

# EnCon Services, Inc.

## Sign Design Calculations

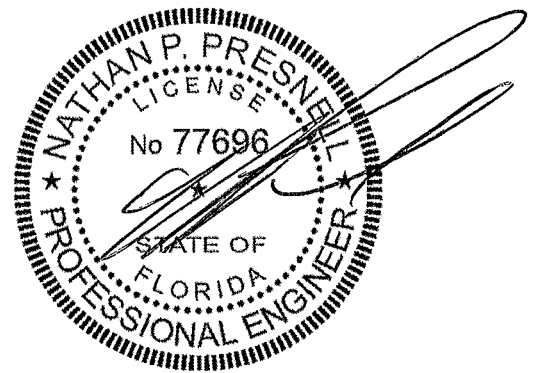
Job Description  
 Dollar General  
 4924 NW US Highway 41  
 Lake City, FL 32055  
 3'-9" x 26'-0" Sign Panel  
 Design per Florida Building Code, 8th Edition (2023), Section 16 Wind Load,  
 ASCE 7-22, Load Case D + 0.6W

PREPARED BY EnCon Services, Inc  
 1246 Acappella Ln  
 Apollo Beach, FL 33572  
 P 813-655-3373  
 F 813-655-9814  
 FLEB #9394

Nathan P. Presnell, PE  
 FLPE 77696

### Design Specifications

Risk Category II	
Kzt	1
Exposure Factor	C
Kd	0.85
Kz	0.98
V <sub>ULT</sub>	120 (mph)
GCp-GCpi	1.1 Zone 4, H < 60 Feet
Ult Wind Pressure	33.8 (psf)



### Sign Information

Height	3.75	(ft)
Width	26.00	(ft)
Thickness	1.00	(ft)
Distance grade to top	30	(ft)

Wind Shear Force	76.00 (lb)
Est. Weight of Sign	975.00 (lb)

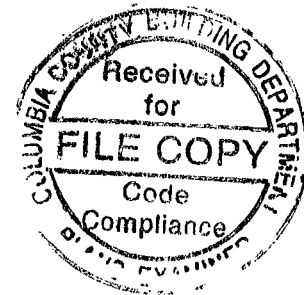
**Total Shear Force = 977.96 (lb)**

**Total Tension Force = 1976.04 (lb)**

DATE SIGNED:

3/6/2026

	Required	Provided
Fastener size (Nominal)	3/8	3/8
Minimum number of fasteners	36	36
Shear Force per fastener (lb)	27.2	280
Tension Force per fastener (lb)	54.9	352



Combination Tension and Shear ratio **0.25 < 1 O.K.**

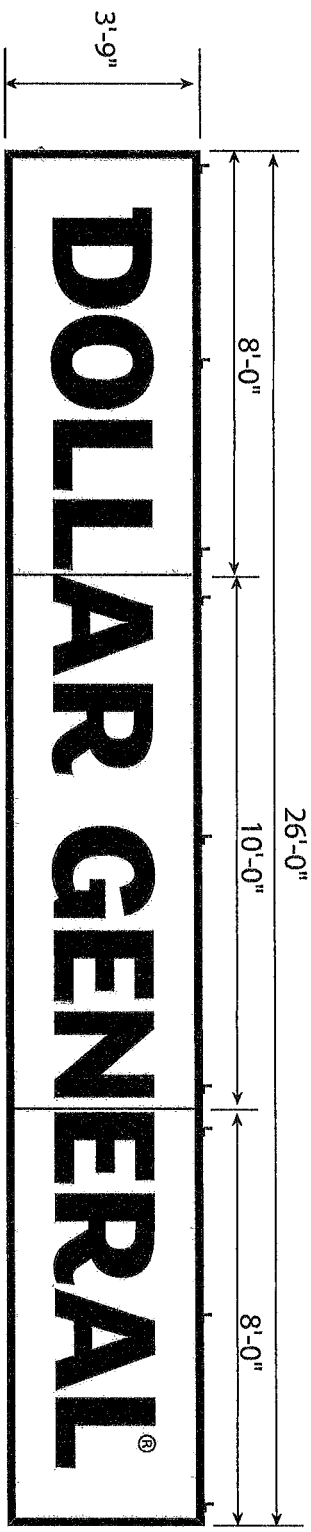
THREADED ROD THROUGH WALL IS PREFERRED IN ALL INSTANCES. IF IT IS NOT POSSIBLE TO USE THREADED ROD, SEE CHART BELOW FOR APPROPRIATE ANCHOR SELECTION. SIZE AND NUMBER REQUIRED ARE NOTED IN THE CHART ABOVE.

WALL STRUCTURE	ANCHOR TYPE
WOOD BLOCKING	LAG BOLT (3' EMBEDMENT) THROUGH BLOCKING
EIFS OVER 5/8" PLYWOOD	LIBERTY TOGGLE BOLT OR THRU BOLT WITH SLEEVE
HOLLOW CONCRETE BLOCK, BRICK	SLEEVE ANCHOR (1-1/2' EMBEDMENT)
SOLID CONCRETE	WEDGE ANCHOR (2 1/2' EMBEDMENT)
CMU, SOLID CONCRETE, BRICK	HILTI HIT ROD W/ HY-20 ADHESIVE (3 1/2" EMBEDMENT)

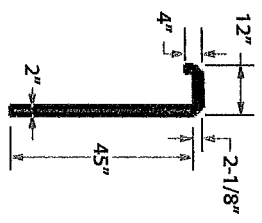
ALL ANCHORS SHALL BE CHOSEN AND PLACED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS



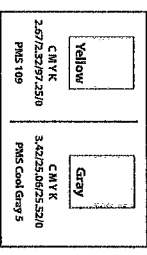
TOP VIEW



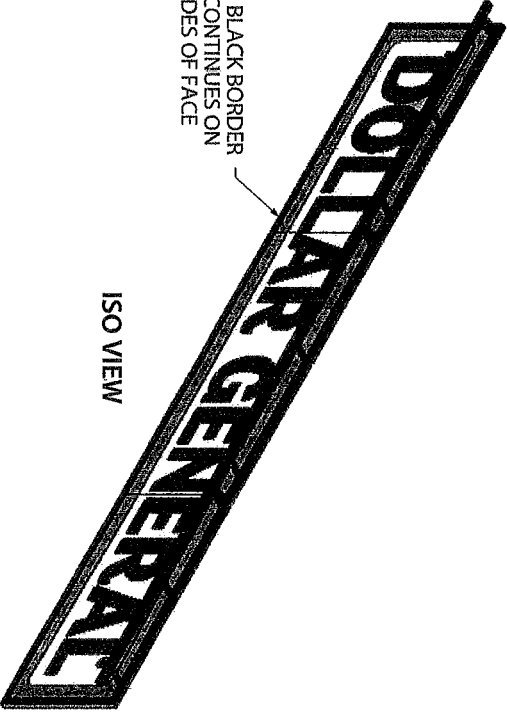
3'-9" x 26'-0" ACM WALL SIGN WITH LED LIGHT BAR



SIDE VIEW



NOTE: BLACK BORDER TRIM CONTINUES ON ALL SIDES OF FACE



ISO VIEW

**CABINET:** FABRICATED ACM FACE PANELS, AND ALUM ANGLE LIGHT BAR; FACES ATTACHED TO WALL BY ANGLE BRACKETS TOP AND BOTTOM OF EACH FACE

**LIGHTING:** (134) PRINCIPAL STREET FIGHTER POD 3 LEDS  
TOTAL DRAW 176.88 WATTS (1.32 WATTS PER LED)

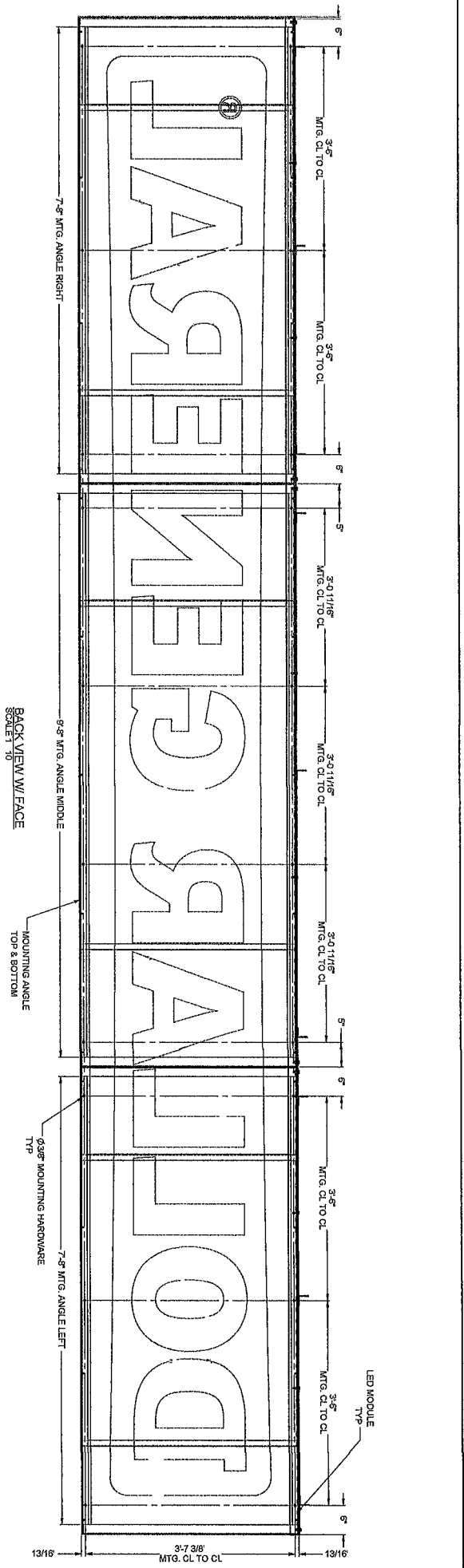
**POWER SUPPLY:** (2) 12V 120W PRINCIPAL POWER SUPPLY;  
POWER SUPPLIES MOUNTED REMOTELY

**SQ. FT. OF SIGN:** 97.5 SQFT

**WEIGHT APPROX:** 265 16 LBS

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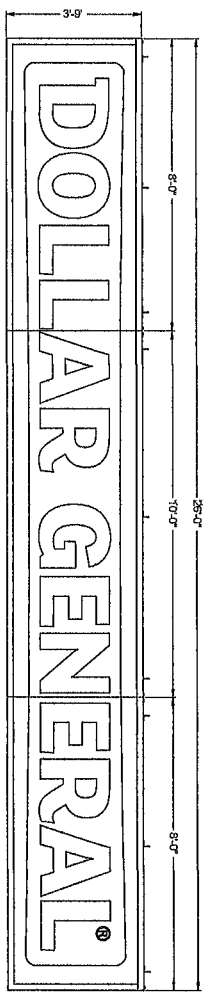
Customer: DOLLAR GENERAL	Description: Single face light bar design for externally illuminated 3'-9" x 26' ACM wall sign		Customer Approval: Graphics and colors on file will be used unless otherwise specified by customer. Please review drawing carefully. By signing below, you agree to graphics as shown above, and to location of sign as shown. Please return signed copy back to Everbrite.
Project No: 505195-3	Scale: 1/2"=1'-0"	Revised:	CUSTOMER SIGNATURE
Date: 06/27/2024	Drawn By: CH	Revised:	LANDLORD SIGNATURE
Location & Site No: N/A			DATE



### 3/8" DIAMETER FASTENER CHART

WALL CONSTRUCTION	FASTENER	COMMENTS	EXAMPLE
MINIMUM 5/8" PLYWOOD WALL CONSTRUCTION	THRU BOLT WITH ANGLE OR UNISTRUT ACROSS STUDS	USE APA ENGINEERED WOOD ASSOCIATION FASTENER LOADS FOR PLYWOOD BOLTS	
WOOD BLOCKING ATTACHED TO STUDS	LIBERTY TOGGLE BOLT	OFF LABEL USE, USE APA ENGINEERED WOOD ASSOCIATION FASTENER LOADS FOR PLYWOOD BOLTS	
BRICK CONCRETE BLOCK, SOLID CONCRETE	LAG BOLTS (3" EMBEDMENT INTO BLOCKING)	STEEL REDUCTION FOR COMBINED WITHDRAWAL	
	SLABE FASTENER (1 1/2" MINIMUM EMBEDMENT)	SEE HILTI TECHNICAL GUIDE	
	HILTI HIT HY 20 OR EQUAL	SEE HILTI TECHNICAL GUIDE	

NOTE: ALL FASTENERS TO BE THRU BOLTS IF POSSIBLE. USE ALTERNATE FASTENERS PER WALL TYPE SHOWN ABOVE IF THRU BOLTING IS NOT POSSIBLE. ALL FASTENERS ARE TO BE CHOSEN AND PLACED IN ACCORDANCE WITH THE MANUFACTURERS' INSTALLATION INSTRUCTIONS.



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414.523.3800

**INSTALLATION DRAWING**

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REV	DATE	BY	CHK	DESCRIPTION
A	3/7/2025	RAJ CJB		RELEASED FOR INSTALLATION

DRAWN BY: **TECHNO-RNB**

DATE: **3/7/2025**

CHECKED BY: **CJB**

DATE: **3/7/2025**

SITE: **STANDARD DRAWING**

SCALE: **AS SHOWN**

SHEET: **1 OF 2**

TITLE: **DOLLAR GENERAL SIGN, DG 3'-9" X 26'-0" VM ACM LIGHT BAR**

PROJECT NO.: **505195**

DRAWING NO.: **IN505195A**

REV: **A**

