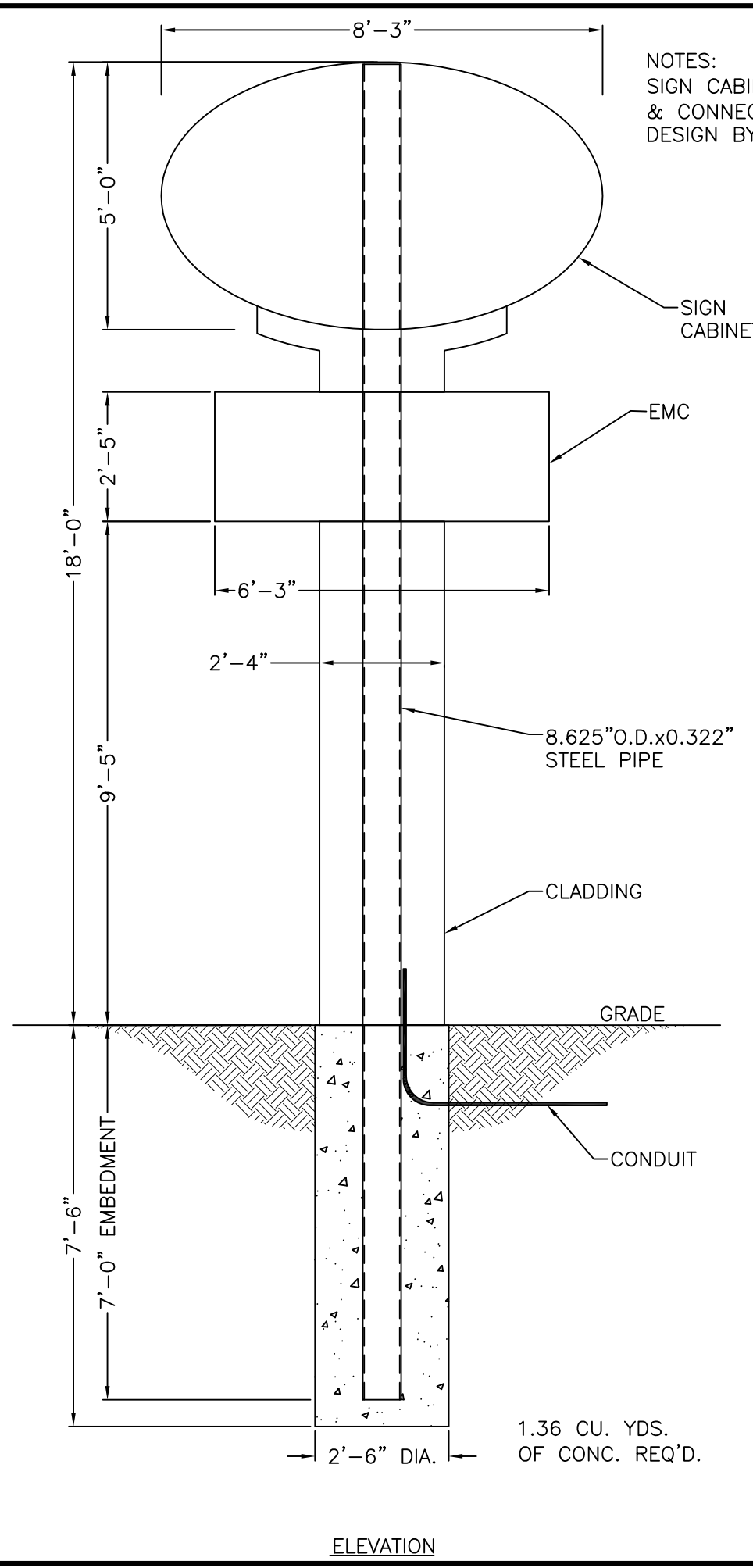
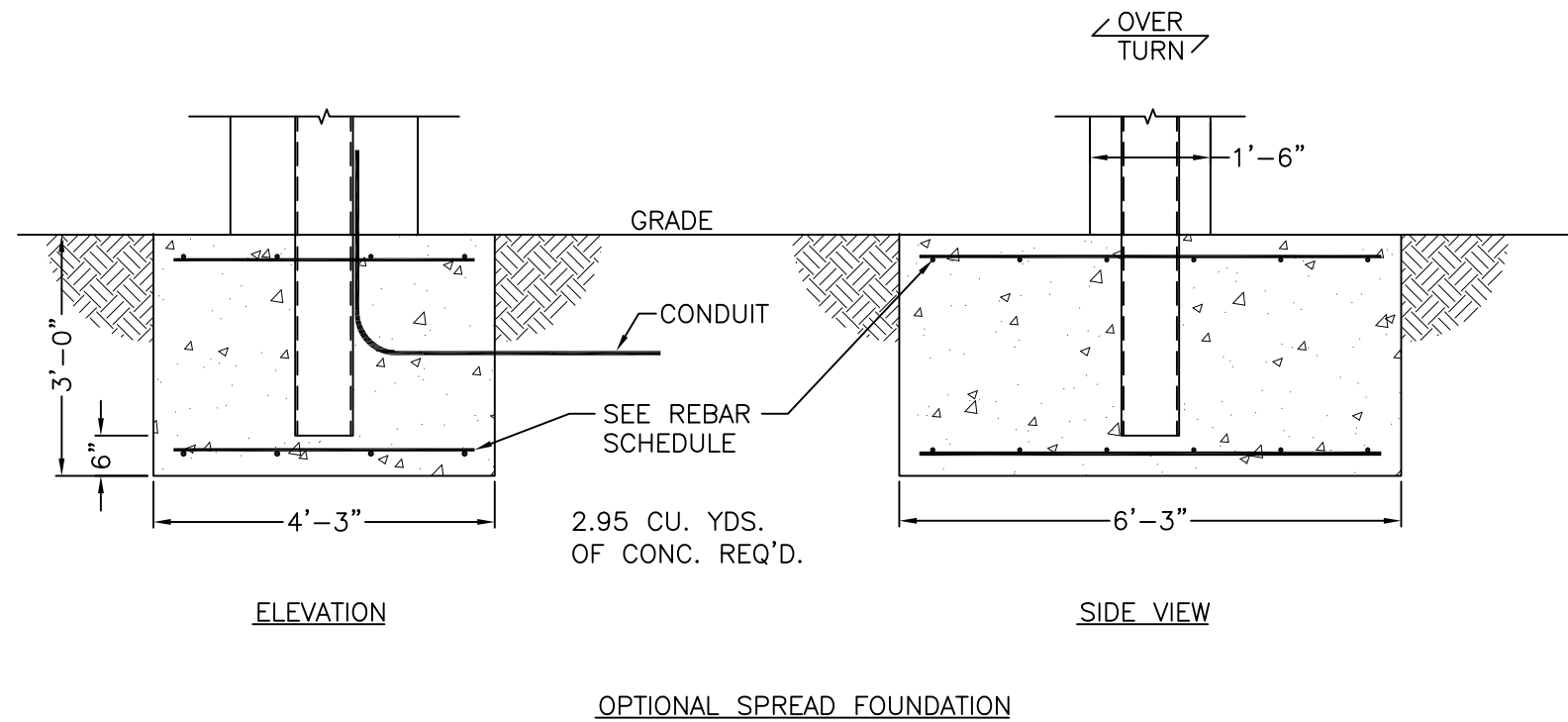




NOTES:
SIGN CABINET(S), CLADDING,
& CONNECTION(S)
DESIGN BY OTHERS.



REBAR SCHEDULE SPREAD FOUNDATION				DO NOT WELD REBAR 3" MIN. COVER	
PLACEMENT	SIZE	SPACING	QUANTITY		
LONG BOTTOM STEEL	#4	14"	4		
LONG TOP STEEL	#4	14"	4		
BOTTOM CROSS STEEL	#4	13"	6		
TOP CROSS STEEL	#4	13"	6		

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:

4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

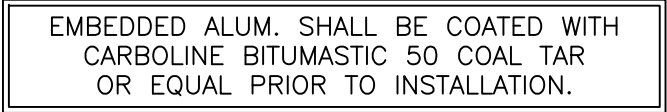
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2	-/-/-	-----
3	-/-/-	-----

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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374
SEAL & SIGNATURE:

LINK Engineering, L.L.C.
135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com
Florida State Certificate of Authorization No.: 27148

Project Number: 22-0282R3		Drawing Number: B186649R3	
SHT. 1	OF 3	DATE: 8/12/22	BY: GHK



NOTES:
SIGN CABINET DESIGN
BY OTHERS.

General Notes:

1. Design is based on a 120 mph, 3 second gust wind design per Florida Building Code, 7th Edition (2020). Category II, Exposure C.
2. Caisson foundation is based on a presumptive safe lateral soil bearing pressure minimum of 150 psf per foot of depth. Isolated lateral bearing footings subject to short-term lateral loads and not adversely affected by a 1/2" motion at grade are permitted to be designed using twice the tabulated value of the corresponding soil class.
3. A soil report was not provided. Foundation analysis assumes Soil Classification 4. Allowable bearing pressure should be verified prior to placement of concrete. In the event that the stated requirements are not met and conditions appear deleterious, cease and secure excavation and immediately contact SPRINGFIELD SIGN & NEON.
4. Foundation shall not be placed at the top of, or on the side of a slope exceeding 3:1, or adjacent to a fill slope unless re-evaluated by a competent Professional Engineer. Do not place foundation in fill.
5. Concrete shall be mixed to attain a minimum 28 day compressive strength of 3000 psi.
6. All support members shall be free from defects. Aluminum tube shall be 6061-T6 alloy, channel shall be 6063-T6 and aluminum sheet 3003 H14.
7. Aluminum welds shall be made with 5356 filler by persons qualified in accordance with AWS standards within the past two years.
8. All fasteners shall be zinc coated to prevent corrosion.
9. The scope of this engineer does not include onsite observations.
10. LINK Engineering will not be responsible for the safety on this job site before, during or after installation of this structure. It is the responsibility of the owners, contractors and installers to ensure that the installation and erection of this structure is performed using methods that are in full compliance with OSHA regulations.
11. Any deviation from this design or from any part of this drawing, including the General Notes, without prior written consent from LINK Engineering voids this drawing in its entirety.
12. The structure designed on this drawing is intended to be installed at the address shown and should not be used at any other location.

		PROJECT #	22-0282R		OWNER:	CULVER'S			
		July 14, 2022				255 N.W. COMMONS LOOP			
		DRAWING #	B186705			LAKE CITY, FL 32055			
		WIND LOAD	23.96	PSF					
		WIND SPEED	120	MPH	CLIENT:	BLAIR SIGN COMPANY			
		# COLUMNS	1	FLORIDA BUILDING CODE		5107 KISSELL AVENUE			
		DESIGNER	SR	7th Ed. (2020)		ALTOONA, PA			
				SHAPE	CENTROID		TOTAL		
	ITEM	HEIGHT	WIDTH	FACTOR	HEIGHT	AREA	FORCE	MOMENT	
	=====	=====	=====	=====	=====	=====	=====	=====	
	CABINET	1.396	2.323	0.785	0.698	2.547	0.061	0.043	
	COLUMN	2.271	0.167	1.111	1.135	0.421	0.071	0.193	
	OAH	3.667							
		COLUMN CALCULATIONS		(CODES P=PIPE;O=OTHER;T=TUBE)					
						DESIGN		AVAILABLE	
		COLUMN	COLUMN	COLUMN	lx	MODULUS	REQUIRED	FLEXURAL	
	ITEM	WIDTH	DEPTH	WALL	COLUMN	COLUMN	MOMENT	STRENGTH	UNITY
=	=====	=====	=====	=====	=====	=====	=====	=====	=====
T	CABINET	2.000	2.000	0.125	0.552	0.552	0.043	0.897	0.047
T	COLUMN	2.000	2.000	0.125	0.552	0.552	0.193	0.897	0.215
	CAISSON								
	MOMENT					0.193	FT-KIP		
	FORCE					0.071	KIP		
	REFERENCE IBC 1807.3.2 & TABLE 1806.2								
	ASSUME SOIL CLASS #4 SW, SP, SM, SC, GM & GC								
	LATERAL BEARING PRESSURE - PSF/FT OF DEPTH					150.0	PSF/FT		
	S1					266.7			
	DEPTH					2.667	FT.		
	DIAMETER					1.000	FT.		
						2.709	FT.		
						0.624	FT.		
	CALCULATED DEPTH					1.705	FT.		
	MINIMUM THICKNESS WITHOUT REINFORCEMENT					7.971	IN.		
	ACTUAL DIAMETER					12.000	IN.		
	CONCRETE					0.078	CU. YD.		

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:

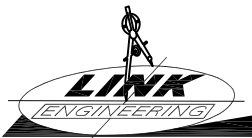
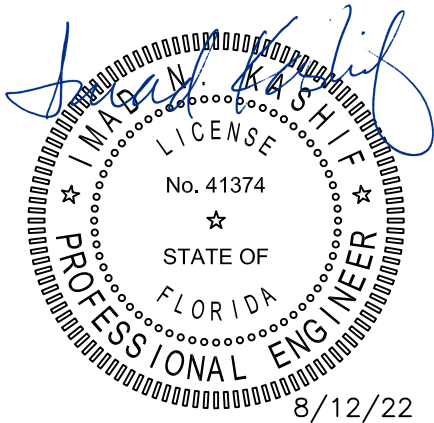


**4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887**

REV	DATE	DESCRIPTION
①	-/-/-	-----
②	-/-/-	-----
③	-/-/-	-----

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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374
SEAL & SIGNATURE:

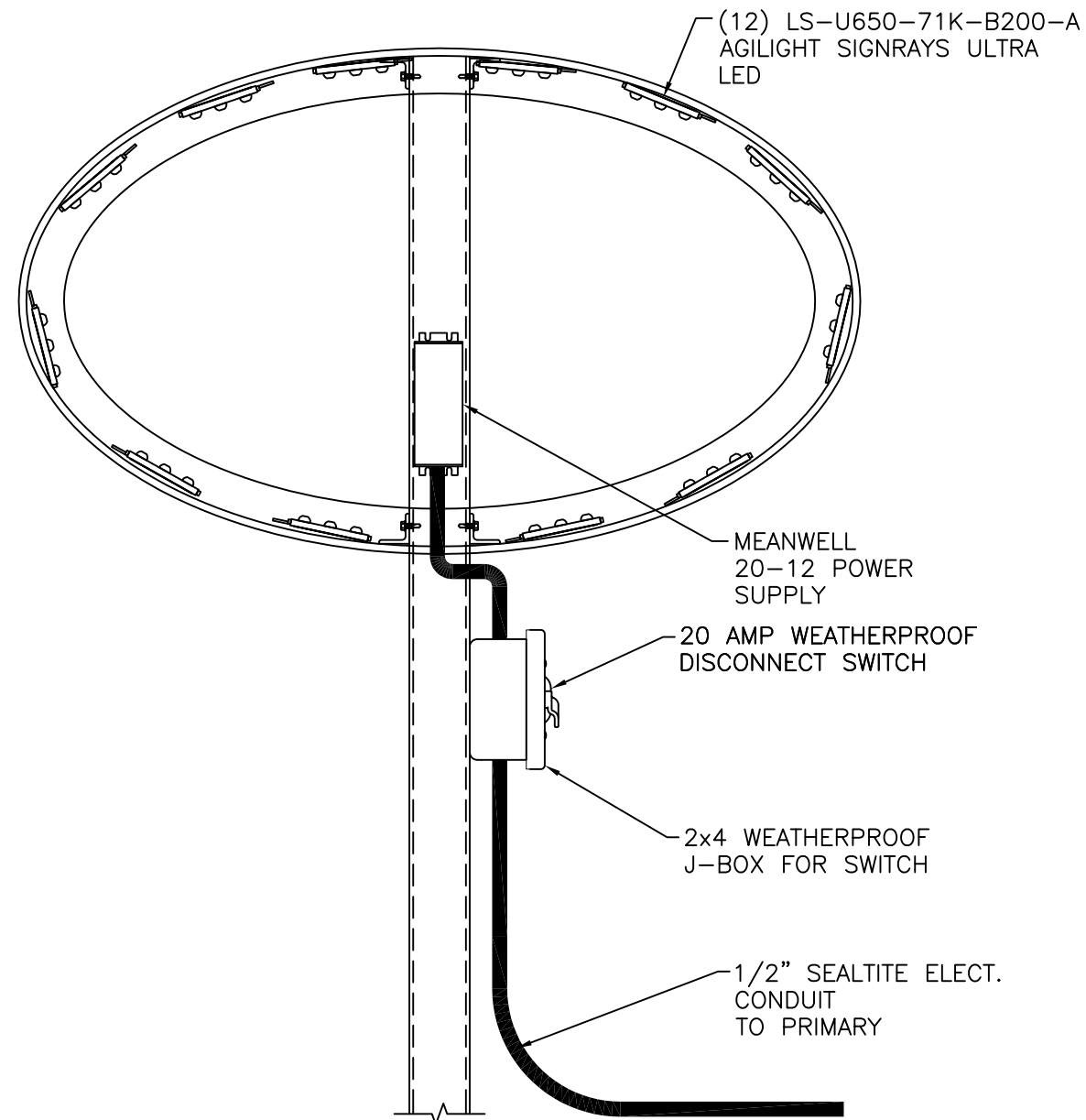


LINK Engineering, L.L.C.

135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com

Florida State Certificate of Authorization No.: 27148

Project Number: 22-0282R3		Drawing Number: B186705R2	
SHT. 1	OF 2	DATE: 8/12/22	BY: GHK



ELECTRICAL ELEVATION

ELECTRICAL NOTES:

1. ALL ELECTRICAL COMPONENTS ARE UL LISTED AND APPROVED
2. SIGN GROUNDED ACCORDING TO NEC 600.7
3. SIGNS MANUFACTURED AND LISTED NEC 600.3 AND MARKED PER NEC 600.4
4. ALL BRANCH CIRCUITS PER NEC 600.5(B).1 OR (B).2
5. ALL SIGNS SHALL BE CONTROLLED BY PHOTOCELL OR TIME CLOCK
6. ONE VISIBLE 20 AMP DISCONNECT PER SIGN PER CIRCUIT PER NEC 600.6(A).1
7. ALL CLASS 2 RATED LED MODULES AND LED POWER SUPPLIES WILL BE IN COMPLIANCE WITH NATIONALLY RECOGNIZED TEST LABORATORY

ELECTRICAL REQUIREMENTS:

LEDs: (12) AGILIGHT SIGNRAYS ULTRA LED
#LS-U650-71K-B200-A
POWER SUPPLY: (1) MEANWELL POWER SUPPLY
#MDR-20-12 @ 0.55A
TOTAL LOAD: .55A @ 120VAC
CIRCUITS: (1) 20 AMP REQUIRED

PHOTOCELL, OR ASTRONOMICAL TIMER
LIGHT CONTROL MANAGEMENT SYSTEM IS
REQUIRED

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

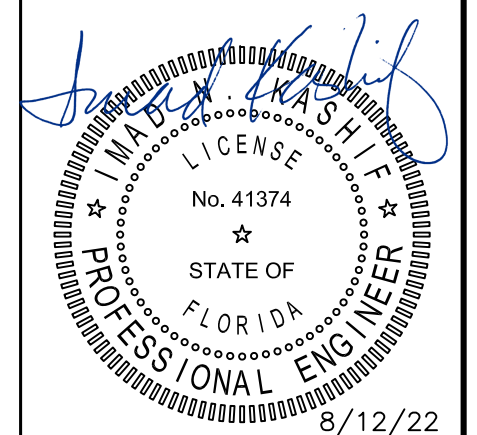
CLIENT:

 **SPRINGFIELD SIGN**
4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

REV	DATE	DESCRIPTION
1	-/-/-	-----
2	-/-/-	-----
3	-/-/-	-----

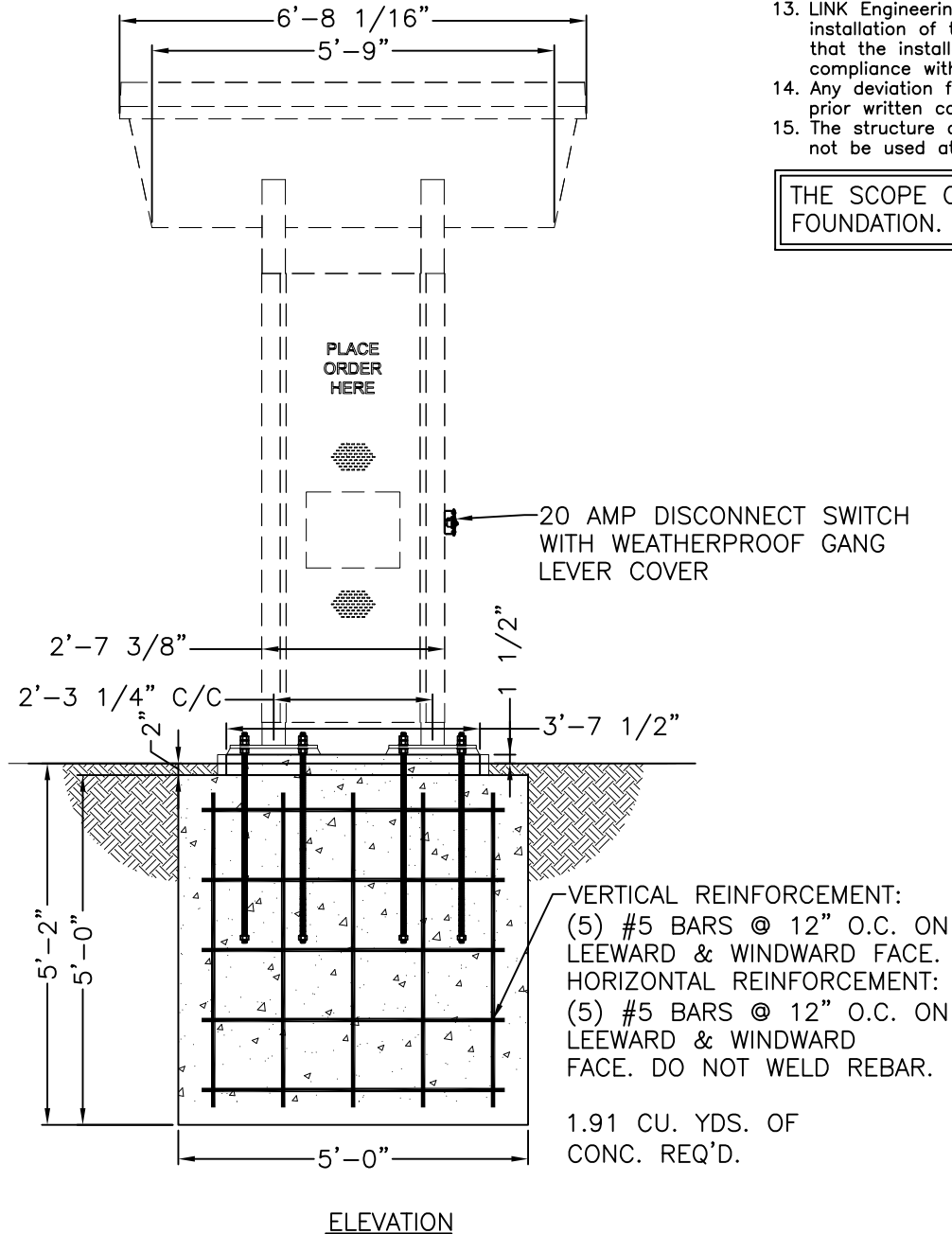
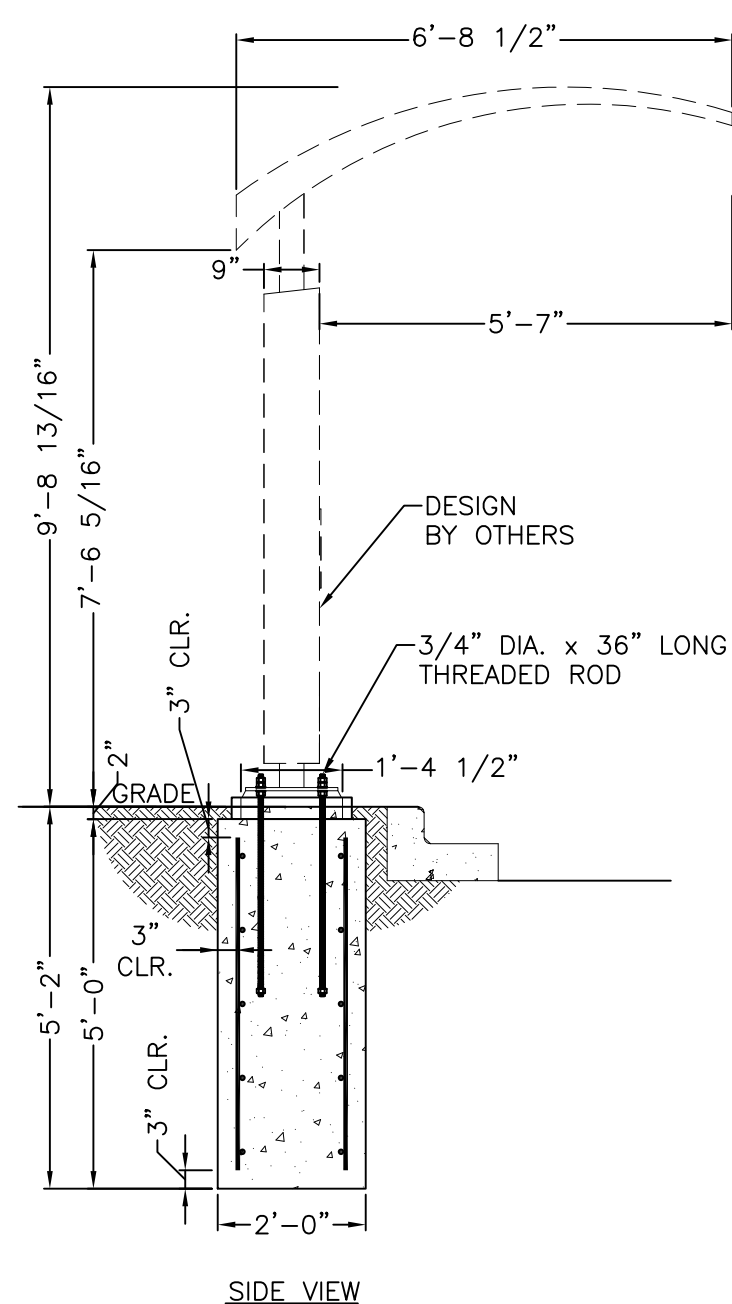
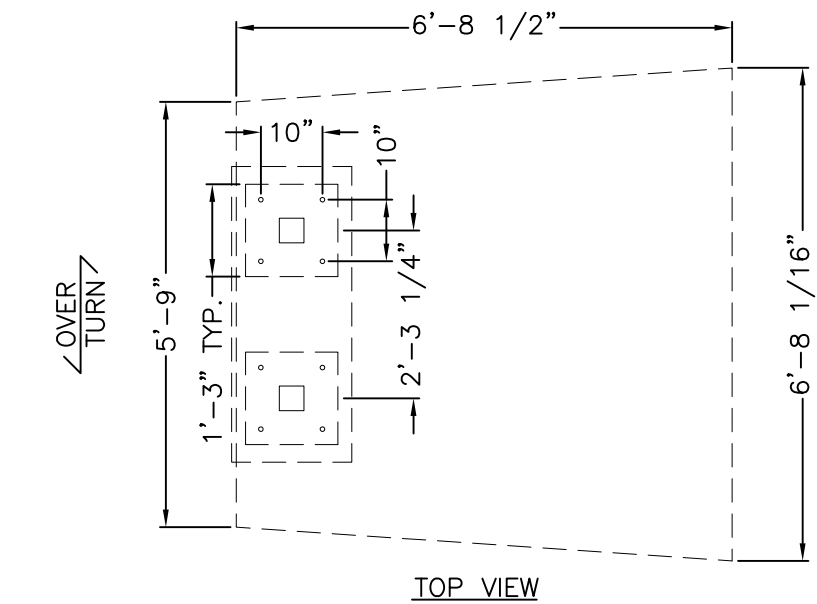
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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374
SEAL & SIGNATURE:



LINK Engineering, L.L.C.
135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com
Florida State Certificate of Authorization No.: 27148

Project Number: 22-0282R3		Drawing Number: B186705R2	
SHT. 2	OF 2	DATE: 8/12/22	BY: GHK



FOUNDATION & PEDESTAL
SHALL BE PLACED MONOLITHICALLY

General Notes:

- Design is based on a 120 mph, 3 second gust wind design per Florida Building Code, 7th Edition (2020). Category II, Exposure C.
- Vertical Slab foundation is based on a presumptive safe lateral soil bearing pressure minimum of 150 psf per foot of depth. Isolated lateral bearing footings subject to short-term lateral loads and not adversely affected by a 1/2" motion at grade are permitted to be designed using twice the tabulated value of the corresponding soil class.
- A soil report was not provided. Foundation analysis assumes Soil Classification 4. Allowable bearing pressure should be verified prior to placement of concrete. In the event that the stated requirements are not met and conditions appear deleterious, cease and secure excavation and immediately contact SPRINGFIELD SIGN & NEON.
- Foundation shall not be placed at the top of, or on the side of a slope exceeding 3:1, or adjacent to a fill slope unless re-evaluated by a competent Professional Engineer. Do not place foundation in fill.
- Concrete shall be mixed to attain a minimum 28 day compressive strength of 3000 psi.
- Steel reinforcing bars shall conform to ASTM A615, Grade 60 with deformations in accordance with ASTM A305. Welding of reinforcing bars is prohibited.
- All voids between column base plate and foundation surface shall be completely filled with high-strength, non-shrink grout.
- Anchor bolts shall meet ASTM F1554 Grade 36. Exposed surfaces shall be galvanized or coated to prevent corrosion.
- All support members shall be free from defects. Steel tube shall meet ASTM A500 Grade B with a minimum yield strength of 46000 psi. Steel Pipe up to 24 inch O.D. shall meet ASTM A53 Grade B with a minimum yield strength of 35000 psi. Steel angle, channel and plate shall meet ASTM A36.
- Steel welds shall be made with E70xx low hydrogen electrodes by persons qualified in accordance with AWS standards within the past two years.
- All structural bolts shall conform to ASTM A325, and be zinc coated unless noted otherwise. When used with structural bolts, heavy hex nuts shall conform to ASTM A563, and washers shall conform to ASTM F436. Pretension all high strength bolts using the Turn-of-Nut method unless noted otherwise.
- The scope of this engineer does not include onsite observations.
- LINK Engineering will not be responsible for the safety on this job site before, during or after installation of this structure. It is the responsibility of the owners, contractors and installers to ensure that the installation and erection of this structure is performed using methods that are in full compliance with OSHA regulations.
- Any deviation from this design or from any part of this drawing, including the General Notes, without prior written consent from LINK Engineering voids this drawing in its entirety.
- The structure designed on this drawing is intended to be installed at the address shown and should not be used at any other location.

THE SCOPE OF THIS ENGINEER IS LIMITED TO THE DESIGN OF THE ANCHORS, & FOUNDATION. ALL OTHER ASPECTS OF THIS PROJECT ARE EXPLICITLY EXCLUDED.

ELECTRICAL REQUIREMENTS:

POWER SUPPLY: 40 WATT POWER SUPPLY
TOTAL LOAD: .43A @ 120VAC
CIRCUITS: (1) 20 AMP REQUIRED

ELECTRICAL NOTES:

- ALL ELECTRICAL COMPONENTS ARE UL LISTED AND APPROVED
- SIGN GROUNDED ACCORDING TO NEC 600.7
- SIGNS MANUFACTURED AND LISTED NEC 600.3 AND MARKED PER NEC 600.4
- ALL BRANCH CIRCUITS PER NEC 600.5(B).1 OR (B).2
- ALL SIGNS SHALL BE CONTROLLED BY PHOTOCELL OR TIME CLOCK
- ONE VISIBLE 20 AMP DISCONNECT PER SIGN PER CIRCUIT PER NEC 600.6(A).1
- ALL CLASS 2 RATED LED MODULES AND LED POWER SUPPLIES WILL BE IN COMPLIANCE WITH NATIONALLY RECOGNIZED TEST LABORATORY

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:

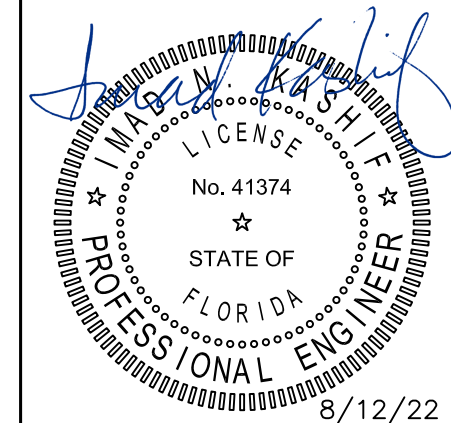
 **SPRINGFIELD SIGN & NEON**

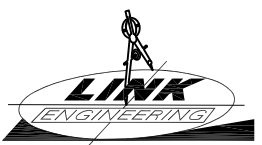
4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

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1	-/-/-	-----
2	-/-/-	-----
3	-/-/-	-----

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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374
SEAL & SIGNATURE:




LINK Engineering, L.L.C.
135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com
Florida State Certificate of Authorization No.: 27148

Project Number:		Drawing Number:	
22-0282R3		B186706R2	
SHT.	OF	DATE:	BY:
1	2	8/12/22	GHK

	PROJECT #	22-0282R		OWNER:	CULVER'S		
	July 14, 2022				255 N.W. COMMONS LOOP		
	DRAWING #	B186706, B186707			LAKE CITY, FL 32055		
	WIND LOAD	24.749	PSF				
	WIND SPEED	120	MPH	CLIENT:	SPRINGFIELD SIGN & NEON		
	# COLUMNS	2	FLORIDA BUILDING CODE		2531 N. PATTERSON		
	DESIGNER	SR	7TH EDITION (2020)		SPRINGFIELD, MO		
			SHAPE	CENTROID		TOTAL	
ITEM	HEIGHT	WIDTH	FACTOR	HEIGHT	AREA	FORCE	MOMENT
=====	=====	=====	=====	=====	=====	=====	=====
CANOPY	2.206	6.208	1.000	1.103	13.694	0.339	0.374
COLUMN	0.510	2.604	1.000	0.255	1.329	0.372	0.555
CLADDING	6.893	2.604	1.000	3.447	17.951	0.816	4.649
PEDESTAL	0.125	3.750	1.000	0.063	0.469	0.828	4.752
SUBGRADE	0.167			0.083	0.000	0.828	4.890
OAH	9.734						
DL MOMENT =	1.093		DL+WL	5.983			
BOLT CALCULATIONS							
		*****		OBLIQUE			
		BOLT	BOLTS/	TENSION/	BOLT	ALLOW.	ALLOWABLE
ITEM	MOMENT	SPACING	PLATE	BOLT	DIAM.	STRESS	TENSION
=====	=====	=====	=====	=====	=====	=====	=====
BASE PL.	5.983	10.000	4.000	3.758	0.750	19.100	8.438
ANCHOR BOLT PROJECTION		ANCHOR EMBEDMENT		ANCHOR BOLT MIN. LENGTH			
3.750		9.968		14.000			
VERTICAL SLAB							
MOMENT					5.983	FT-KIP	
FORCE					0.828	KIP	
REFERENCE IBC 1807.3.2 & TABLE 1806.2							
ASSUME SOIL CLASS #4 SW, SP, SM, SC, GM & GC							
LATERAL BEARING PRESSURE - PSF/FT OF DEPTH					150.0	PSF/FT	
S1					500.0		
SLAB DEPTH (d)					5.000	FT.	
SLAB WIDTH (b)					5.000	FT.	
SLAB THICKNESS					2.000	FT.	
AVERAGE HEIGHT (h)					7.229	FT.	
A = 2.34*FORCE/(S1*b)					0.719		
CALCULATED DEPTH					2.767	FT.	
MINIMUM THICKNESS WITHOUT REBAR					8.033	IN.	
SQRT(M*12*6*1.7*.75/(.178*12*WIDTH))							
ACTUAL THICKNESS					24.000	IN.	
CONCRETE					1.908	CU. YD.	

INSTALLATION ADDRESS:

CULVER’S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:

 **SPRINGFIELD****SIGN**

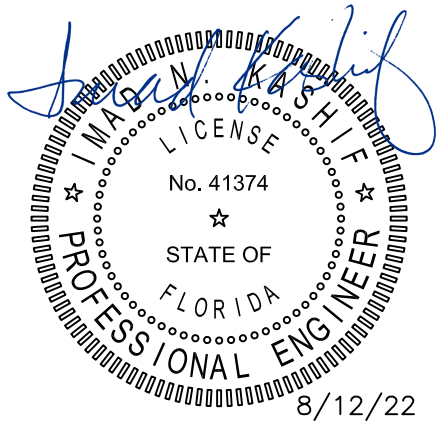
4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

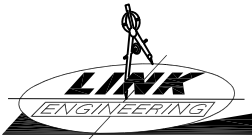
REV	DATE	DESCRIPTION
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△3	-/-/-	-----

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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374

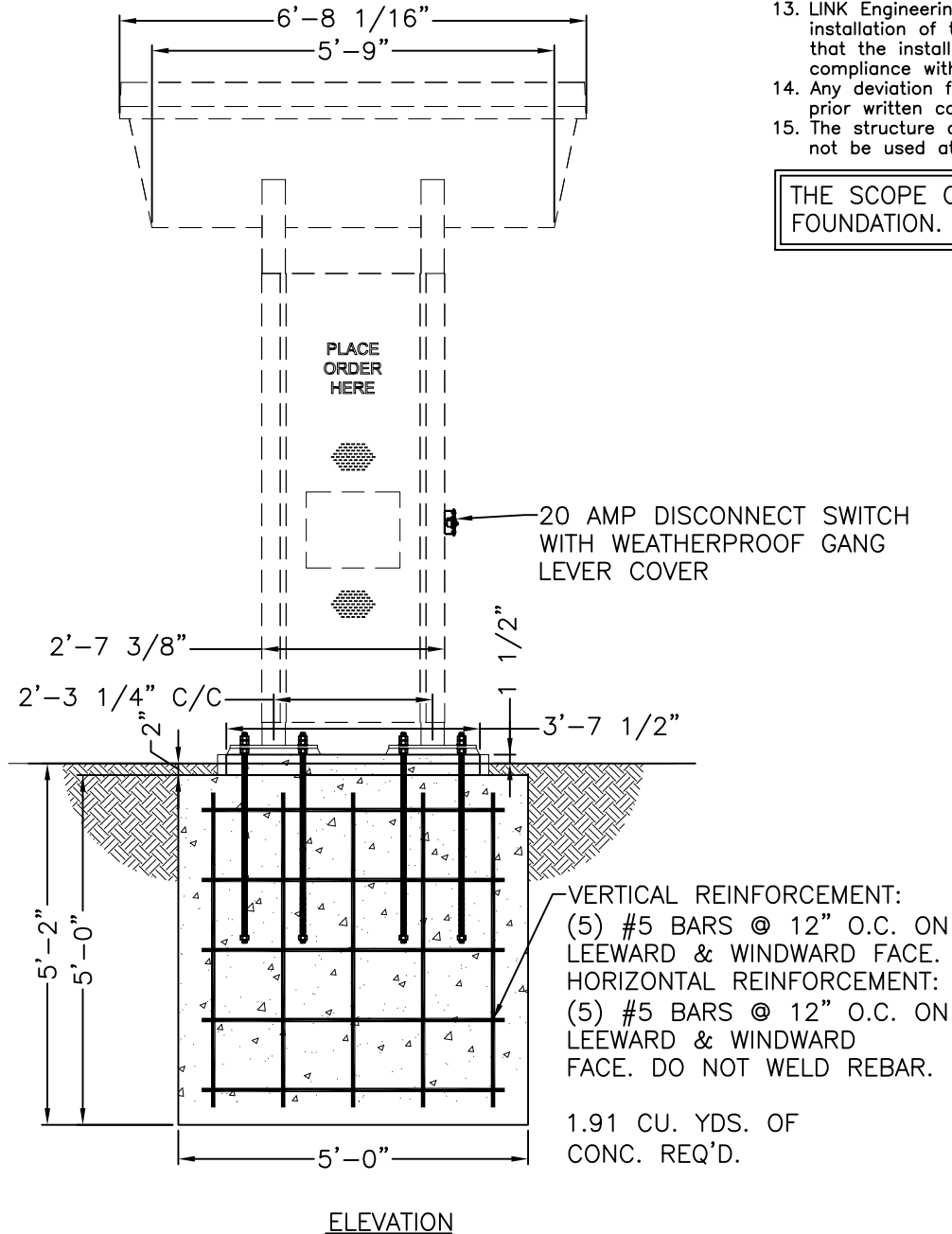
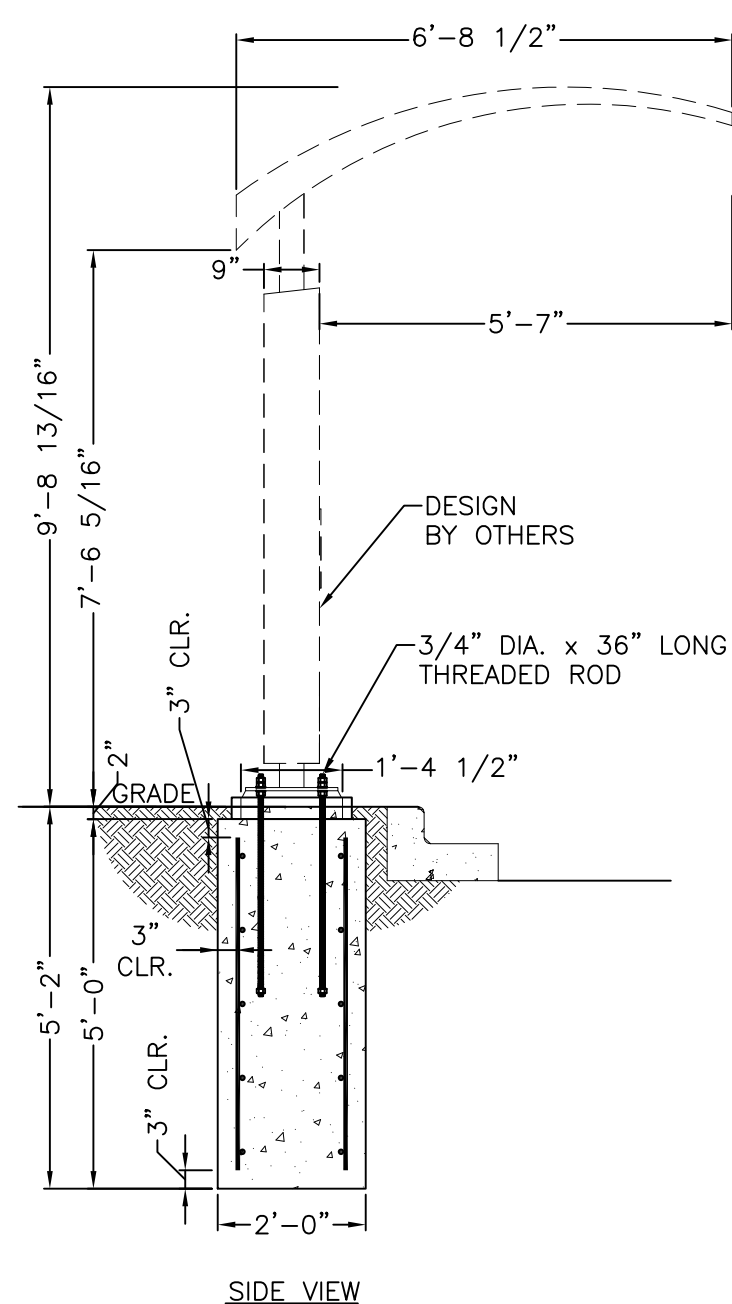
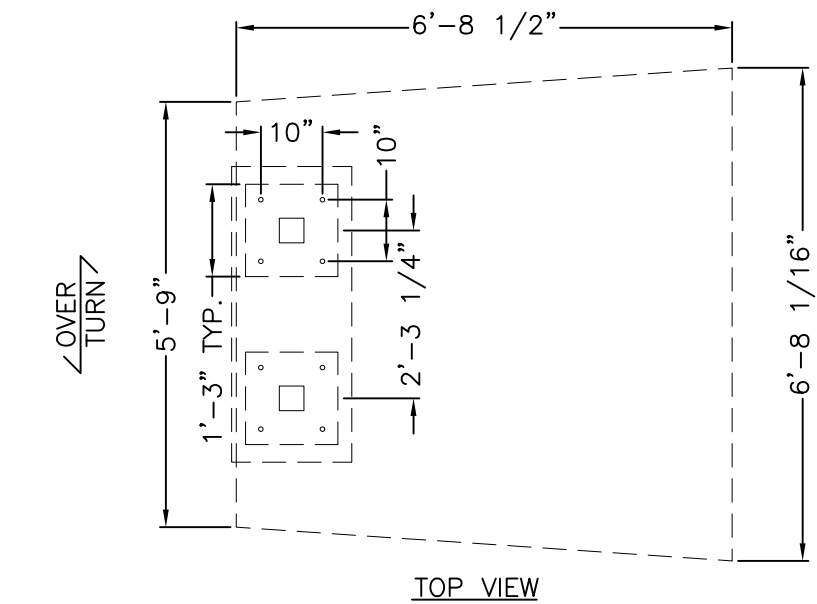
SEAL & SIGNATURE:





LINK Engineering, L.L.C.
135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com
Florida State Certificate of Authorization No.: 27148

Project Number:		Drawing Number:	
22-0282R3		B186706R2	
SHT.	OF	DATE:	BY:
2	2	8/12/22	GHK



FOUNDATION & PEDESTAL
SHALL BE PLACED MONOLITHICALLY

General Notes:

- Design is based on a 120 mph, 3 second gust wind design per Florida Building Code, 7th Edition (2020). Category II, Exposure C.
- Vertical Slab foundation is based on a presumptive safe lateral soil bearing pressure minimum of 150 psf per foot of depth. Isolated lateral bearing footings subject to short-term lateral loads and not adversely affected by a 1/2" motion at grade are permitted to be designed using twice the tabulated value of the corresponding soil class.
- A soil report was not provided. Foundation analysis assumes Soil Classification 4. Allowable bearing pressure should be verified prior to placement of concrete. In the event that the stated requirements are not met and conditions appear deleterious, cease and secure excavation and immediately contact SPRINGFIELD SIGN & NEON.
- Foundation shall not be placed at the top of, or on the side of a slope exceeding 3:1, or adjacent to a fill slope unless re-evaluated by a competent Professional Engineer. Do not place foundation in fill.
- Concrete shall be mixed to attain a minimum 28 day compressive strength of 3000 psi.
- Steel reinforcing bars shall conform to ASTM A615, Grade 60 with deformations in accordance with ASTM A305. Welding of reinforcing bars is prohibited.
- All voids between column base plate and foundation surface shall be completely filled with high-strength, non-shrink grout.
- Anchor bolts shall meet ASTM F1554 Grade 36. Exposed surfaces shall be galvanized or coated to prevent corrosion.
- All support members shall be free from defects. Steel tube shall meet ASTM A500 Grade B with a minimum yield strength of 46000 psi. Steel Pipe up to 24 inch O.D. shall meet ASTM A53 Grade B with a minimum yield strength of 35000 psi. Steel angle, channel and plate shall meet ASTM A36.
- Steel welds shall be made with E70xx low hydrogen electrodes by persons qualified in accordance with AWS standards within the past two years.
- All structural bolts shall conform to ASTM A325, and be zinc coated unless noted otherwise. When used with structural bolts, heavy hex nuts shall conform to ASTM A563, and washers shall conform to ASTM F436. Pretension all high strength bolts using the Turn-of-Nut method unless noted otherwise.
- The scope of this engineer does not include onsite observations.
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THE SCOPE OF THIS ENGINEER IS LIMITED TO THE DESIGN OF THE ANCHORS, &
FOUNDATION. ALL OTHER ASPECTS OF THIS PROJECT ARE EXPLICITLY EXCLUDED.

ELECTRICAL REQUIREMENTS:

POWER SUPPLY: 40 WATT POWER SUPPLY
TOTAL LOAD: .43A @ 120VAC
CIRCUITS: (1) 20 AMP REQUIRED

ELECTRICAL NOTES:

- ALL ELECTRICAL COMPONENTS ARE UL LISTED AND APPROVED
- SIGN GROUNDED ACCORDING TO NEC 600.7
- SIGNS MANUFACTURED AND LISTED NEC 600.3 AND MARKED PER NEC 600.4
- ALL BRANCH CIRCUITS PER NEC 600.5(B).1 OR (B).2
- ALL SIGNS SHALL BE CONTROLLED BY PHOTOCELL OR TIME CLOCK
- ONE VISIBLE 20 AMP DISCONNECT PER SIGN PER CIRCUIT PER NEC 600.6(A).1
- ALL CLASS 2 RATED LED MODULES AND LED POWER SUPPLIES WILL BE IN COMPLIANCE WITH NATIONALLY RECOGNIZED TEST LABORATORY

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:

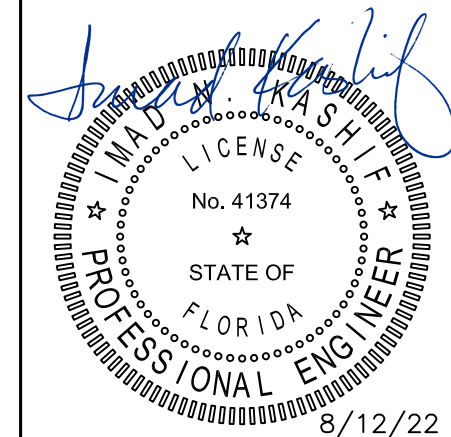


4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

REV	DATE	DESCRIPTION
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2	-/-/-	-----
3	-/-/-	-----

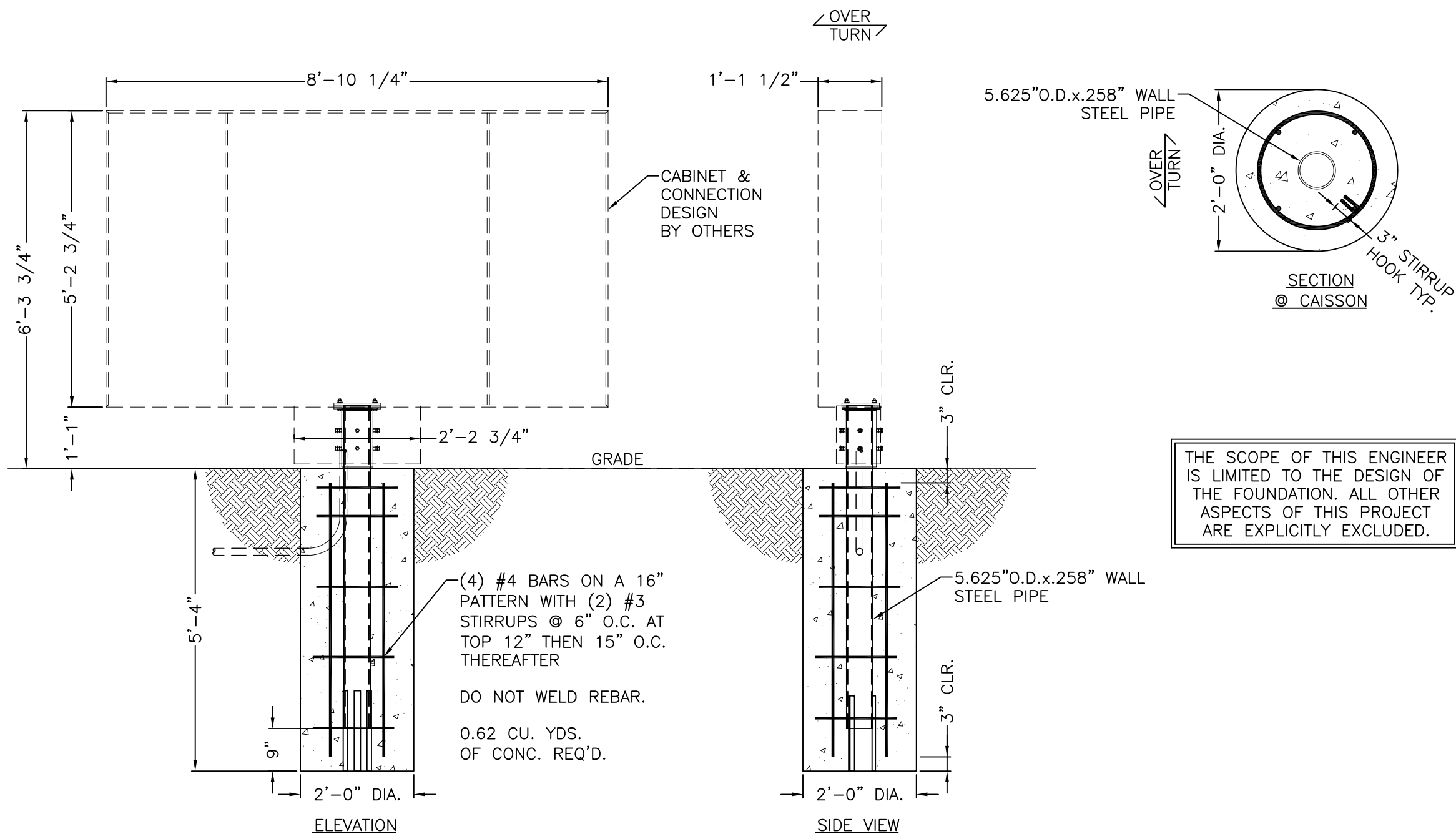
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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374
SEAL & SIGNATURE:



LINK Engineering, L.L.C.
135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com
Florida State Certificate of Authorization No.: 27148

Project Number:		Drawing Number:	
22-0282R3		B186707R2	
SHT.	OF	DATE:	BY:
1	2	8/12/22	GHK



THE SCOPE OF THIS ENGINEER IS LIMITED TO THE DESIGN OF THE FOUNDATION. ALL OTHER ASPECTS OF THIS PROJECT ARE EXPLICITLY EXCLUDED.

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

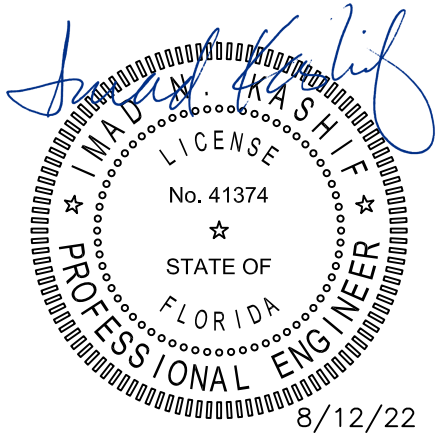
CLIENT:

SPRINGFIELD SIGN
4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

REV	DATE	DESCRIPTION
1	-/-/-	-----
2	-/-/-	-----
3	-/-/-	-----

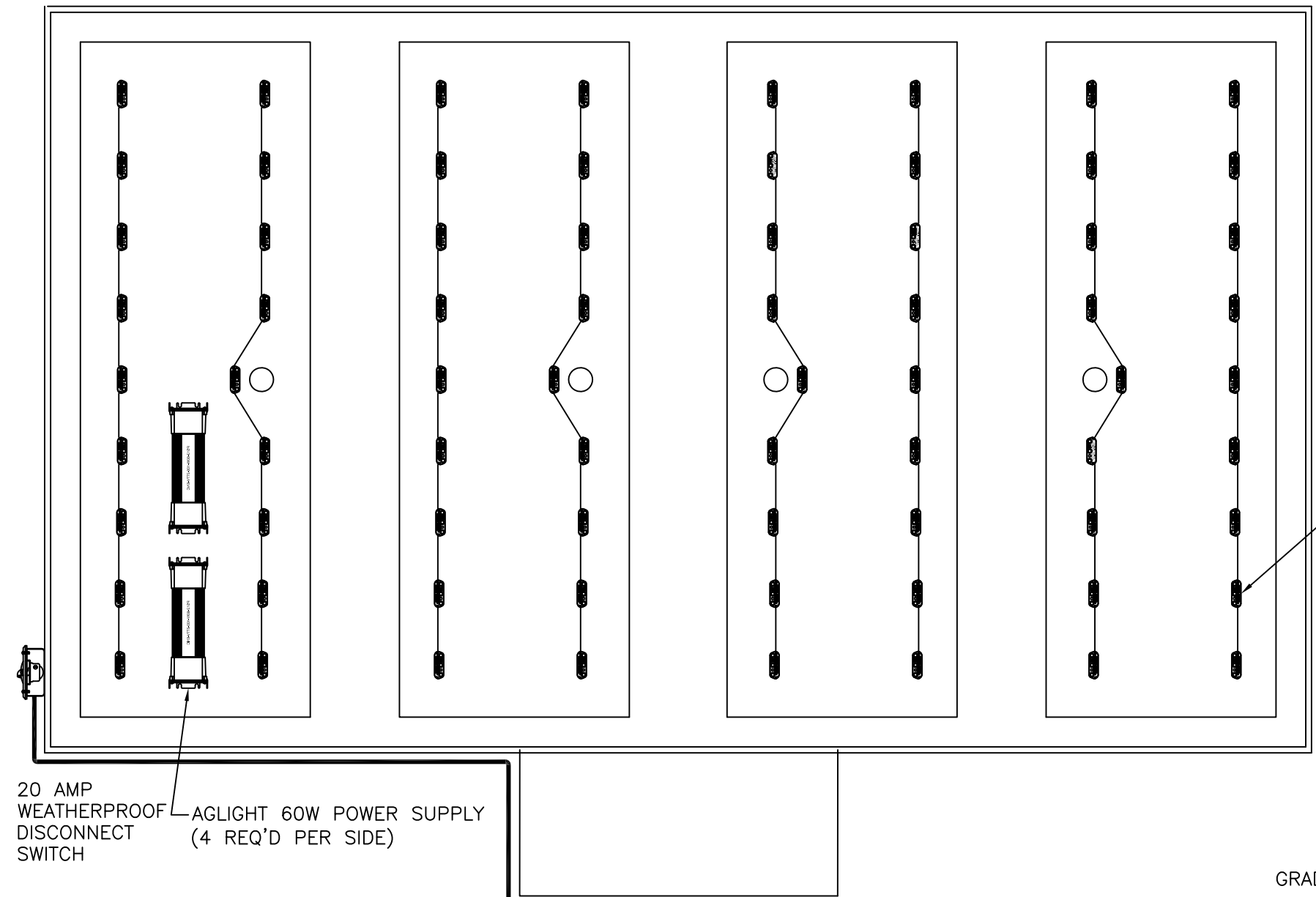
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Florida State Certificate of Authorization No.: 27148

Project Number: 22-0282R3		Drawing Number: B186708R2	
SHT. 1	OF 3	DATE: 8/12/22	BY: GHK



20 AMP
WEATHERPROOF
DISCONNECT
SWITCH

AGLIGHT 60W POWER SUPPLY
(4 REQ'D PER SIDE)

TO PRIMARY

LED LAYOUT - ELEVATION

ELECTRICAL REQUIREMENTS:
LEDs PER SIDE: (72) AGILIGHT SIGNRAYZ APEX G2
POWER SUPPLY PER SIDE: (2) 12V/60W AGILIGHT
#PS12-60W-100-277V @ 0.8A
TOTAL LOAD: 1.6A @ 120VAC
CIRCUITS: (1) 20 AMP REQUIRED

AGILIGHT SIGNRAYZ APEX
G2 LED (72 PER SIDE)

PHOTOCELL, OR ASTRONOMICAL TIMER
LIGHT CONTROL MANAGEMENT SYSTEM IS
REQUIRED

- ELECTRICAL NOTES:**
1. ALL ELECTRICAL COMPONENTS ARE UL LISTED AND APPROVED
 2. SIGN GROUNDED ACCORDING TO NEC 600.7
 3. SIGNS MANUFACTURED AND LISTED NEC 600.3 AND MARKED PER NEC 600.4
 4. ALL BRANCH CIRCUITS PER NEC 600.5(B).1 OR (B).2
 5. ALL SIGNS SHALL BE CONTROLLED BY PHOTOCELL OR TIME CLOCK
 6. ONE VISIBLE 20 AMP DISCONNECT PER SIGN PER CIRCUIT PER NEC 600.6(A).1
 7. ALL CLASS 2 RATED LED MODULES AND LED POWER SUPPLIES WILL BE IN COMPLIANCE WITH NATIONALLY RECOGNIZED TEST LABORATORY

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:

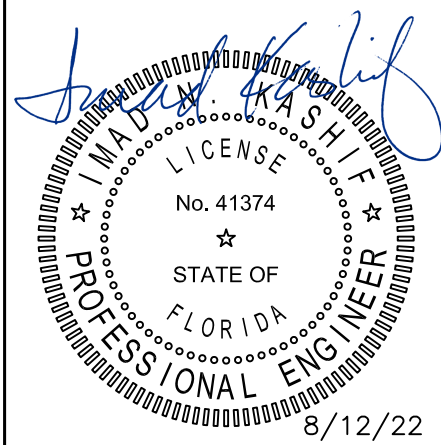

4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

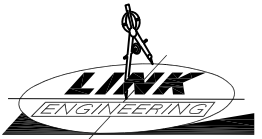
REV	DATE	DESCRIPTION
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2	-/-/-	-----
3	-/-/-	-----

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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374

SEAL & SIGNATURE:




LINK Engineering, L.L.C.
135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com
Florida State Certificate of Authorization No.: 27148

Project Number: 22-0282R3		Drawing Number: B186708R2	
SHT. 2	OF 3	DATE: 8/12/22	BY: GHK

	PROJECT #	22-0282R		OWNER:	CULVER'S				
	July 14, 2022				255 N.W. COMMONS LOOP				
	DRAWING #	B186708, B186709			LAKE CITY, FL 32055				
	WIND LOAD	20.610	PSF						
	WIND SPEED	120	MPH	CLIENT:	SPRINGFIELD SIGN & NEON				
	# COLUMNS	1	FLORIDA BUILDING CODE		2531 N. PATTERSON				
	DESIGNER	SR	7TH EDITION (2020)		SPRINGFIELD, MO				
			SHAPE	CENTROID		TOTAL			
	ITEM	HEIGHT	WIDTH	FACTOR	HEIGHT	AREA	FORCE	MOMENT	
	=====	=====	=====	=====	=====	=====	=====	=====	
	MENUBOARD	5.229	8.854	1.000	2.615	46.300	0.954	2.495	
	SKIRT	1.083	2.229	1.000	0.542	2.415	1.004	3.556	
	OAH	6.313							
	DL MOMENT	0.069							
	COLUMN CALCULATIONS			(CODES P=PIPE; O=OTHER; T=TUBE)					
					DESIGN		AVAILABLE		
	COLUMN	COLUMN	COLUMN	lx	MODULUS	REQUIRED	FLEXURAL		
	WIDTH	DEPTH	WALL	COLUMN	COLUMN	MOMENT	STRENGTH	UNITY	
	=====	=====	=====	=====	=====	=====	=====	=====	=====
P	SKIRT		5.563	0.241	14.3	6.83	3.625	11.93	0.304
	CAISSON								
	MOMENT					3.625	FT-KIP		
	FORCE					1.004	KIP		
	REFERENCE IBC 1807.3.2 & TABLE 1806.2								
	ASSUME SOIL CLASS #4 SW, SP, SM, SC, GM & GC								
	LATERAL BEARING PRESSURE - PSF/FT OF DEPTH					150.0	PSF/FT		
	S1					533.3			
	DEPTH					5.333	FT.		
	DIAMETER					2.000	FT.		
						3.611	FT.		
						2.203	FT.		
	CALCULATED DEPTH					4.245	FT.		
	MINIMUM THICKNESS WITHOUT REINFORCEMENT					17.882	IN.		
	ACTUAL DIAMETER					24.000	IN.		
	CONCRETE					0.621	CU. YD.		

General Notes:

1. Design is based on a 120 mph 3 second gust wind design per Florida Building Code, 7th Edition (2020). Category II, Exposure C.
2. Caisson foundation is based on a presumptive safe lateral soil bearing pressure minimum of 150 psf per foot of depth. Isolated lateral bearing footings subject to short-term lateral loads and not adversely affected by a 1/2" motion at grade are permitted to be designed using twice the tabulated value of the corresponding soil class.
3. A soil report was not provided. Foundation analysis assumes Soil Classification 4. Allowable bearing pressure should be verified prior to placement of concrete. In the event that the stated requirements are not met and conditions appear deleterious, cease and secure excavation and immediately contact SPRINGFIELD SIGN & NEON.
4. Foundation shall not be placed at the top of, or on the side of a slope exceeding 3:1, or adjacent to a fill slope unless re-evaluated by a competent Professional Engineer. Do not place foundation in fill.
5. Concrete shall be mixed to attain a minimum 28 day compressive strength of 3000 psi.
6. Steel reinforcing bars shall conform to ASTM A615, Grade 60 with deformations in accordance with ASTM A305. Welding of reinforcing bars is prohibited.
7. All support members shall be free from defects. Steel Pipe up to 24 inch O.D. shall meet ASTM A53 Grade B with a minimum yield strength of 35000 psi. Steel angle, channel and plate shall meet ASTM A36.
8. Steel welds shall be made with E70xx low hydrogen electrodes by persons qualified in accordance with AWS standards within the past two years.
9. All structural bolts shall conform to ASTM A325, and be zinc coated unless noted otherwise. When used with structural bolts, heavy hex nuts shall conform to ASTM A563, and washers shall conform to ASTM F436. Pretension all high strength bolts using the Turn-of-Nut method unless noted otherwise.
10. The scope of this engineer does not include onsite observations.
11. LINK Engineering will not be responsible for the safety on this job site before, during or after installation of this structure. It is the responsibility of the owners, contractors and installers to ensure that the installation and erection of this structure is performed using methods that are in full compliance with OSHA regulations.
12. Any deviation from this design or from any part of this drawing, including the General Notes, without prior written consent from LINK Engineering voids this drawing in its entirety.
13. The structure designed on this drawing is intended to be installed at the address shown and should not be used at any other location.

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:



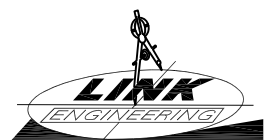
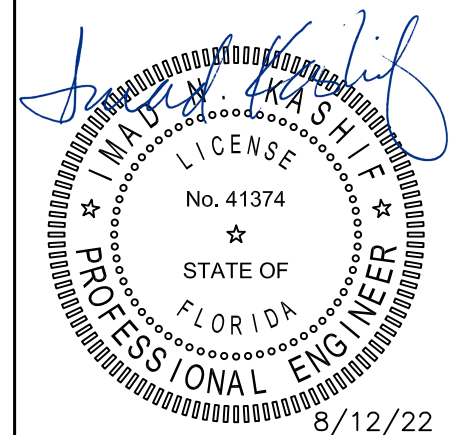
**4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887**

REV	DATE	DESCRIPTION
①	-/-/-	-----
②	-/-/-	-----
③	-/-/-	-----

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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374

SEAL & SIGNATURE:



LINK Engineering, L.L.C.

135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com

Florida State Certificate of Authorization No.: 27148

Project Number:

22-0282R3

Drawing Number:

B186708R2

SHT.

3

OF

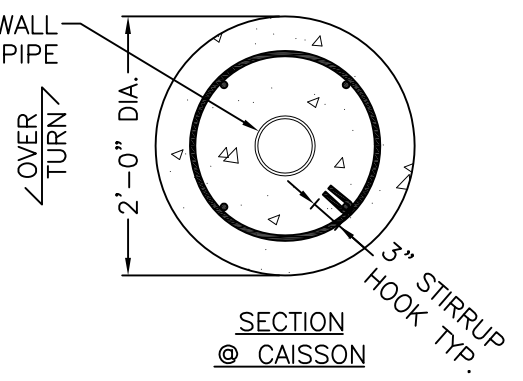
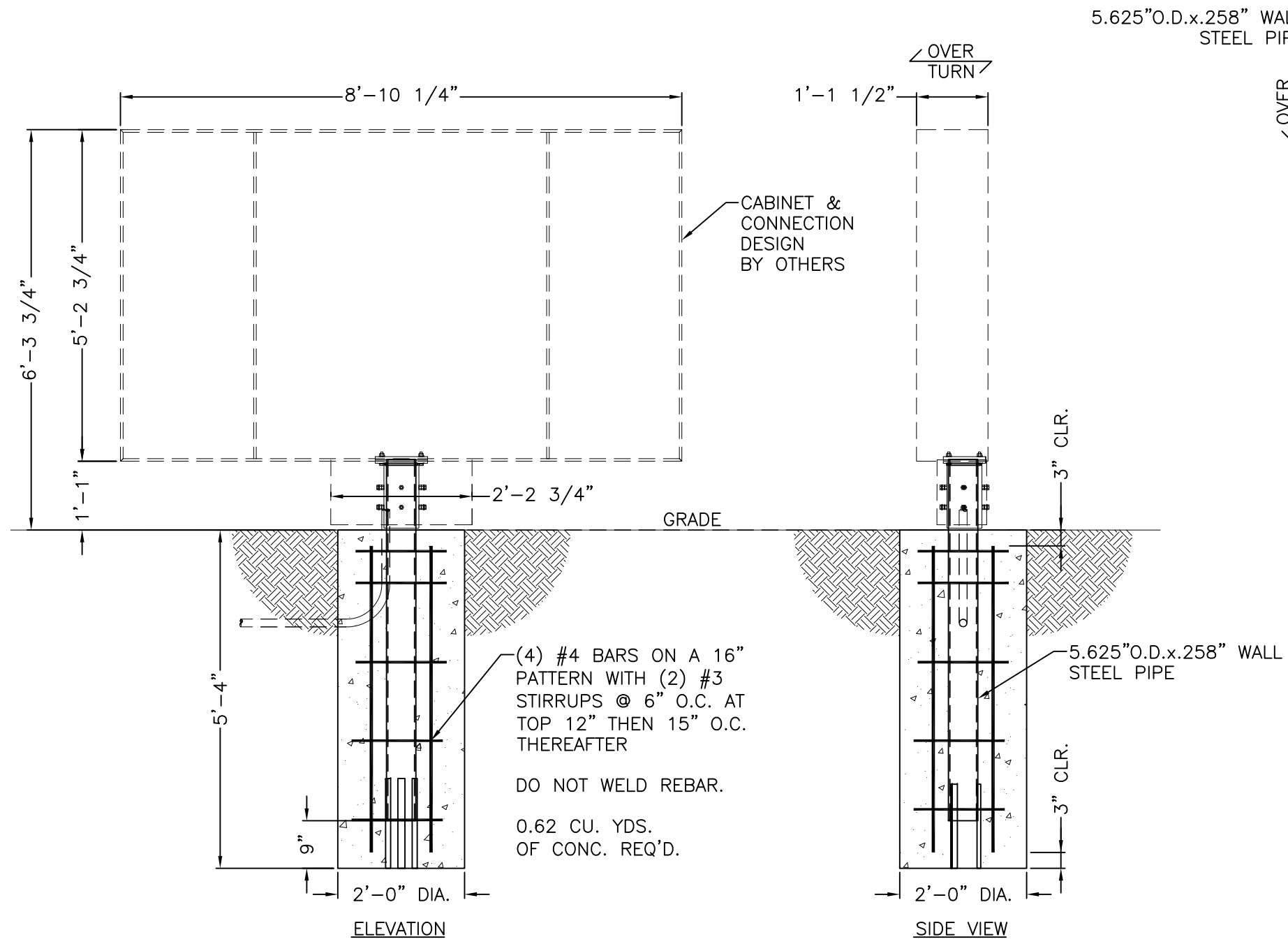
3

DATE:

8/12/22

BY:

GHK



THE SCOPE OF THIS ENGINEER IS LIMITED TO THE DESIGN OF THE FOUNDATION. ALL OTHER ASPECTS OF THIS PROJECT ARE EXPLICITLY EXCLUDED.

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

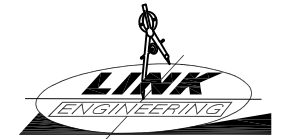
CLIENT:


4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

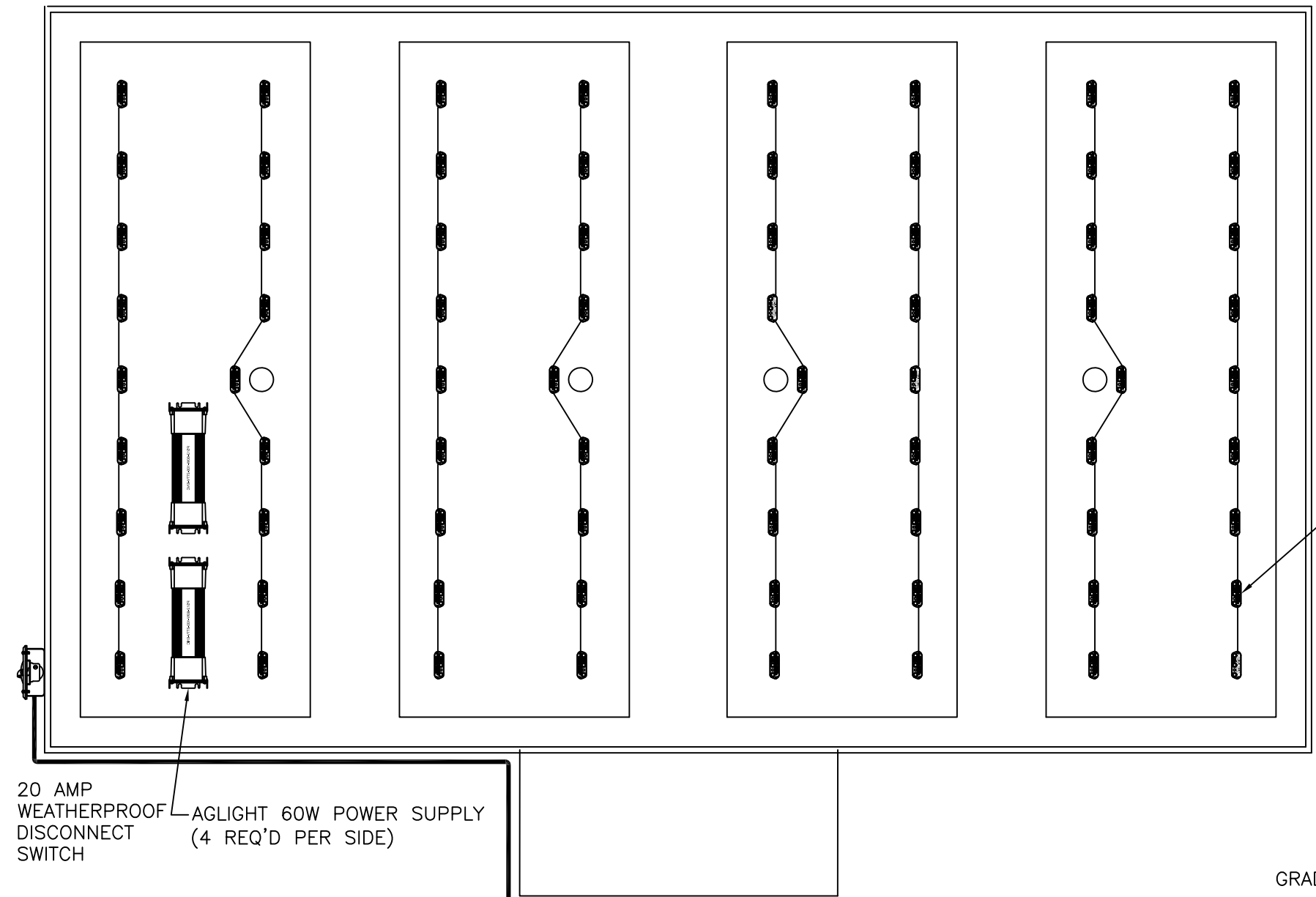
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FLORIDA STATE LICENSE NO.: 41374
SEAL & SIGNATURE:




LINK Engineering, L.L.C.
135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com
Florida State Certificate of Authorization No.: 27148

Project Number: 22-0282R3		Drawing Number: B186709R2	
SHT. 1	OF 3	DATE: 8/12/22	BY: GHK



20 AMP WEATHERPROOF DISCONNECT SWITCH

LED LAYOUT – ELEVATION

ELECTRICAL REQUIREMENTS:
LEDs PER SIDE: (72) AGILIGHT SIGNRAYZ APEX G2
POWER SUPPLY PER SIDE: (2) 12V/60W AGILIGHT
#PS12-60W-100-277V @ 0.8A
TOTAL LOAD: 1.6A @ 120VAC
CIRCUITS: (1) 20 AMP REQUIRED

PHOTOCELL, OR ASTRONOMICAL TIMER
LIGHT CONTROL MANAGEMENT SYSTEM IS
REQUIRED

- ELECTRICAL NOTES:**
1. ALL ELECTRICAL COMPONENTS ARE UL LISTED AND APPROVED
 2. SIGN GROUNDED ACCORDING TO NEC 600.7
 3. SIGNS MANUFACTURED AND LISTED NEC 600.3 AND MARKED PER NEC 600.4
 4. ALL BRANCH CIRCUITS PER NEC 600.5(B).1 OR (B).2
 5. ALL SIGNS SHALL BE CONTROLLED BY PHOTOCELL OR TIME CLOCK
 6. ONE VISIBLE 20 AMP DISCONNECT PER SIGN PER CIRCUIT PER NEC 600.6(A).1
 7. ALL CLASS 2 RATED LED MODULES AND LED POWER SUPPLIES WILL BE IN COMPLIANCE WITH NATIONALLY RECOGNIZED TEST LABORATORY

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:

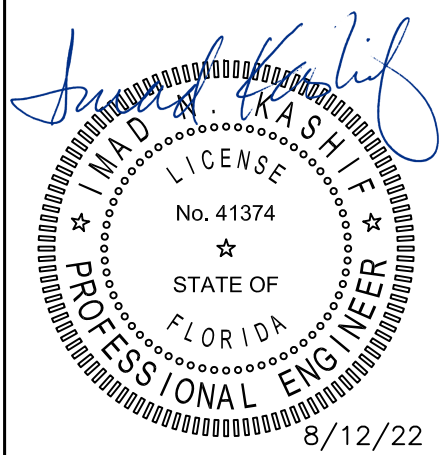

4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

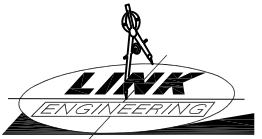
REV	DATE	DESCRIPTION
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135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com
Florida State Certificate of Authorization No.: 27148

Project Number: 22-0282R3		Drawing Number: B186709R2	
SHT. 2	OF 3	DATE: 8/12/22	BY: GHK

[illegible]

General Notes:

1. Design is based on a 120 mph, 3 second gust wind design per Florida Building Code, 7th Edition (2020). Category II, Exposure C.
2. Caisson foundation is based on a presumptive safe lateral soil bearing pressure minimum of 150 psf per foot of depth. Isolated lateral bearing footings subject to short-term lateral loads and not adversely affected by a 1/2" motion at grade are permitted to be designed using twice the tabulated value of the corresponding soil class.
3. A soil report was not provided. Foundation analysis assumes Soil Classification 4. Allowable bearing pressure should be verified prior to placement of concrete. In the event that the stated requirements are not met and conditions appear deleterious, cease and secure excavation and immediately contact SPRINGFIELD SIGN & NEON.
4. Foundation shall not be placed at the top of, or on the side of a slope exceeding 3:1, or adjacent to a fill slope unless re-evaluated by a competent Professional Engineer. Do not place foundation in fill.
5. Concrete shall be mixed to attain a minimum 28 day compressive strength of 3000 psi.
6. Steel reinforcing bars shall conform to ASTM A615, Grade 60 with deformations in accordance with ASTM A305. Welding of reinforcing bars is prohibited.
7. All support members shall be free from defects. Steel Pipe up to 24 inch O.D. shall meet ASTM A53 Grade B with a minimum yield strength of 35000 psi. Steel angle, channel and plate shall meet ASTM A36.
8. Steel welds shall be made with E70xx low hydrogen electrodes by persons qualified in accordance with AWS standards within the past two years.
9. All structural bolts shall conform to ASTM A325, and be zinc coated unless noted otherwise. When used with structural bolts, heavy hex nuts shall conform to ASTM A563, and washers shall conform to ASTM F436. Pretension all high strength bolts using the Turn-of-Nut method unless noted otherwise.
10. The scope of this engineer does not include onsite observations.
11. LINK Engineering will not be responsible for the safety on this job site before, during or after installation of this structure. It is the responsibility of the owners, contractors and installers to ensure that the installation and erection of this structure is performed using methods that are in full compliance with OSHA regulations.
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13. The structure designed on this drawing is intended to be installed at the address shown and should not be used at any other location.

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:



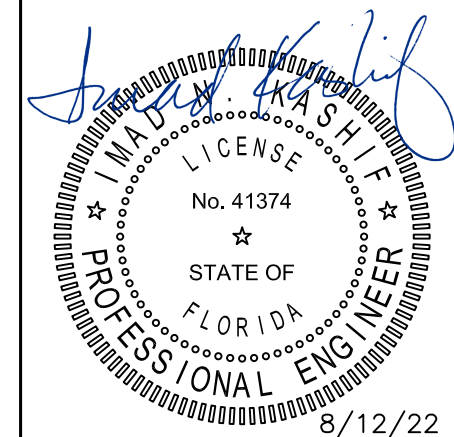
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417.862.2454 - FAX: 417.862.1887**

REV	DATE	DESCRIPTION
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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374

SEAL & SIGNATURE:

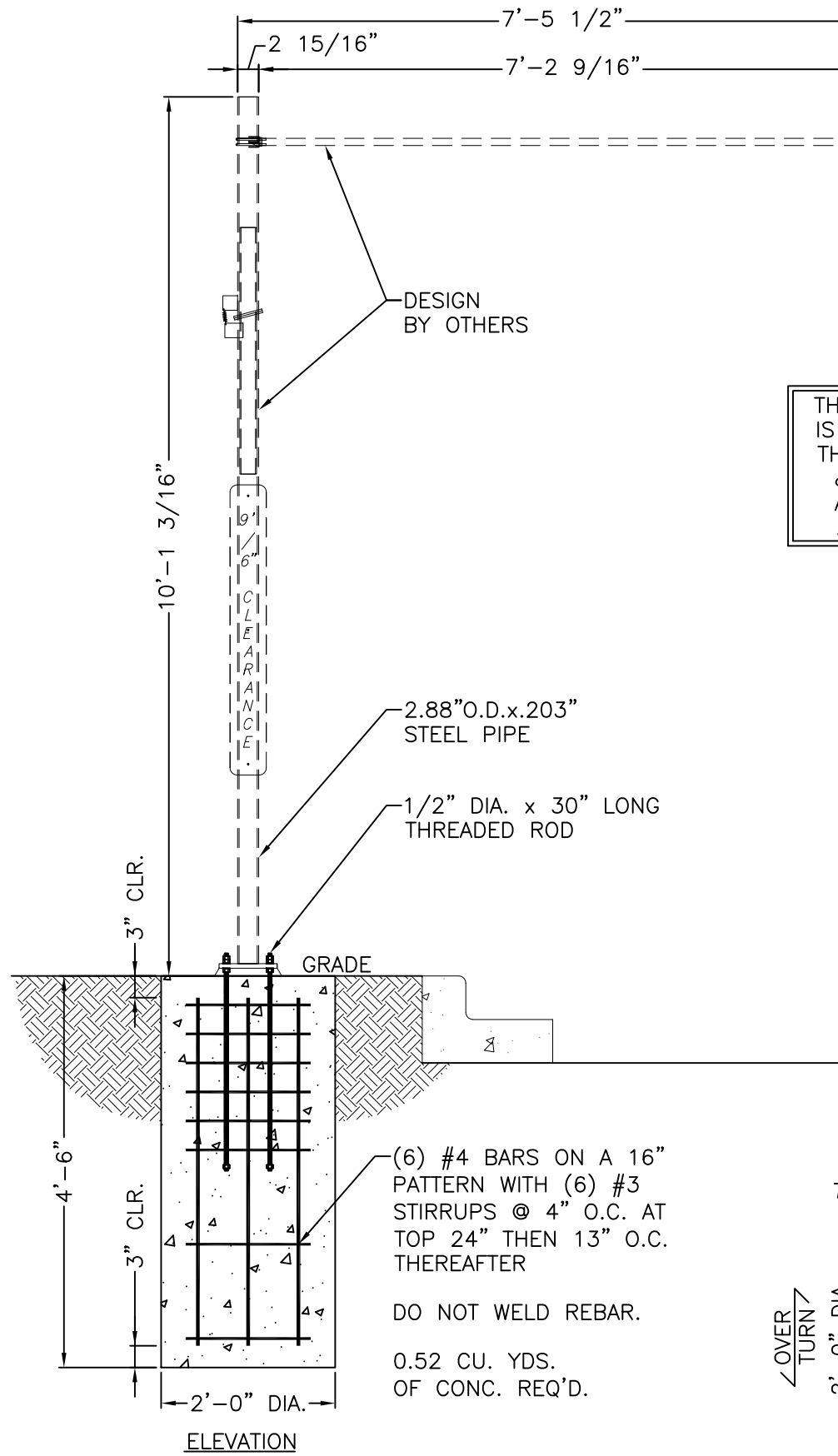


LINK Engineering, L.L.C.

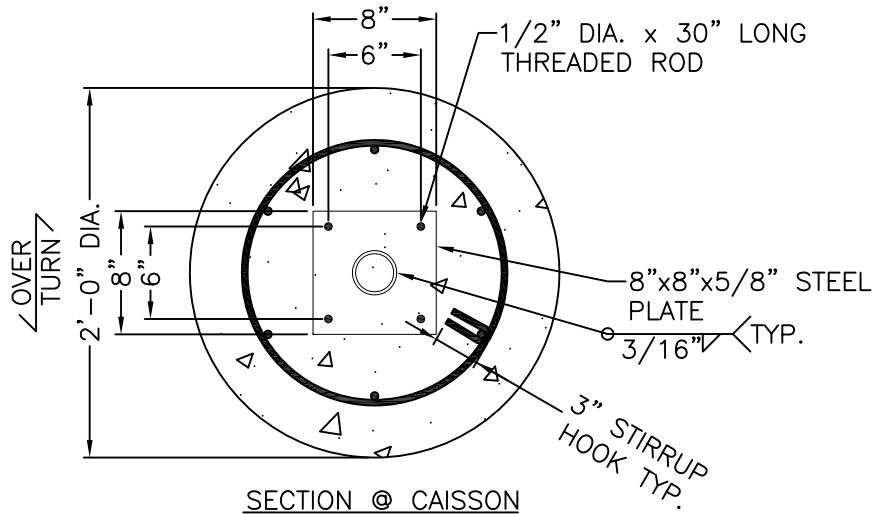
135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com

Florida State Certificate of Authorization No.: 27148

Project Number: 22-0282R3		Drawing Number: B186709R2	
SHT. 3	OF 3	DATE: 8/12/22	BY: GHK



THE SCOPE OF THIS ENGINEER IS LIMITED TO THE DESIGN OF THE MAIN SUPPORT, ANCHORS & FOUNDATION. ALL OTHER ASPECTS OF THIS PROJECT ARE EXPLICITLY EXCLUDED.



General Notes:

- Design is based on a 120 mph, 3 second gust wind design per Florida Building Code, 7th Edition (2020). Category II, Exposure C.
- Caisson foundation is based on a presumptive safe lateral soil bearing pressure minimum of 150 psf per foot of depth. Isolated lateral bearing footings subject to short-term lateral loads and not adversely affected by a 1/2" motion at grade are permitted to be designed using twice the tabulated value of the corresponding soil class.
- A soil report was not provided. Foundation analysis assumes Soil Classification 4. Allowable bearing pressure should be verified prior to placement of concrete. In the event that the stated requirements are not met and conditions appear deleterious, cease and secure excavation and immediately contact SPRINGFIELD SIGN & NEON.
- Foundation shall not be placed at the top of, or on the side of a slope exceeding 3:1, or adjacent to a fill slope unless re-evaluated by a competent Professional Engineer. Do not place foundation in fill.
- Concrete shall be mixed to attain a minimum 28 day compressive strength of 4500 psi per sulfate resistance.
- Steel reinforcing bars shall conform to ASTM A615, Grade 60 with deformations in accordance with ASTM A305. Welding of reinforcing bars is prohibited.
- All voids between column baseplate and foundation surface shall be completely filled with high-strength, non-shrink grout.
- Anchor bolts shall meet ASTM F1554 Grade 36. Exposed surfaces shall be galvanized or coated to prevent corrosion.
- All support members shall be free from defects. Steel tube shall meet ASTM A500 Grade B with a minimum yield strength of 46000 psi. Steel Pipe up to 24 inch O.D. shall meet ASTM A53 Grade B with a minimum yield strength of 35000 psi. Steel angle, channel and plate shall meet ASTM A36.
- Steel welds shall be made with E70xx low hydrogen electrodes by persons qualified in accordance with AWS standards within the past two years.
- All structural bolts shall conform to ASTM A325, and be zinc coated unless noted otherwise. When used with structural bolts, heavy hex nuts shall conform to ASTM A563, and washers shall conform to ASTM F436. Pretension all high strength bolts using the Turn-of-Nut method unless noted otherwise.
- The scope of this engineer does not include onsite observations.
- LINK Engineering will not be responsible for the safety on this job site before, during or after installation of this structure. It is the responsibility of the owners, contractors and installers to ensure that the installation and erection of this structure is performed using methods that are in full compliance with OSHA regulations.
- Any deviation from this design or from any part of this drawing, including the General Notes, without prior written consent from LINK Engineering voids this drawing in its entirety.
- The structure designed on this drawing is intended to be installed at the address shown and should not be used at any other location.

PROJECT #	22-0282R3	OWNER:	CULVER'S
August 12, 2022		394 N.W. COMMONS LOOP	
DRAWING #	B186710R, B186711R	LAKE CITY, FL 32055	
WIND LOAD	15.97 PSF	CLIENT:	SPRINGFIELD SIGN & NEON
WIND SPEED	120 MPH	2531 N. PATTERSON	
# COLUMNS	1	SPRINGFIELD, MO	
DESIGNER	GHK 7TH EDITION (2020)		

ITEM	HEIGHT	WIDTH	SHAPE FACTOR	CENTROID HEIGHT	AREA	TOTAL FORCE	MOMENT
COLUMN	0.477	0.240	1.000	0.238	0.114	0.002	0.000
CLEARANCE BAR	0.083	7.458	1.000	0.042	0.622	0.012	0.001
COLUMN	9.542	0.417	1.000	4.771	3.976	0.075	0.416
CAH	10.102						
DL MOMENT =	0.026			DL+WL	0.442		

ITEM	COLUMN WIDTH	COLUMN DEPTH	COLUMN WALL	DESIGN MODULUS	REQUIRED MOMENT	AVAILABLE FLEXURAL STRENGTH	UNITY
COLUMN	2.880	0.199	1.5	1.37	0.000	2.39	0.000
CLEARANCE BAR	2.880	0.199	1.5	1.37	0.027	2.39	0.011
COLUMN	2.880	0.199	1.5	1.37	0.442	2.39	0.185

ITEM	MOMENT	BOLT SPACING	BOLTS/ PLATE	TENSION/ BOLT	BOLT DIAM.	ALLOW. STRESS	ALLOWABLE TENSION
BASE PL.	0.442	6.000	4.000	0.442	0.500	19.100	3.750

ITEM	TENSION BOLT	MOMENT ARM	MOMENT PLATE	PLATE WIDTH	PLATE DEPTH	PLATE THICK.	MINIMUM THICK.
BASE PL.	0.442	2.813	1.244	5.625	8.000	0.625	0.222

ANCHOR BOLT PROJECTION	3.125	ANCHOR EMBEDMENT	1.760	ANCHOR BOLT MIN. LENGTH	5.000
------------------------	-------	------------------	-------	-------------------------	-------

CAISSON MOMENT FORCE			0.442	FT-KIP
			0.075	KIP

REFERENCE IBC 1907.3.2 & TABLE 1806.2				
ASSUME SOIL CLASS #4 SW, SP, SM, SC, GM & GC				
LATERAL BEARING PRESSURE - PSF/FT OF DEPTH			150.0	PSF/FT
S1			450.0	
DEPTH			4.500	FT.
DIAMETER			2.000	FT.
			5.877	FT.
			0.196	FT.
CALCULATED DEPTH			1.222	FT.
MINIMUM THICKNESS WITHOUT REINFORCEMENT			9.877	IN.
ACTUAL DIAMETER			24.000	IN.
CONCRETE			0.524	CU. YD.

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:



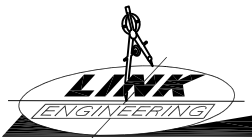
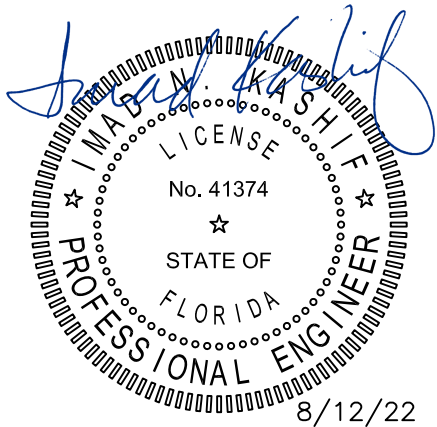
4825 EAST KEARNEY STREET
SPRINGFIELD, MO 65803
417.862.2454 - FAX: 417.862.1887

REV	DATE	DESCRIPTION
1	-/-/-	-----
2	-/-/-	-----
3	-/-/-	-----

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IMAD N. KASHIF, P.E.
FLORIDA STATE LICENSE NO.: 41374

SEAL & SIGNATURE:

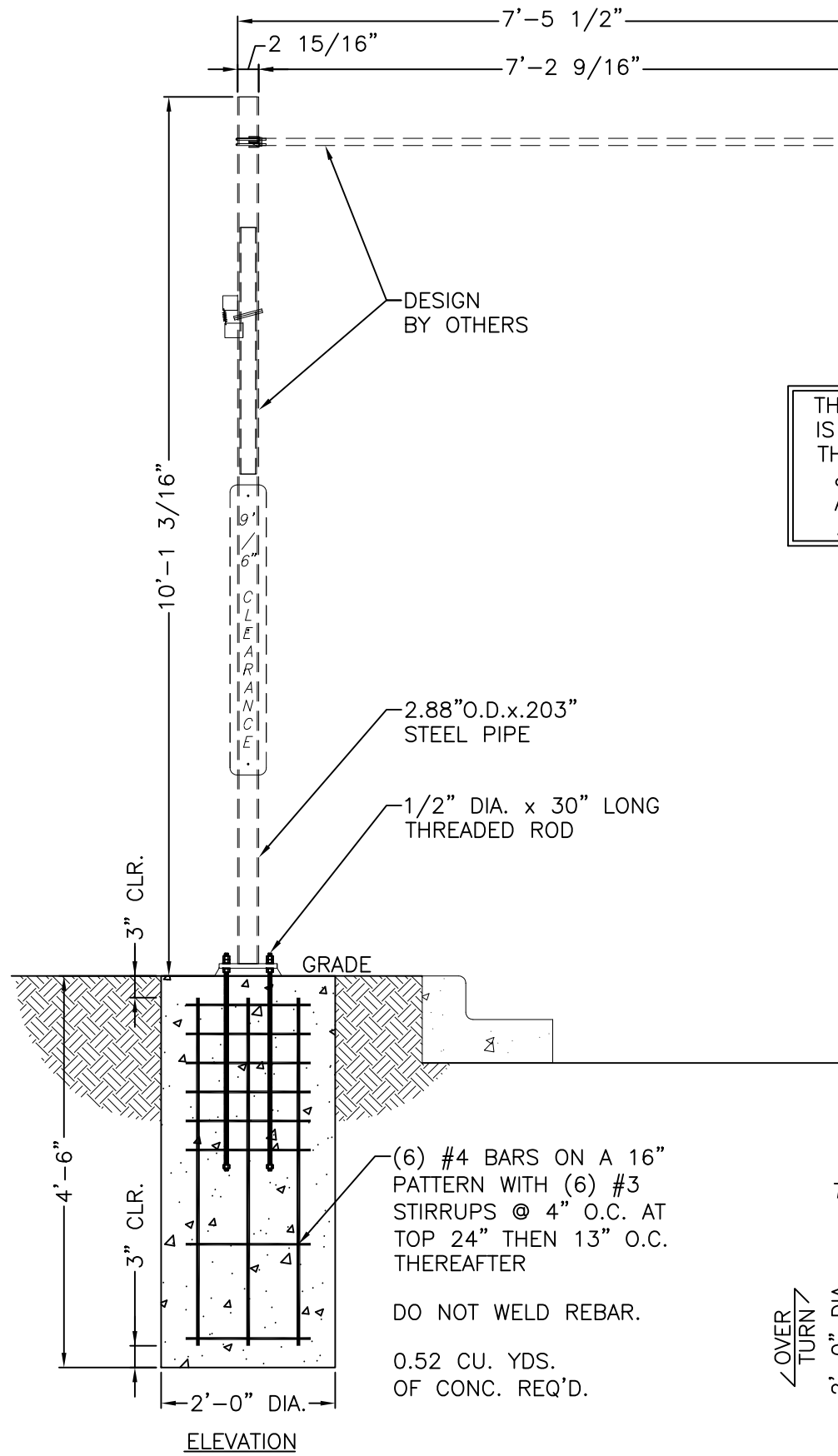


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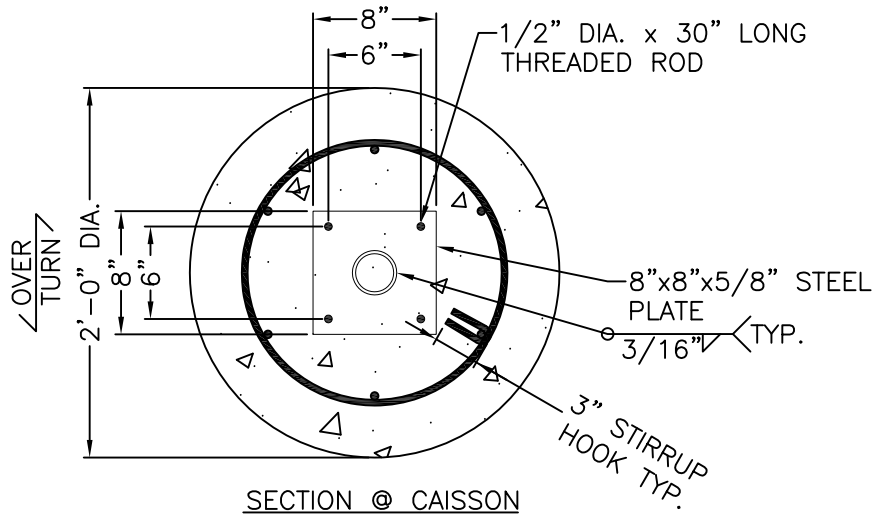
135 South David Lane • Knoxville, Tennessee 37922
Phone: (865) 539-4001 • www.linkengr.com

Florida State Certificate of Authorization No.: 27148

Project Number: 22-0282R3		Drawing Number: B186710R	
SHT. 1	OF 1	DATE: 8/12/22	BY: GHK



THE SCOPE OF THIS ENGINEER IS LIMITED TO THE DESIGN OF THE MAIN SUPPORT, ANCHORS & FOUNDATION. ALL OTHER ASPECTS OF THIS PROJECT ARE EXPLICITLY EXCLUDED.



General Notes:

- Design is based on a 120 mph, 3 second gust wind design per Florida Building Code, 7th Edition (2020). Category II, Exposure C.
- Caisson foundation is based on a presumptive safe lateral soil bearing pressure minimum of 150 psf per foot of depth. Isolated lateral bearing footings subject to short-term lateral loads and not adversely affected by a 1/2" motion at grade are permitted to be designed using twice the tabulated value of the corresponding soil class.
- A soil report was not provided. Foundation analysis assumes Soil Classification 4. Allowable bearing pressure should be verified prior to placement of concrete. In the event that the stated requirements are not met and conditions appear deleterious, cease and secure excavation and immediately contact SPRINGFIELD SIGN & NEON.
- Foundation shall not be placed at the top of, or on the side of a slope exceeding 3:1, or adjacent to a fill slope unless re-evaluated by a competent Professional Engineer. Do not place foundation in fill.
- Concrete shall be mixed to attain a minimum 28 day compressive strength of 4500 psi per sulfate resistance.
- Steel reinforcing bars shall conform to ASTM A615, Grade 60 with deformations in accordance with ASTM A305. Welding of reinforcing bars is prohibited.
- All voids between column baseplate and foundation surface shall be completely filled with high-strength, non-shrink grout.
- Anchor bolts shall meet ASTM F1554 Grade 36. Exposed surfaces shall be galvanized or coated to prevent corrosion.
- All support members shall be free from defects. Steel tube shall meet ASTM A500 Grade B with a minimum yield strength of 46000 psi. Steel Pipe up to 24 inch O.D. shall meet ASTM A53 Grade B with a minimum yield strength of 35000 psi. Steel angle, channel and plate shall meet ASTM A36.
- Steel welds shall be made with E70xx low hydrogen electrodes by persons qualified in accordance with AWS standards within the past two years.
- All structural bolts shall conform to ASTM A325, and be zinc coated unless noted otherwise. When used with structural bolts, heavy hex nuts shall conform to ASTM A563, and washers shall conform to ASTM F436. Pretension all high strength bolts using the Turn-of-Nut method unless noted otherwise.
- The scope of this engineer does not include onsite observations.
- LINK Engineering will not be responsible for the safety on this job site before, during or after installation of this structure. It is the responsibility of the owners, contractors and installers to ensure that the installation and erection of this structure is performed using methods that are in full compliance with OSHA regulations.
- Any deviation from this design or from any part of this drawing, including the General Notes, without prior written consent from LINK Engineering voids this drawing in its entirety.
- The structure designed on this drawing is intended to be installed at the address shown and should not be used at any other location.

PROJECT #	22-0282R3	OWNER	CULVER'S
August 12, 2022		394 N.W. COMMONS LOOP	
DRAWING #	B186711R, B186711R	LAKE CITY, FL 32055	
WIND LOAD	15.97 PSF	CLIENT:	SPRINGFIELD SIGN & NEON
WIND SPEED	120 MPH	2531 N. PATTERSON	
# COLUMNS	1	SPRINGFIELD, MO	
DESIGNER	GHK	FLORIDA BUILDING CODE	7TH EDITION (2020)

ITEM	HEIGHT	WIDTH	SHAPE FACTOR	CENTROID HEIGHT	AREA	TOTAL FORCE	MOMENT
COLUMN	0.477	0.240	1.000	0.238	0.114	0.002	0.000
CLEARANCE BAR	0.083	7.458	1.000	0.042	0.622	0.012	0.001
COLUMN	9.542	0.417	1.000	4.771	3.976	0.075	0.416
CAH	10.102						
DL MOMENT =	0.026			DL+WL	0.442		

ITEM	COLUMN WIDTH	COLUMN DEPTH	COLUMN WALL	DESIGN Ix COLUMN	MODULUS COLUMN	REQUIRED MOMENT	AVAILABLE FLEXURAL STRENGTH	UNITY
COLUMN	2.880	0.199	1.5	1.37	0.000	2.39	0.000	
CLEARANCE BAR	2.880	0.199	1.5	1.37	0.027	2.39	0.011	
COLUMN	2.880	0.199	1.5	1.37	0.442	2.39	0.185	

ITEM	MOMENT	BOLT SPACING	BOLTS/ PLATE	TENSION/ BOLT	BOLT DIAM.	ALLOW. STRESS	ALLOWABLE TENSION
BASE PL.	0.442	6.000	4.000	0.442	0.500	19.100	3.750

ITEM	TENSION BOLT	MOMENT ARM	MOMENT PLATE	PLATE WIDTH	PLATE DEPTH	PLATE THICK.	MINIMUM THICK.
BASE PL.	0.442	2.813	1.244	5.625	8.000	0.625	0.222

ANCHOR BOLT PROJECTION	3.125	ANCHOR EMBEDMENT	1.760	ANCHOR BOLT MIN. LENGTH	5.000
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CAISSON MOMENT FORCE			0.442	FT-KIP
			0.075	KIP

REFERENCE IBC 1907.3.2 & TABLE 1906.2				
ASSUME SOIL CLASS #4 SW, SP, SM, SC, GM & GC				
LATERAL BEARING PRESSURE - PSF/FT OF DEPTH			150.0	PSF/FT
S1			450.0	
DEPTH			4.500	FT.
DIAMETER			2.000	FT.
			5.877	FT.
			0.196	FT.
CALCULATED DEPTH			1.222	FT.
MINIMUM THICKNESS WITHOUT REINFORCEMENT			9.877	IN.
ACTUAL DIAMETER			24.000	IN.
CONCRETE			0.524	CU. YD.

INSTALLATION ADDRESS:

CULVER'S
394 N.W. COMMONS LOOP
LAKE CITY, FL 32055

CLIENT:



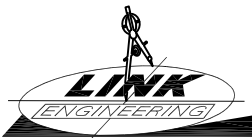
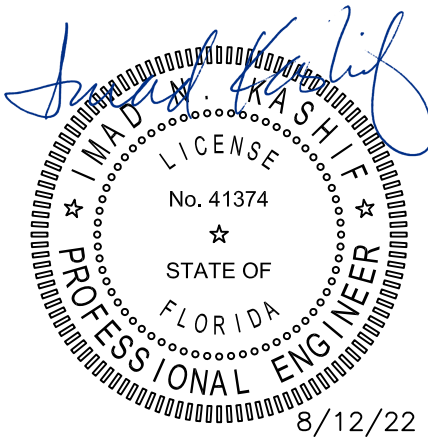
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