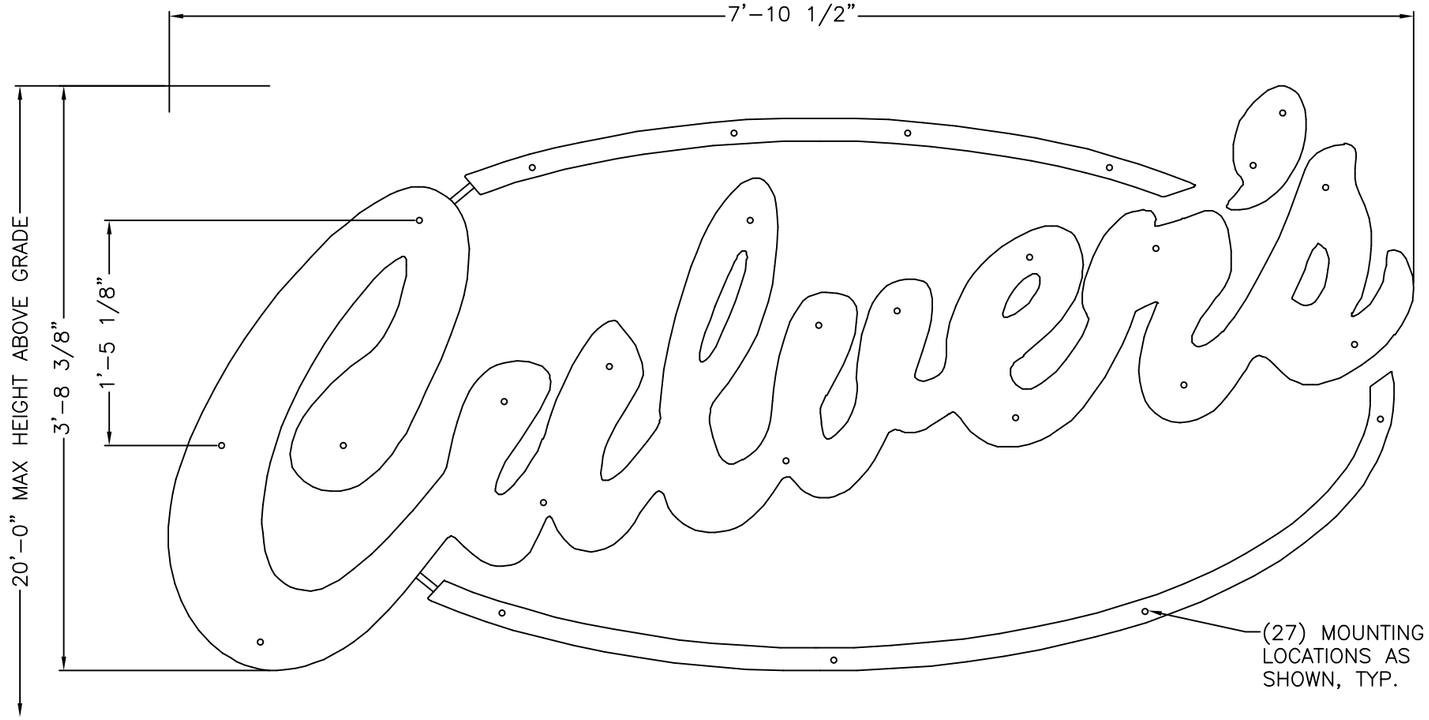
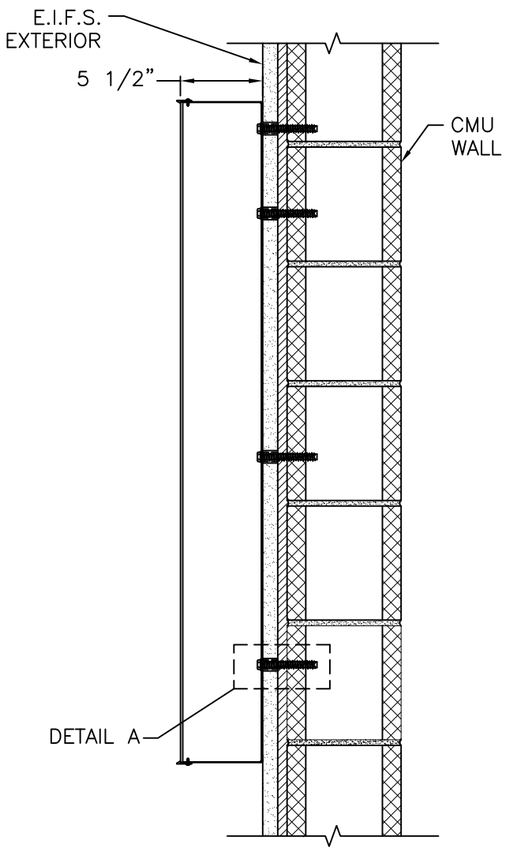
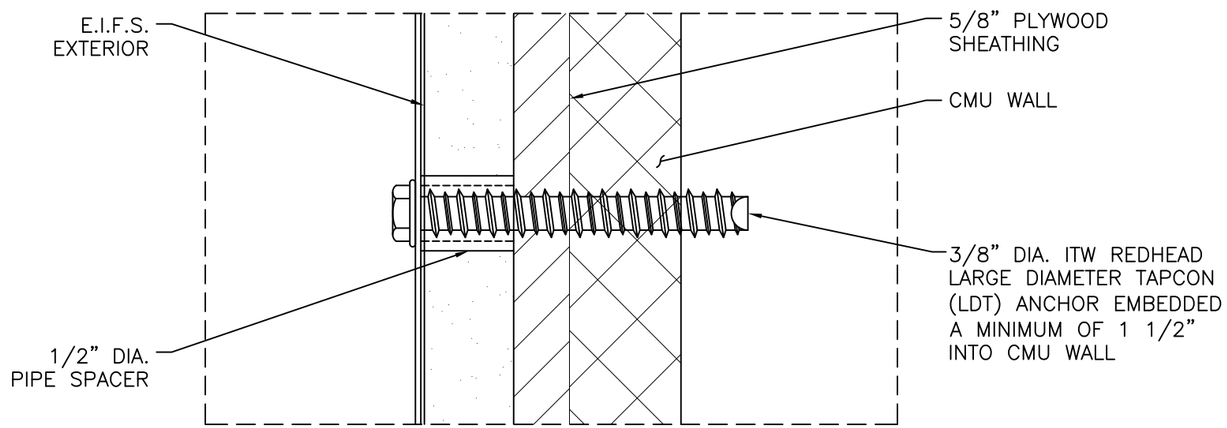


ELEVATION AND MOUNTING LOCATIONS



TYPICAL SECTION



DETAIL A

REDHEAD ANCHOR SYSTEM TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.

INSTALLATION ADDRESS:

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

CLIENT:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

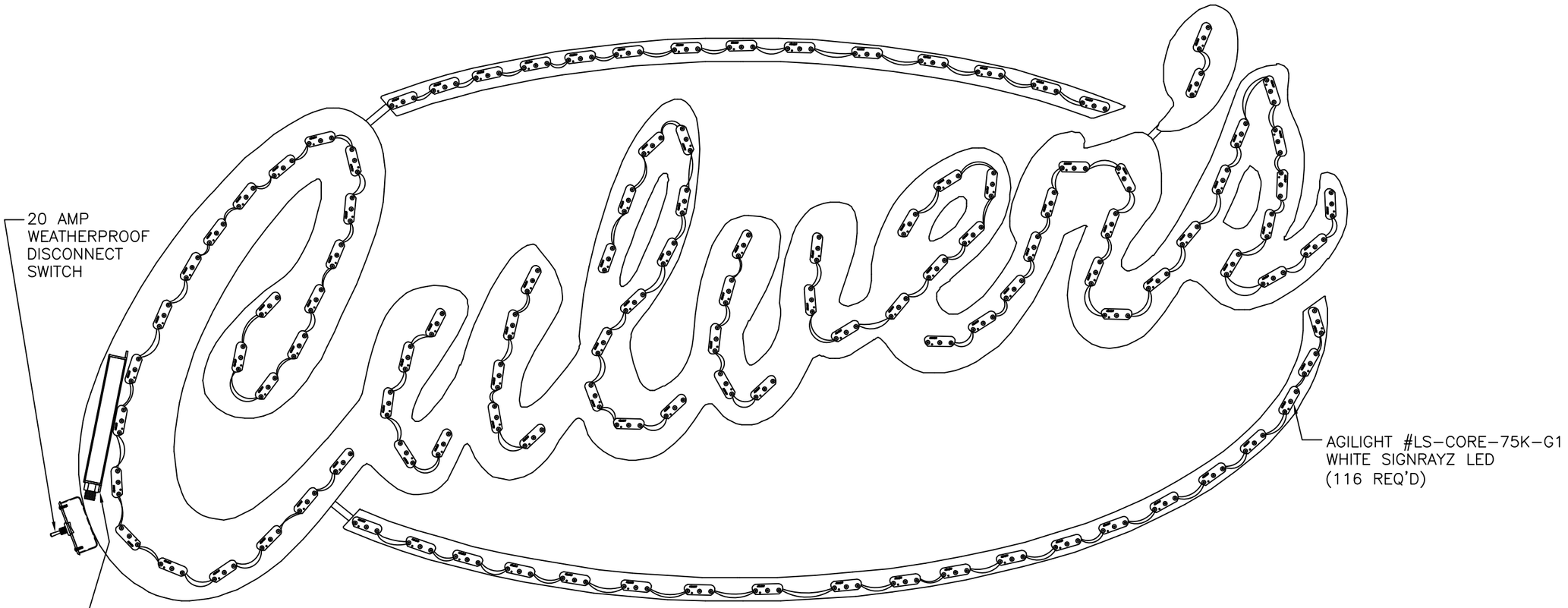
Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 12:57:27 -04'00'

IMAD N. KASHIF
LICENSE
No. 41374
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/12/22

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	B186700R2

SHT.	OF	DATE:	BY:
1	3	8/12/22	GHK



ELECTRICAL ELEVATION

ELECTRICAL REQUIREMENTS:

LEDS: (116) AGILIGHT #LS-CORE-75K-G1
WHITE SIGNRAYZ CORE
POWER SUPPLY: (1) AGILIGHT 12V/60W
#PS12-60W-100-277V
@ 0.63A
TOTAL LOAD: 0.63A @ 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:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 12:57:41 -04'00'

IMAD N. KASHIF
LICENSE
No. 41374
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
8/12/22

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	B186700R2

SHT.	OF	DATE:	BY:
2	3	8/12/22	GHK

Calculations for Drawing	B186700-B186702	SL-30			22-0282R
					7/14/2022
Florida Building Code, 7th Edition (2020)	Cat II				SR
120 MPH Exp C	Zone 5	20'-0" maximum above grade			
Treated as Components & Cladding		P =	-23.74	PSF	
Estimate weight at 5 psf					

Region	Area in^2	Area ft^2	Est Wt lb	Wind Load lb	Fastener Qty	Top Row Fastener Qty	Fastener Row Spacing in	Cabinet Depth in	Max Tension lb	Average Shear lb	Avg Ten lb
Top Curve	96.271	0.669	3.34	-15.87	4	2	2.625	5.500	5.72	0.8	3.97
Apostrophe	37.616	0.261	1.31	-6.20	2	1	4.000	5.500	4.00	0.7	3.10
Letters	1293.694	8.984	44.92	-213.27	17	9	17.125	5.500	13.35	2.6	12.55
Bottom Curve	144.788	1.005	5.03	-23.87	4	2	5.438	5.500	7.24	1.3	5.97

Maximum Fastener Tension =	13.3	LB
Maximum Fastener Shear =	2.6	LB

Wall Signage - Treated as Components & Cladding

Wind Speed	120	mph	From ASCE 7-16, Figure 26.5-1B	
Exposure	C		Zg =	900
Zone	5		Alpha =	9.5
Height	20	Ft		
Sign Area	<10	Ft^2		

Determine wind pressure from ASCE 7-16 Chapter 30

Chapter 30: Wind Loads - Components & Cladding

p = q* (GCp - Gcpi) (eq. 30.3-1 or 30.5-1)

q - 0.00256 * Kz * Kzt * Kd * Ke * V^2 (eq. 26.10-1)

Kz =	0.90	(Table 26.10-1)
Kd =	0.85	(Table 26.6-1)
Kzt =	1	(Section 26.8)
V =	120	
Ke =	1	
q =	28.26004	

GCp = -1.4 (From Figure 30.4-1 for h<= 60 ft and from Figure 30.6-1 for h> 60 ft)

GCp = +1.0

p = -39.56 psf

Load Combination: D + 0.6W (Section 2.4.1)

Design Wind Pressure = 0.6W =	-23.74	psf
Design Wind Pressure = 0.6W =	16.96	psf

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. Components and Cladding, Zone 5.
2. No additional wind catching surfaces are added to the supporting structure. The customer's building engineer is to determine the adequacy of the supporting wall.
3. Sign design is by others.
4. All fasteners shall be zinc coated to prevent corrosion.
5. All penetrations shall be sealed to prevent water intrusion.
6. Wall construction is depicted as reported by client. Should field conditions differ from what is shown on this drawing, cease all work and contact SPRINGFIELD SIGN & NEON immediately for direction. The scope of this engineer does not include onsite observations.
7. 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.
8. 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.
9. 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:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

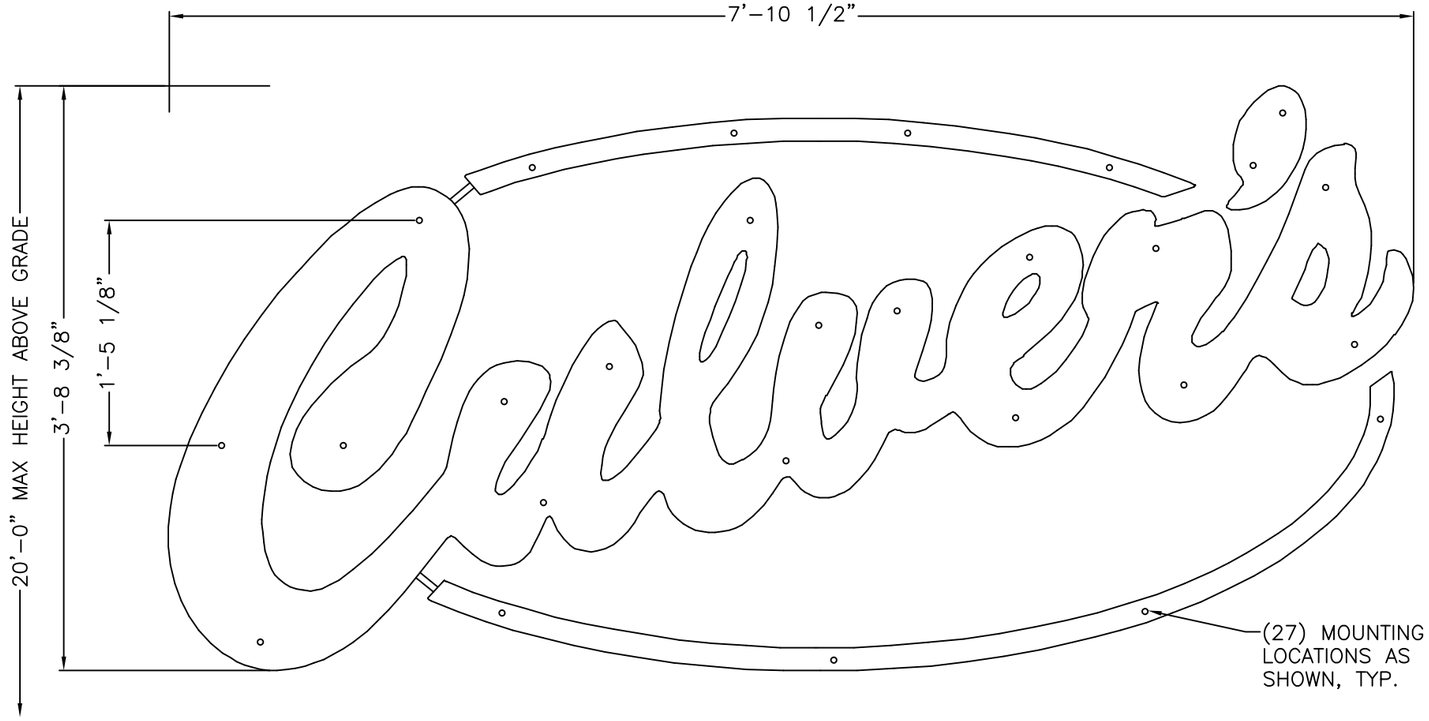
Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 12:58:00 -04'00'

IMAD N. KASHIF
LICENSE
No. 41374
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/12/22

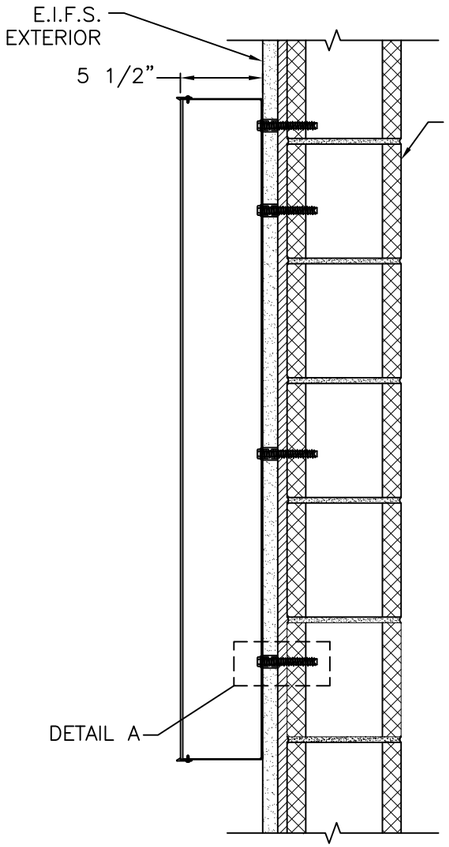
LINK ENGINEERING

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

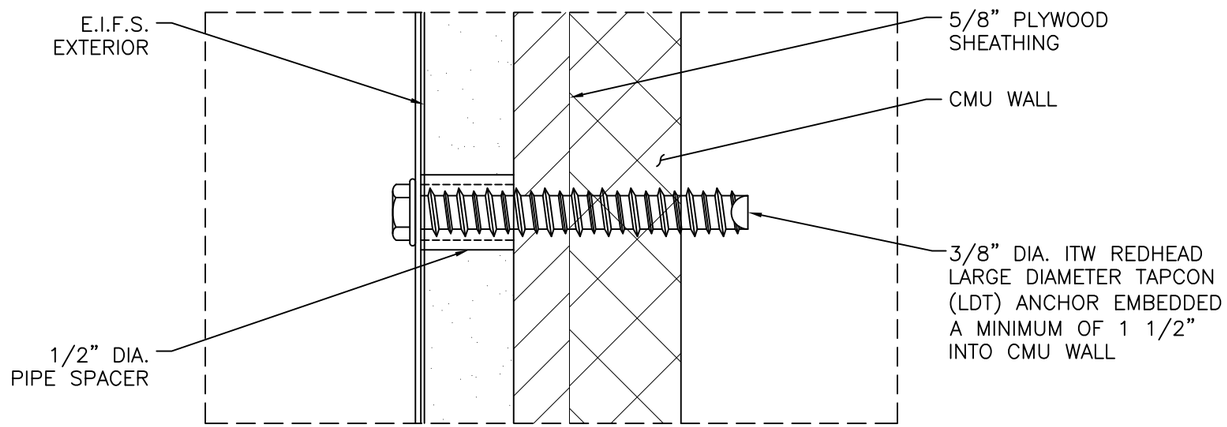
Project Number:	Drawing Number:		
22-0282R3	B186700R2		
SHT.	OF	DATE:	BY:
3	3	8/12/22	GHK



ELEVATION AND MOUNTING LOCATIONS



TYPICAL SECTION



DETAIL A

REDHEAD ANCHOR SYSTEM TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.

INSTALLATION ADDRESS:

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

CLIENT:

SPRINGFIELDSIGN

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

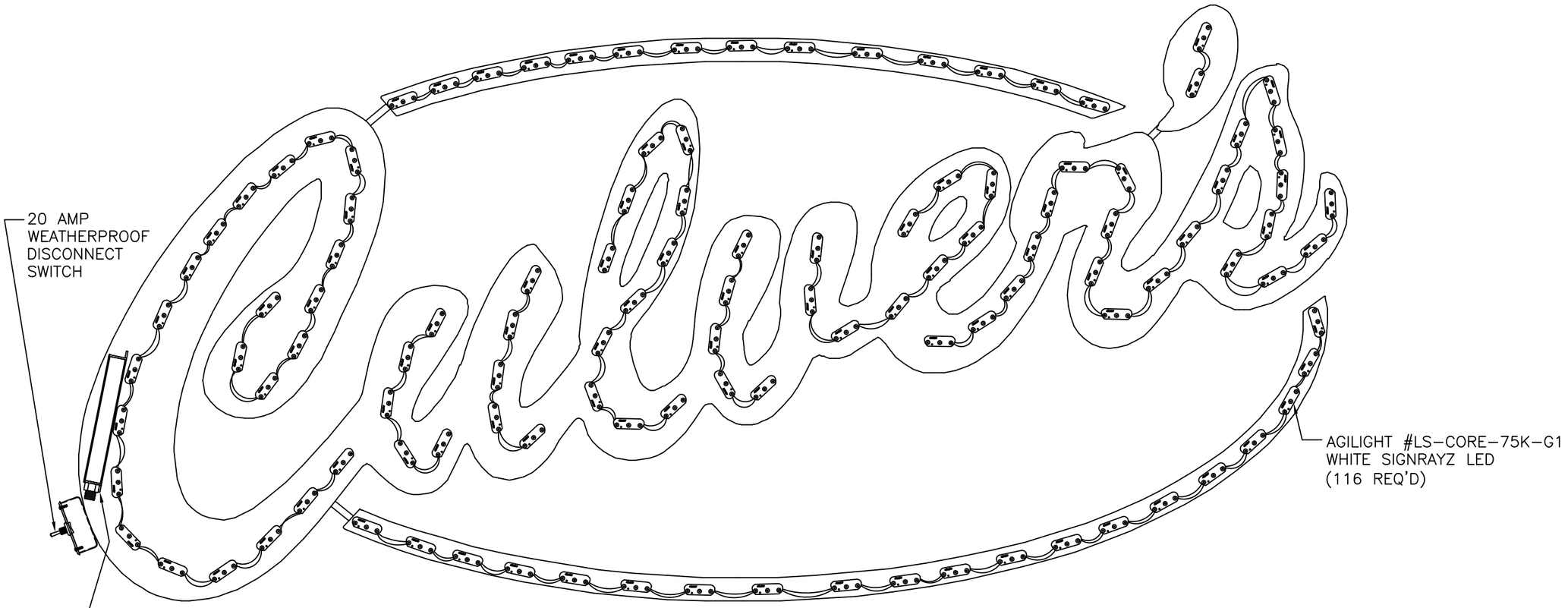
Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 12:59:49 -04'00'

IMAD N. KASHIF
LICENSE
No. 41374
STATE OF FLORIDA
PROFESSIONAL ENGINEER

8/12/22

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	B186701R2		
SHT.	OF	DATE:	BY:
1	3	8/12/22	GHK



ELECTRICAL ELEVATION

ELECTRICAL REQUIREMENTS:

LEDS: (116) AGILIGHT #LS-CORE-75K-G1
WHITE SIGNRAYZ CORE
POWER SUPPLY: (1) AGILIGHT 12V/60W
#PS12-60W-100-277V
@ 0.63A
TOTAL LOAD: 0.63A @ 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:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 12:59:32 -04'00'

IMAD A. KASHIF
LICENSE
No. 41374
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
8/12/22

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	B186701R2

SHT.	OF	DATE:	BY:
2	3	8/12/22	GHK

Calculations for Drawing	B186700-B186702	SL-30										22-0282R
												7/14/2022
Florida Building Code, 7th Edition (2020)		Cat II										SR
120 MPH	Exp C	Zone 5	20'-0" maximum above grade									
Treated as Components & Cladding			P =	-23.74	PSF							
Estimate weight at 5 psf												

Region	Area	Area	Est Wt	Wind Load	Fastener	Top Row Fastener	Fastener Row Spacing	Cabinet Depth	Max Tension	Average Shear	Avg Ten
	in^2	ft^2	lb	lb	Qty	Qty	in	in	lb	lb	lb
Top Curve	96.271	0.669	3.34	-15.87	4	2	2.625	5.500	5.72	0.8	3.97
Apostrophe	37.616	0.261	1.31	-6.20	2	1	4.000	5.500	4.00	0.7	3.10
Letters	1293.694	8.984	44.92	-213.27	17	9	17.125	5.500	13.35	2.6	12.55
Bottom Curve	144.788	1.005	5.03	-23.87	4	2	5.438	5.500	7.24	1.3	5.97

Maximum Fastener Tension =	13.3	LB
Maximum Fastener Shear =	2.6	LB

Wall Signage - Treated as Components & Cladding

Wind Speed	120	mph	From ASCE 7-16, Figure 26.5-1B	
Exposure	C		Zg =	900
Zone	5		Alpha =	9.5
Height	20	Ft		
Sign Area	<10	Ft^2		

Determine wind pressure from ASCE 7-16 Chapter 30

Chapter 30: Wind Loads - Components & Cladding

p = q* (GCp - Gcpi) (eq. 30.3-1 or 30.5-1)

q - 0.00256 * Kz * Kzt * Kd * Ke * V^2 (eq. 26.10-1)

Kz =	0.90	(Table 26.10-1)
Kd =	0.85	(Table 26.6-1)
Kzt =	1	(Section 26.8)
V =	120	
Ke =	1	
q =	28.26004	

GCp = -1.4 (From Figure 30.4-1 for h<= 60 ft and from Figure 30.6-1 for h> 60 ft)

GCp = +1.0

p = -39.56 psf

Load Combination: D + 0.6W (Section 2.4.1)

Design Wind Pressure = 0.6W =	-23.74	psf
Design Wind Pressure = 0.6W =	16.96	psf

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. Components and Cladding, Zone 5.
2. No additional wind catching surfaces are added to the supporting structure. The customer's building engineer is to determine the adequacy of the supporting wall.
3. Sign design is by others.
4. All fasteners shall be zinc coated to prevent corrosion.
5. All penetrations shall be sealed to prevent water intrusion.
6. Wall construction is depicted as reported by client. Should field conditions differ from what is shown on this drawing, cease all work and contact SPRINGFIELD SIGN & NEON immediately for direction. The scope of this engineer does not include onsite observations.
7. 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.
8. 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.
9. 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:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

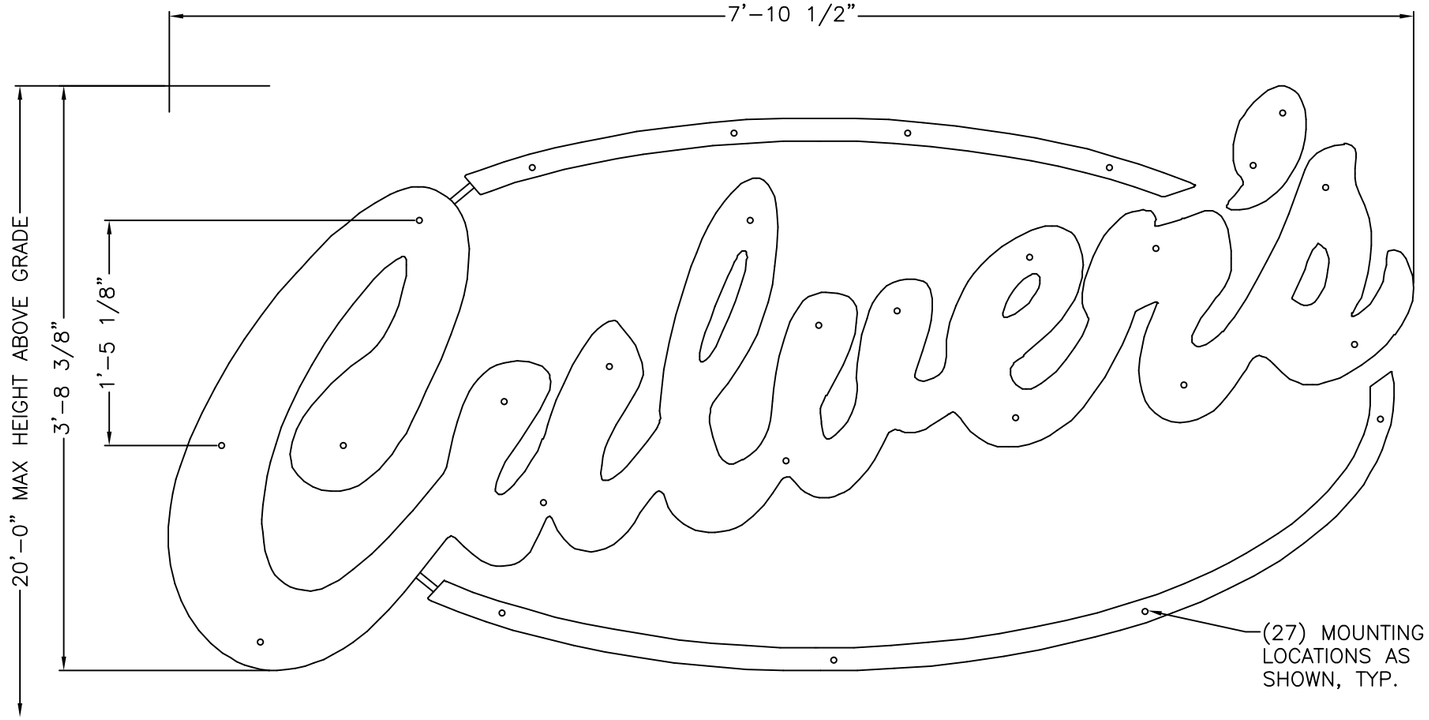
IMAD KASHIF

Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 12:59:16 -04'00'

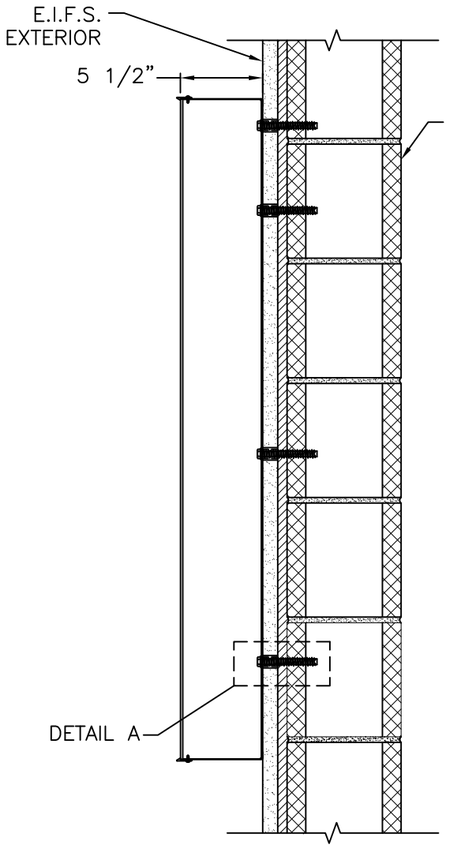
IMAD N. KASHIF LICENSE No. 41374 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/12/22

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

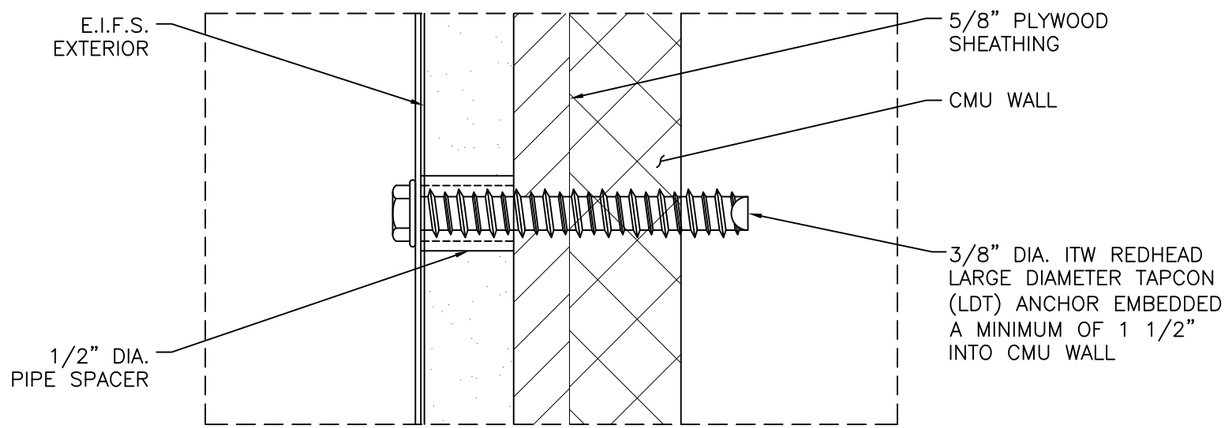
Project Number:	Drawing Number:		
22-0282R3	B186701R2		
SHT.	OF	DATE:	BY:
3	3	8/12/22	GHK



ELEVATION AND MOUNTING LOCATIONS



TYPICAL SECTION



DETAIL A

REDHEAD ANCHOR SYSTEM TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.

INSTALLATION ADDRESS:

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

CLIENT:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

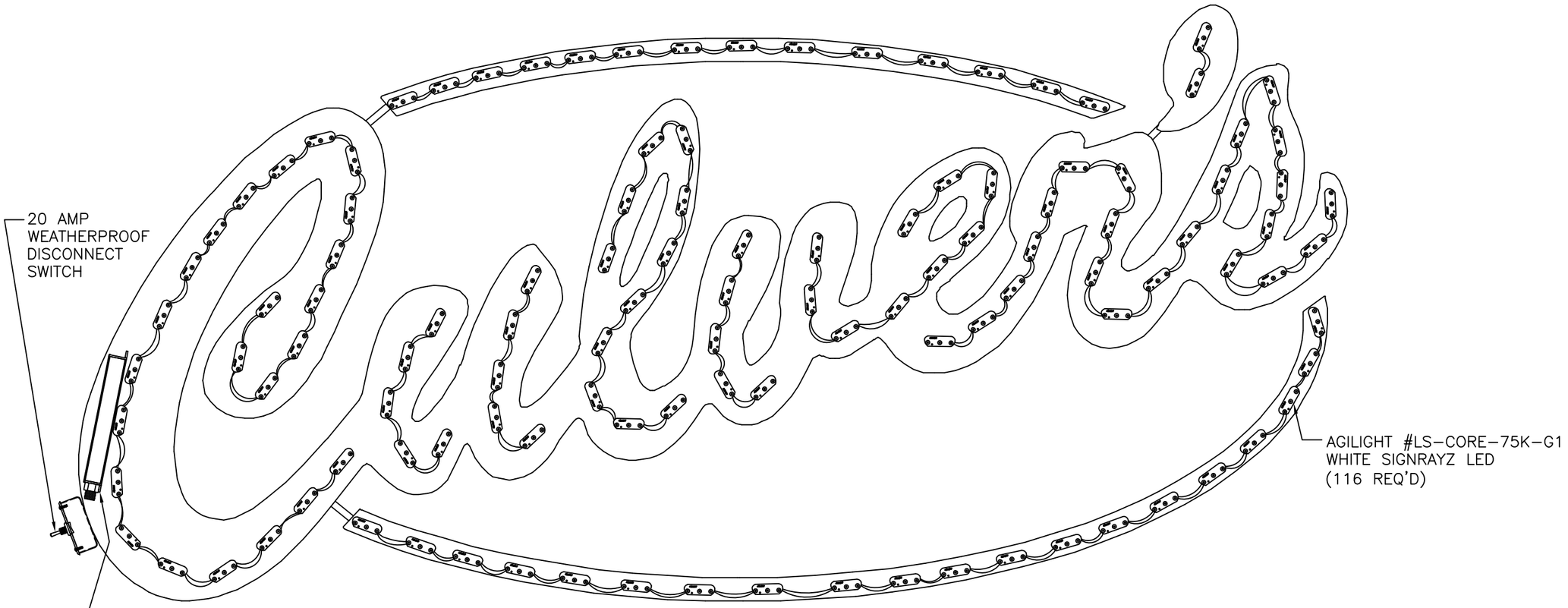
Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 13:01:10 -04'00'

IMAD N. KASHIF
LICENSE
No. 41374
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/12/22

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	B186702R2

SHT.	OF	DATE:	BY:
1	3	8/12/22	GHK



ELECTRICAL ELEVATION

ELECTRICAL REQUIREMENTS:

LEDS: (116) AGILIGHT #LS-CORE-75K-G1
WHITE SIGNRAYZ CORE
POWER SUPPLY: (1) AGILIGHT 12V/60W
#PS12-60W-100-277V
@ 0.63A
TOTAL LOAD: 0.63A @ 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:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 13:00:45 -04'00'

IMAD N. KASHIF LICENSE No. 41374 STATE OF FLORIDA PROFESSIONAL ENGINEER
8/12/22

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	B186702R2

SHT.	OF	DATE:	BY:
2	3	8/12/22	GHK

Calculations for Drawing	B186700-B186702	SL-30									22-0282R
											7/14/2022
Florida Building Code, 7th Edition (2020)		Cat II									SR
120 MPH	Exp C	Zone 5	20'-0" maximum above grade								
Treated as Components & Cladding			P =	-23.74	PSF						
Estimate weight at 5 psf											

Region	Area	Area	Est Wt	Wind Load	Fastener	Top Row Fastener	Fastener Row Spacing	Cabinet Depth	Max Tension	Average Shear	Avg Ten
	in^2	ft^2	lb	lb	Qty	Qty	in	in	lb	lb	lb
Top Curve	96.271	0.669	3.34	-15.87	4	2	2.625	5.500	5.72	0.8	3.97
Apostrophe	37.616	0.261	1.31	-6.20	2	1	4.000	5.500	4.00	0.7	3.10
Letters	1293.694	8.984	44.92	-213.27	17	9	17.125	5.500	13.35	2.6	12.55
Bottom Curve	144.788	1.005	5.03	-23.87	4	2	5.438	5.500	7.24	1.3	5.97

Maximum Fastener Tension =	13.3	LB
Maximum Fastener Shear =	2.6	LB

Wall Signage - Treated as Components & Cladding

Wind Speed	120	mph	From ASCE 7-16, Figure 26.5-1B	
Exposure	C		Zg =	900
Zone	5		Alpha =	9.5
Height	20	Ft		
Sign Area	<10	Ft^2		

Determine wind pressure from ASCE 7-16 Chapter 30

Chapter 30: Wind Loads - Components & Cladding

p = q* (GCp - Gcpi) (eq. 30.3-1 or 30.5-1)

q - 0.00256 * Kz * Kzt * Kd * Ke * V^2 (eq. 26.10-1)

Kz =	0.90	(Table 26.10-1)
Kd =	0.85	(Table 26.6-1)
Kzt =	1	(Section 26.8)
V =	120	
Ke =	1	
q =	28.26004	

GCp = -1.4 (From Figure 30.4-1 for h<= 60 ft and from Figure 30.6-1 for h> 60 ft)

GCp = +1.0

p = -39.56 psf

Load Combination: D + 0.6W (Section 2.4.1)

Design Wind Pressure = 0.6W =	-23.74	psf
Design Wind Pressure = 0.6W =	16.96	psf

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. Components and Cladding, Zone 5.
2. No additional wind catching surfaces are added to the supporting structure. The customer's building engineer is to determine the adequacy of the supporting wall.
3. Sign design is by others.
4. All fasteners shall be zinc coated to prevent corrosion.
5. All penetrations shall be sealed to prevent water intrusion.
6. Wall construction is depicted as reported by client. Should field conditions differ from what is shown on this drawing, cease all work and contact SPRINGFIELD SIGN & NEON immediately for direction. The scope of this engineer does not include onsite observations.
7. 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.
8. 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.
9. 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:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

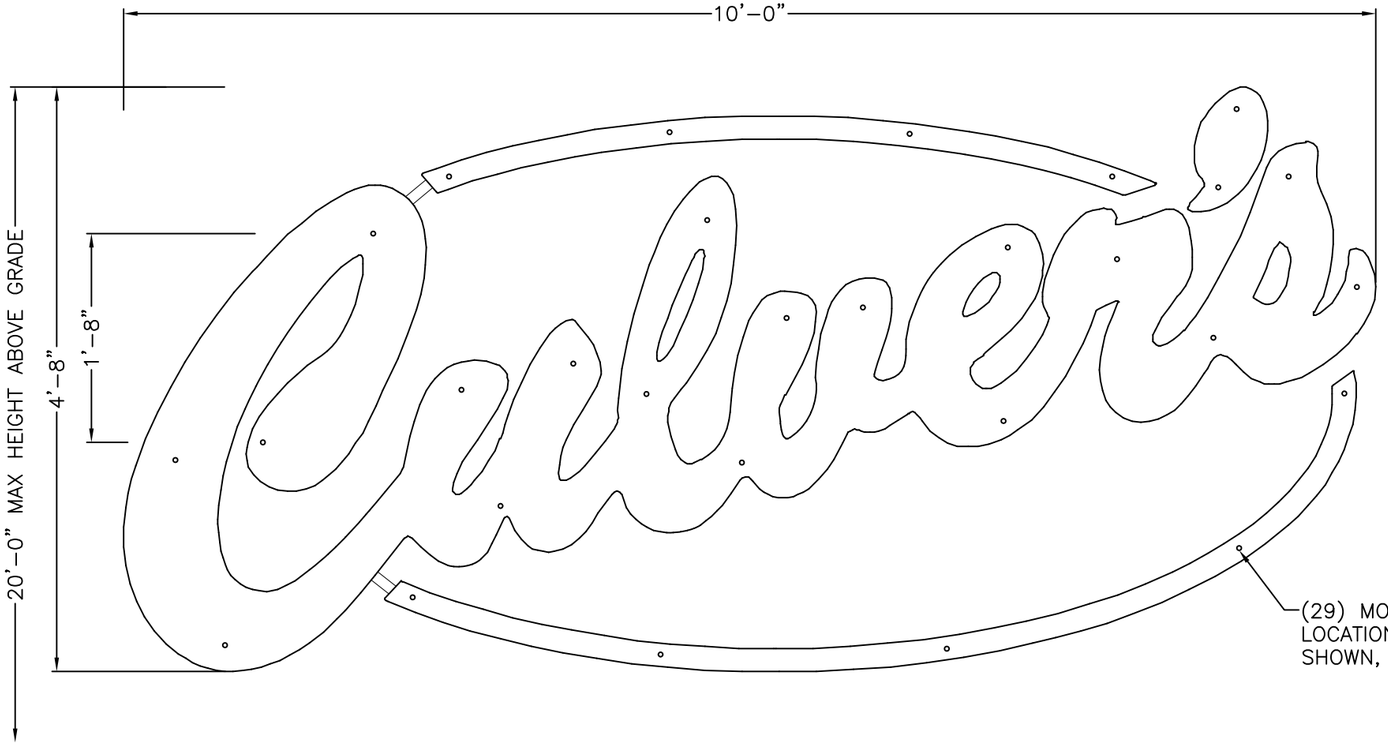
SEAL & SIGNATURE:

IMAD KASHIF
Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 13:00:13 -04'00'

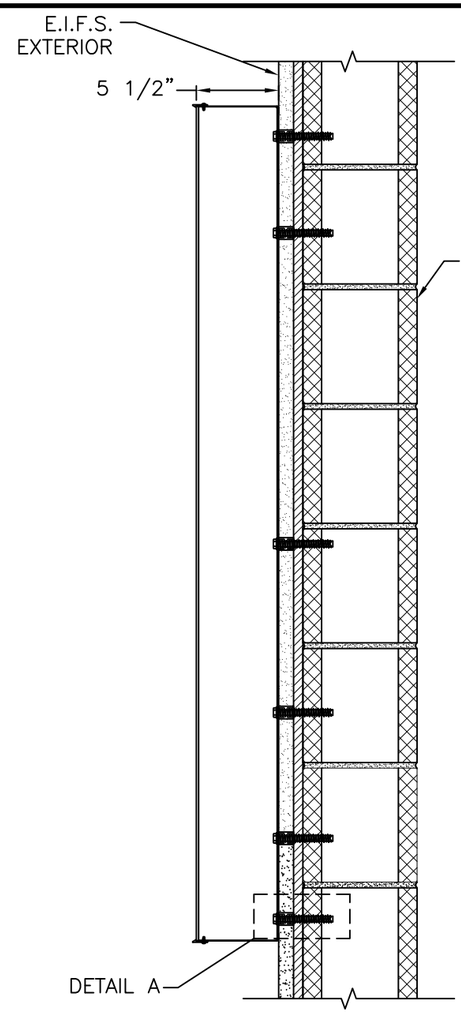
IMAD N. KASHIF
LICENSE
No. 41374
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/12/22

LINK ENGINEERING
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

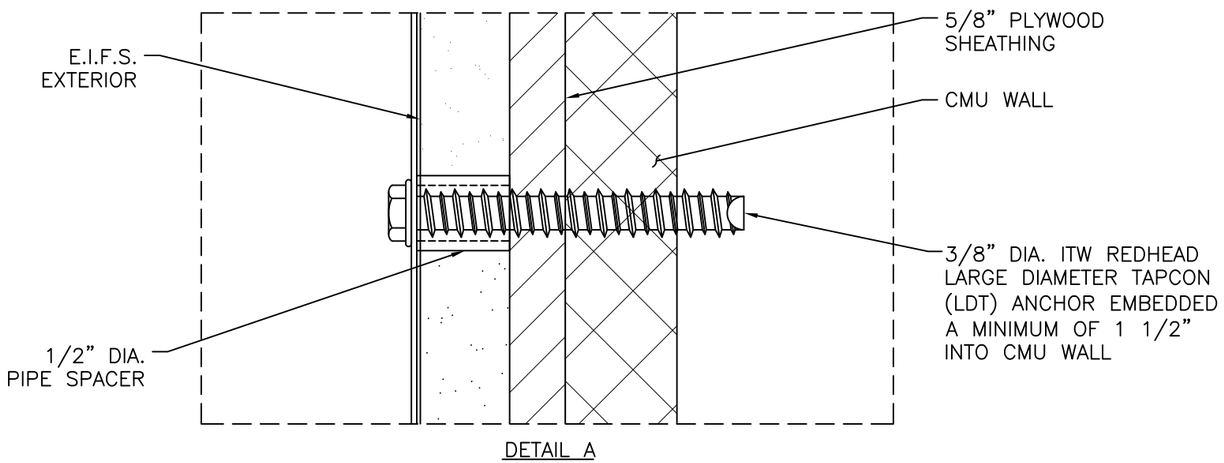
Project Number:	Drawing Number:		
22-0282R3	B186702R2		
SHT.	OF	DATE:	BY:
3	3	8/12/22	GHK



FRONT ELEVATION AND MOUNTING LOCATIONS



TYPICAL SECTION



DETAIL A

REDHEAD ANCHOR SYSTEM TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.

INSTALLATION ADDRESS:

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

CLIENT:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

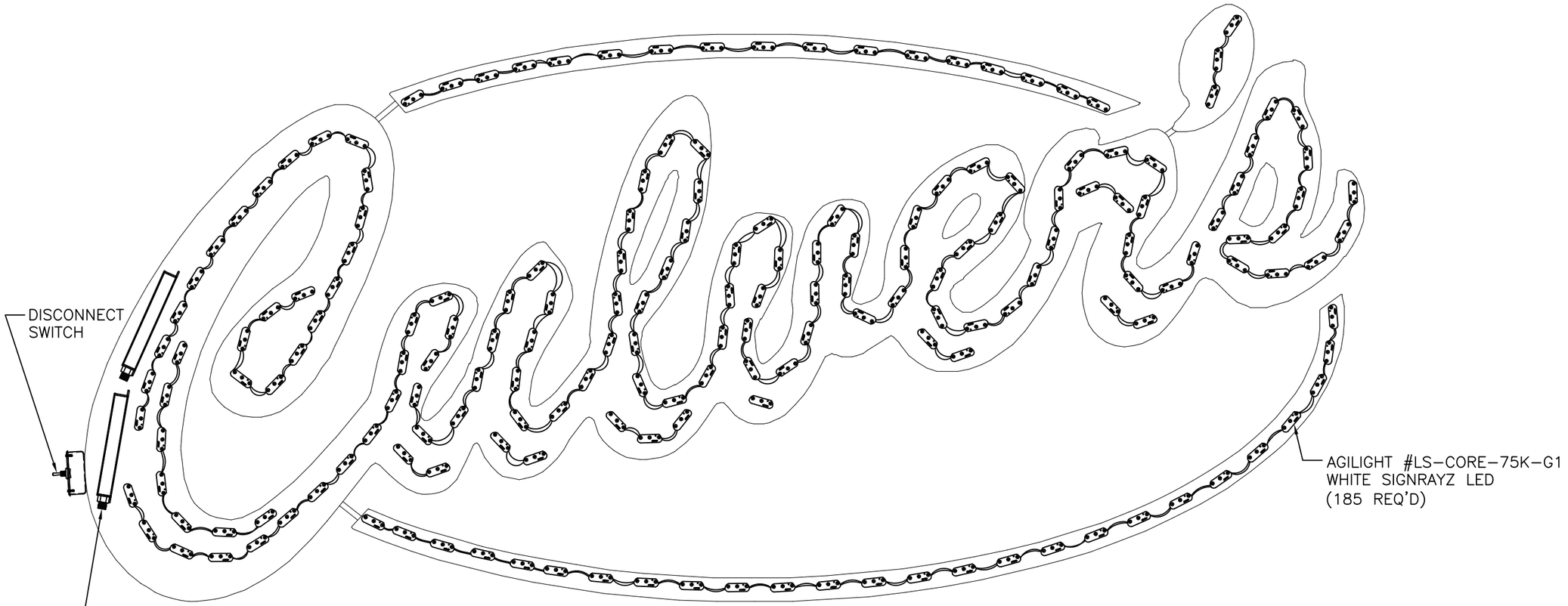
Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 13:02:51 -04'00'

IMAD N. KASHIF
LICENSE
No. 41374
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/12/22

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	B186703R2

SHT.	OF	DATE:	BY:
1	3	8/12/22	GHK



ELECTRICAL ELEVATION

ELECTRICAL REQUIREMENTS:

LEDS: (185) AGILIGHT #LS-CORE-75K-G1
WHITE SIGNRAYZ CORE
POWER SUPPLY: (2) AGILIGHT 12V/60W
#PS12-60W-100-277V
@ 0.63A
TOTAL LOAD: 1.26A @ 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:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 13:02:28 -04'00'

IMAD N. KASHIF
LICENSE
No. 41374
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/12/22

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	B186703R2

SHT.	OF	DATE:	BY:
2	3	8/12/22	GHK

Calculations for Drawing	B186703		SL-45									22-0282R
												7/14/2022
Florida Building Code, 7th Edition (2020)			Cat II									SR
120 MPH	Exp C	Zone 5	20'-0" maximum above grade									
Treated as Components & Cladding				P =	-23.74	PSF						
Estimate weight at 5 psf												

Region	Area in^2	Area ft^2	Est Wt lb	Wind Load lb	Fastener Qty	Top Row Fastener Qty	Fastener Row Spacing in	Cabinet Depth in	Max Tension lb	Average Shear lb	Avg Ten lb
Top Curve	155.237	1.078	5.39	-25.59	4	2	3.563	5.500	8.48	1.3	6.40
Apostrophe	60.656	0.421	2.11	-10.00	2	1	7.500	5.500	5.77	1.1	5.00
Letters	2086.078	14.487	72.43	-343.89	18	9	20.000	5.500	20.21	4.0	19.11
Bottom Curve	233.469	1.621	8.11	-38.49	5	3	8.438	5.500	8.58	1.6	7.70

Maximum Fastener Tension =	20.2	LB
Maximum Fastener Shear =	4.0	LB

Wall Signage - Treated as Components & Cladding

Wind Speed	120	mph	From ASCE 7-16, Figure 26.5-1B	
Exposure	C		Zg =	900
Zone	5		Alpha =	9.5
Height	20	Ft		
Sign Area	<10	Ft^2		

Determine wind pressure from ASCE 7-16 Chapter 30

Chapter 30: Wind Loads - Components & Cladding

p = q* (GCp - Gcpi) (eq. 30.3-1 or 30.5-1)

q - 0.00256 * Kz * Kzt * Kd * Ke * V^2 (eq. 26.10-1)

Kz =	0.90	(Table 26.10-1)
Kd =	0.85	(Table 26.6-1)
Kzt =	1	(Section 26.8)
V =	120	
Ke =	1	
q =	28.26004	

GCp = -1.4 (From Figure 30.4-1 for h<= 60 ft and from Figure 30.6-1 for h> 60 ft)

GCp = +1.0

p = -39.56 psf

Load Combination: D + 0.6W (Section 2.4.1)

Design Wind Pressure = 0.6W =	-23.74	psf
Design Wind Pressure = 0.6W =	16.96	psf

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. Components and Cladding, Zone 5.
2. No additional wind catching surfaces are added to the supporting structure. The customer's building engineer is to determine the adequacy of the supporting wall.
3. Sign design is by others.
4. All fasteners shall be zinc coated to prevent corrosion.
5. All penetrations shall be sealed to prevent water intrusion.
6. Wall construction is depicted as reported by client. Should field conditions differ from what is shown on this drawing, cease all work and contact SPRINGFIELD SIGN & NEON immediately for direction. The scope of this engineer does not include onsite observations.
7. 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.
8. 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.
9. 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:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

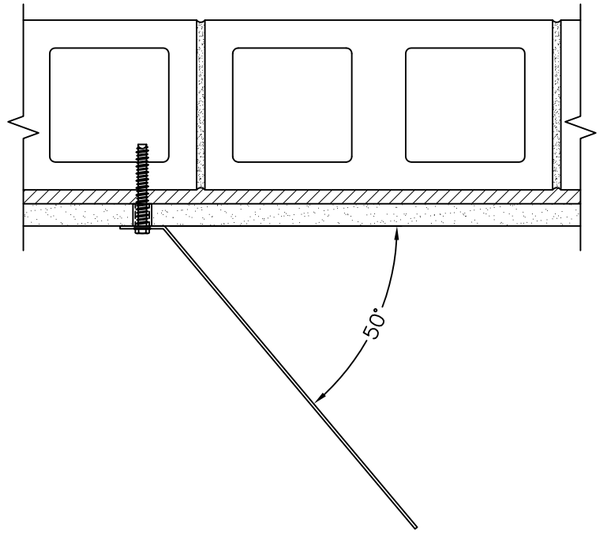
SEAL & SIGNATURE:

IMAD KASHIF
Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 13:02:10 -04'00'

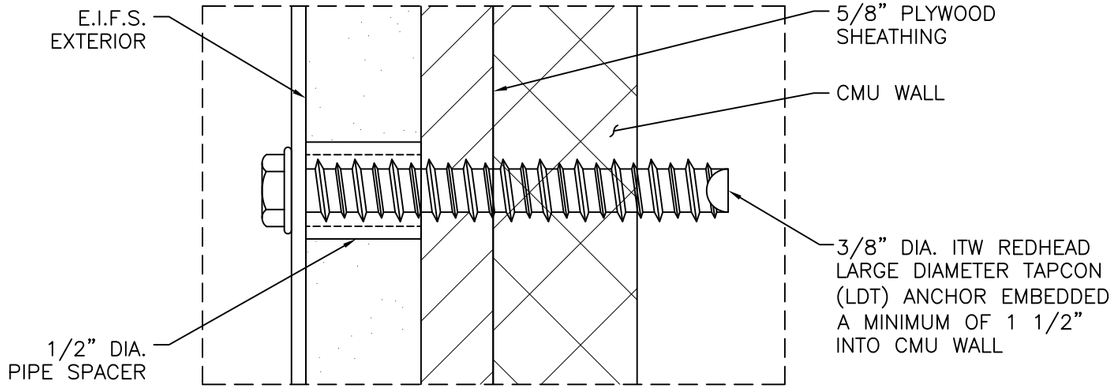
IMAD N. KASHIF
LICENSE
No. 41374
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/12/22

LINK ENGINEERING
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	B186703R2		
SHT.	OF	DATE:	BY:
3	3	8/12/22	GHK

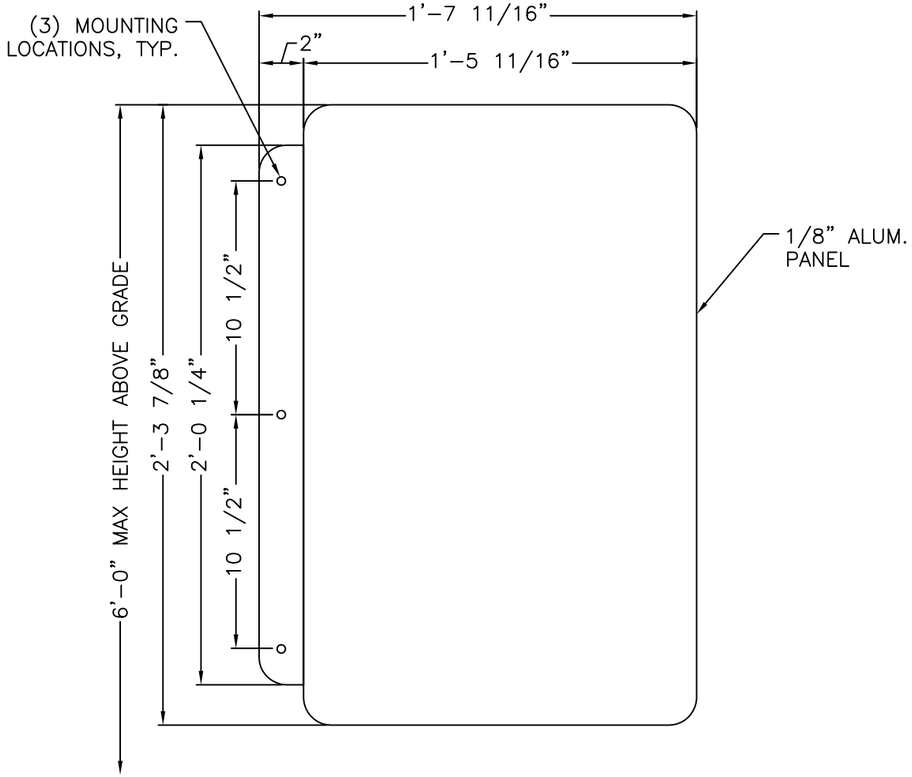


PLAN VIEW

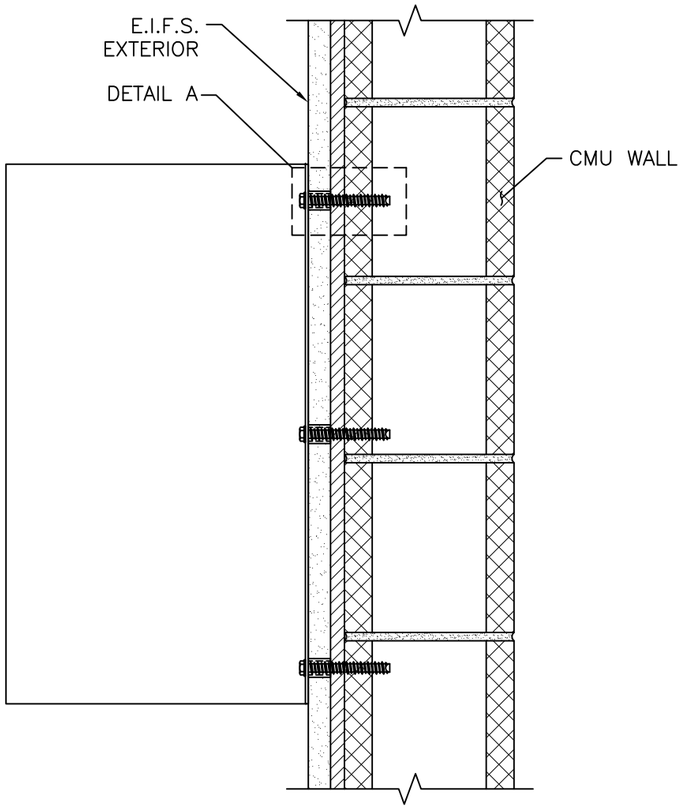


DETAIL A

REDHEAD ANCHOR SYSTEM TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.



ELEVATION AND MOUNTING LOCATIONS



TYPICAL SECTION

INSTALLATION ADDRESS:

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

CLIENT:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 13:03:59 -04'00'

IMAD N. KASHIF
LICENSE
No. 41374
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
8/12/22

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	B186704R

SHT.	OF	DATE:	BY:
1	2	8/12/22	GHK

Calculations for Drawing	B186704		BB-1 Blade Sign									22-0282R
												7/14/2022
Florida Building Code, 7th Edition (2020)		Cat II										SR
120 MPH	Exp C	Zone 5	6'-0" maximum above grade									
Treated as Components & Cladding				P =	-18.42	PSF						
Estimate weight at 1.5 psf												

Region	Area	Area	Est Wt	Wind Load	Fastener	Top Row Fastener	Fastener Row Spacing	Moment Arm	Max Tension	Average Shear	Avg Ten
	in^2	ft^2	lb	lb	Qty	Qty	in	in	lb	lb	lb
Blade Sign	526.775	3.658	5.49	-67.40	3	1	21.000	6.375	114.5251	1.8	22.47

Maximum Fastener Tension =	114.5	LB
Maximum Fastener Shear =	1.8	LB

Wall Signage - Treated as Components & Cladding

Wind Speed	120	mph	From ASCE 7-16, Figure 26.5-1B	
Exposure	C		Zg =	900
Zone	5		Alpha =	9.5
Height	6	Ft		
Sign Area	<10	Ft^2		

Determine wind pressure from ASCE 7-16 Chapter 30

Chapter 30: Wind Loads - Components & Cladding

p = q* (GCp - Gcpi) (eq. 30.3-1 or 30.5-1)

q - 0.00256 * Kz * Kzt * Kd * Ke * V^2 (eq. 26.10-1)

Kz =	0.70	(Table 26.10-1)
Kd =	0.85	(Table 26.6-1)
Kzt =	1	(Section 26.8)
V =	120	
Ke =	1	
q =	21.93274	

GCp = -1.4 (From Figure 30.4-1 for h<= 60 ft and from Figure 30.6-1 for h> 60 ft)
GCp = +1.0

p = -30.71 psf

Load Combination: D + 0.6W (Section 2.4.1)

Design Wind Pressure = 0.6W =	-18.42	psf
Design Wind Pressure = 0.6W =	13.16	psf

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. Components and Cladding, Zone 5.
2. No additional wind catching surfaces are added to the supporting structure. The customer's building engineer is to determine the adequacy of the supporting wall.
3. Sign design is by others.
   Electrical design is by others.
4. All fasteners shall be zinc coated to prevent corrosion.
5. All penetrations shall be sealed to prevent water intrusion.
6. Wall construction is depicted as reported by client. Should field conditions differ from what is shown on this drawing, cease all work and contact SPRINGFIELD SIGN & NEON immediately for direction. The scope of this engineer does not include onsite observations.
7. 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.
8. 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.
9. 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:

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

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

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of LINK Engineering, L.L.C. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of LINK Engineering, L.L.C. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

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

SEAL & SIGNATURE:

IMAD KASHIF

Digitally signed by IMAD KASHIF
DN: c=US, st=Tennessee, l=Knoxville, o=Link Engineering, LLC, cn=IMAD KASHIF, email=ikashif@linkengr.com
Date: 2022.08.12 13:04:16 -04'00'

IMAD N. KASHIF
LICENSE
No. 41374
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
8/12/22

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	B186704R		
SHT.	OF	DATE:	BY:
2	2	8/12/22	GHK