CITY PLAN COMMISSION **Thursday, October 9, 2025**

Planner: Scott Roper

APPLICATION FOR A CERTIFICATE OF APPROPRIATENESS FOR A SIGN IN A SPECIAL PROVISION SIGN DISTRICT (SPSD)

DOWNTOWN SPECIAL PROVISION SIGN DISTRICT

CASE NUMBER: SIGN-25-000575 **DATE FILED:** July 20th, 2025

LOCATION: 2000 McKINNEY AVE (SOUTH ELEVATION) **SIZE OF REQUEST:** 120.8 sq. ft.

COUNCIL DISTRICT: 14 **ZONING:** PD-193, PDS-68(Area B)

APPLICANT: Aaron Pracht of OXCART MFG.

OWNER: Union Investment Real Estate, GmbH

TENANT: Munck Wilson Mandala LLP

REQUEST: An application for a Certificate of Appropriateness by Aaron Pracht of OXCART MFG., for a 120.8-square-foot LED illuminated channel letter sign at 2000 McKINNEY AVE (SOUTH ELEVATION).

SUMMARY: The applicant proposes to install a 120.8-square-foot LED illuminated channel sign, Five inch black channel reverse lit channel letters emit white light from the back, giving a halo glow effect, to be mounted to a backplate on an aluminum wireway.

STAFF RECOMMENDATION: **Approval**.

SSDAC RECOMMENDATION: **Approval**.

BACKGROUND:

- The subject site is located in Downtown Special Provision Sign District. This district is zoned PD-193, PDS-68(Area B), Oak Lawn Special Purpose District.
  These regulations are established in: Sec. 51A-7.900 (Specific details included below).
- The applicant proposes to install a 120.8-square-foot LED illuminated channel sign, Five inch black channel reverse lit channel letters emit white light from the back, giving a halo glow effect, to be mounted to a backplate on an aluminum wireway.
  - The sign is composed of 5" aluminum channel letters, painted black with an aluminum backer that will be painted to match the building. These will be attached to an aluminum wireway to be attached to the concrete. Sign elements are constructed entirely of metal, plastic, and LED lighting. The overall height of the sign is 80'.
  - The sign will be reverse-lit by LED, emitting a white halo glow through the back.
- This is the only application under review by this body for this site. This sign is to be located on McKinney Avenue.
- Construction of the proposed sign is in accordance with SPSD regulations and meets the requirements of the Dallas City Code per Sec. 51A-7.900.

51A-7.902 PURPOSE.

The purpose of this division is to regulate both the construction of new signs and the alterations of existing signs with a view towards enhancing, preserving, and developing the unique character of the downtown area while addressing the diversity of businesses and promoting the economy of downtown. The general objectives of this division include those listed in Section 51A-7.101 as well as aesthetic considerations to ensure that signs are appropriate to the architecture of the district, do not obscure significant architectural features of its buildings, and lend themselves to the developing retail and residential uses and the pedestrian character of the area. The district regulations are in large part inspired by the high level of pedestrian activity and the need to maximize effective orientation of signage toward the walking public.

51A-7.305 ATTACHED SIGNS.

(b) All signs and their words shall be mounted parallel to the building surface to which they are attached, and shall project no more than 18 inches from that surface except as provided in Subsection (e) below.

(c) On the primary facade, the combined effective area of all attached signs may not exceed 25 percent of the total area of the primary facade. On each secondary facade, the combined effective area of all attached signs may not exceed 15 percent of the total area of that secondary facade. As applied to a building with multiple occupants, the facade area of each use with a separate certificate of occupancy shall be treated as a separate facade. On any building facade, there may be a maximum of eight words which contain any character of a height equal to or exceeding four inches and pertain to any premise or any non-residential occupancy. Words consisting of characters less than four inches high may be used without limit.

This is the only sign proposed on this façade for this occupant. The sign occupies approximately 1.5% of the 7600 square-foot façade and less than the 25% allowance for a primary facade.

51A-7.505 PERMIT PROCEDURES FOR SPECIAL PROVISION SIGN DISTRICTS.

(B) **Factors the committee shall consider.** In reviewing an application, the committee shall first consider whether the applicant has submitted sufficient information for the committee to make an informed decision. If the committee finds the proposed sign to be consistent with the special character of the special provision sign district, the committee shall make a recommendation of approval to the city plan commission. The committee shall consider the proposed sign in terms of its appropriateness to the special provision sign district with particular attention to the effect of the proposed sign upon the economic structure of the special provision sign district and the effect of the sign upon adjacent and surrounding premises without regard to any consideration of the message conveyed by the sign. After consideration of these factors, the committee shall recommend approval or denial of the application and forward that recommendation to the city plan commission.

(6) Decision by the commission. Upon receipt of a recommendation by the committee, the commission shall hold a public hearing to consider the application. At least 10 days before the hearing, notice of the date, time, and place of the hearing, the name of the applicant, and the location of the proposed sign must be published in the official newspaper of the city and the building official shall serve, by hand-delivery or mail, a written notice to the applicant that contains a reference to this section, and the date, time, and location of this hearing. A notice sent by mail is served by depositing it properly addressed and postage paid in the United States mail. In addition, if the application is for a detached sign or for an attached sign that has more than 100 square feet of effective area, the applicant must post the required number of notification signs in accordance with Section 51A-1.106. In making its decision, the commission shall consider the same factors that were required to be considered by the committee in making its recommendation. If the commission approves the application, it shall forward a certificate of appropriateness to the building official within 15 days after its approval. If the commission denies the application, it shall so inform the building official in writing. Upon receipt of the written denial, the building official shall so advise the applicant within five working days of the date of receipt of the written notice.

Property Ownership
Union Investment Real Estate, GmbH
1330 Avenue of the Americas, Suite 800A
New York, NY 10019

Officer names: SEE ATTACHED

Tenant Ownership
Munck Wilson Mandala LLP
2000 McKinney Ave., Suite 1900
Dallas, TX 75201

Officer names: SEE ATTACHED

Officer List:
Please format your officer list accordingly, use as many lines as needed:

Building Owner: Union Investment Real Estate, GmbH (Legal Entity or Individual)

Building Owner Address: 1330 Avenue of the Americas, Suite 800A, New York, NY 10019

Officer for Building Owner: Elizabeth Eorgan Title: Senior General Manager - JLL

Officer for Building Owner: _____ Title: _____

Officer for Building Owner: _____ Title: _____

Tenant Name: Munck Wilson Mandala LLP (Full legal entity)

Corporate Address for Tenant: 2000 McKinney Ave., Suite 1900, Dallas TX 75201

Officer for Tenant: Jaleesa King Title: Executive Assistant to William A. Munck

Officer for Tenant: _____ Title: _____

Officer for Tenant: _____ Title: _____

SSDAC Action:

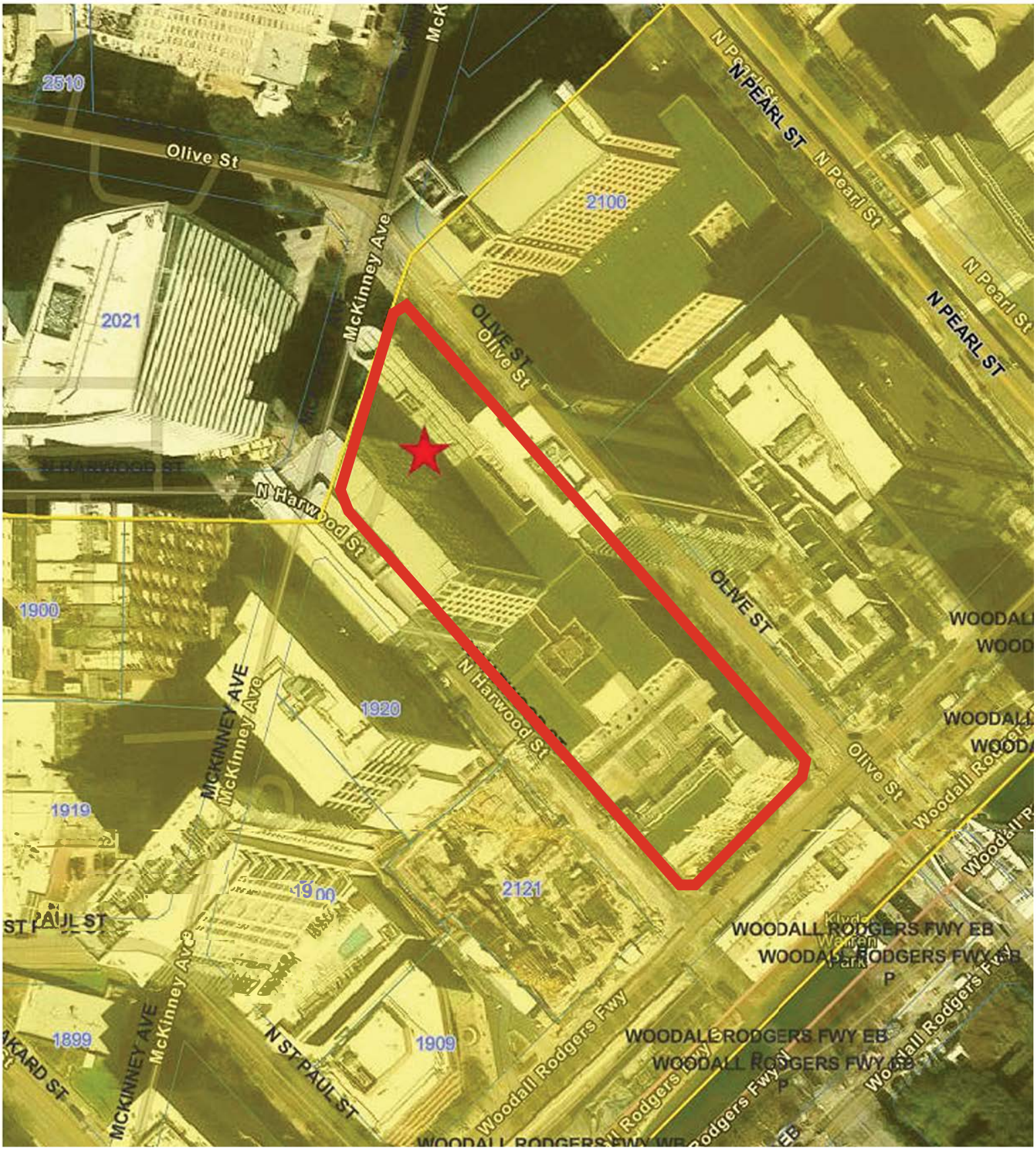
September 17, 2025

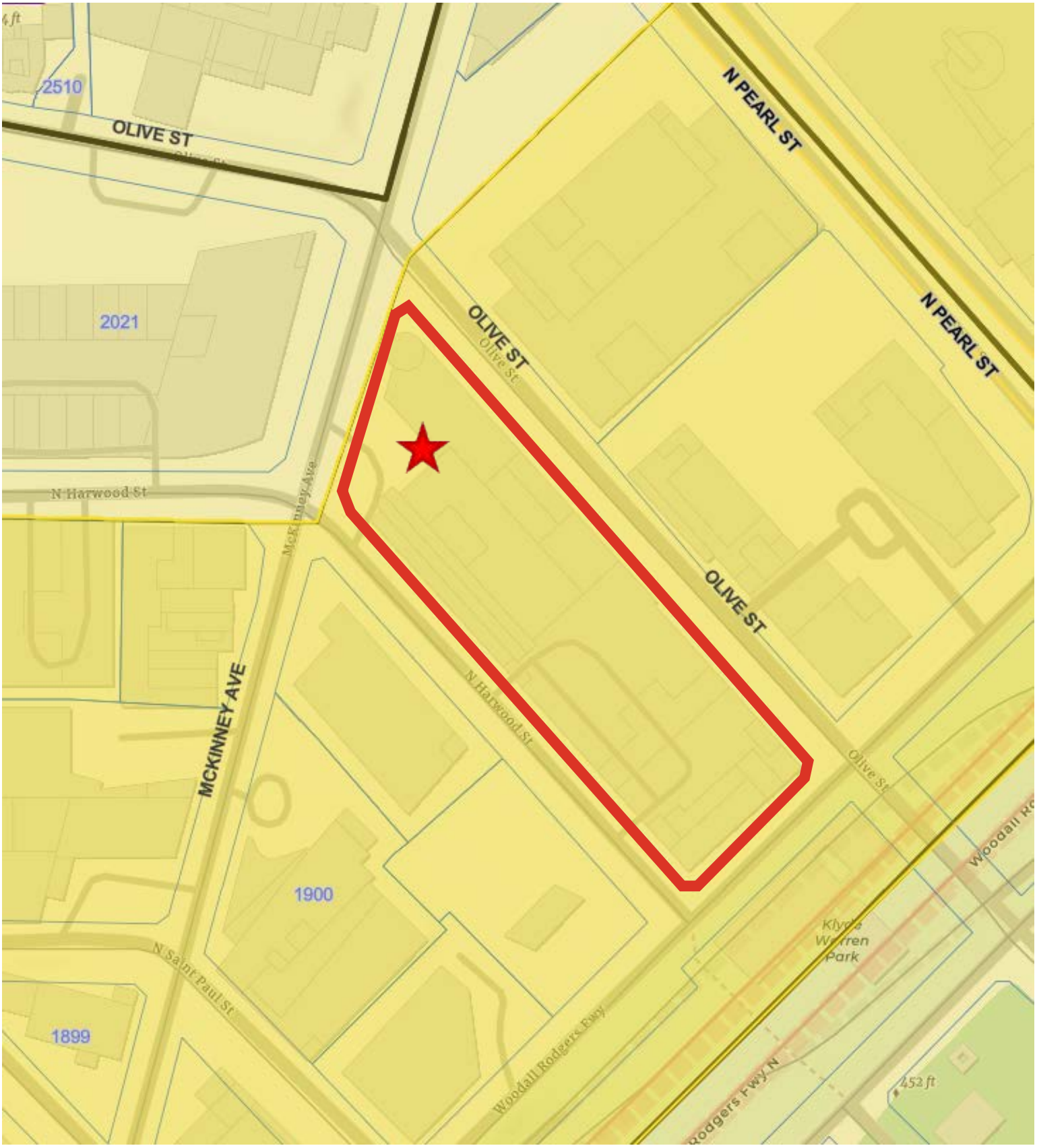
MOTION: It was moved to **approve**:
An application for a Certificate of Appropriateness by Aaron Pracht of OXCART MFG., for a 120.8-square-foot LED illuminated channel letter sign at 2000 McKINNEY AVE (SOUTH ELEVATION).

Maker:	Hall
Second:	Hardin
Result:	Carried: 4 to 0

For:	4	- Peadon, Webster, Hardin and Hall
Against:	0	- none
Absent:	1	- Dumas
Conflict:	0	- none

Speakers: Joey Carasco


2510
Olive St
2021
McKinney Ave
2100
N PEARL ST
N Pearl St
OLIVE ST
Olive St
N Harwood St
1900
1920
MCKINNEY AVE
McKinney Ave
N Harwood St
OLIVE ST
Olive St
1919
1900
2121
ST PAUL ST
WOODALL RODGERS FWY EB
WOODALL RODGERS FWY EB
1899
1909
MCKINNEY AVE
McKinney Ave
N ST PAUL ST
Woodall Rodgers Fwy
WOODALL RODGERS FWY EB
WOODALL RODGERS FWY EB


2510
OLIVE ST
2021
N PEARL ST
OLIVE ST
Olive St
N PEARL ST
N Harwood St
McKinney Ave
OLIVE ST
MCKINNEY AVE
N Harwood St
Olive St
1900
N Saint Paul St
Klyde Warren Park
1899
Woodall Rodgers Fwy
452 ft

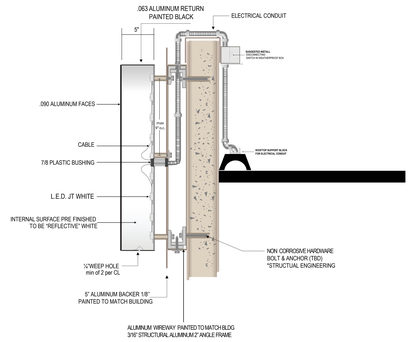
Munck Wilson Mandala
2000 McKinney Ave # 1900, Dallas, TX 75201

sign location - south elevation

470.2″ X 37″
LED REVERSE CHANNEL LETTERS ON BACKPLATE
Total Sign Sq Ft - 120.8

MUNCK WILSON MANDALA

36.2″ X 30″ 18″ TALL 14.75″ TALL

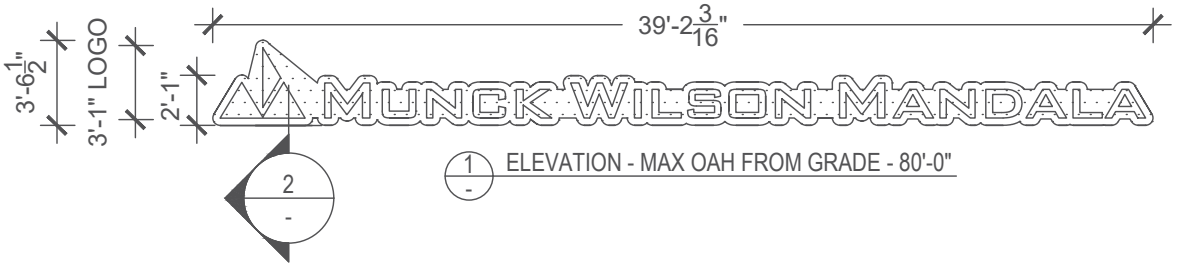


SULLAWAY ENGINEERING

12396 WORLD TRADE DRIVE, SUITE 312
SAN DIEGO, CA 92128
PROJECTMANAGER@SULLAWAYENG.COM
PHONE: 1-858-312-5150 FAX: 1-858-777-3534

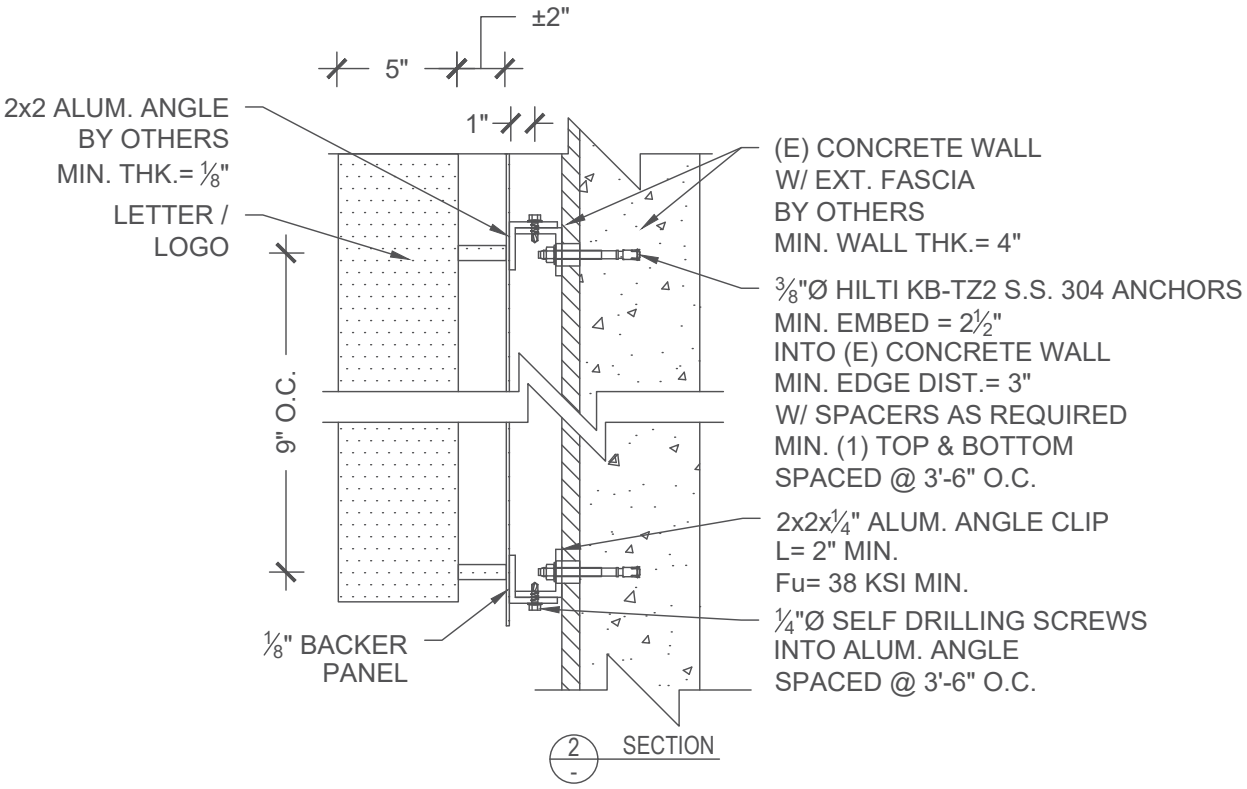
PROJECT: MUNCK WILSON MANDALA, 2000 MCKINNEY AVE. # 1900, DALLAS, TX
PROJECT #: 51313-1
CLIENT: FASTSIGNS NORTHEAST DALLAS

DATE: 05/26/2025
ENGINEER: JC
LAST REVISED:



1 - ELEVATION - MAX OAH FROM GRADE - 80'-0"

2 -



2 - SECTION

GENERAL NOTES

1. DESIGN CODE: IBC 2021
2. DESIGN LOADS: ASCE 7-16
3. WIND VELOCITY 105 MPH EXPOSURE C
4. CONCRETE 2500 PSI MIN.
5. ALUMINUM ELEMENTS 6061-T6
6. SELF DRILLING SCREWS PER ICC ESR-1976 SPECIFICATIONS OR EQUIVALENT
7. HILTI KB-TZ2 S.S. 304 ANCHOR BOLTS PER ICC ESR-4266
8. PROVIDE PROTECTION AGAINST DISSIMILAR METALS
9. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION
10. ALL EXISTING ELEMENTS AND DIMENSIONS TO BE VERIFIED IN FIELD

SULLAWAY ENGINEERING

PROJECT: MUNCK WILSON MANDALA — DATE: 05/26/2025

PROJ. NO.: 51313-1 — ENGINEER: JC

CLIENT: FASTSIGNS NORTHEAST DALLAS

V5.5

units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-16 Ch. 30, part 3

Kz=	1.208	per Table 30.3-1	
Kzt=	1.0	(26.8.2) (=1.0 unless unusual landscape)	
Kd=	0.85	per Table 26.6-1	
V=	105	mph	
qh=0.00256*Kz*Kzt*Kd*V^2 =		29.0 psf	per eq. 26.10-1
G_{cp}=	-1.8	per Figure 30.5-1	(in 'a' section)
G_{cpi}=	0	per Section 29.3.2	
p=	qh((GCp) - (GCpi)) =	**-52.18** psf	per eq. 30.5-1

Check (1/4") Dia. SELF DRILLING SCREWS - Angle clip to Angle clip (ASD):

t contact= 0.125 " min

t noncontact= 0.250 " min

Pnet=	See Above=	52.18	psf		
Tributary Area=	A_{Trib}=(Area from Autocad)=	9.614	ft^2	Spaced @ 3'-6" o.c.	
Wind Load=	WL=0.6*Pnet*A_{Trib}=	301	lbs		
Dead Load=	DL=10psf*A_{Trib}=	96	lbs		
arm (WL)=	from AutoCAD=	8.375	in		
MWL=	WL*arm=	2521	lbs-in		
arm (DL)=	(5")/2+(2")+(0.125")+(.125")+(2")/2=	5.625	in		
MDL=	DL*arm=	541	lbs-in		
Spacing =	Sw=	11	in		
Additional Shear due to WL=	VWL=MWL/Sw/1 screw=	229	lbs		
Spacing =	Sd=	11	in		
Additional Shear due to DL=	VDL=MDL/Sd/1 screw=	49	lbs		
#screws=	=	2	screws		
dia.=	=	0.250	in		
Tension per screw=	Ta=DL/#screws=	48	lbs	(Reduction factor)	
Shear per screw=	Va=WL/#screws+VWL+VDL=	429	lbs	(RF=38ksi/45ksi=0.844)	
Tension capacity=	(From ICC ESR 1976) Tc=	673	lbs	(Min(797 lb, 1605 lb)*RF)	
Shear capacity=	Vc=	836	lbs	(Min(1266 lb, 990 lb)*RF)	
Combined Check:	Ta/Tc+Va/Vc=	0.584	<1	**OK**	

SULLAWAY ENGINEERING

PROJECT: MUNCK WILSON MANDALA — DATE: 05/26/2025

PROJ. NO.: 51313-1 — ENGINEER: JC

CLIENT: FASTSIGNS NORTHEAST DALLAS

V5.5

units; pounds, feet unless noted otherwise

Check 2x2x0.125" Aluminum Angle for Bolt Bearing (ASD): Ω= 1.65

Ftu=	=	38	ksi		
de=	=	0.8125	in		
D=	=	0.216	in		
t=	=	0.125	in		
Vu=	See Page#2=	0.429	kip		
Bearing Capacity=	Min(de*t*Ftu, 2D*t*Ftu)/Ω=	1.24	kip	**OK**	(Eqn J.3-4)

Loads on 3/8" Dia. HILTI KB-TZ2 SS-304 Anchors with Min. Embed.= 2.5" into Concrete (LRFD):

Pnet=	See Page#2=	52.18	psf	
Tributary Area=	A_{Trib}=(Area from Autocad)=	9.614	ft^2	Spaced @ 3'-6" o.c.
Wind Load=	WL=Pnet*A_{Trib}=	502	lbs	
Dead Load=	DL=1.2*10psf*A_{Trib}=	115	lbs	
arm (WL)=	from AutoCAD=	8.375	in	
MWL=	WL*arm=	4202	lbs-in	
arm (DL)=	(5")/2+(2")+(0.125")+(2.125")=	6.75	in	
MDL=	DL*arm=	779	lbs-in	
Spacing=	Sw=	9	in	
Additional tension due to WL=	TWL=MWL/Sw/1 bolt=	467	lbs	
Spacing=	Sd=	9	in	
Additional tension due to DL=	TDL=MDL/Sd/1 bolt=	87	lbs	
#anchors=	=	2	anchors	
Tension per anchor=	Tu=WL/#anchors+TWL+TDL=	804	lbs	
Shear per anchor=	Vu=DL/#anchors=	58	lbs	

Check 2x2x0.25" Aluminum Angle Clip for Leg Flexure (LRFD): ϕ= 0.9

arm=	1	in	(See Above) T=	0.804	kips	f_y =	35 ksi
b =	2	in	t=	0.25	in	n=	1
M at Angle Clip=			T*n*arm=	0.804	k-in		
S=			bt^2/6=	0.021	in^3		
ϕMn=			1.5*ϕ*fy*S=	0.984	k-in		
				0.817	< 1	**OK**	

www.hilti.com

Company:		Page:	1
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

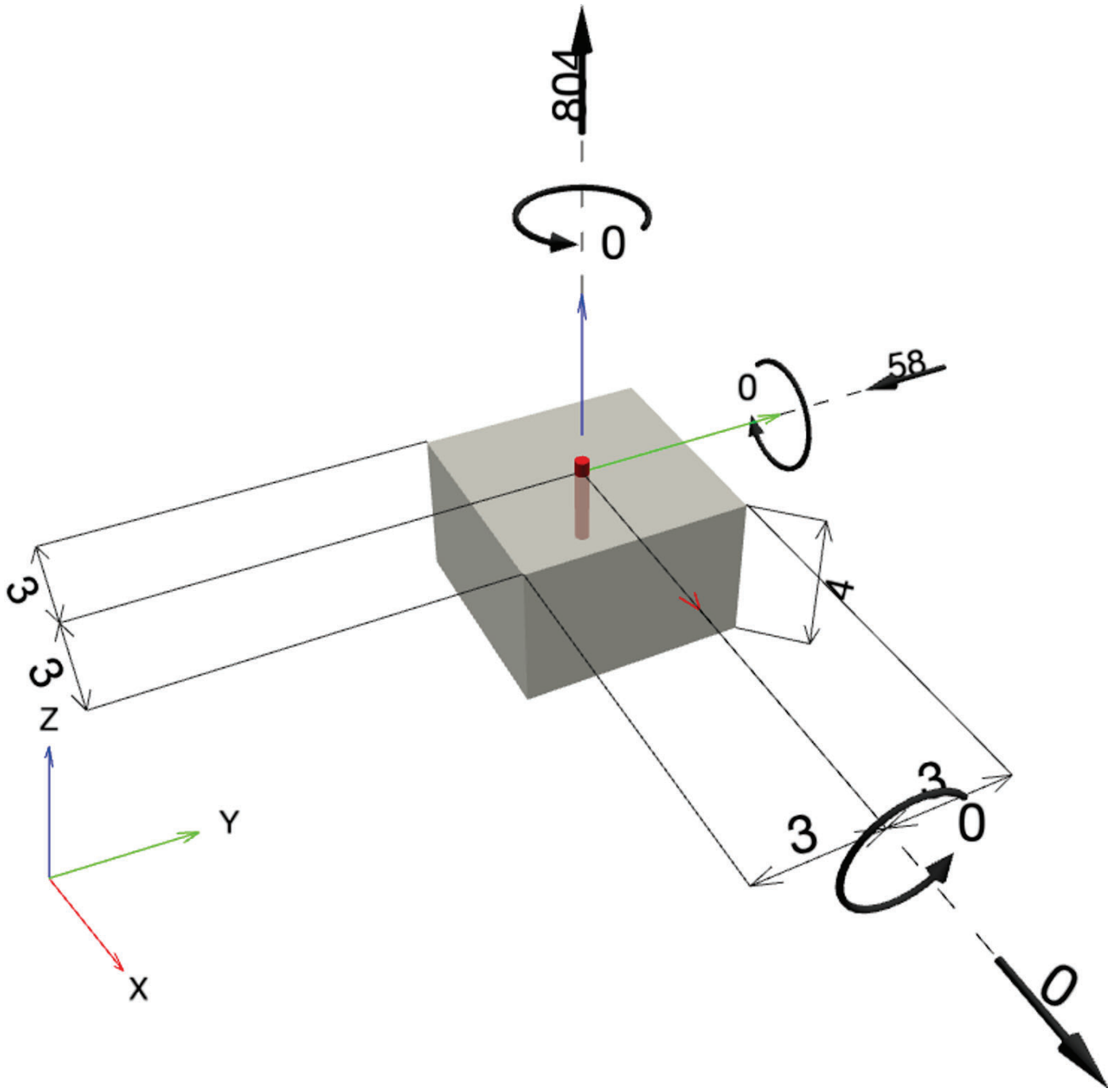
Specifier's comments:

1 Input data

Anchor type and diameter:	**Kwik Bolt TZ2 - CS 3/8 (2) hnom2**
Item number:	2210236 KB-TZ2 3/8x3
Specification text:	Hilti ∅ 3/8 in Kwik Bolt TZ2 - CS with 2.5 in nominal embedment depth per ICC-ES ESR-4266 , Hammer drill bit installation per MPII,
Effective embedment depth:	$h_{ef,act}$ = 2.000 in., h_{nom} = 2.500 in.
Material:	Carbon Steel
Evaluation Service Report:	ESR-4266
Issued I Valid:	10/1/2024 | 12/1/2025
Proof:	Design Method ACI 318-14 / Mech
Shear edge breakout verification:	Row closest to edge (Case 3 only from ACI 318-14 Fig. R.17.5.2.1b)
Stand-off installation:	
Profile:	
Base material:	cracked concrete, 2500, f_c' = 2,500 psi; h = 4.000 in.
Installation:	**Hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition B; no supplemental splitting reinforcement present edge reinforcement: none or < No. 4 bar

Company:		Page:	2
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

Geometry [in.] & Loading [lb, ft.lb]



Company:		Page:	3
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

1.1 Design results

Case	Description	Forces [lb] / Moments [ft.lb]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 804; V_x = 0; V_y = -58; M_x = 0.000; M_y = 0.000; M_z = 0.000;	no	42

2 Load case/Resulting anchor forces

Anchor reactions [lb]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	804	58	0	-58

3 Tension load

	Load N_{ua} [lb]	Capacity ϕ N_n [lb]	Utilization $\beta_N = N_{ua}/\phi$ N_n	Status
Steel Strength*	804	4,869	17	OK
Pullout Strength*	N/A	N/A	N/A	N/A
Concrete Breakout Failure**	804	1,930	42	OK

* highest loaded anchor **anchor group (anchors in tension)

Company:		Page:	4
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

3.1 Steel Strength

N_{sa} = ESR value — refer to ICC-ES ESR-4266

$\phi\ N_{sa} \geq N_{ua}$ — ACI 318-14 Table 17.3.1.1

Variables

$A_{se,N}$ [in.^{2}]	f_{uta} [psi]
0.05	126,204

Calculations

N_{sa} [lb]
6,493

Results

N_{sa} [lb]	ϕ_{steel}	$\phi\ N_{sa}$ [lb]	N_{ua} [lb]
6,493	0.750	4,869	804

3.2 Concrete Breakout Failure

$N_{cb} = \left(\frac{A_{Nc}}{A_{Nc0}}\right) \psi_{ed,N}\ \psi_{c,N}\ \psi_{cp,N}\ N_b$ — ACI 318-14 Eq. (17.4.2.1a)

$\phi\ N_{cb} \geq N_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9\ h_{ef}^2$ — ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5h_{ef}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = \text{MAX}\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5h_{ef}}{c_{ac}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c\ \lambda_a\ \sqrt{f'_c}\ h_{ef}^{1.5}$ — ACI 318-14 Eq. (17.4.2.2a)

Variables

h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
2.000	3.000	1.000	4.375	21	1.000	2,500

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
36.00	36.00	1.000	1.000	2,970

Results

N_{cb} [lb]	$\phi_{concrete}$	$\phi\ N_{cb}$ [lb]	N_{ua} [lb]
2,970	0.650	1,930	804

Company:		Page:	5
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

4 Shear load

	Load V_{ua} [lb]	Capacity ϕ V_n [lb]	Utilization $\beta_V = V_{ua}/\phi$ V_n	Status
Steel Strength*	58	2,201	3	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength**	58	2,079	3	OK
Concrete edge failure in direction y-**	58	633	10	OK

* highest loaded anchor **anchor group (relevant anchors)

4.1 Steel Strength

V_{sa} = ESR value refer to ICC-ES ESR-4266
ϕ $V_{steel} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,V}$ [in.^{2}]	f_{uta} [psi]
0.05	126,204

Calculations

V_{sa} [lb]
3,386

Results

V_{sa} [lb]	ϕ_{steel}	ϕ V_{sa} [lb]	V_{ua} [lb]
3,386	0.650	2,201	58

Company:		Page:	6
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

4.2 Pryout Strength

$V_{cp} = k_{cp} \left[\left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \right]$ ACI 318-14 Eq. (17.5.3.1a)

$\phi V_{cp} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX \left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ ACI 318-14 Eq. (17.4.2.2a)

Variables

k_{cp}	h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$
1	2.000	3.000	1.000

c_{ac} [in.]	k_c	λ_a	f'_c [psi]
4.375	21	1.000	2,500

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
36.00	36.00	1.000	1.000	2,970

Results

V_{cp} [lb]	$\phi_{concrete}$	ϕV_{cp} [lb]	V_{ua} [lb]
2,970	0.700	2,079	58

Company:		Page:	7
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

4.3 Concrete edge failure in direction y-

$V_{cb} = \left(\frac{A_{Vc}}{A_{Vc0}}\right) \psi_{ed,V} \psi_{c,V} \psi_{h,V} \psi_{parallel,V} V_b$ ACI 318-14 Eq. (17.5.2.1a)

$\phi V_{cb} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Vc} see ACI 318-14, Section 17.5.2.1, Fig. R 17.5.2.1(b)*

$A_{Vc0} = 4.5 c_{a1}^2$ ACI 318-14 Eq. (17.5.2.1c)

$\psi_{ed,V} = 0.7 + 0.3\left(\frac{c_{a2}}{1.5c_{a1}}\right) \leq 1.0$ ACI 318-14 Eq. (17.5.2.6b)

$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0$ ACI 318-14 Eq. (17.5.2.8)

$V_b = \left(7\left(\frac{l_e}{d_a}\right)^{0.2}\sqrt{d_a}\right) \lambda_a \sqrt{f_c'} c_{a1}^{1.5}$ ACI 318-14 Eq. (17.5.2.2a)

Variables

c_{a1} [in.]	c_{a2} [in.]	$\psi_{c,V}$	h_a [in.]	l_e [in.]
2.667	3.000	1.000	4.000	2.000

λ_a	d_a [in.]	f_c' [psi]	$\psi_{parallel,V}$
1.000	0.375	2,500	1.000

Calculations

A_{Vc} [in.^{2}]	A_{Vc0} [in.^{2}]	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [lb]
24.00	32.00	0.925	1.000	1,304

Results

V_{cb} [lb]	$\phi_{concrete}$	ϕV_{cb} [lb]	V_{ua} [lb]
905	0.700	633	58

*Anchor row defined by: Anchor 1; Case 3 controls

5 Combined tension and shear loads

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.416	0.092	5/3	26	OK

$\beta_{NV} = \beta_N^{\zeta} + \beta_V^{\zeta} <= 1$

Company:		Page:	8
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2021, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- The equations presented in this report are based on imperial units. When inputs are displayed in metric units, the user should be aware that the equations remain in their imperial format.
- Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.
- Refer to the manufacturer's product literature for cleaning and installation instructions.
- For additional information about ACI 318 strength design provisions, please go to https://viewer.joomag.com/profis-design-guide-us-en-summer-2021/0841849001625154758?short&/
- Hilti post-installed anchors shall be installed in accordance with the Hilti Manufacturer's Printed Installation Instructions (MPII). Reference ACI 318-14, Section 17.8.1.

Fastening meets the design criteria!

Company:		Page:	9
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

7 Installation data

Anchor type and diameter: Kwik Bolt TZ2 - CS 3/8 (2) hnom2

Profile: -

Item number: 2210236 KB-TZ2 3/8x3

Hole diameter in the fixture: -

Maximum installation torque: 30.093 ft.lb

Plate thickness (input): -

Hole diameter in the base material: 0.375 in.

Hole depth in the base material: 2.750 in.

Drilling method: Hammer drilled

Minimum thickness of the base material: 4.000 in.

Cleaning: Manual cleaning of the drilled hole according to instructions for use is required.

Hilti ∅ 3/8 in Kwik Bolt TZ2 - CS with 2.5 in nominal embedment depth per ICC-ES ESR-4266 , Hammer drill bit installation per MPII

7.1 Recommended accessories

Drilling	Cleaning	Setting
• Suitable Rotary Hammer • Properly sized drill bit	• Manual blow-out pump	• Torque controlled cordless impact tool • Torque wrench • Hammer

Coordinates Anchor in.

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	0.000	0.000	3.000	3.000	3.000	3.000

Company:		Page:	10
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	51313-1	Date:	5/26/2025
Fastening point:			

8 Remarks; Your Cooperation Duties

- Any and all information and data contained in the Software concern solely the use of Hilti products and are based on the principles, formulas and security regulations in accordance with Hilti's technical directions and operating, mounting and assembly instructions, etc., that must be strictly complied with by the user. All figures contained therein are average figures, and therefore use-specific tests are to be conducted prior to using the relevant Hilti product. The results of the calculations carried out by means of the Software are based essentially on the data you put in. Therefore, you bear the sole responsibility for the absence of errors, the completeness and the relevance of the data to be put in by you. Moreover, you bear sole responsibility for having the results of the calculation checked and cleared by an expert, particularly with regard to compliance with applicable norms and permits, prior to using them for your specific facility. The Software serves only as an aid to interpret norms and permits without any guarantee as to the absence of errors, the correctness and the relevance of the results or suitability for a specific application.
- You must take all necessary and reasonable steps to prevent or limit damage caused by the Software. In particular, you must arrange for the regular backup of programs and data and, if applicable, carry out the updates of the Software offered by Hilti on a regular basis. If you do not use the AutoUpdate function of the Software, you must ensure that you are using the current and thus up-to-date version of the Software in each case by carrying out manual updates via the Hilti Website. Hilti will not be liable for consequences, such as the recovery of lost or damaged data or programs, arising from a culpable breach of duty by you.