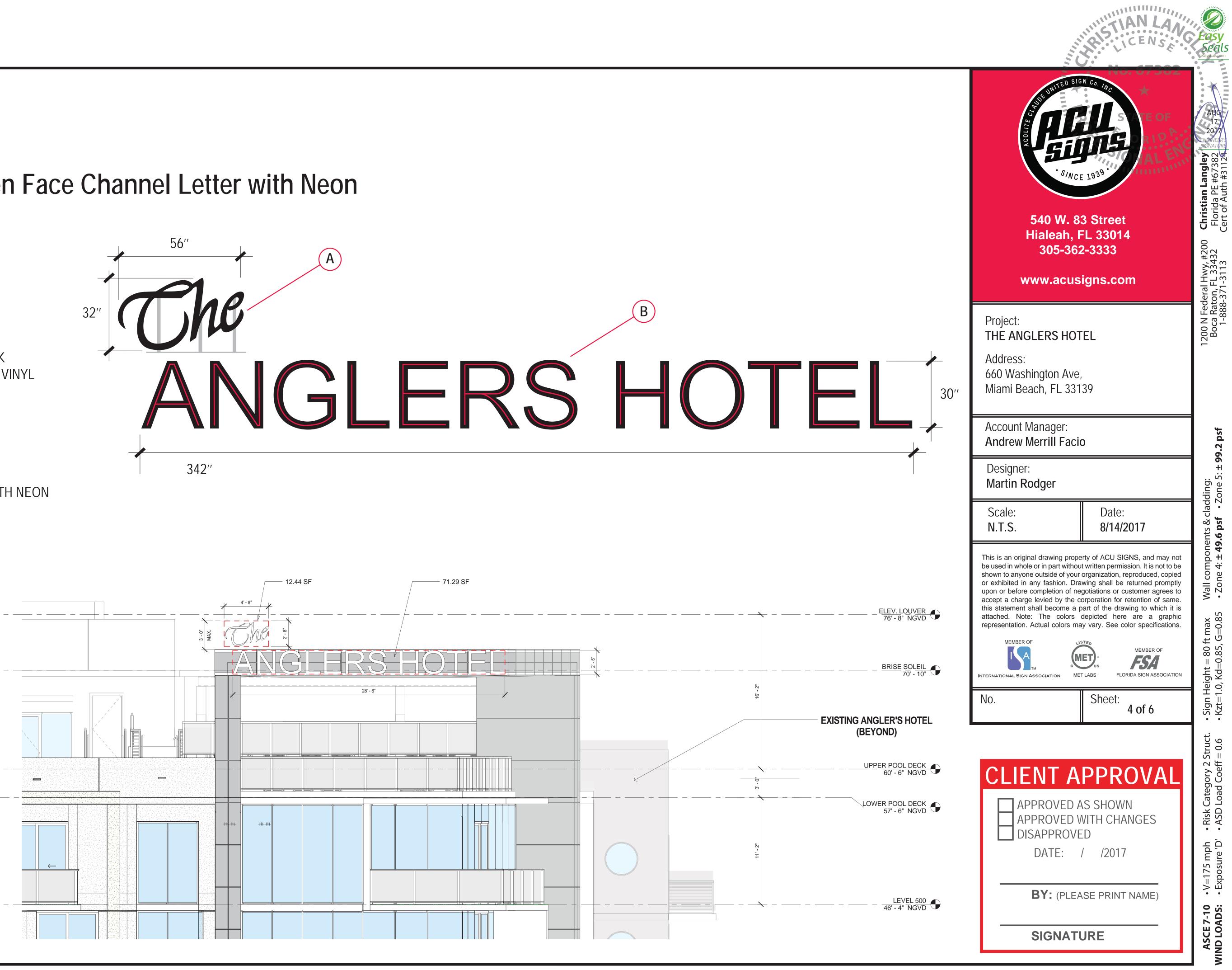
VECTORIZED LOGO: YES

**FABRICATION NOTES:** A) ALUMINUM CHANNEL LETTER PAINTED BLACK FACE: ACRYLIC FACES WITH BLACK DAY/NIGHT VINYL **RETURN DEEP SIZE: 3**" **STROKE:** 1.5" TRIM COLOR: BLACK **MOUNTING: WITH BRACKETS ILLUMINATION:** RED LEDS

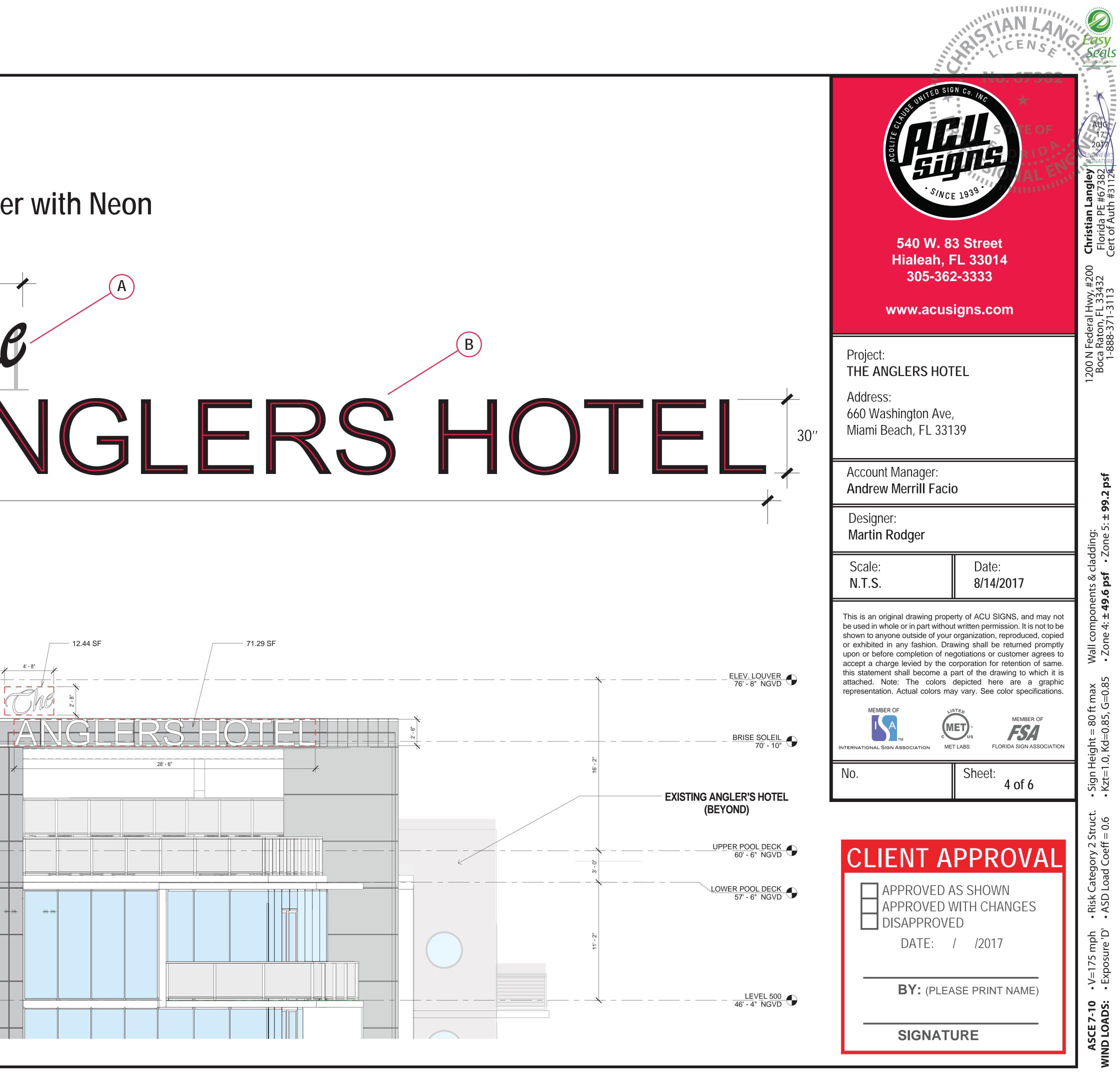
**B)** ALUMINUM OPEN FACE CHANEL LETTERS WITH NEON **RETURN DEEP SIZE:** 6" **STROKE:** 3.5" **MOUNTING:** FLUSH TO WALL **ILLUMINATION:** 10 MM RUBY RED NEON



PMS NEUTRAL BLACK C

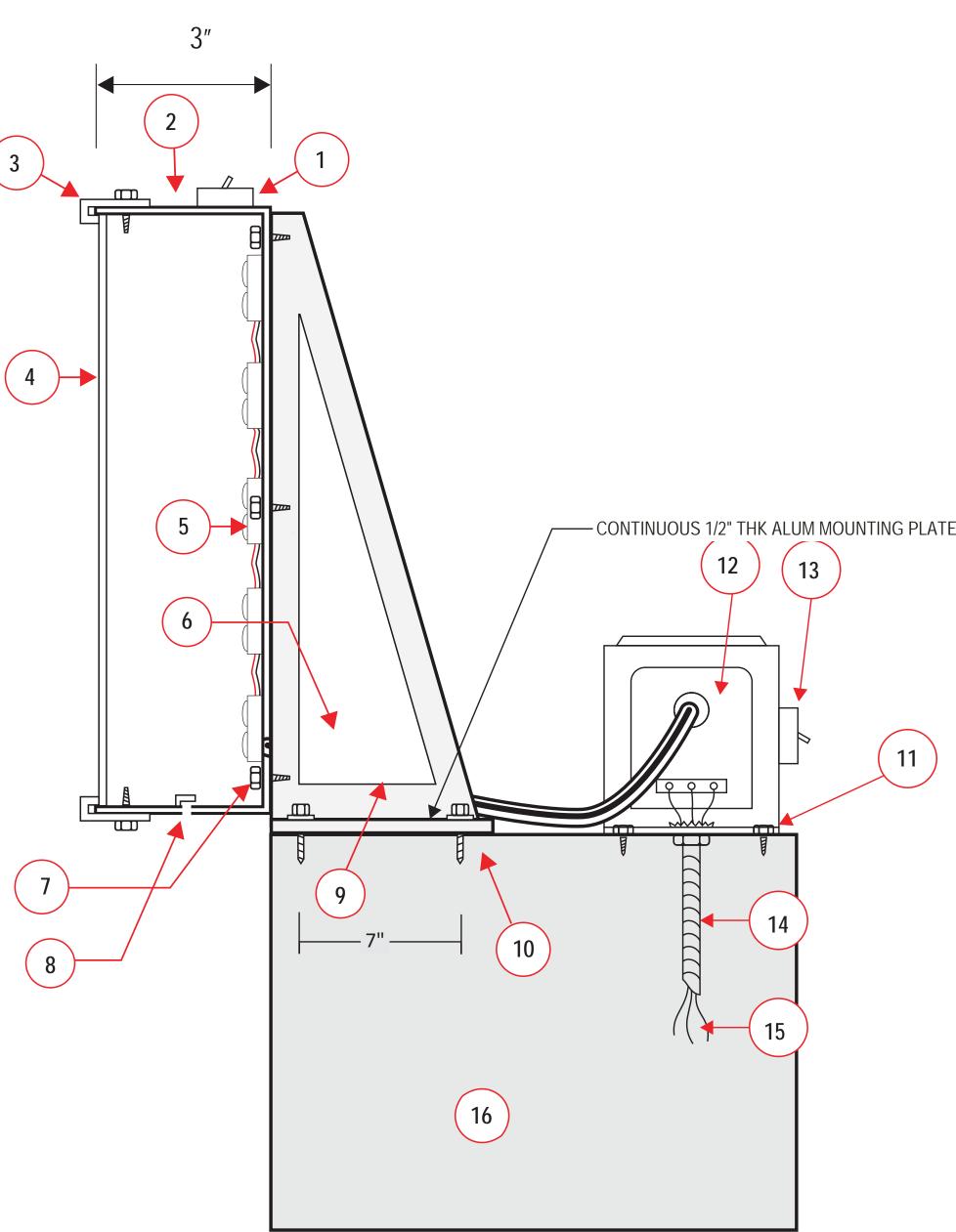






#### **PERMIT DRAWING** DETAIL <u>DETAILS</u> A) CHANNEL LETTERS 3 1-20 AMP EXTERIOR DISCONNECT SWITCH LED ILLUM. CHANNEL LETTERS .090 ALUM. BACKS & .063 SIDES 1" JEWELITE W/ S.M.S. @ 8" C'S. 4 – 3/16" PLASTIC FACES 12 V L.E.D. TOTAL OF (2) POWER SUPPLY REQD. 5) 12 V L.E.D. TOTAL OF 5.6 AMPS 1/2" FLEXIBLE CONDUIT (SECONDARY) Power Requirements: 120V - 20 AMP Circuit No 12 COPPER WIRE FOR GROUNDING/BONDING #10 x 3/4 SELF TAPPING SCREWS: MIN (5) PER LETTER OF SIGN AS PER NEC 250 TIME DEVICE REQUIRED FOR EACH CIRCUIT PER FBC WEEP HOLES (IF APPLICABLE) 6 IN COMPLIANCE WITH THE "FLA. ENERGY CODE" 1-1/2" X 1-1/2" X 3/16" ALUMINUM ANGLE. ALL ELECTRICAL COMPONENTS ARE UL LISTED SIGN GROUNDED ACCORDING TO NEC 600 3/8" TOGGLE BOLTS TO ACM PANELS: (10)(6) PAIRS SPACED 7" APART = (12) ANCHORS TOTAL #10 x 3/4 SELF TAPPING SCREWS (4) L.E.D POWER SUPPLY (LOW VOLTAGE) **ELECTRICAL INFORMATION** 2- C2240 POWER SUPPLY @ 2.8 AMPS EACH 20 AMP DISCONNECT SWITCH TOTAL LOAD = 5.6 AMPS HALF INCH (1/2") CONDUIT W/ #12 THW PRIMARY WIRE 14) 1 - 20 AMP CIRCUIT REQUIRED 1 - 20 AMP DISCONNECT SWITCH PRIMARY WIRE (EXIST. ELECT. BY OTHERS) (15) 1/2" FLEX CONDUIT WITH 3 THWN WIRES TO EXISTING PRIMARY LINE BY OTHERS 4MM ACM PANEL (ALUCOBOND) ON METAL TIME DEVICE BY OTHERS (16) STUD-FRAMED STRUCTURE SIGN BEARS MANDATORY UL LABELS SIGN **GROUNDING AND BONDING AS PER NEC 250** <u>CIRCUIT # 8</u> THIS PRODUCT IS LISTED BY UNDERWRITERS LABORATORY AND BEARS THE LABELS. ELECTRICAL INFO "CODES IN EFFECT" NEC 2011 AND FBC2014 (5TH Edition) EACH SIGN WILL HAVE ITS OWN DEDICATED CIRCUIT. NO OTHER LOADS WILL BE SUPPLIED BY THE SIGN CIRCUIT PER NEC 600.5(A). EACH SIGN WILL HAVE A DISCONNECT SWITCH IN VIEW. ALL SIGNAGE WILL BE CONTROLLED BY A ASTRONOMICAL TIME WITH A MIN 10 HOURS OF BACK-UP PER NEC 600.6 & FBC 13-415.AB.1.4 **OPTIONAL MEANS OF SIGNAGE DISCONNECTION** (1) DISCONNECT SWITCH on an individual channel letter(all types) or cabinet sign (all types) (2) DISCONNECT SWITCH on the wall (any type), eyebrow, hanging slab, canopy mansored roof... (3) LOCK-OUT SWITCH at the existing circuit breakers(s) inside of property (4)TIME MANAGEMENT SYSTEM as utilized to control all lighting/signs/other appliances as utilized by a store/place of business... Stantec NICHOLS BROSCH WLIRST WOLFE & ACCOCUTES

General Notes: • Design is in accordance with the requirements of the Fla Bldg Code 5th Ed (2014) for use within & outside the structural integrity of those systems, components, and/or other construction explicitly specified herein. Ilectrical notes, details, & specifications are provided by and are the sole responsibility of the electrical contractor. No electrical contractor. No electrical contractor. No electrical contractor. No electrical contractor.

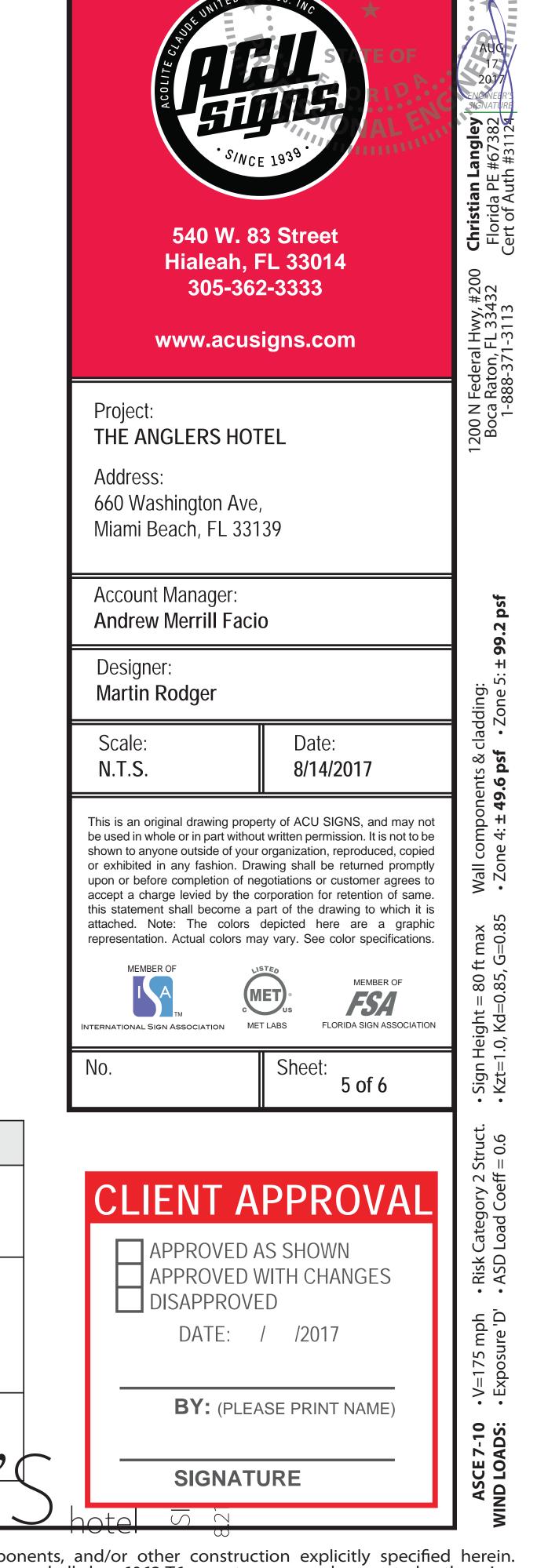


#### **SIGN MARKINGS:**

(A) Signs and outline lighting systems. Signs and outline lighting systems shall be marked with the manufacturer/s name, trademark, or other means of identification; and input voltage and current rating. (B) Signs with lampholders for incandescent lamps. Signs and outline lighting systems with lampholders for incandescent lamps shall be marked to indicate the maximum allowable lamp wattage per lampholder. The markings shall be permanently installed, in letters at least 6 mm (1/4 in.) high, and

shall be located where visible during relamping.

(C) Section Signs. Section Signs shall be marked to indicate that field-wiring ans installation instructions are required. The electrical connections to same are under a different permit.



### **PERMIT DRAWING** DETAIL

## B) OPEN FACE CHANNEL LETTERS NEON ILLUM.

TOTAL OF (2) TRANSFORMERS TOTAL OF 5.6 AMPS Power Requirements: 120V - 20 AMP Circuit

No 12 COPPER WIRE FOR GROUNDING/BONDING OF SIGN AS PER NEC 250 TIME DEVICE REQUIRED FOR EACH CIRCUIT PER FBC IN COMPLIANCE WITH THE "FLA. ENERGY CODE"

ALL ELECTRICAL COMPONENTS ARE UL LISTED SIGN GROUNDED ACCORDING TO NEC 600

**ELECTRICAL INFORMATION** 2- TRANSFORMERS @ 2.8 AMPS EACH

TOTAL LOAD = 5.6 AMPS 1 - 20 AMP CIRCUIT REQUIRED 1 - 20 AMP DISCONNECT SWITCH 1/2" FLEX CONDUIT WITH 3 THWN WIRES TO EXISTING PRIMARY LINE BY OTHERS TIME DEVICE BY OTHERS SIGN BEARS MANDATORY UL LABELS SIGN GROUNDING AND BONDING AS PER NEC 250 <u>CIRCUIT # 8</u>

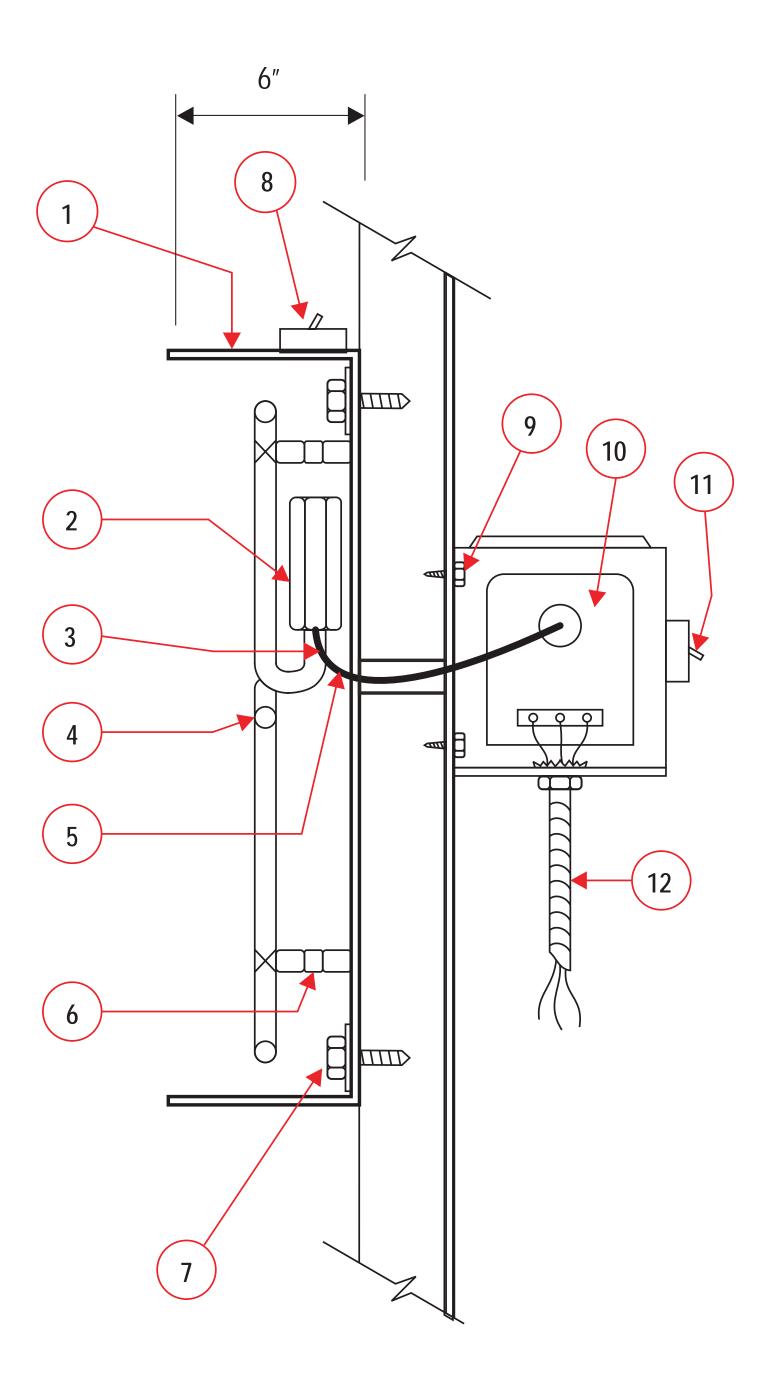
UNDERWRITERS

ELECTRICAL INFO "CODES IN EFFECT" NEC 2011 AND FBC2014 (5TH Edition) EACH SIGN WILL HAVE ITS OWN DEDICATED CIRCUIT. NO OTHER LOADS WILL BE SUPPLIED BY THE SIGN CIRCUIT PER NEC 600.5(A). EACH SIGN WILL HAVE A DISCONNECT SWITCH IN VIEW. ALL SIGNAGE WILL BE CONTROLLED BY A ASTRONOMICAL TIME WITH A MIN 10 HOURS OF BACK-UP PER NEC 600.6 & FBC 13-415.AB.1.4

(1) DISCONNECT SWITCH on an individual channel letter(all types) or cabinet sign (all types) (2) DISCONNECT SWITCH on the wall (any type), eyebrow, hanging slab, canopy mansored roof... (3) LOCK-OUT SWITCH at the existing circuit breakers(s) inside of property (4)TIME MANAGEMENT SYSTEM as utilized to control all lighting/signs/other appliances as utilized by a store/place of business..

#### DETAILS

- .063 SIDES AND BACK (RIVETED)
- ELECTRODES
- NEON END CAPS
- NEON TUBE 12MM
- 1/2 CONDUIT W/ 15000 KV GTO SECONDARY WIRE (RATED FOR 105°)
- GLASS TUBE SUPPORT
- 1/4" TOGGLE BOLTS: MIN (4) PER LETTER TO 4MM ACM PANEL (ALUCOBOND) ON METAL STUD-FRAMED STRUCTURE
- 20 AMP DISCONNECT SWITCH (IN VIEW)
- #10 x 3/4 SELF TAPPING SCREWS (4)
- TRANSFORMER IN TRANSFORMER CAN
- 20 AMP DISCONNECT SWITCH
- (12) HALF INCH (1/2") CONDUIT W/ #12 THW PRIMARY WIRE (EXIST. ELECT. BY OTHERS)



#### **OPTIONAL MEANS OF SIGNAGE DISCONNECTION**

**SIGN MARKINGS:** 

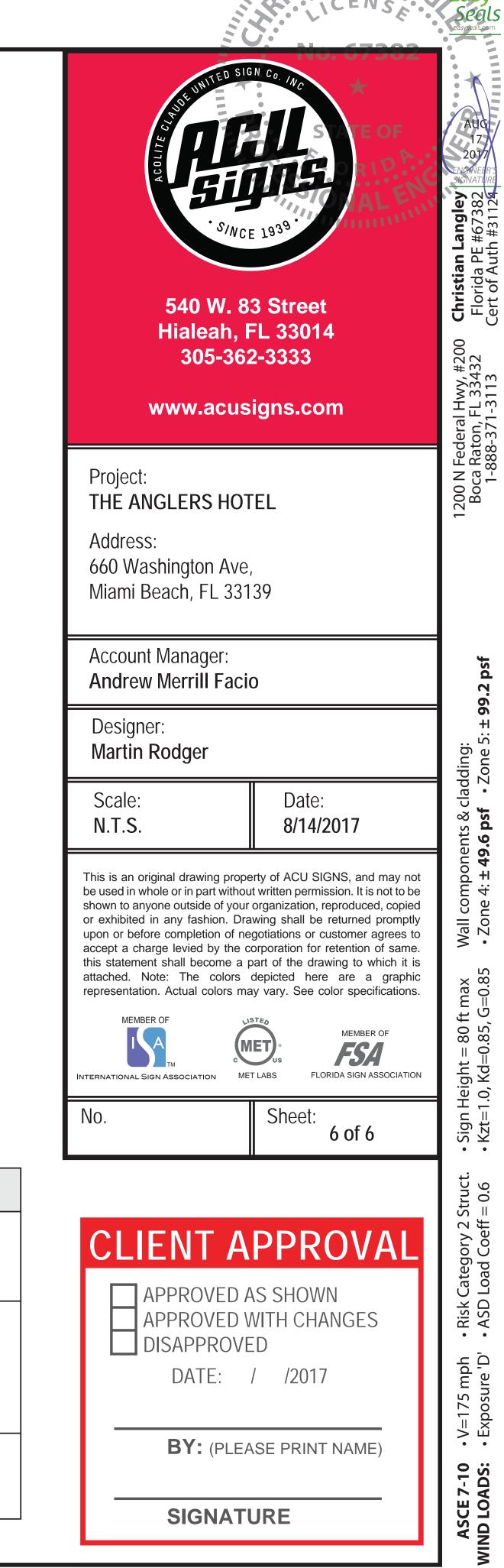
(A) Signs and outline lighting systems. Signs and outline lighting systems shall be marked with the manufacturer/s name, trademark, or other means of identification; and input voltage and current rating.

(B) Signs with lampholders for incandescent lamps. Signs and outline lighting systems with lampholders for incandescent lamps shall be marked to indicate the maximum allowable lamp wattage per lampholder. The markings shall be permanently installed, in letters at least 6 mm (1/4 in.) high, and shall be located where visible during relamping.

(C) Section Signs. Section Signs shall be marked to indicate that field-wiring ans installation instructions are required. The electrical connections to same are under a different permit.

• Design is in accordance with the requirements of the Fla Bldg Code 5th Ed (2014) for use within & outside the structural integrity of those systems, components, and/or other construction explicitly specified herein. • Electrical notes, details, & specifications are provided by and are the sole responsibility of the electrical contractor. No electrical review has been performed and no certification of such is intended. • Alumínum extrusions shall be 6063-T6 or stronger, unless noted otherwise.







## **DESIGN CALCULATIONS**

FOR

## THE ANGLER'S HOTEL WALL-MOUNTED SIGNS

660 Washington Ave – Miami Beach

#### **GENERAL NOTES:**

- 1. Design is in accordance with the Florida Building Code 5th Edition (2014) for use within and outside the High Velocity Hurricane Zone (HVHZ).
- 2. Wind loads have been calculated per the requirements of ASCE 7-10 as shown herein.
- 3. These engineering calculations pertain only to the structural integrity of those systems, components, and/or other construction explicitly specified herein and/or in accompanying engineering drawings. The existing host structure (if any) is assumed to be in good condition, capable of supporting the loaded system, subject to building department approval. No warranty, either expressed or implied, is contained herein.
- 4. System components shall be as noted herein. All references to named components and installation shall conform to manufacturer's or industry specifications as summarized herein.
- 5. Where site conditions deviate from those noted herein, revisions may be required or a separate site-specific engineering evaluation performed.
- 6. Aluminum components in contact with steel or embedded in concrete shall be protected as prescribed in the 2010 Aluminum Design Manual, Part 1. Steel components in contact with, but not encased in, concrete shall be coated, painted, or otherwise protected against corrosion.
- 7. Engineer seal affixed hereto validates structural design as shown only. Use of this specification by contractor, et. Al, indemnifies and saves harmless this engineer for all costs & damages including legal fees & apellate fees resulting from deviation from this design

1200 N Federal Hwy, #200 Boca Raton, FL 33432





### ASCE 7-10 Design Wind Loads WALL-MOUNTED SIGNS

#### **Building Specs**

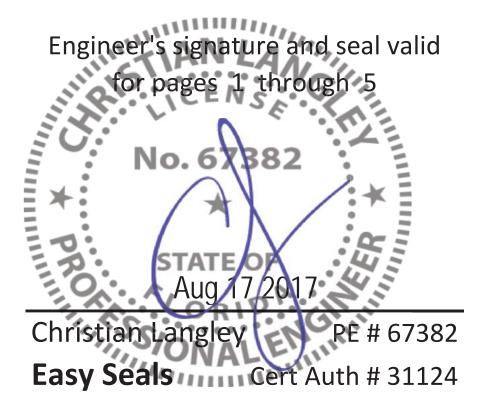
V =	175 mph	Basic wind speed
Exposure	D	

#### Calculations

α = 11.5	3-sec gust speed power law exponent	Kd =	0.85	Directionality factor
z <sub>g</sub> = 700'	Nominal ht. of atmos. boundary layer	Kzt =	1.0	Topographic factor
Gcpi = 0	Internal pressure coeff			
		A =	10 sq ft	Tributary area

<u>175 mph - Exp "D"</u> WALL-MOUNTED SIGNS					
ASD WIND PRESSURES					
SIGN	CENTER	CENTER CORNER			
HEIGHT	(Zone 4)	(Zone 5)			
15 ft	45.3 psf	57.7 psf			
20 ft	47.6 psf	60.6 psf			
25 ft	49.5 psf	63.0 psf			
30 ft	51.1 psf	65.1 psf			
35 ft	52.5 psf	66.8 psf			
40 ft	53.7 psf	68.4 psf			
45 ft	54.9 psf	69.8 psf			
50 ft	55.9 psf	71.1 psf			
55 ft	56.8 psf	72.3 psf			
60 ft	57.7 psf	73.4 psf			
70 ft	48.5 psf	96.9 psf			
80 ft	49.6 psf	99.2 psf			
90 ft	50.6 psf	101.3 psf			
100 ft	51.6 psf	103.1 psf			
110 ft	52.4 psf	104.9 psf			
120 ft	53.2 psf	106.5 psf			
130 ft	54.0 psf	107.9 psf			
140 ft	54.7 psf	109.3 psf			
150 ft	55.3 psf	110.7 psf			
175 ft	56.8 psf	113.7 psf			
200 ft	58.2 psf	116.3 psf			
250 ft	60.5 psf	120.9 psf			

Index:	
Pg 1	Cover
Pg 2	Wind Loads
Pg 3	Anchors at Top-Mnt Ltrs
Pg 4	Anchors at Flush-Mnt Ltrs
Pg 5	Alum Angle Brackets



#### CALCULATIONS FOR WALL-MOUNTED SIGNS

ASD Load Combo Coeff: 0.6

Kh = Kz	q <sub>z</sub>	GCp (4)	GCp (5)
1.03	68.7	-1.10	-1.40
1.08	72.2	-1.10	-1.40
1.13	75.0	-1.10	-1.40
1.16	77.5	-1.10	-1.40
1.19	79.6	-1.10	-1.40
1.22	81.4	-1.10	-1.40
1.25	83.1	-1.10	-1.40
1.27	84.6	-1.10	-1.40
1.29	86.1	-1.10	-1.40
1.31	87.4	-1.10	-1.40
1.35	89.7	-0.90	-1.80
1.38	91.9	-0.90	-1.80
1.41	93.8	-0.90	-1.80
1.43	95.5	-0.90	-1.80
1.46	97.1	-0.90	-1.80
1.48	98.6	-0.90	-1.80
1.50	99.9	-0.90	-1.80
1.52	101.2	-0.90	-1.80
1.54	102.5	-0.90	-1.80
1.58	105.3	-0.90	-1.80
1.62	107.7	-0.90	-1.80
1.68	112.0	-0.90	-1.80

#### CALCULATIONS FOR WALL-MOUNTED SIGNS



## Wall Sign Anchor Design

### **Structure Dimensions & Loading**

Design wind pressure:	P =	99.2	psf	Design wind pressure:
Sign type:		Channel	Letter	Sign type:
Sign size:	A =	3.1	sqft (per letter, critical) 50% Open	Sign size:
				Eccentricity:
Wall material:		Varies	#N/A	Anchor lever arm:
Anchor type/size:		1/4" Tog	gle Bolt (r)	
	Ref:	Toggler S	napToggle to 1/2" drywall, catalog	Wall material:
	Min E	Embedment	: 0.625"	Anchor type/size:
	Μ	in edge dist	: 2" Min Spacing: 1.5"	
Anchor tensile capacity:	Tcap =	89.0	lb (per anchor)	
				Anchor tensile capacity:
<b>Check Anchors for Pullout</b>				
Total Reaction: Rt =	310	lb	$ = P^*A$ (per letter)	<b>Check Anchors for Pullout</b>
No. of anchors req'd: n =	3.5	anchors p	er letter = Rt/cap	
Total anchors re		•	anchors per letter	Total Reaction: Rt = No. of anchors req'd: n =

OK, use min (4) anchors per letter, spaced evenly.



## Wall Sign with Eccentric Loading

#### Flush Channel Letters

#### **Structure Dimensions & Loading**

Total anchors required:

#### CALCULATIONS FOR WALL-MOUNTED SIGNS

**Top Mounted Letters** 

P =	99.2	psf	
	Letterset		
A =	3.7	sqft (entire cabinet) 70% open, aggr	
e =	16.0	inches (vert, lever point to load centerline)	
a =	7.0	inches (lever point to anchor centerline)	
	Varies	#N/A	
	3/8" Tog	gle Bolt (r)	
Ref:	Toggler Sr	apToggle to 1/2" drywall, catalog	
Min E	mbedment:	0.625"	
Μ	in edge dist:	3" Min Spacing: 1.5"	
Tcap =	144.0	<b>Ib</b> (per anchor)	

847	lb	= P*A*	e/a (entire cabinet)
5.9	total ancho	ors	= Rt/cap

#### 6 total anchors balanced over cabinet

OK, use (6) pairs = (12) anchors total.



# ALUMINUM DESIGN MANUAL (2005 EDITION)

**Specifications for Aluminum Structures (Buildings)** 

Design Check of 1.5"x1.5"x0.188"/0.188" 6063-T6 Aluminum Angle

Alloy:	6063	Temper:	Т6	Welded:	Ν
SECTION PROPI	ERTIES				
	b	1.500''	Flange widtl	า	
	tb	0.188''	Flange thickness		
	h	1.500''	Web height		
	th	0.188''	Web thickne	ess	
	lx	0.11 in^4	Moment of Inertia about axis parallel to flan		
	ly	0.11 in^4	Moment of Inertia about axis parallel to web		
	Sc	0.10 in^3	Section modulus, compression side (about X		
	rx	0.46 in	Radius of gy	ration about cent	roidal axis
	ry	0.46 in	Radius of gyration about centroidal axis para		
	J	0.0062 in^4	Torsion cons	stant	
	A	0.53 in^2	Cross sectio	nal area of memb	ber

#### **MATERIAL PROPERTIES**

Ftu	30 ksi	Tensile ultimate strength
Fty	25 ksi	Tensile yield strength
Fcy	25 ksi	Compressive yield strength
Fsu	19 ksi	Shear ultimate strength
Ε	10,100 ksi	Compressive Modulus of Elasticity

ALLOWABLE STRESSES	
Fb = 8.64 ksi	Allowable bending stress
Fac = 4.63 ksi	Allowable axial stress, compression

#### MEMBER LOADING

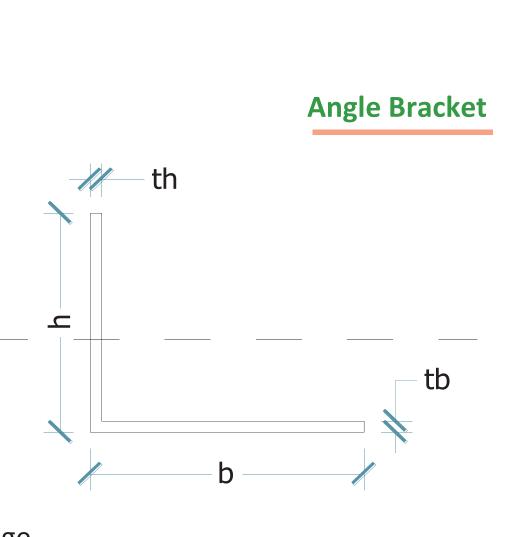
Design wind	pressure:	P =	99.2	psf	
-	Trib Area:	A=	1.2	ft	tr
Mem	ber Span:	L1=	2.0	ft	di

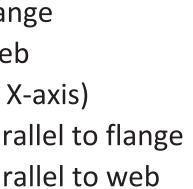
#### **Bending Moments**

Mz	0.06 kip-ft
fb =	7.10 ksi
Fb =	8.64 ksi

Bending momemt developed in member Bending stress developed in member Allowable bending stress of member

#### CALCULATIONS FOR WALL-MOUNTED SIGNS





End Supports: Simple

trib area for each member (e.g. sign+post) dist to area centroid (weighted avg h1,h2)

Ma = 0.075 kip-ft

fb < Fb ΟΚ

Page \_\_\_\_\_ of \_\_\_\_\_

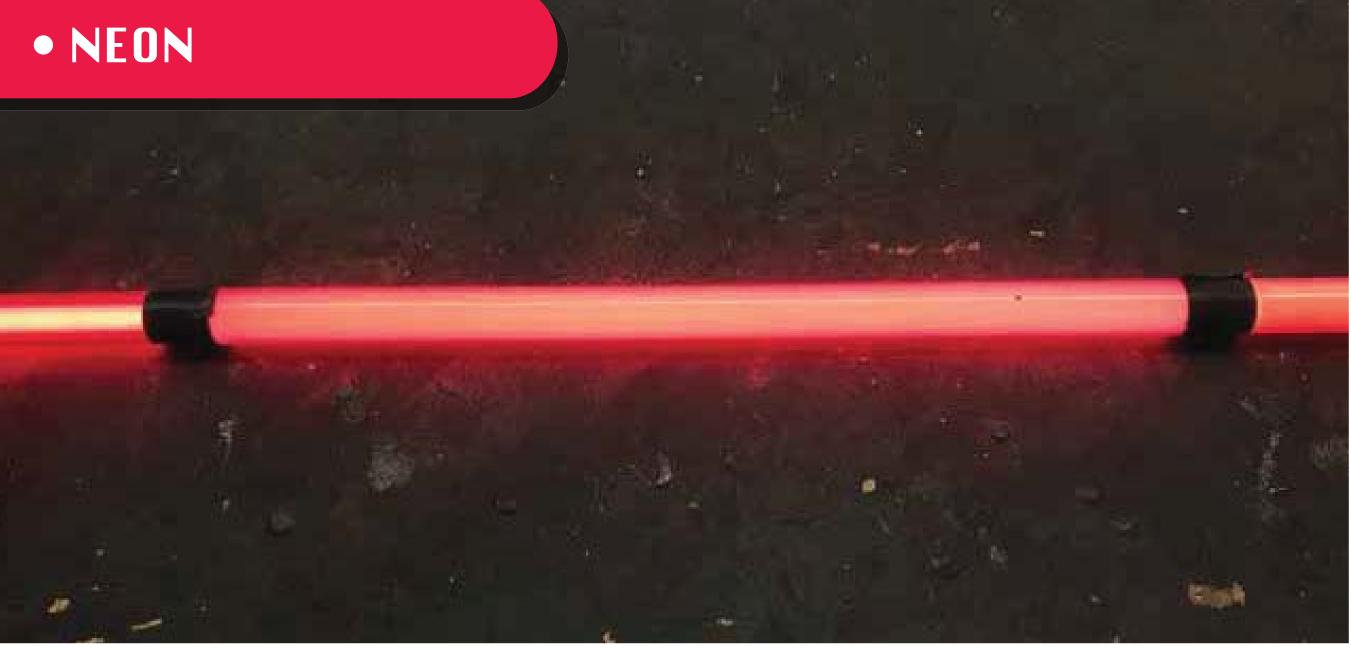






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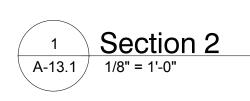








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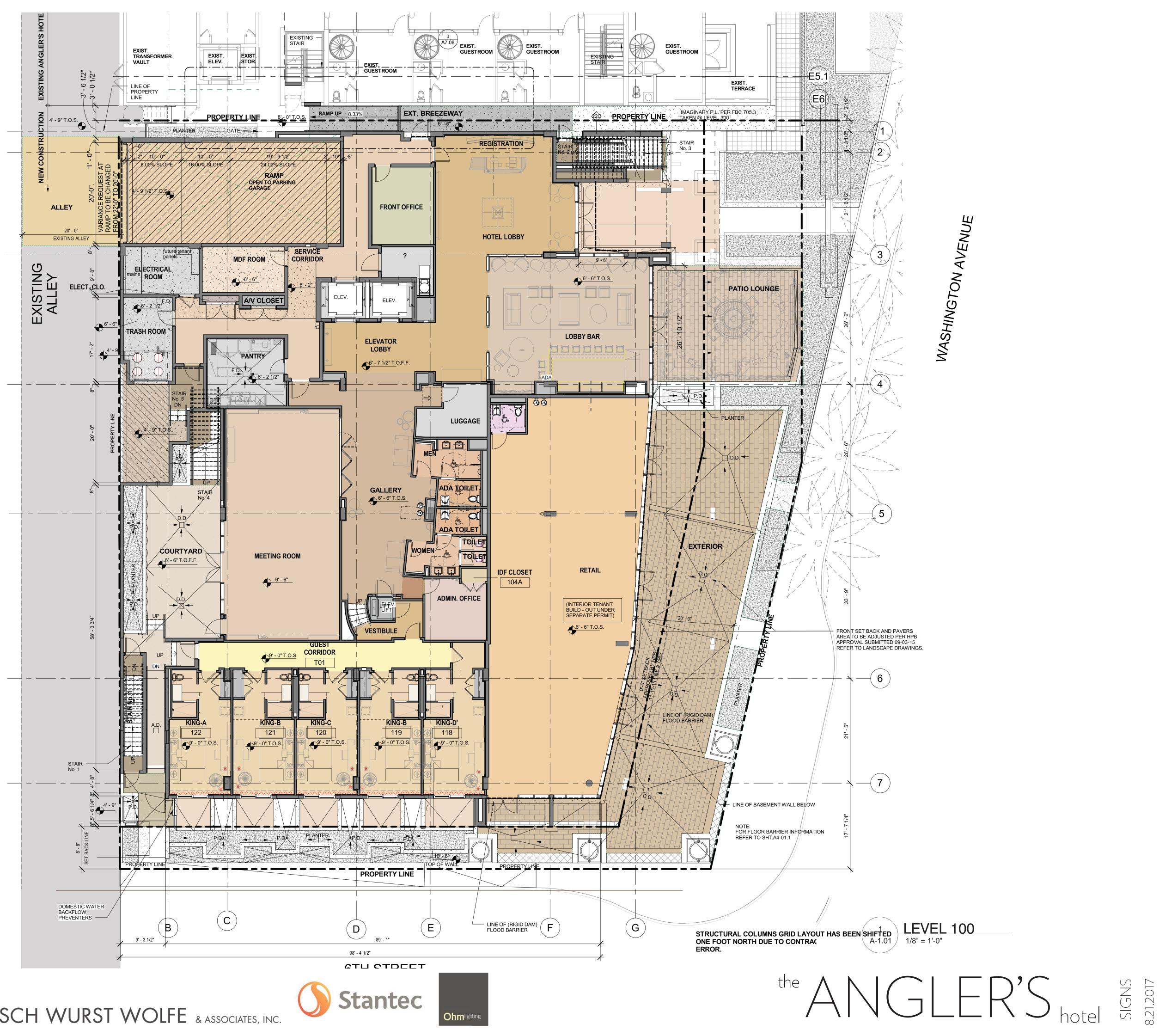












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