Reviewed 8/04/2022 DLSubject to field inspectors approvals.

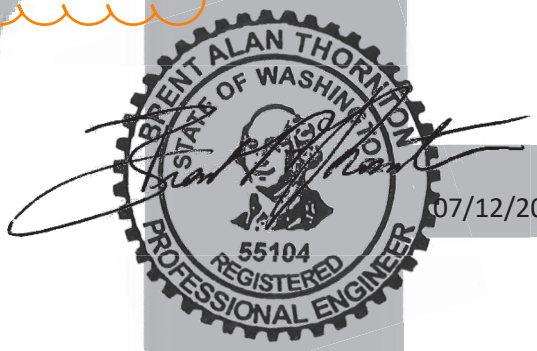
Korum Lincoln
100 River Road
Puyallup, WA 98371

RBA Job No. 224639.04

CALCULATIONS FOR:
LN-DN-12

Designed in accordance with:
2018 International Building Code
ASCE 7-16
Wind Velocity = 115 mph
Risk Category II

THE APPROVED ENGINEERING DOCUMENTS MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION, AS THEY INCLUDE THE ATTACHMENT DETAILS.



07/12/2022

<u>FABRICATOR</u>
Architectural Graphics, Inc.
2655 International Parkway
Virginia Beach, Virginia 23452

<u>DESIGN ENGINEER</u>
RBA Structural Engineering, LLC
1 Vantage Way, Suite B-400
Nashville, Tennessee 37228

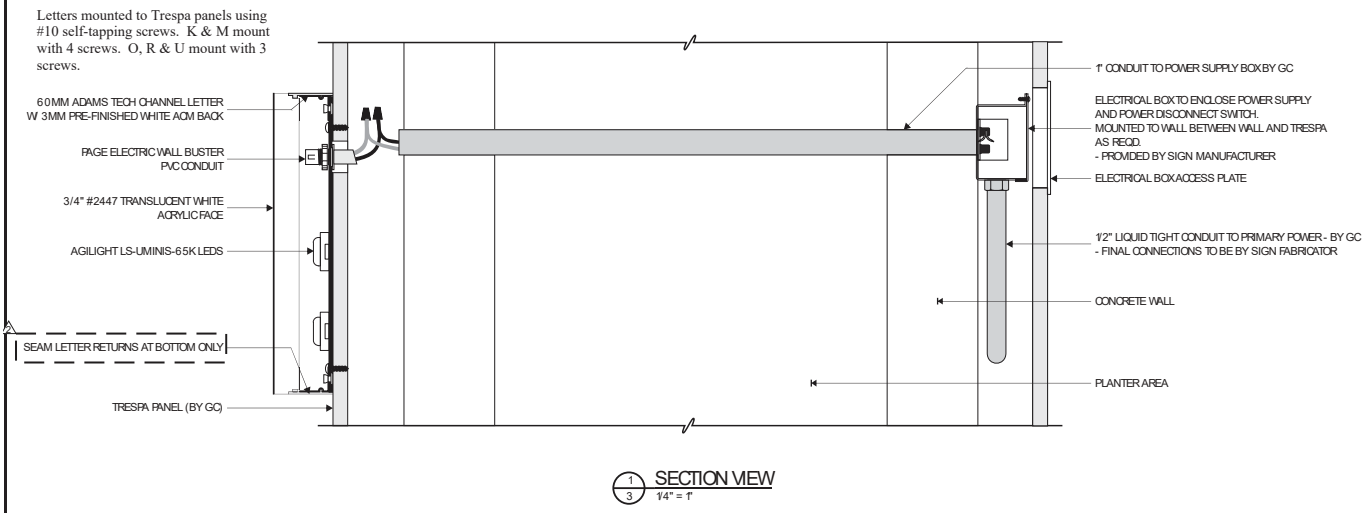
City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

PRSG20220751

Project	**Korum Lincoln**	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Rose Bryan Associates, Inc.	**Sheet No.** 1 of 4
Model	**DN-12**		**Job No.** 224639.04
By	**JAD**		**Date** 7/7/22

CHANNEL LETTERS

2018 International Building Code
Wind Provisions of ASCE 7-16



1/3 SECTION VIEW
1/4" = 1'

Dead Load:

Face:	w_f =	4.32	psf	(3/4" Acrylic)
Returns:	w_r =	1.30	psf	(.040" min. 3003 Aluminum)
Backer:	w_b =	0.80	psf	(3mm ACM)
Misc:	w_m =	2.00	psf	

Wind Load:

Service:	$p_{w,ASD}$ =	23.74	psf	(See Sheet 2)
Ultimate:	$p_{w,ULT}$ =	39.57	psf	

City of Puyallup
Development & Permitting Services
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PRSG20220751

Project	Korum Lincoln	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Ross Bryan Associates, Inc.	Sheet No.	2	of 4
Model	DN-12		Job No.	224639.04	
By	JAD		Date	7/7/2022	

CODES:

Wind Loads per provisions of ASCE 7-16, Chapter 30

SIGN DIMENSIONS:

OAH of Sign, z = 30 ft.

Length, B = 4.77 ft. Height, s = 1.00 ft. OAH of Building, h = 30 ft.

Depth = 0.20 ft. A_{sign} = 1.5 ft^2 Ground Elevation, z_g = 0 ft.

WIND LOADS: (For Effective Wind Area ≤ 10 ft^2)

Exposure Category = C Risk Category = II

$q_h = 0.00256 * K_z * K_{zt} * K_d * V^2$ Velocity Pressure, ASCE 7-16, Section 26.10.2

K_z = 0.98 Velocity Pressure Exposure Coefficient @ z, ASCE 7-16, Table 26.10-1

K_h = 0.98 Velocity Pressure Exposure Coefficient @ h, ASCE 7-16, Table 26.10-1

K_{zt} = 1.0 Topographic Factor, ASCE 7-16, Section 26.8.2

K_d = 0.85 Wind Directionality Factor, ASCE 7-16, Table 26.6-1

K_e = 1.00 Ground Elevation Factor, ASCE 7-16, Table 26.9-1

V = **115** Basic Wind Speed, mph, ASCE 7-16, Figure 26.5-1B

q_z = 28.27 lb/ft^2

q_h = 28.27 lb/ft^2

p = qh * [(GCp) - (GCpi)] Design Wind Loads, ASCE 7-16, Section 30.3.2

GC_{p+} = 1.00 Positive External Pressure Coefficient, ASCE 7-16, Figure 30.3-1

GC_{p-} = -1.40 Negative External Pressure Coefficient, ASCE 7-16, Figure 30.3-1

GC_{pi} = 0.0 Internal Pressure Coefficient, ASCE 7-16, Section 29.3.2

p+ = 28.27 lb/ft^2

p- = -39.57 lb/ft^2

p_{max} = 39.57 lb/ft^2

LRFD Loading:

Use wind pressure = 39.57 lb/ft^2 for 1.0*W from ASCE 7-16, Section 2.3.1

ASD Loading:

Use wind pressure = 23.74 lb/ft^2 for 0.6*W from ASCE 7-16, Section 2.4.1

City of Puyallup
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PRSG20220751

Project Korum Lincoln **Model** DN-12 **By** JAD	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Rose Bryan Associates, Inc.	**Sheet No.** 3 of 4 **Job No.** 224639.04 **Date** 7/7/22	

Letter Properties:

Total Length:	4.77	ft	(Length of Entire Letterset)
Total Height:	1.00	ft	(Height of Entire Letterset)
Return Depth:	2.4	in	(Face-to-Backer Depth)
Typical Letter Stroke:	1.6	in	(Stroke Width of Largest Letters)
Distance to Connection:	0	in	(Approx. Connection Distance from Backer to Anchorage)

Letter Sizes: (Areas/perimeters determined by computer analysis)

Letter:	Area (in^2):	Per. (in):	Total Dead Load (lb):	Total Wind Load (lb):	# of Anchors:	Vert. Anchor Spacing:	Shear per Anchor (lb):	Tension per Anchor (lb):
K	38	62	3.2	6.3	2	10.0	1.6	3.7
O	50	40	3.3	8.2	2	10.0	1.7	4.8
R	42	50	3.2	6.9	2	10.0	1.6	4.0
U	40	59	3.3	6.6	2	10.0	1.6	3.9
M	52	85	4.4	8.6	2	10.0	2.2	5.1

City of Puyallup
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Backer: Construction: 3mm ACM

$M_{max} = \frac{PL}{4}$ = 2.1 lb-in

P = Max Anchor Tension = 5.1 lb

L = Typical Letter Stroke = 1.6 in

$t_{min} = \sqrt{\frac{6 \cdot M_{max}}{f_y \cdot b}}$ = 0.014 in < 0.083 in **O.K.**
(Apparent Thickness)

fy = 22000 psi

b = 2.8 in (Based on 30° angle to returns)

Returns: Construction: .040" 3003 Aluminum (Unwelded)

$M_{max} = \frac{wL^2}{8}$ = 0.2 lb-ft

w = Half Face Wind Load = 1.63 plf

L = Max Vert. Anchor Dist. = 1.00 ft

$S = \frac{bh^2}{6}$ = 0.038 in^3

$M_n/\Omega = \frac{F_b}{\Omega} \cdot S$ = 0.47 k-in = 39.3 lb-ft > 0.2 lb-ft **O.K.**

b/t = λ = 60.00

b = Return Depth = 2.4 in

t = Return Thickness = 0.040 in

$F_b/\Omega = 16.3 - 0.067 \cdot \lambda =$ 12.28 ksi

PRSG20220751

Project	Korum Lincoln	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Ross Bryan Associates, Inc.	Sheet No.	4	of 4
Model	DN-12		Job No.	224639.04	
By	JAD		Date	07/07/22	

CHECK LETTER ANCHORS:

Anchor Loads:

T_{max} = Max Anchor Tension = 5.1 lb
V_{max} = Max Anchor Shear = 2.2 lb

#12 Screws to Trespa Panel

T_{all} = Allowable Tension =	124	lb	>	5.1	lb	**O.K.**
V_{all} = Allowable Shear =	50	lb	>	2.2	lb	**O.K.**

City of Puyallup
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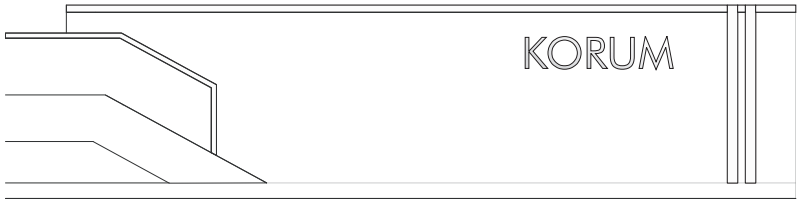
PRSG20220751



3/1 LOCATION ELEVATION
1/4" = 1 - 0"

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN ACCORDANCE WITH
2018 INTERNATIONAL BUILDING CODE
ASCE 7-16

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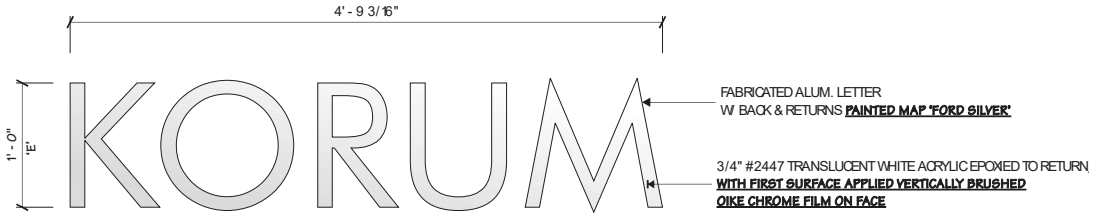
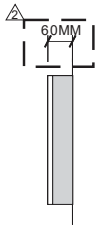
07/12/2022



1/1 FRONT ELEVATION
1" = 1 - 0"



2/1 SIDE VIEW
1" = 1 - 0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 05.26.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By HWBJ
Project Mgr. M. YARBROUGH

General Sign Specifications

☐ Interior ■ Exterior
☐ Single Faced ☐ Double Faced
☐ _____
☐ Non-Illuminated
☐ Illuminated
120 Volts _____ Amps(+/-)
Location PUYALLUP, WA
Windspeed 115 MPH IBC 2018

Drawing Revisions

	Drawn By	Date	Change
1	DS	03.19.20	UPDATED LED LAYOUT
2	MM	12.11.20	ER# 45035 - CHANGED DEPTH TO 60MM

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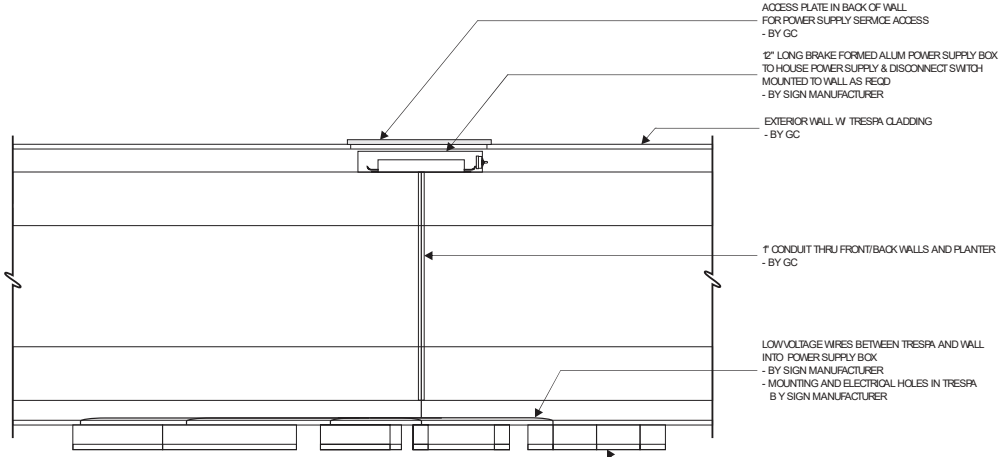
Code 15293
Type C

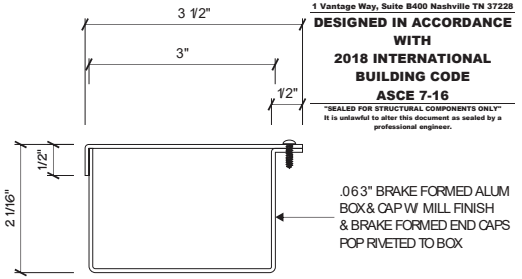
2655 International Pkwy.
Virginia Beach, VA 23452

Sign Type DN-12
PG #: 1

PRSG20220751



2/2 PLAN DETAIL
1" = 1'-0"



3/2 POWER SUPPLY BOX
6" = 1'-0"

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

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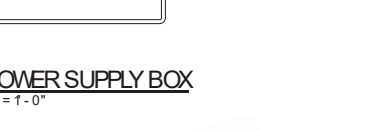
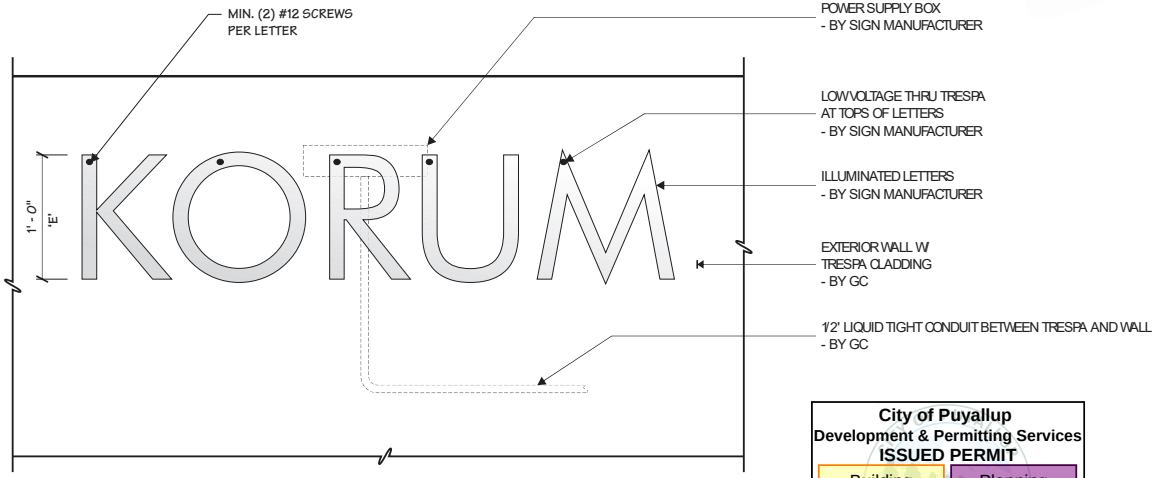


07/12/2022



1/2 ACCESS DETAIL
1" = 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

2655 International Pkwy.
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 05.26.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By HWBJ
Project Mgr. M. YARBROUGH

General Sign Specifications
Interior ■ Exterior
Single Faced □ Double Faced

Non-Illuminated
Illuminated
120 Volts _____ Amps(+/-)
Location PUYALLUP, WA
Windspeed 115 MPH IBC 2018

Drawing Revisions

	Drawn By	Date	Change
1	DS	03.19.20	UPDATED LED LAYOUT
2	MM	12.11.20	ER# 45035 - CHANGED DEPTH TO 60MM

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Code	Type
15293	C

Sign Type	PG #:
DN-12	2

PRSG20220751

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE ASCE 7-16

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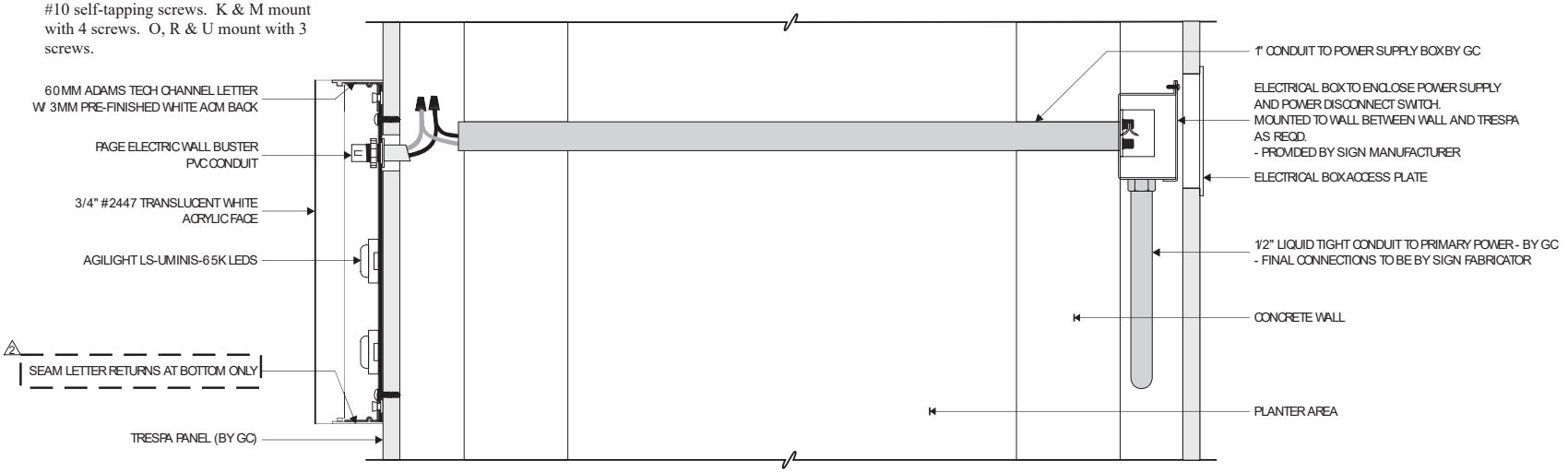
Letters mounted to Trespa panels using #10 self-tapping screws. K & M mount with 4 screws. O, R & U mount with 3 screws.



1/3 SECTION VIEW
1/4" = 1'

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

BRENT ALAN THORNTON
STATE OF WASHINGTON
55104
REGISTERED
PROFESSIONAL ENGINEER

07/12/2022

2655 International Pkwy.
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 05.26.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By HWBJ
Project Mgr. M. YARBROUGH

General Sign Specifications
Interior ■ Exterior
Single Faced □ Double Faced

Non-Illuminated
Illuminated
120 Volts ____ Amps(+/-)
Location PUYALLUP, WA
Windspeed 115 MPH IBC 2018

Drawing Revisions

	Drawn By	Date	Change
1	DS	03.19.20	UPDATED LED LAYOUT
2	MM	12.11.20	ER# 45035 - CHANGED DEPTH TO 60MM

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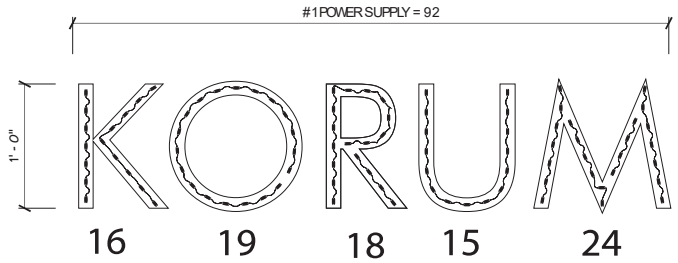
Code	Type
15293	C
Sign Type	**PG #:**
DN-12	3

PRSG20220751



1/4 LED LAYOUT
1" = 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

2655 International Pkwy.
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 05.26.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By HWBJ
Project Mgr. M. YARBROUGH

General Sign Specifications
Interior ■ Exterior
Single Faced □ Double Faced

Non-Illuminated
Illuminated
120 Volts _____ Amps(+/-)
Location PUYALLUP, WA
Windspeed 115 MPH IBC 2018

Drawing Revisions	Drawn By	Date	Change
1	DS	03.19.20	UPDATED LED LAYOUT
2	MM	12.11.20	ER# 45035 - CHANGED DEPTH TO 60MM

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Code 15293
Type C
Sign Type DN-12
PG #: 4

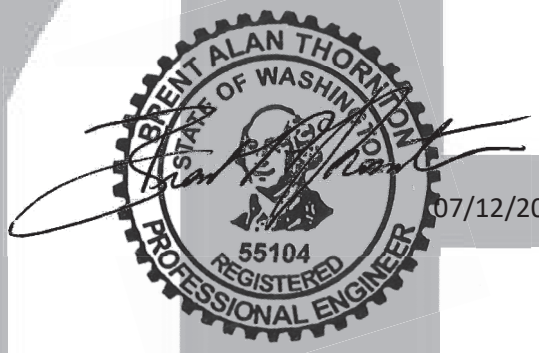
PRSG20220751

Korum Lincoln
100 River Road
Puyallup, WA 98371

RBA Job No. 224639.02

CALCULATIONS FOR:
LN-CL-32

Designed in accordance with:
2018 International Building Code
ASCE 7-16
Wind Velocity = 115 mph
Risk Category II

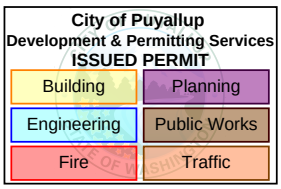


07/12/2022

FABRICATOR
Architectural Graphics, Inc.
2655 International Parkway
Virginia Beach, Virginia 23452

DESIGN ENGINEER
RBA Structural Engineering, LLC
1 Vantage Way, Suite B-400
Nashville, Tennessee 37228

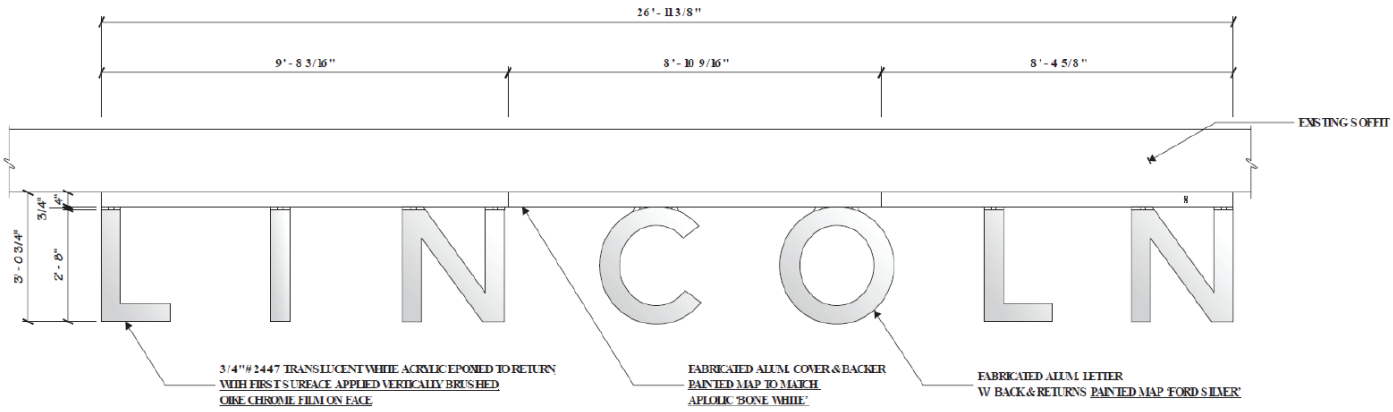
PRSG20220751



SUBJECT Lincoln of Korum LN-CL-32	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Ross Bryan Associates, Inc.	SHEET NO. 1 OF
FOR AGI BY BWP		JOB NO. 224639.02
		DATE 7/11/22

Sign Type: LN-CL-32

2018 International Building Code
Wind Per ASCE 7-16, V=115mph



1/1 FRONT ELEVATION
3/8"=1'-0"

Dead Load: Use 12psf max

Wind Load: p_w = 44.46 psf (ultimate)
p_w = 26.68 psf (service)
p_w = 0.1853 psf (service)
} SEE SHEET 2

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

PRSG20220751

Project	Lincoln of Korum	ROSS BRYAN ASSOCIATES, INC.	Sheet No.	2
Model	LN-CL-32	CONSULTING ENGINEERS	Job No.	224639.02
By	BWP	NASHVILLE, TN	Date	7/11/2022

CODES:

Wind Loads per provisions of ASCE 7-16, Chapter 29

SIGN DIMENSIONS:

Length, B =	26.95	ft.	Height, s =	2.67	ft.	OAH Above Grade, h =	30	ft.
Depth, t =	0.33	ft.	A_{sign} =	72.0	ft^2	Ground Elevation, z_g =	0	ft.

WIND LOADS:

Natural Frequency = 1 **RIGID STRUCTURE**

Exposure Category = C Risk Category = II

$q_h = 0.00256 * K_z * K_{zt} * K_d * K_e * V^2$ Velocity Pressure, ASCE 7-16, Section 26.10.2

K_z =	0.98	Velocity Pressure Exposure Coefficient, ASCE 7-16, Table 26.10-1
K_{zt} =	1.0	Topographic Factor, ASCE 7-16, Section 26.8.2
K_d =	0.85	Wind Directionality Factor, ASCE 7-16, Table 26.6-1
K_e =	1.00	Ground Elevation Factor, ASCE 7-16, Table 26.9-1
V =	115	Basic Wind Speed, mph, ASCE 7-16, Figure 26.5-1B

q_h = 28.27 lb/ft^2

$F/A = q_h * G * C_f$ Design Wind Loads, ASCE 7-16, Section 29.3.1

G =	0.85	Gust Effect Factor, ASCE 7-16, Section 26.11
B/s =	10.09	Length of Sign/Depth of Sign
s/h =	0.09	Depth of Sign/Overall Height
C_f =	1.85	Force Coefficient, ASCE 7-16, Figure 29.3-1

F/A = 44.46 lb/ft^2

CASE A: resultant acts normal to sign face through the geometric center

CASE B: resultant acts normal to sign face at a distance from the geometric center toward the windward edge equal to 5.39'

CASE C loading applies

LRFD Loading:

Use wind pressure = 44.46 lb/ft^2 for 1.0*W from ASCE 7-16, Section 2.3.1

ASD Loading:

Use wind pressure = 26.68 lb/ft^2 for 0.6*W from ASCE 7-16, Section 2.4.1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

SUBJECT Lincoln of Korum LN-CL-32	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Ross Bryan Associates, Inc.	SHEET NO. 3 OF
FOR AGI BY BWP		JOB NO. 224639.02
		DATE 7/11/22

Check Tube Supports 1x1½x⅛ Welded 6061 Aluminum:

$$M_{max_L} = \frac{(0.1853\,psi)(5.5in)(39in)(39in)}{2} + (0.1853psi)(5.5in)(14.07in)(37in)$$

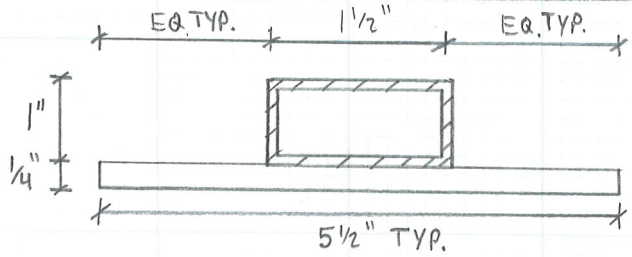
M_{max_L} = 775 #" + 531 #" = 1306 #"

M_{max_N} = 775 #" + $\frac{(0.1853psi)(175in^2)(39in)}{2}$ = 1407 #"

$M_{max_C} = (0.1853\,psi)(345in^2)[(0.67)(34in + 6.5in] = 1872\,\#"$

By Inspection: "C" Worse Case Than "O", "L" Worst case than "I"

Check Moment Capacity of Composite Plate / Tube



$$\bar{y} = \frac{A_1\bar{y}_1 + A_2\bar{y}_2}{(A_1 + A_2)} = \frac{(5.5in)(0.25in)(0.125in) + (0.563in^2)(0.75in)}{((5.5in)(0.25in) + 0.563in^2)} = 0.3066\,in$$

$$\bar{I}_1 = \frac{bh^3}{12} = \frac{(5.5in)(0.25in^3)}{12} = 0.00716\,in^4$$

$\bar{I}_2 = 0.0811\,in^4$

$I_{1ADD} = Ad^2 = (5.5in)(0.25in)(0.3066in - 0.125in)^2 = 0.0453\,in^4$

$I_{2ADD} = Ad^2 = (0.563in^2)(0.75in - 0.3066in)^2 = 0.1107\,in^4$

$I_{TOTAL} = 0.00716in^4 + 0.0811in^4 + 0.0453in^4 + 0.1107in^4 = 0.2443in^4$

$$S = \frac{I}{C_{max}} = \frac{0.2443in^4}{(1.25in - 0.3066in)} = 0.2589\,in^3$$

$F_b/\Omega = 13600\,psi \Rightarrow M_{ALLOW} = 13600\,psi\,(0.2589\,in^3) = 3521\,\#in > 1872\,\#in$ (O.K.)

welded 6061 Aluminum

City of Puyallup
Development & Permitting Services
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Building | Planning
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Fire | Traffic

PRSG20220751

Check Additional Torsion:

$T \approx (0.1853\ psi)(140\ in^2)(12in) = 311\ \#in$ (Significant Torsion Only @ Combined Section)

Check Torsional Capacity of Plate (Only Worst Case) 6061 Aluminum Welded

$$\tau = \frac{3T}{8ab^2}\left[1 + 0.6095(b/a) + 0.8865(b/a)^2 - 1.8023(b/a)^3 + 0.910(b/a)^4\right]$$

$$b/a = \frac{0.5(0.25in)}{0.5(5.5in)} = 0.0454$$

$$\tau = \frac{3(311\ \#in)}{8(2.75in)(0.125in)^2}\left[1 + 0.6095(0.0454) + 0.8865(0.0454)^2 - 1.8023(0.0454)^3 + 0.910(0.0454)^4\right]$$

$\tau = 2794 psi$

$\frac{Fv}{\Omega} = 5500\ psi > 2794\ psi$ (O.K.) $\Rightarrow T_{ALLOW} = \frac{5500\ psi}{2794\ psi}(311\ \#in) = 612\ \#in$

Check Torsional Capacity of Tube 1x1 1/2x1/8 6061 Aluminum Welded:

$C = 2t(b-t)(d-t) = 2(0.125in)(1.5in - 0.125in)(1in - 0.125in) = 0.301\ in^3$

(FOR Corner Radius "r" = 0)

$T_{ALLOW} = (5500\ psi)(0.301\ in^3) = 1655\ \#in > 311\ \#in$ (O.K.)

Check Torsional Capacity of Composite Section and Combined Forces:

Moment + Torsion @ Top

$$\frac{1872\ \#in}{3521\ \#in} + \frac{311\ \#in}{(612\#in + 1655\#in)} = 0.67 < 1.0$$ (O.K.)

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Fire | Traffic

Check Moment Capacity of Plate w/o Tube:

$M_{plate} = (0.1853\ psi)(180\ in^2)(12\ in) = 400.2\ \#in$

$M_{allow} = \frac{F_b}{\Omega} S = 13600\ psi\left(\frac{(5.5in)(0.25in)^2}{6}\right) = 779\ \#in > 400\ \#in$ (O.K.)

Mounting to Steel Tube (6) #12 screws

$DL = (30in)(40in)(12psf)(1SF/144\ in^2) = 100\#$

$T_{DL} = 100\#/6\ SCREWS = 16.7\#$

$T_{WL} = \frac{1872\ \#in}{(5in)(2\ SCREWS)} = 187.2\ \#$

$\rightarrow T_{TOT} = 203.9\ \# < T_{ALLOW} = 496\#$ (O.K.)

$V_{WL} = \frac{0.1853\ psi\ (30in)(40in)}{6\ SCREWS} = 37.1\ \# < V_{ALLOW} = 378\#$ (O.K.)

Unity Check: $\frac{204\#}{496\#} + \frac{37\#}{378\#} = 0.51 < 1.0$ (O.K.)

PRSG20220751

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

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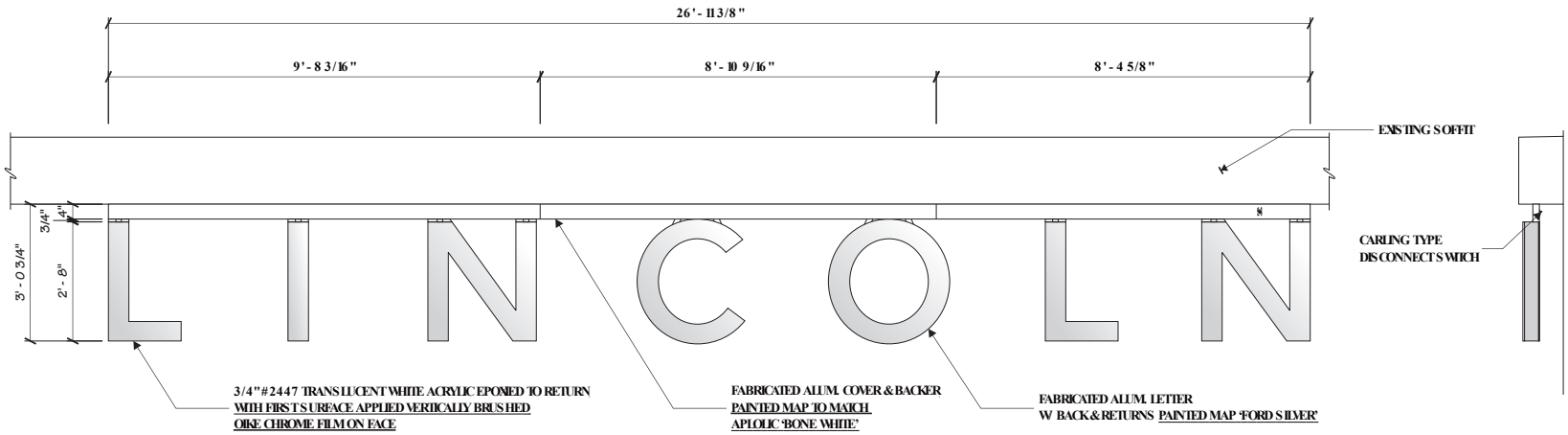

1/1 **FRONT ELEVATION**
3/8"= 1' - 0"

2/1 **SIDE VIEW**
3/8"= 1' - 0"

City of Puyallup
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Building	Planning
Engineering	Public Works
Fire	Traffic

BRENT ALAN THORNTON
STATE OF WASHINGTON
55104
REGISTERED
PROFESSIONAL ENGINEER

07/12/2022

2655 International Parkway
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 08.08.18

AGI EoR C. MILLER
Lead Drafter FKN
Drawn By FKN
Project Mgr.

General Sign Specifications
☐ Interior ■ Exterior
☐ Single Faced ☐ Double Faced
■ WEIGHT ~ 200 lbs
☐ Non-Illuminated
■ Illuminated
120 Volts _____ Amps(+/-)
Location PUYALLUP, WA
Windspeed _____

Drawing Revisions

Drawn By	Date	Change
FKN	07.16.18	ADDED DISCONNECT SWITCH
FKN	02.18.19	CHANGED LED MODULE & LAYOUT
MM	02.12.20	ER# 40555 - ADDED STEEL PLATES ABV/BLW TRUSS PER GC
HWBJ	03.12.20	ADDED ACM BACKER PANEL PER DR#40616
FKN	07.14.21	ADDED SIGN WEIGHT
POR	11.08.21	INCLUDE SHOP DIMENSIONS PER W.O. 66662

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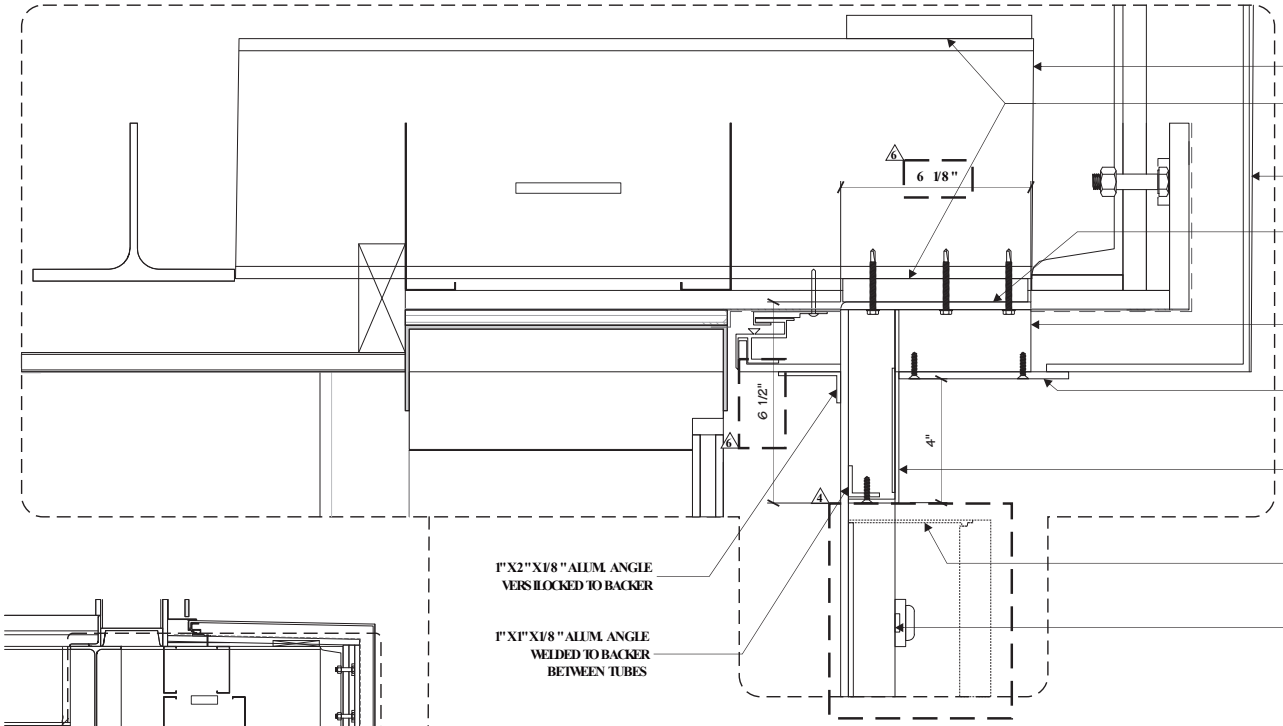
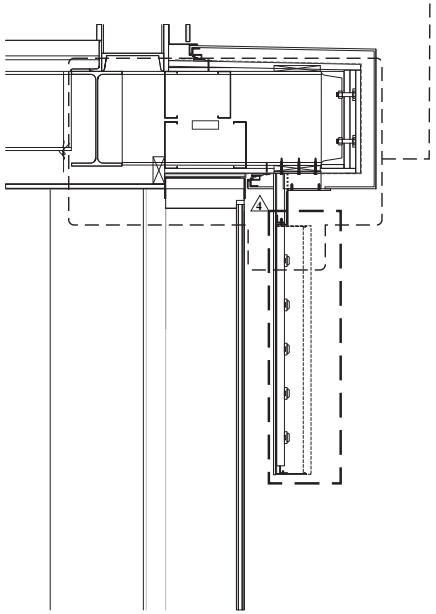
Code 15293
Type C
Sign Type CL-32
PG #: 1

PRSG20220751



2/2 BLOWUP DETAIL
1/4"= 1"



1/2 SECTION VIEW @ MOUNTING
3/4"= 1'-0"

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Engineers
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Engineering	Public Works
Fire	Traffic

BRENT ALAN THORNTON — STATE OF WASHINGTON — 55104 — REGISTERED PROFESSIONAL ENGINEER

07/12/2022

2655 International Parkway
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 08.08.18

AGI EoR C. MILLER
Lead Drafter FKN
Drawn By FKN
Project Mgr.

General Sign Specifications
☐ Interior ■ Exterior
☐ Single Faced ☐ Double Faced
■ WEIGHT ~ 200 lbs
☐ Non-Illuminated
■ Illuminated
120 Volts _____ Amps(+/-)
Location PUYALLUP, WA
Windspeed _____

Drawing Revisions

Drawn By	Date	Change
1 FKN	07.16.18	ADDED DISCONNECT SWITCH
2 FKN	02.18.19	CHANGED LED MODULE & LAYOUT
3 MM	02.12.20	ER# 40585 - ADDED STEEL PLATES ABV/BLW TRUSS PER GC
4 HWBJ	03.12.20	ADDED ACM BACKER PANEL PER DR#40616
5 FKN	07.14.21	ADDED SIGN WEIGHT
6 POR	11.08.21	INCLUDE SHOP DIMENSIONS PER W.O. 66662

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Code 15293
Type C
Sign Type CL-32
PG #: 2

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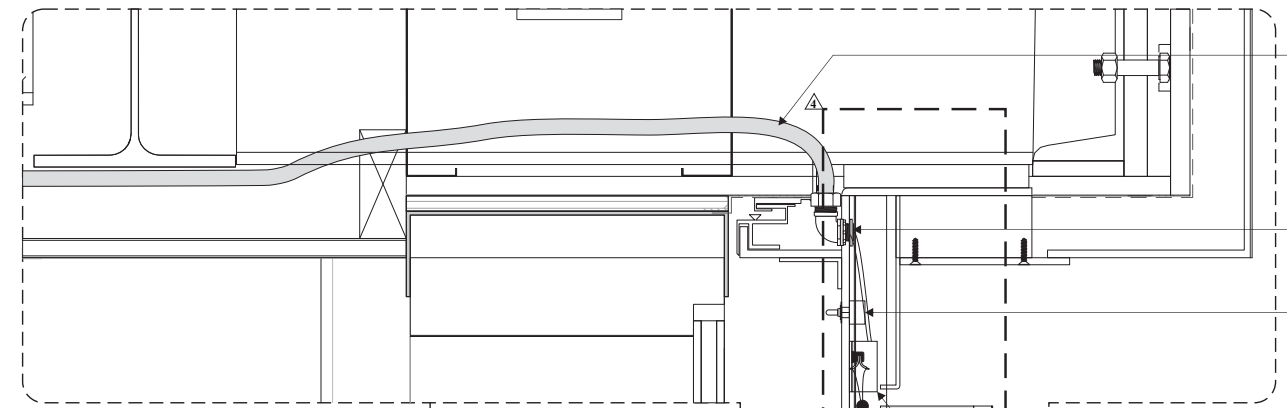

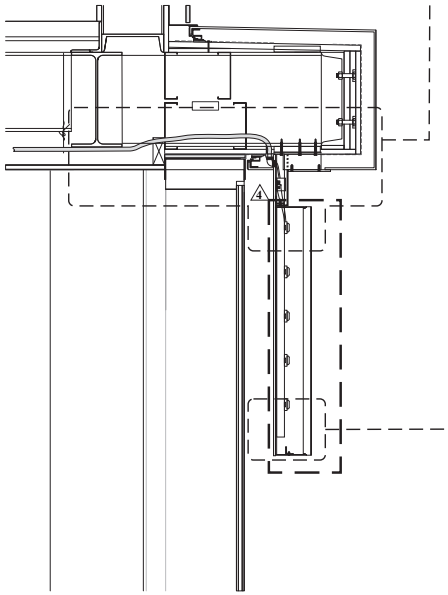

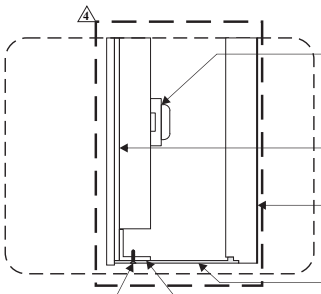

1/3 SECTION VIEW @ ELECTRICAL
3/4"= 1'- 0"

2/3 BLOWUP DETAIL
1/4"= 1"

07/12/2022

BRENT ALAN THORNTON
STATE OF WASHINGTON
55104
REGISTERED
PROFESSIONAL ENGINEER

City of Puyallup
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Engineering	Public Works
Fire	Traffic

RBA Structural Engineering, LLC
Engineers
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2655 International Parkway
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 08.08.18

AGI EoR C. MILLER
Lead Drafter FKN
Drawn By FKN
Project Mgr.

General Sign Specifications
☐ Interior ■ Exterior
☐ Single Faced ☐ Double Faced
■ WEIGHT ~ 200 lbs
☐ Non-Illuminated
■ Illuminated
120 Volts _____ Amps(+/-)
Location PUYALLUP, WA
Windspeed _____

Drawing Revisions

Drawn By	Date	Change
FKN	07.16.18	ADDED DISCONNECT SWITCH
FKN	02.18.19	CHANGED LED MODULE & LAYOUT
MM	02.12.20	ER# 40555 - ADDED STEEL PLATES ABV/BLW TRUSS PER GC
HWBJ	03.12.20	ADDED ACM BACKER PANEL PER DR#40616
FKN	07.14.21	ADDED SIGN WEIGHT
POR	11.08.21	INCLUDE SHOP DIMENSIONS PER W.O. 66662

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Code 15293
Type C
Sign Type CL-32
PG #: 3

PRSG20220751

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Development & Permitting Services
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Engineering	Public Works
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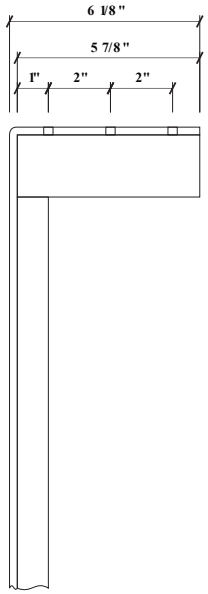
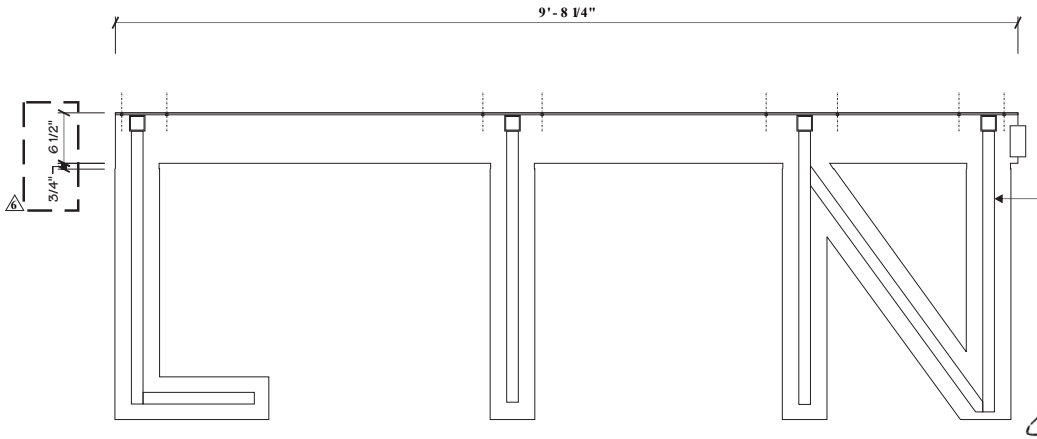
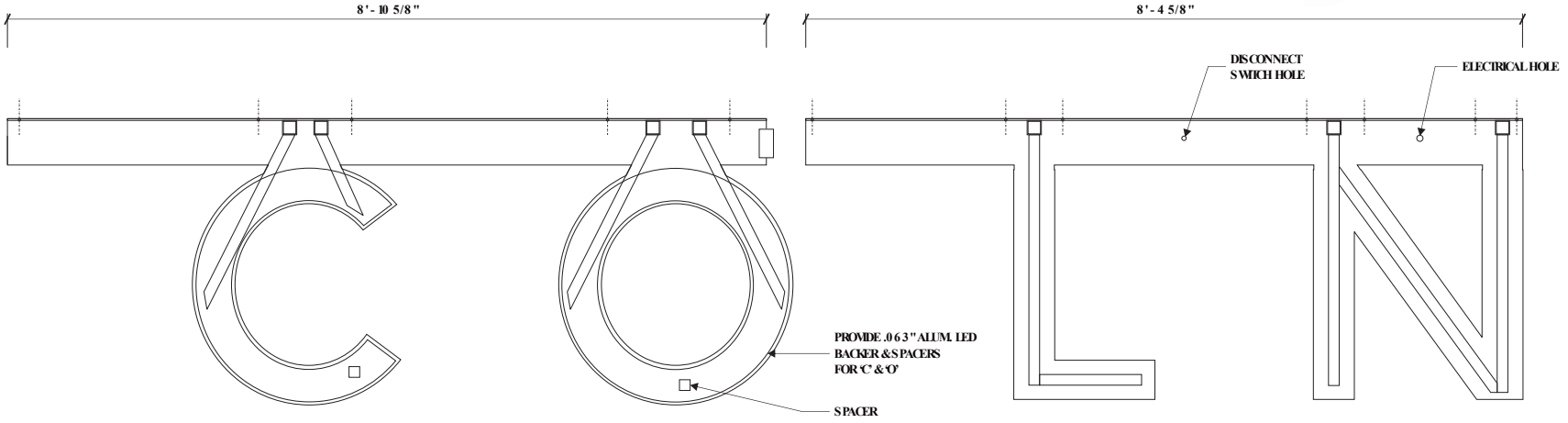




2/4 SIDE DETAIL
1/4"= 1"

07/12/2022



1/4 BACKER LAYOUT
3/4"= 1'-0"

2655 International Parkway
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 08.08.18

AGI EoR C. MILLER
Lead Drafter FKN
Drawn By FKN
Project Mgr.

General Sign Specifications
☐ Interior ■ Exterior
☐ Single Faced ☐ Double Faced
■ WEIGHT ~ 200 lbs
☐ Non-Illuminated
■ Illuminated
120 Volts _____ Amps(+/-)
Location PUYALLUP, WA
Windspeed _____

Drawing Revisions

Drawn By	Date	Change
1 FKN	07.16.18	ADDED DISCONNECT SWITCH
2 FKN	02.18.19	CHANGED LED MODULE & LAYOUT
3 MM	02.12.20	ER# 40565 - ADDED STEEL PLATES ABV/BLW TRUSS PER GC
4 HWBJ	03.12.20	ADDED ACM BACKER PANEL PER DR#40616
5 FKN	07.14.21	ADDED SIGN WEIGHT
6 POR	11.08.21	INCLUDE SHOP DIMENSIONS PER W.O. 66662

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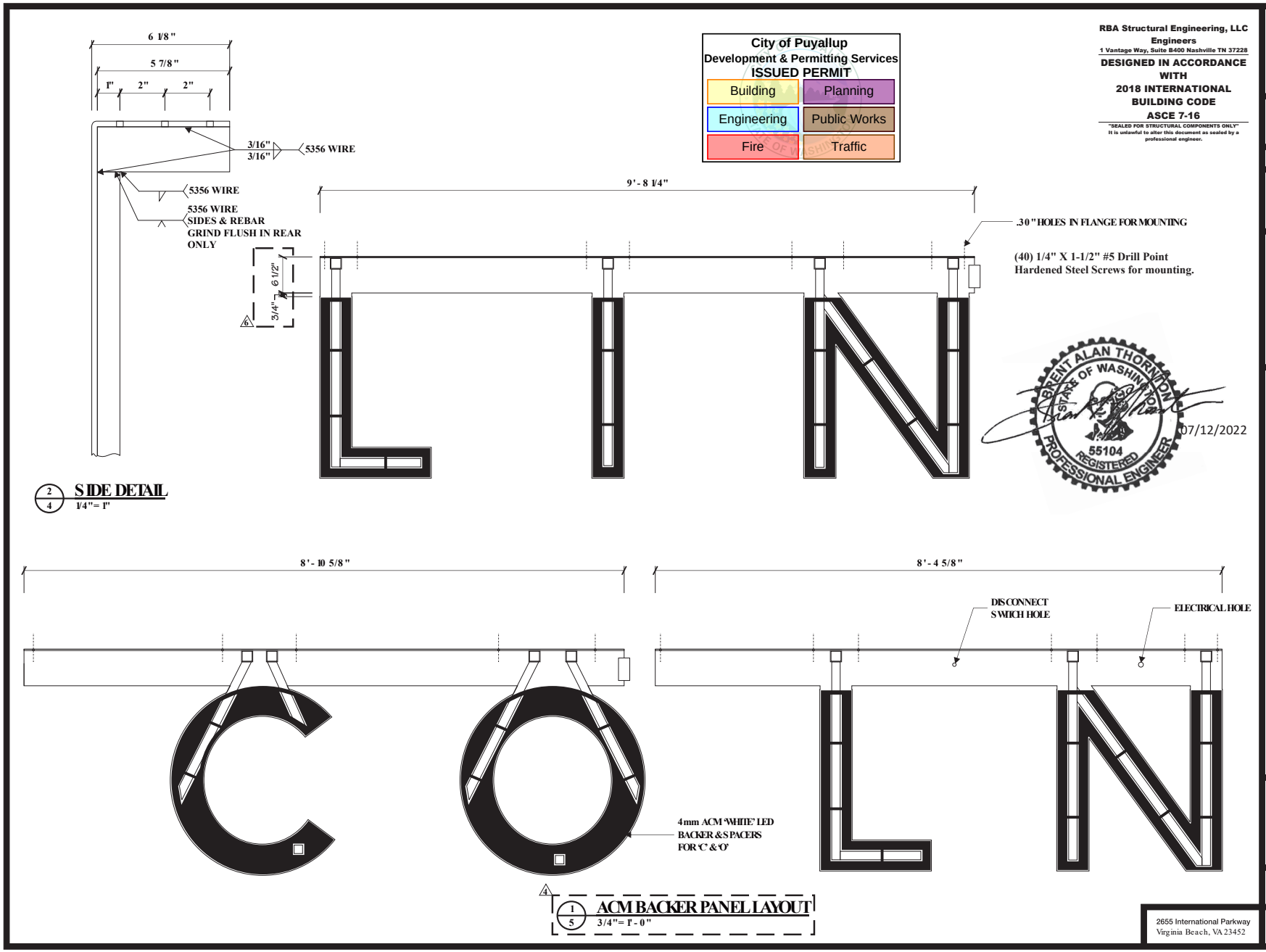
Code 15293
Type C
Sign Type CL-32
PG #: 4

PRSG20220751



City of Puyallup
Development & Permitting Services
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Engineering	Public Works
Fire	Traffic

RBA Structural Engineering, LLC
Engineers
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Project Title
LINCOLN

Date 08.08.18

AGI EoR C. MILLER
Lead Drafter FKN
Drawn By FKN
Project Mgr.

General Sign Specifications
☐ Interior ■ Exterior
☐ Single Faced ☐ Double Faced
■ WEIGHT ~ 200 lbs
☐ Non-Illuminated
■ Illuminated
120 Volts _____ Amps(+/-)
Location PUYALLUP, WA
Windspeed _____

Drawing Revisions

	Drawn By	Date	Change
1	FKN	07.16.18	ADDED DISCONNECT SWITCH
2	FKN	02.18.19	CHANGED LED MODULE & LAYOUT
3	MM	02.12.20	ER# 40555 - ADDED STEEL PLATES ABV/BLW TRUSS PER GC
4	HWBJ	03.12.20	ADDED ACM BACKER PANEL PER DR#40616
5	FKN	07.14.21	ADDED SIGN WEIGHT
6	POR	11.08.21	INCLUDE SHOP DIMENSIONS PER W.O. 66662
7			
8			
9			
10			
11			

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Code 15293
Type C
Sign Type CL-32
PG #: 5

2655 International Parkway
Virginia Beach, VA 23452

PRSG20220751

1) **UNLESS OTHERWISE SPECIFIED:** All layouts are for a single face sign or a single set of letters and the depth of the application considered for the layout is 5 inches.
2) LED module placement is approximate. AgiLight® recommends the sign manufacturer verify the LED placement and quantity to ensure even illumination and brightness expectations are achieved.
3) Estimations are based off the quality of art work and information provided by the customer, this includes: font style, letter height, depth, face material, and any special instructions. Missing information may cause delays in the delivery of estimates, as well as effect product selection, accurate quantities, and brightness.
4) For installation instructions of AgiLight® LED systems please refer to www.AgiLight.com under the TOOLS & DOWNLOADS section or contact an AgiLight® Inside Sales Representative at: +1.866.482.0203

15293-LN-32

City of Puyallup
Development & Permitting Services
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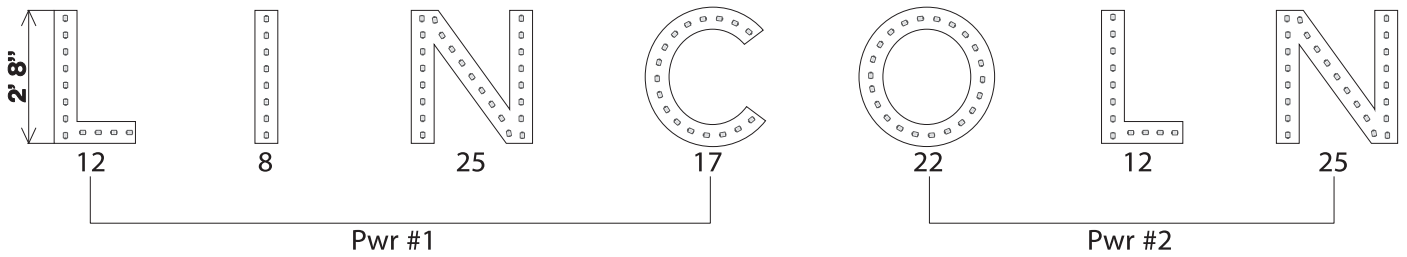
Building	Planning
Engineering	Public Works
Fire	Traffic



Notes:
Layout based off a 4" depth from face.
Modules spaced on 4" centers.

61 feet LS-U450-65K-B150-A - 121 Modules
2 - PS12-60WSL-100-277V

32" Lincoln

Face Lit

April 08, 2019

IDV

AGILIGHT® Light It Up

1074 Arion Circle Suite 116, San Antonio, TX 78216
PH: +1 (866) 482-0203 - Fax: +1 (210) 360-1454
www.AgiLight.com

AGI

Project Title
LINCOLN

Date 08.08.18

AGI EoR C. MILLER
Lead Drafter FKN
Drawn By FKN
Project Mgr.

General Sign Specifications
☐ Interior ■ Exterior
☐ Single Faced ☐ Double Faced
■ WEIGHT ~ 200 lbs
☐ Non-Illuminated
■ Illuminated
120 Volts _____ Amps(+/-)
Location PUYALLUP, WA
Windspeed _____

Drawing Revisions

	Drawn By	Date	Change
1	FKN	07.16.18	ADDED DISCONNECT SWITCH
2	FKN	02.18.19	CHANGED LED MODULE & LAYOUT
3	MM	02.12.20	ER# 40585 - ADDED STEEL PLATES ABV/BLW TRUSS PER QC
4	HWBJ	03.12.20	ADDED ACM BACKER PANEL PER DR#40616
5	FKN	07.14.21	ADDED SIGN WEIGHT
6	POR	11.08.21	INCLUDE SHOP DIMENSIONS PER W.O. 66662

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Code 15293
Type C

2655 International Parkway
Virginia Beach, VA 23452

Sign Type CL-32
PG #: 6

PRSG20220751

Korum Lincoln
100 River Road
Puyallup, WA 98371

RBA Job No. 224639.05

CALCULATIONS FOR:
LN-WT-76

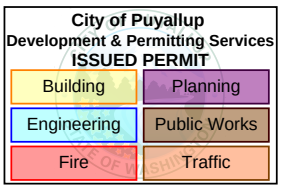
Designed in accordance with:
2018 International Building Code
ASCE 7-16
Wind Velocity = 115 mph
Risk Category II

07/12/2022

FABRICATOR
Architectural Graphics, Inc.
2655 International Parkway
Virginia Beach, Virginia 23452

DESIGN ENGINEER
RBA Structural Engineering, LLC
1 Vantage Way, Suite B-400
Nashville, Tennessee 37228

PRSG20220751

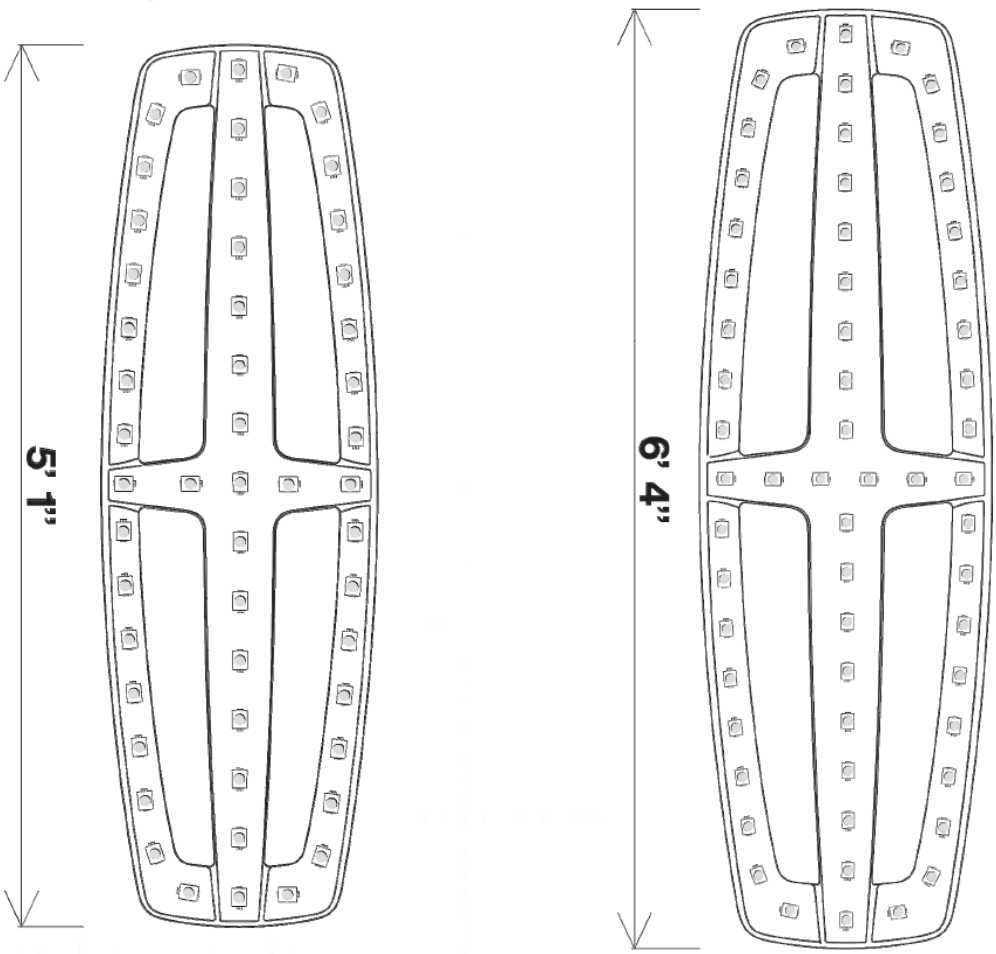


SUBJECT Lincon of Korum	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Ross Bryan Associates, Inc.	SHEET NO. 1 of 2 OF
FOR LN-WT-76 BY BWP		JOB NO. 22 4639.05
		DATE 7/12/2022

WALL MOUNTED EMBLEM

DIMENSIONS: 2'-0" WIDE x 6'-4" TALL, MOUNTED TO TRESPA PANEL
WIND: (SEE PAGE 2) P (ASD) = 20.61 PSF
P_N = 20.61 psf(2.0')(6.333') = 261 lb
USE: (4) Fasteners, T=261 lb/4 = 65.3 lb/fastener
TU Anchor 200-005 (per drawings); T_{all} = 124 lb ≥ 65.3 lb OK

TRESPA WALL SYSTEM BY OTHERS



City of Puyallup
Development & Permitting Services
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Project	Lincoln of Korum	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Ross Bryan Associates, Inc.	**Sheet No.**	2 of	**2**
Model	WT-72		**Job No.**	22 4639.05	
By	BWP		**Date**	7/12/22	

CODES:

Wind Loads per provisions of ASCE 7-16, Chapter 30

SIGN DIMENSIONS:

Length, B =	**2.00**	ft.	Height, s =	**6.33**	ft.	OAH of Sign, z =	**13.33** ft.
Depth =	**0.33**	ft.	A_{sign} =	**12.7**	ft^2	OAH of Wall, h =	**15.33** ft.

WIND LOADS: (For Effective Wind Area ≤ 10 ft^2)

Exposure Category = **C** Risk Category = **II**

$q_h = 0.00256 * K_z * K_{zt} * K_d * V^2$		Velocity Pressure, ASCE 7-16, Section 26.10.2
K_z =	0.85	Velocity Pressure Exposure Coefficient @ z, ASCE 7-16, Table 26.10-1
K_h =	0.85	Velocity Pressure Exposure Coefficient @ h, ASCE 7-16, Table 26.10-1
K_{zt} =	1.0	Topographic Factor, ASCE 7-16, Section 26.8.2
K_d =	0.85	Wind Directionality Factor, ASCE 7-16, Table 26.6-1
V =	**115**	Basic Wind Speed, mph, ASCE 7-16, Figure 26.5-1B

q_z = 24.46 lb/ft^2

q_h = 24.54 lb/ft^2

p = qh * [(GCp) - (GCpi)]		Design Wind Loads, ASCE 7-16, Section 30.3.2
GC_{p+} =	1.00	Positive External Pressure Coefficient, ASCE 7-16, Figure 30.3-1
GC_{p-} =	-1.40	Negative External Pressure Coefficient, ASCE 7-16, Figure 30.3-1
GC_{pi} =	0.0	Internal Pressure Coefficient, ASCE 7-16, Section 29.3.2

p+ = 24.54 lb/ft^2

p- = -34.36 lb/ft^2

p_{max} = 34.36 lb/ft^2

LRFD Loading:

Use wind pressure = 34.36 lb/ft^2 for 1.0*W from ASCE 7-16, Section 2.3.1

ASD Loading:

Use wind pressure = 20.61 lb/ft^2 for 0.6*W from ASCE 7-16, Section 2.4.1

City of Puyallup
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City of Puyallup
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2018 INTERNATIONAL BUILDING CODE
ASCE 7-16

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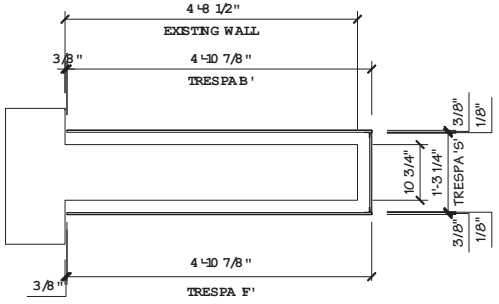
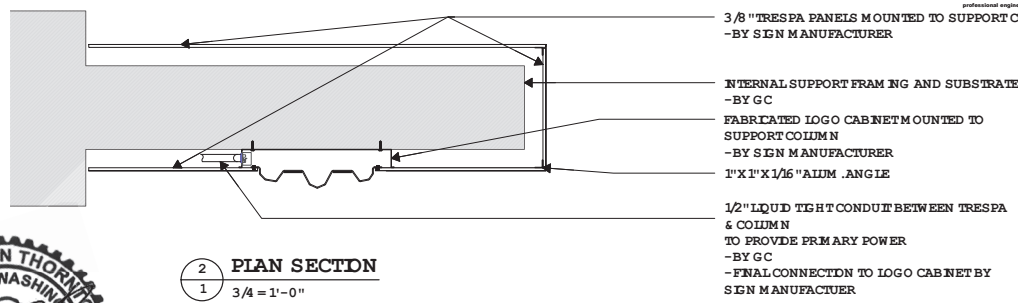
It is unlawful to alter this document as sealed by a professional engineer.

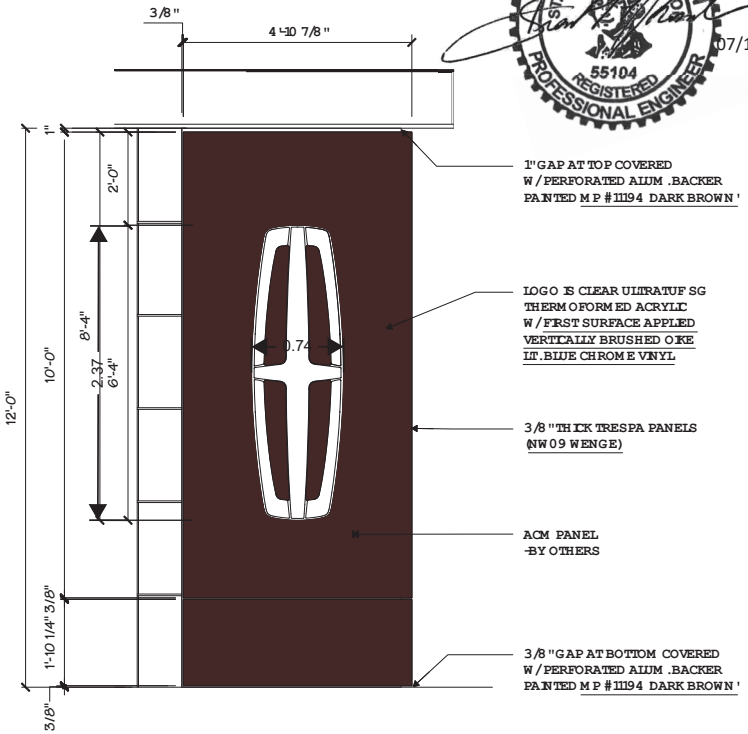


1/1 PLAN VIEW
1/2 = 1'-0"

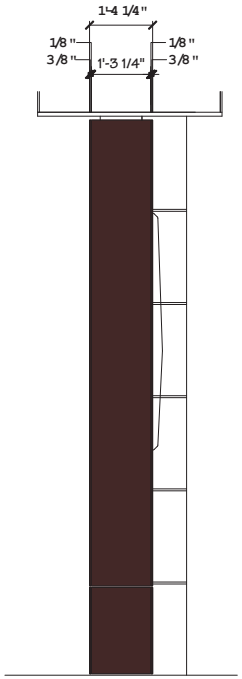


2/1 PLAN SECTION
3/4 = 1'-0"

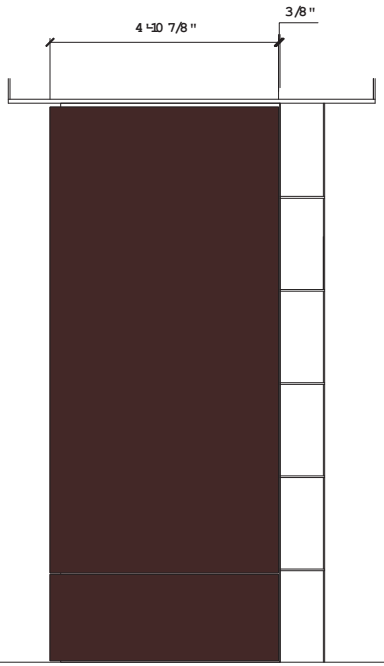
BRENT ALAN THORNTON
STATE OF WASHINGTON
55104
REGISTERED
PROFESSIONAL ENGINEER
07/12/2022



3/1 FRONT ELEVATION
3/8"= 1'-0"



4/1 SIDE VIEW
3/8"= 1'-0"



5/1 REAR ELEVATION
3/8"= 1'-0"

2655 International Pkwy.
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W. VANN

General Sign Specifications
☐ Interior ■ Exterior
■ Single Faced ☐ Double Faced
☐ _____
☐ Non-Illuminated
■ Illuminated
120 Volts 1 Amps (+/-)
Location PUYALLUP, WA
Windspeed 115 MPH / IBC 2018

Drawing Revisions

	Drawn By	Date	Change
A	ELL	06.15.22	54499 - FOR INITIAL RELEASE
B			
C			
D			
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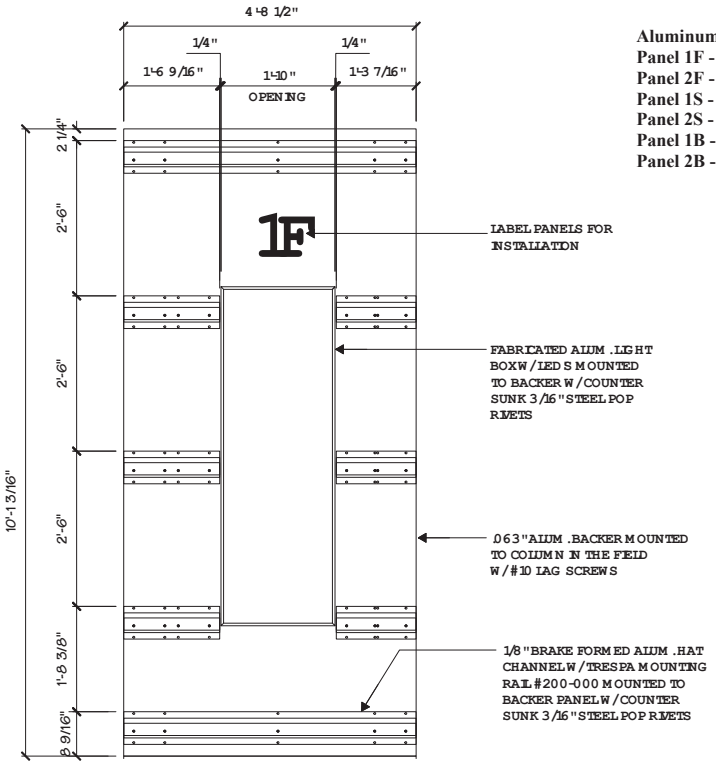
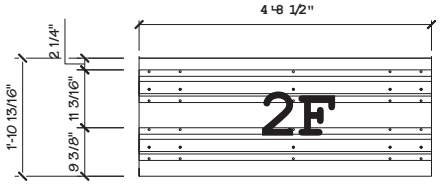
Code	Type
54499	A
Sign Type: LN-W T-76	PG.#: 1

PRSG20220751



1/2 MOUNTING PANEL 1&2F
1/2"= 1'-0"

Aluminum Panels mounted using #10 lag screws.
Panel 1F - 12 screws
Panel 2F - 4 screws
Panel 1S - 8 screws
Panel 2S - 4 screws
Panel 1B - 8 screws
Panel 2B - 4 screws



2/2 MOUNTING PANEL 3F
1/2"= 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W. VANN

General Sign Specifications
☐ Interior ■ Exterior
■ Single Faced ☐ Double Faced
☐ _____
☐ Non-Illuminated
■ Illuminated
120 Volts 1 Amps (+/-)
Location PUYALLUP, WA
Windspeed 115 MPH / IBC 2018

Drawing Revisions

	Drawn By	Date	Change
A	ELL	06.15.22	54499 - FOR INITIAL RELEASE
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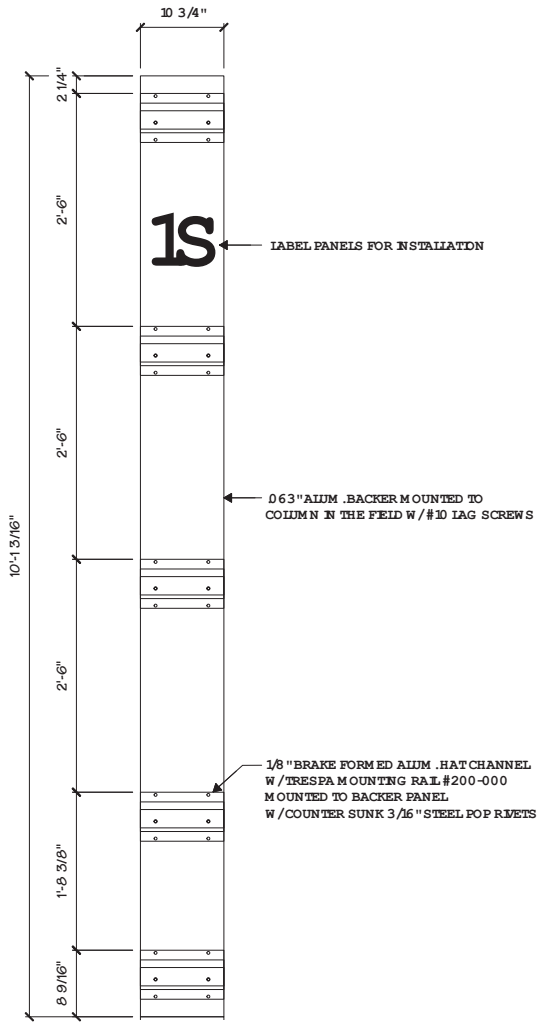
Code 54499
Type A
Sign Type LN-WT-76
PG.#: 2

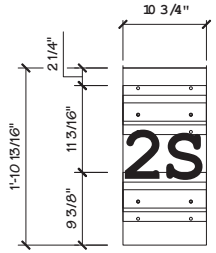
2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751



1/3 MOUNTING PANEL 1S

3/4"= 1'-0"



2/3 MOUNTING PANEL 2S

3/4"= 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W. VANN

General Sign Specifications

- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ☐ _____
- ☐ Non-Illuminated
- ■ Illuminated

120 Volts 1 Amps (+/-)
Location PUYALLUP, WA
Windspeed 115 MPH / IBC 2018

Drawing Revisions

Drawn By	Date	Change
ELL	06.15.22	54499 - FOR INITIAL RELEASE

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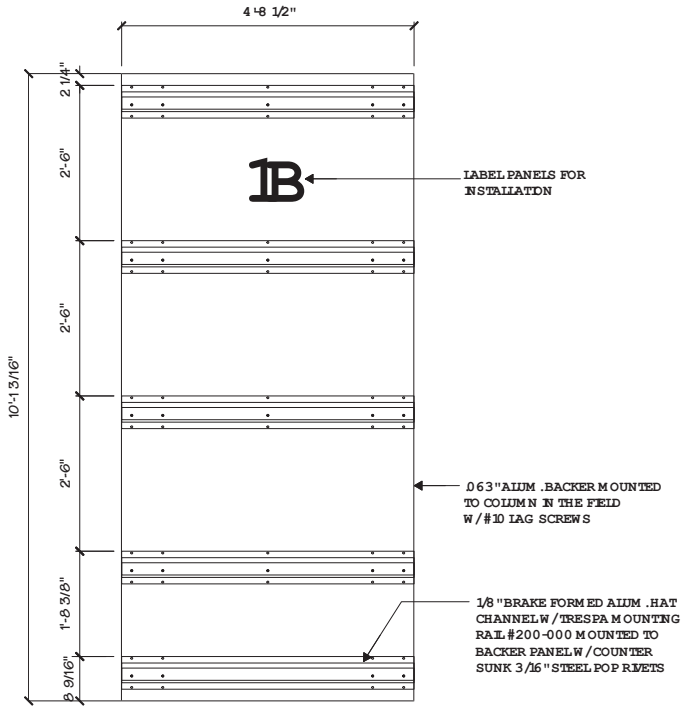
Code 54499
Type A

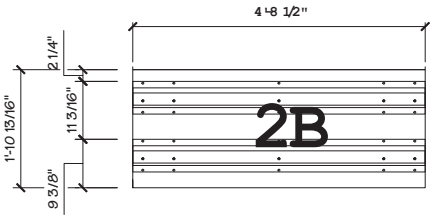
2655 International Pkwy.
Virginia Beach, VA 23452

Sign Type LN-WT-76
PG.#: 3

PRSG20220751



1/4 MOUNTING PANEL 1&2B
1/2"= 1'-0"



2/4 MOUNTING PANEL 3B/4B
1/2"= 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W. VANN

General Sign Specifications
- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ☐ _____
- ☐ Non-Illuminated
- ■ Illuminated
  120 Volts 1 Amps (+/-)
- Location PUYALLUP, WA
- Windspeed 115 MPH / IBC 2018

Drawing Revisions

Drawn By	Date	Change
ELL	06.15.22	54499 - FOR INITIAL RELEASE

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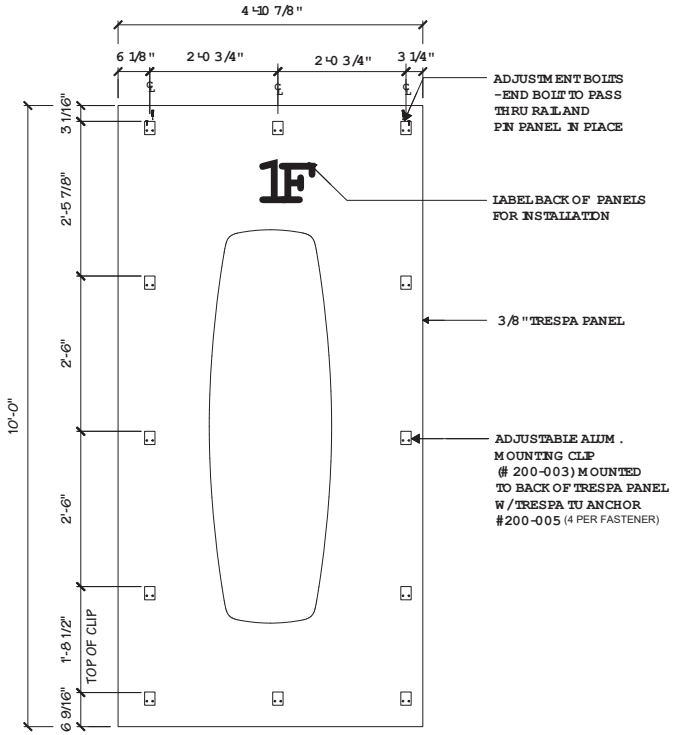
Code 54499
Type A

2655 International Pkwy.
Virginia Beach, VA 23452

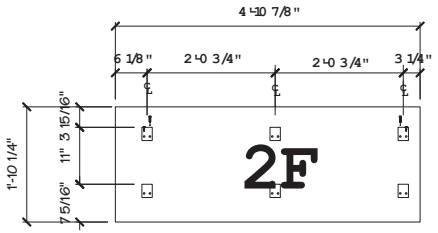
Sign Type LN-WT-76
PG.#: 4

PRSG20220751



1/5 TRESPA PANEL 1/2F

1/2"= 1'-0"



2/5 TRESPA PANEL 3F

1/2"= 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W. VANN

General Sign Specifications

- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ☐ _____
- ☐ Non-Illuminated
- ■ Illuminated

120 Volts 1 Amps (+/-)
Location PUYALLUP, WA
Windspeed 115 MPH / IBC 2018

Drawing Revisions

Drawn By	Date	Change
ELL	06.15.22	54499 - FOR INITIAL RELEASE

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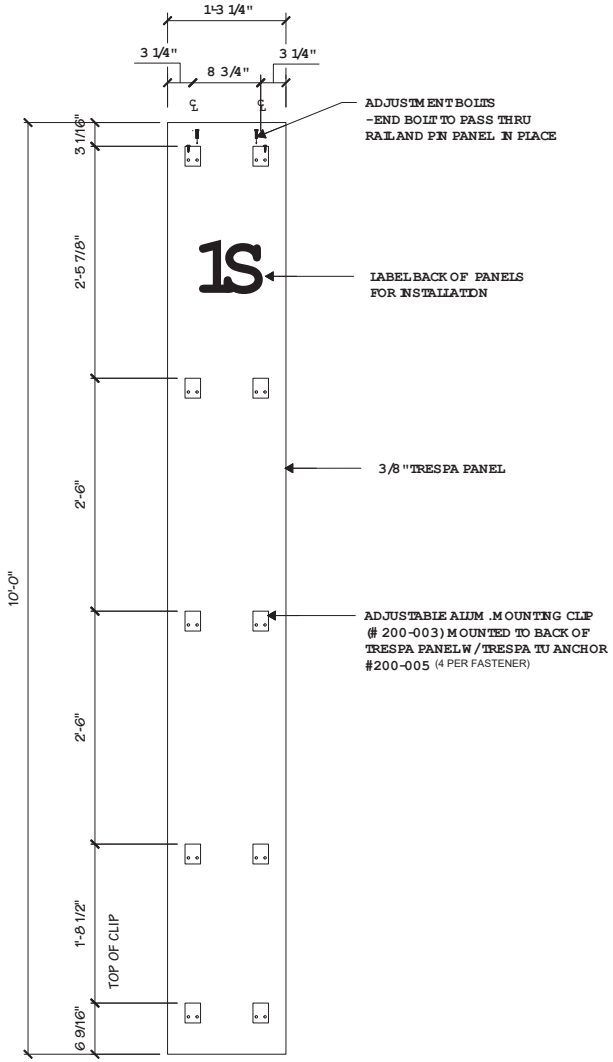
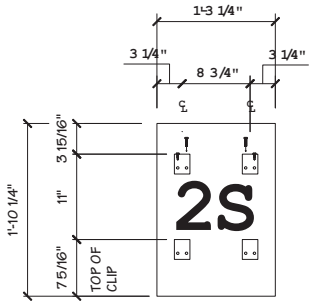
Code 54499
Type A
Sign Type LN-WT-76
PG.#: 5

2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751



2/6 TRESPA PANEL 1S (REAR)
3/4"=1'-0"



2/6 TRESPA PANEL 2S (REAR)
3/4"=1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W. VANN

General Sign Specifications
☐ Interior ■ Exterior
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☐ _____
☐ Non-Illuminated
■ Illuminated
120 Volts 1 Amps (+/-)
Location PUYALLUP, WA
Windspeed 115 MPH / IBC 2018

Drawing Revisions

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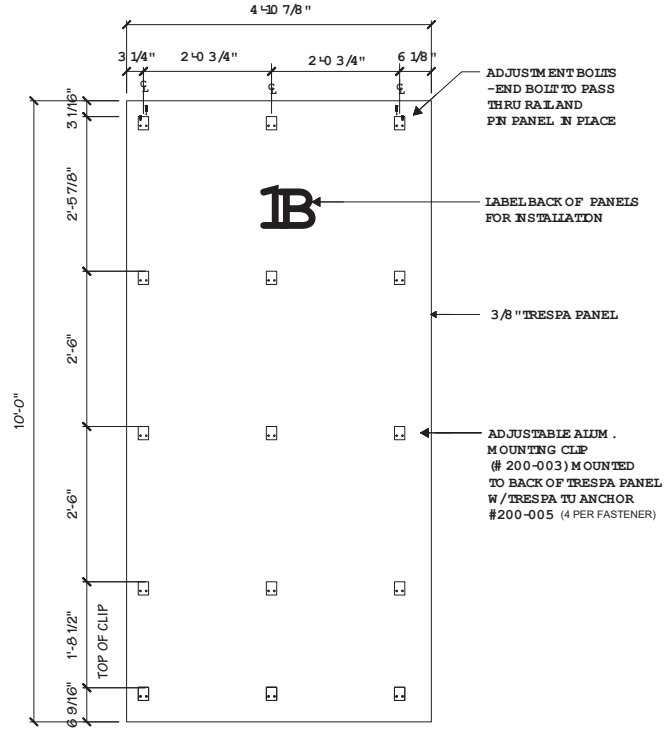
Code 54499
Type A
Sign Type LN-WT-76
PG.#: 6

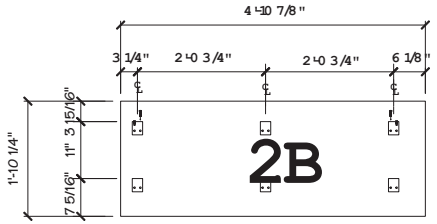
2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751



1/7 TRESPA PANEL 1/2B

1/2"= 1'-0"



2/7 TRESPA PANEL 3B

1/2"= 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W. VANN

General Sign Specifications

- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ☐ _____
- ☐ Non-Illuminated
- ■ Illuminated
  - 120 Volts 1 Amps (+/-)
  - Location PUYALLUP, WA
  - Windspeed 115 MPH / IBC 2018

Drawing Revisions

Drawn By	Date	Change
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Code 54499

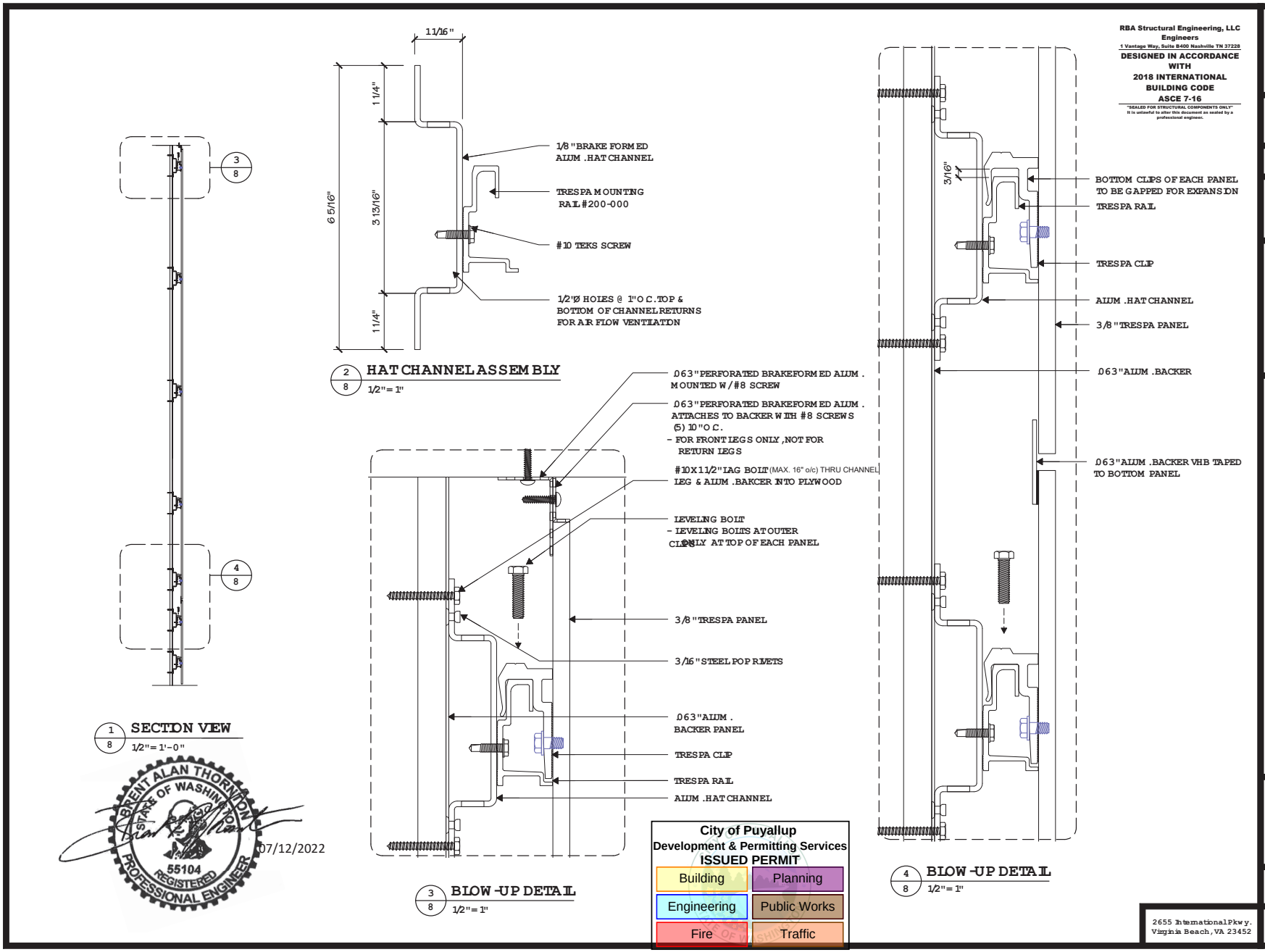
Type A

Sign Type LN-WT-76

PG.#: 7

2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751



RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE ASCE 7-16

"SEALED FOR STRUCTURAL COMPONENTS ONLY"
It is unlawful to alter this document as sealed by a professional engineer.

AGI

Project Title: LINCOLN

Date: 06.15.22

AGI EoR: M. SMITH
Lead Drafter: FKN
Drawn By: ELL
Project Mgr.: W. VANN

General Sign Specifications
- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ☐ _____
- ☐ Non-Illuminated
- ■ Illuminated

120 Volts 1 Amps (+/-)
Location: PUYALLUP, WA
Windspeed: 115 MPH / IBC 2018

Drawing Revisions

	Drawn By	Date	Change
1	ELL	06.15.22	54499 - FOR INITIAL RELEASE
2			
3			
4			
5			
6			
7			
8			
9			

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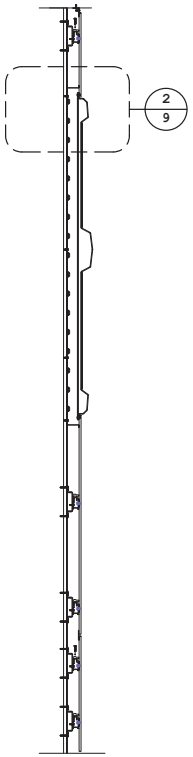
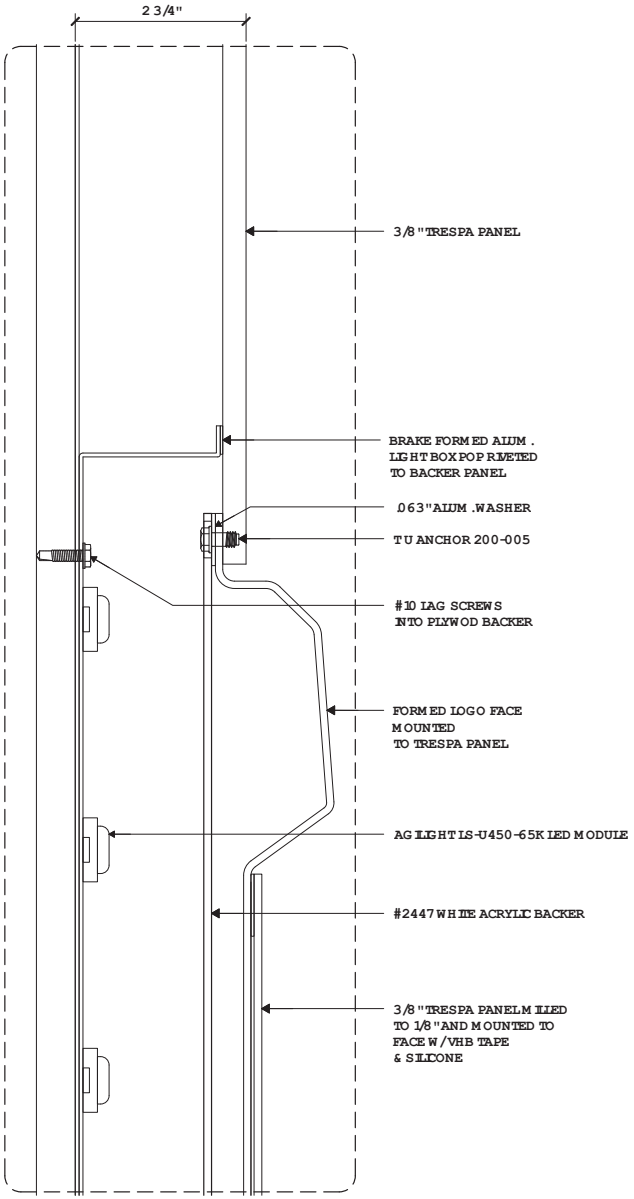
Code: 54499
Type: A
Sign Type: LN-WT-76
PG. #: 8

2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751



1/9 SECTION VIEW
1/2"=1'-0"



2/9 BLOW-UP DETAIL
1/2"=1"

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228
DESIGNED IN ACCORDANCE WITH
2018 INTERNATIONAL BUILDING CODE
ASCE 7-16
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It is unlawful to alter this document as sealed by a professional engineer.

BRENT ALAN THORNTON
STATE OF WASHINGTON
55104
REGISTERED
PROFESSIONAL ENGINEER
07/12/2022

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M.SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W.VANN

General Sign Specifications
☐ Interior ■ Exterior
■ Single Faced ☐ Double Faced
☐ _____
☐ Non-Illuminated
■ Illuminated
120 Volts 1 Amps(+/-)
Location PUYALLUP,WA
Windspeed 115 MPH / IBC 2018

Drawing Revisions

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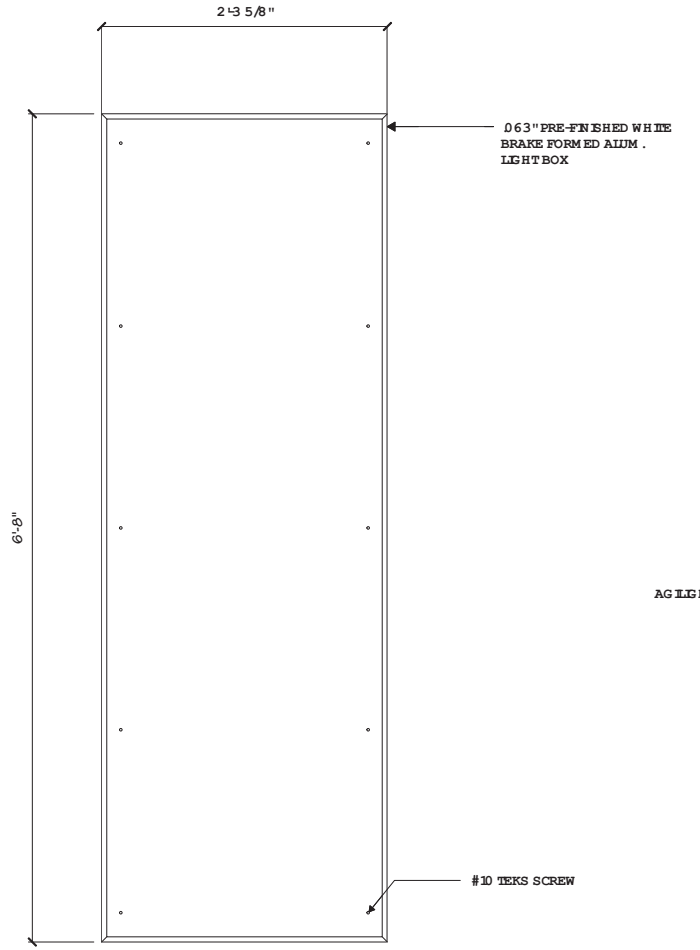
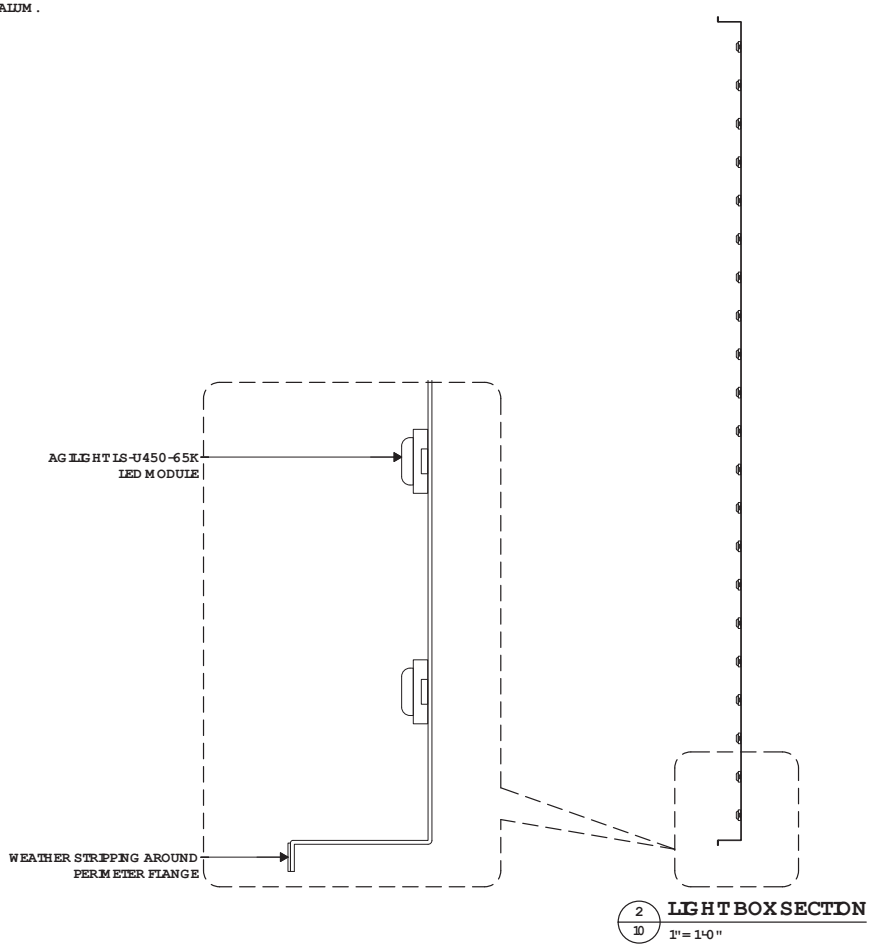
Code 54499
Type A
Sign Type LN-WT-76
PG.#: 9

2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751



1/10 LIGHT BOX DETAIL
1"= 1'-0"



2/10 LIGHT BOX SECTION
1"= 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W. VANN

General Sign Specifications
☐ Interior ■ Exterior
■ Single Faced ☐ Double Faced
☐ _____
☐ Non-Illuminated
■ Illuminated
120 Volts 1 Amps (+/-)
Location PUYALLUP, WA
Windspeed 115 MPH / IBC 2018

Drawing Revisions

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ELL	06.15.22	54499 - FOR INITIAL RELEASE

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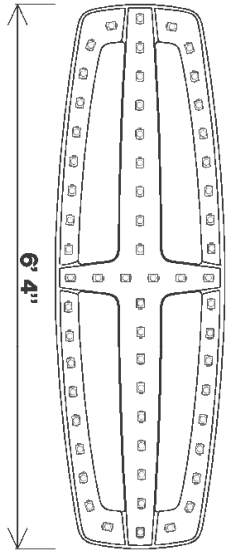
Code 54499
Type A
Sign Type LN-WT-76
PG. #: 10

2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751

1) **UNLESS OTHERWISE SPECIFIED:** All layouts are for a single face sign or a single set of letters and the depth of the application considered for the layout is 5 inches.
2) LED module placement is approximate. AgiLight® recommends the sign manufacturer verify the LED placement and quantity to ensure even illumination and brightness expectations are achieved.
3) Estimations are based off the quality of art work and information provided by the customer, this includes: font style, letter height, depth, face material, and any special instructions. Missing information may cause delays in the delivery of estimates, as well as effect product selection, accurate quantities, and brightness.
4) For installation instructions of AgiLight® LED systems please refer to www.AgiLight.com under the TOOLS & DOWNLOADS section or contact an AgiLight® Inside Sales Representative at: +1.866.482.0203



City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

Notes:
Layout based off a 4" depth from face.
Modules spaced on 4" centers.

30 feet LS-U450-65K-B150-A - 60 Modules
1- PS12-60WSL-100-277V

76" Lincoln Cabinet

Push-Thru Illumination

April 30, 2019 | IDV

AGILIGHT® Light It Up
1074 Arion Circle Suite 116, San Antonio, TX 78216
PH: +1 (866) 482-0203 - Fax: +1 (210) 360-1454
www.AgiLight.com

AGI

Project Title
LINCOLN

Date 06.15.22

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. W. VANN

General Sign Specifications
☐ Interior ■ Exterior
■ Single Faced ☐ Double Faced
☐ _____
☐ Non-Illuminated
■ Illuminated
120 Volts 1 Amps (+/-)
Location PUYALLUP, WA
Windspeed 115 MPH / IBC 2018

Drawing Revisions

Drawn By	Date	Change
ELL	06.15.22	54499 - FOR INITIAL RELEASE

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Code 54499
Type A

2655 International Pkwy.
Virginia Beach, VA 23452

Sign Type LN-WT-76
PG.#: 11

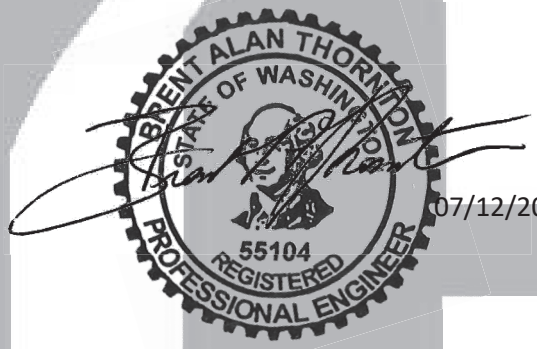
PRSG20220751

Korum Lincoln
100 River Road
Puyallup, WA 98371

RBA Job No. 224639.01

CALCULATIONS FOR:
LN-SV-18

Designed in accordance with:
2018 International Building Code
ASCE 7-16
Wind Velocity = 115 mph
Risk Category II

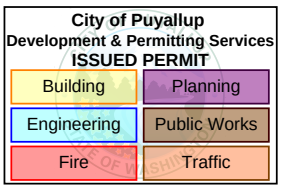


07/12/2022

FABRICATOR
Architectural Graphics, Inc.
2655 International Parkway
Virginia Beach, Virginia 23452

DESIGN ENGINEER
RBA Structural Engineering, LLC
1 Vantage Way, Suite B-400
Nashville, Tennessee 37228

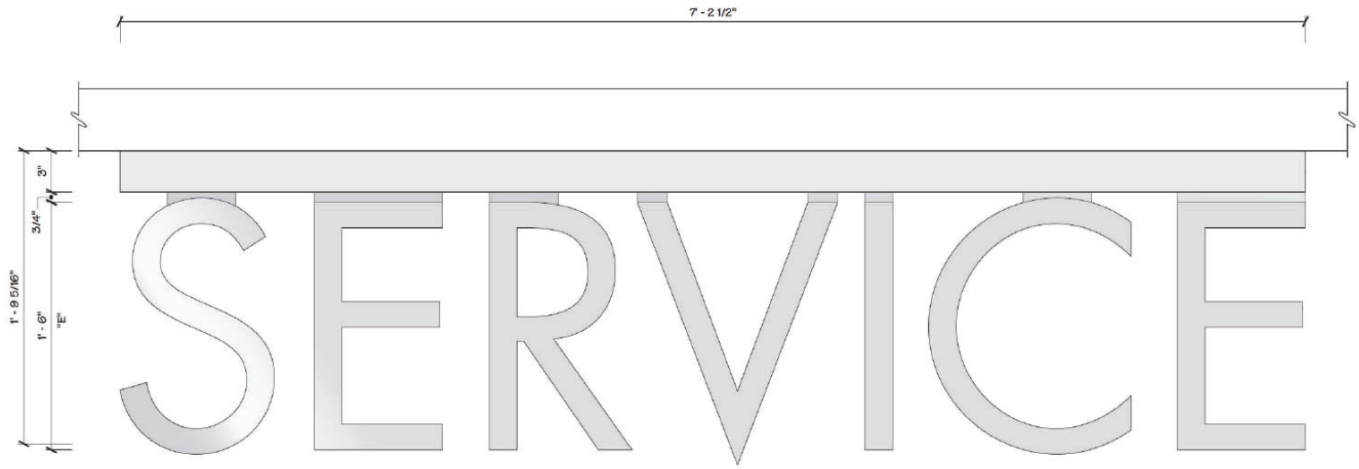
PRSG20220751



SUBJECT Lincoln of Korum SV-18 FOR AGI BY BWP	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Ross Bryan Associates, Inc.	SHEET NO. 1 OF JOB NO. 22 4639.01 DATE 7/11/22

Sign Type: SV-18

2018 International Building Code
Wind Per ASCE 7-16, V=115 mph



Dead Load: Use 12 psf max

Wind Load: p = 38.46 psf (Ultimate)
p = 23.08 psf (Service)
} SEE SHEET 2

City of Puyallup
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Fire	Traffic

PRSG20220751

Project	Korum Lincoln	ROSS BRYAN ASSOCIATES, INC.	Sheet No.	2	of	4
Model	SV-18	CONSULTING ENGINEERS	Job No.	224639.01		
By	BWP	NASHVILLE, TN	Date	7/11/2022		

CODES:

Wind Loads per provisions of ASCE 7-16, Chapter 29

SIGN DIMENSIONS:

Length, B =	7.21	ft.	Height, s =	1.78	ft.	OAH Above Grade, h =	14	ft.
Depth, t =	0.33	ft.	A_{sign} =	12.8	ft^2	Ground Elevation, z_g =	0	ft.

WIND LOADS:

Natural Frequency = 1 **RIGID STRUCTURE**

Exposure Category = C Risk Category = II

$q_h = 0.00256 * K_z * K_{zt} * K_d * K_e * V^2$ Velocity Pressure, ASCE 7-16, Section 26.10.2

K_z =	0.85	Velocity Pressure Exposure Coefficient, ASCE 7-16, Table 26.10-1
K_{zt} =	1.0	Topographic Factor, ASCE 7-16, Section 26.8.2
K_d =	0.85	Wind Directionality Factor, ASCE 7-16, Table 26.6-1
K_e =	1.00	Ground Elevation Factor, ASCE 7-16, Table 26.9-1
V =	115	Basic Wind Speed, mph, ASCE 7-16, Figure 26.5-1B

q_h = 24.46 lb/ft^2

$F/A = q_h * G * C_f$ Design Wind Loads, ASCE 7-16, Section 29.3.1

G =	0.85	Gust Effect Factor, ASCE 7-16, Section 26.11
B/s =	4.05	Length of Sign/Depth of Sign
s/h =	0.13	Depth of Sign/Overall Height
C_f =	1.85	Force Coefficient, ASCE 7-16, Figure 29.3-1

F/A = 38.46 lb/ft^2

CASE A: resultant acts normal to sign face through the geometric center

CASE B: resultant acts normal to sign face at a distance from the geometric center toward the windward edge equal to 1.44'

CASE C loading applies

LRFD Loading:

Use wind pressure = 38.46 lb/ft^2 for 1.0*W from ASCE 7-16, Section 2.3.1

ASD Loading:

Use wind pressure = 23.08 lb/ft^2 for 0.6*W from ASCE 7-16, Section 2.4.1

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Check Backer:

¼" Backer with a ⅛" Plate Attached with Structural Adhesive

@ Letters ⇒

- Letter "S" ⇒ $A = 0.51\,ft^2$, $F = 23.08\,psf\,(0.51\,ft^2) = 12\#$

  $M_{max_S} = 12\#\,(9") = 108\,\#"$

  $T_{max_S} = 12\#\,(3.5") = 42\#"$

- Letter "E" ⇒ $A = 0.55\,ft^2$, $F = 23.08\,psf\,(0.55\,ft^2) = 13\#$

  $M_{max_E} = 13\#\,(9.13") = 119\,\#"$

  $T_{max_E} = 13\#\,(3.08") = 40\#"$

- Letter "R" ⇒ $A = 0.62\,ft^2$, $F = 23.08\,psf\,(0.62\,ft^2) = 14\#$

  $M_{max_R} = 14\#\,(7.47") = 105\#"$

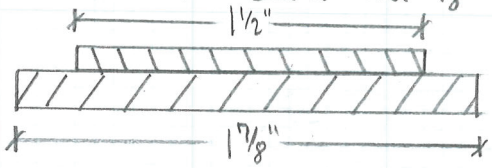
  $T_{max_R} = 14\#\,(3.61") = 56\#"$

- Letter "C" ⇒ $A = 0.51\,ft^2$, $F = 23.08\,psf\,(0.51\,ft^2) = 12\#$

  $M_{max_C} = 12\#\,(10.5") = 126\,\#"$

  $T_{max_C} = 12\#\,(4") = 48\#"$

★ Assumed ¼" Backer and ⅛" Plate Act Independently



$$S = \frac{1\frac{7}{8}"\,(\frac{1}{4}")^2}{6} + \frac{1\frac{1}{2}"\,(\frac{1}{8}")^2}{6} = 0.0234\,in^3$$

$F_b/\Omega = 13600\,psi$

Bending:

$M_{all} = 13600\,psi\,(0.0234\,in^3) = 318\,\#" > 126\,\#"$ (Max moment, from Letter "C")

O.K.

Torsion:

$\tau = 2623\,psi < F_v/\Omega = 5500\,psi$ O.K. ($h/t = 5.92 \Rightarrow F_v/\Omega = 5500\,psi$)

Combined:

$$\left(\frac{126\#/0.0234\,in^3}{13600\,psi}\right)^2 + \left(\frac{2623\,psi}{5500\,psi}\right)^2 = 0.38 < 1.0$$ O.K.

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Check Tubes:

2" x 2" x 1/8" 6061 Aluminum Tubes (welded)

- Loads from STAAD (See STAAD Report for Reaction at Tubes)
  Worst Case Loading occurs at the Tubes Above Letter "R"
  (See Next Two Pages for Load Input and Reactions)

$F_x = 0\#$ $M_x = 240\ \#"$

$F_y = 10\#$ $M_y = 108\ \#"$

$F_z = 23\#$ $M_z = 0\ \#"$

$b/t = 6 \Rightarrow F_{b/\Omega} = 13600\ psi$

$S = 0.552\ in^3$

Bending:

$$f = \frac{240\#"}{0.552\ in^3} = 435\ psi < F_{b/\Omega} = 13600\ psi$$ (O.K.)

Torsion:

$F_S = 5500\ psi$

$C = 2(0.125")(2" - 0.125")(2" - 0.125") = 0.87\ in^3$

$T_{all} = (5500\ psi)(0.87\ in^3) = 4785\ \#" > 108\ \#"$ (O.K.)

Combination:

$$\left(\frac{240\#"}{13600psi\ (0.552in^3)}\right) + \left(\frac{108\#"}{4785\#"}\right) = 0.055 < 1.0$$ (O.K.)

Mounting To Existing Steel:

(6) #12 Screws

Max Anchor Loads:

$$T_{max} = \frac{10\#}{6} + \frac{240\#"}{4"(2)} = 32\#$$

$$V_{max} = \frac{23\#}{6} + \frac{108\#"}{2"(3)} = 22\#$$

$T_{all} = 496\# > 32\#$ (O.K.)

$V_{all} = 378\# > 22\#$ (O.K.)

$$\text{Unity check} = \frac{32\#}{496\#} + \frac{22\#}{378\#} = 0.12 < 1.0$$ (O.K.)

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1 WIND "LETTERS" : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-ft)	MY (kip-ft)	MZ (kip-ft)
2	-	-	0.023	0.02514	0.02108	-
3	-	-	0.023	0.02514	0.01058	-
4	-	-	0.028	0.02814	0.01309	-
5	-	-	0.0115	0.0107	-	-
6	-	-	0.0115	0.0107	-	-
7	-	-	0.012	0.00917	-	-
8	-	-	0.023	0.0266	0.0249	-
9	-	-	0.023	0.02514	0.01058	-

1 WIND "LETTERS" : Beam Loads

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
1	UNI lbf/ft	GZ	11.100	-	-	-	-
	UMO lb-in/in	GX	1.375	-	-	-	-
2	UNI lbf/ft	GZ	11.100	-	-	-	-
	UMO lb-in/in	GX	1.375	-	-	-	-
3	UNI lbf/ft	GZ	11.100	-	-	-	-
	UMO lb-in/in	GX	1.375	-	-	-	-
4	UNI lbf/ft	GZ	11.100	-	-	-	-
	UMO lb-in/in	GX	1.375	-	-	-	-
5	UNI lbf/ft	GZ	11.100	-	-	-	-
	UMO lb-in/in	GX	1.375	-	-	-	-
6	UNI lbf/ft	GZ	11.100	-	-	-	-
	UMO lb-in/in	GX	1.375	-	-	-	-
7	UNI lbf/ft	GZ	11.100	-	-	-	-
	UMO lb-in/in	GX	1.375	-	-	-	-
8	UNI lbf/ft	GZ	11.100	-	-	-	-
	UMO lb-in/in	GX	1.375	-	-	-	-
9	UNI lbf/ft	GZ	11.100	-	-	-	-
	UMO lb-in/in	GX	1.375	-	-	-	-

3 DEAD "LETTERS" : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-ft)	MY (kip-ft)	MZ (kip-ft)
2	-	-0.00612	-	-	-	-
3	-	-0.0066	-	-	-	-
4	-	-0.00744	-	-	-	-
5	-	-0.003	-	-	-	-
6	-	-0.003	-	-	-	-
7	-	-0.00312	-	-	-	-
8	-	-0.00612	-	-	-	-
9	-	-0.0066	-	-	-	-

City of Puyallup
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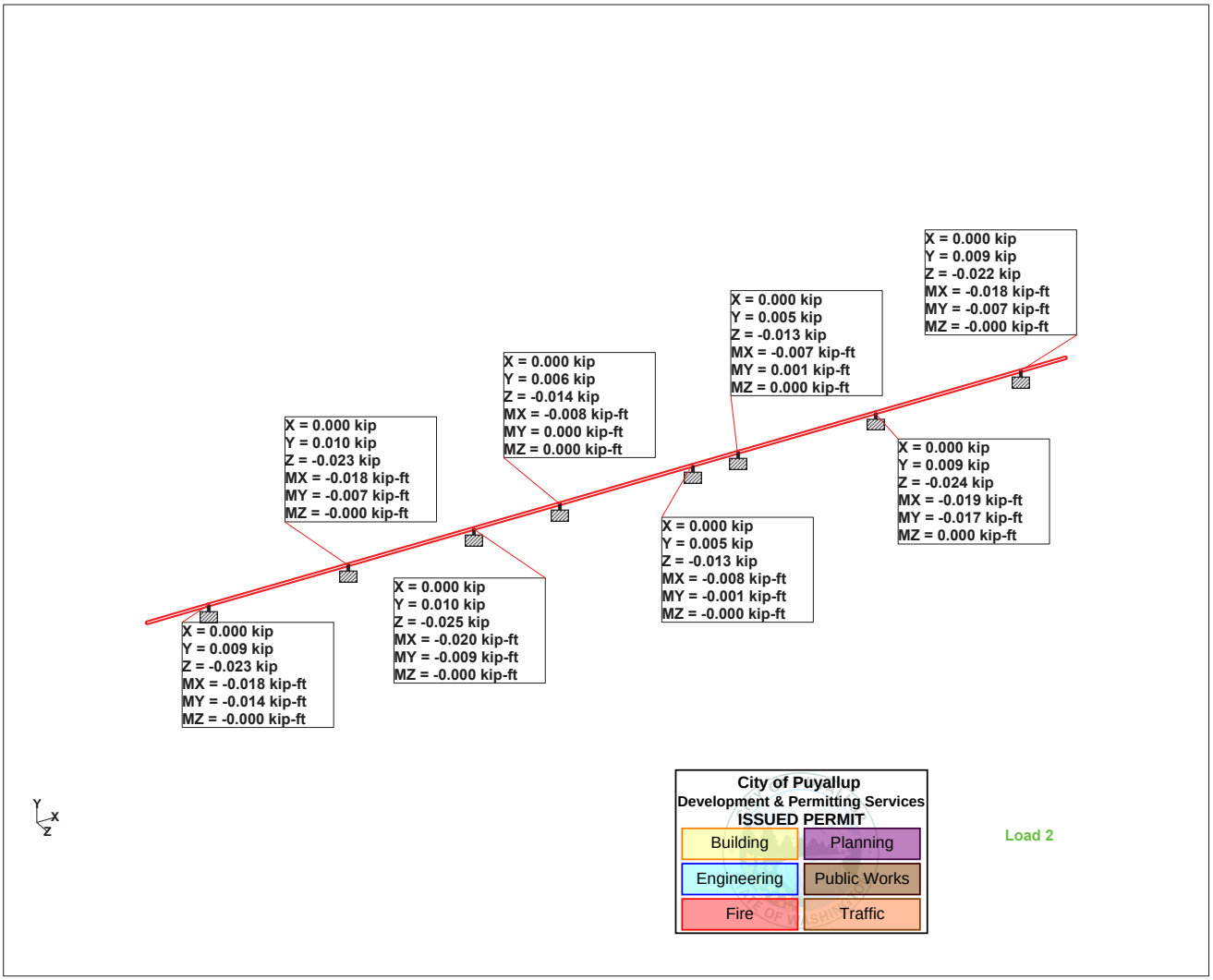
PRSG20220751

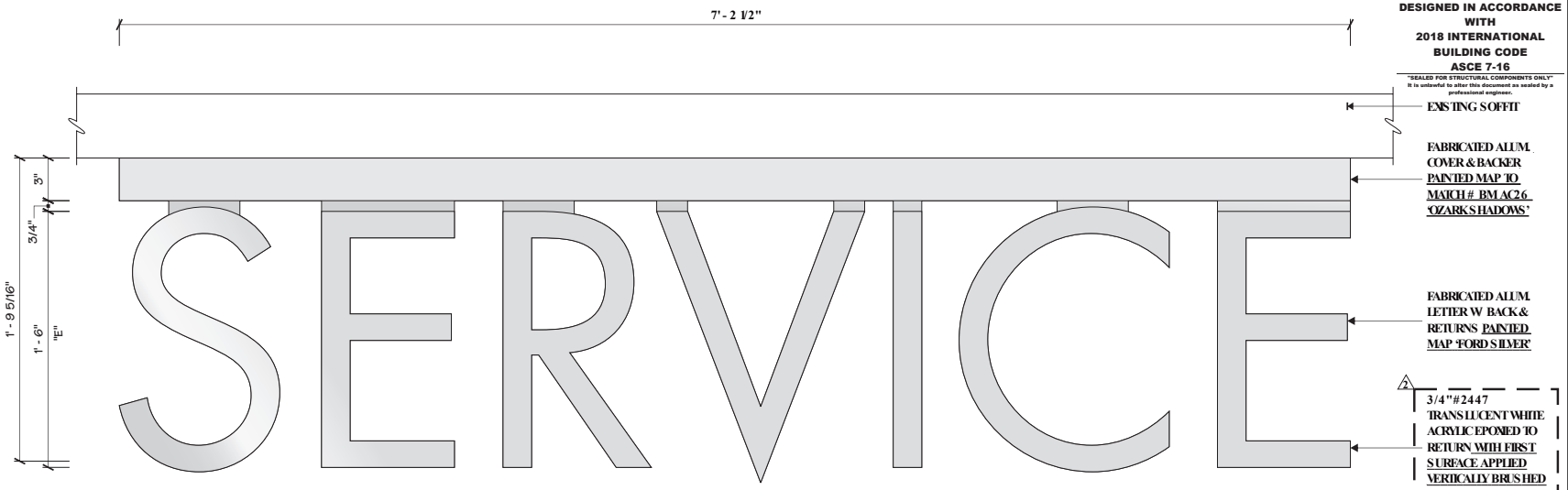
3 DEAD "LETTERS" : Beam Loads

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
1	UNI lbf/ft	GY	-3.000	-	-	-	-
2	UNI lbf/ft	GY	-3.000	-	-	-	-
3	UNI lbf/ft	GY	-3.000	-	-	-	-
4	UNI lbf/ft	GY	-3.000	-	-	-	-
5	UNI lbf/ft	GY	-3.000	-	-	-	-
6	UNI lbf/ft	GY	-3.000	-	-	-	-
7	UNI lbf/ft	GY	-3.000	-	-	-	-
8	UNI lbf/ft	GY	-3.000	-	-	-	-
9	UNI lbf/ft	GY	-3.000	-	-	-	-

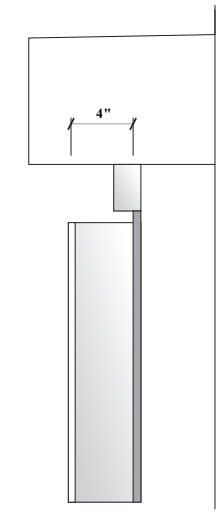


Whole Structure

PRSG20220751



1/1 **FRONT ELEVATION**
1/8"= 1"



1/1 **FRONT ELEVATION**
1/8"= 1"

City of Puyallup
Development & Permitting Services
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Engineering	Public Works
Fire	Traffic

BRENT ALAN THORNTON — STATE OF WASHINGTON — 55104 — REGISTERED PROFESSIONAL ENGINEER

07/12/2022

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE ASCE 7-16

"SEALED FOR STRUCTURAL COMPONENTS ONLY"
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2655 International Parkway
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 09.17.18

AGI EoR	C. MILLER
Lead Drafter	FKN
Drawn By	INW
Project Mgr.	L. CLAIBORNE

General Sign Specifications

- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ■ WEIGHT ~ 65 lbs
- ☐ Non-Illuminated
- ■ Illuminated
- 120 Volts 1.0 Amps(+/-)

Location PUYALLUP, WA
Windload 115 MPH / IBC 2018

Drawing Revisions

	Drawn By	Date	Change
1	FKN	06.11.19	CHANGED LED MODULE & LAYOUT
2	FKN	04.16.20	CHANGED VINYL COLOR
3	FKN	07.14.21	ADDED SIGN WEIGHT
4	DLR	10.13.21	ADDED ALUM. STIFFENING TUBS, GENERAL UPDATES
5	POR	11.08.21	INCLUDE SHOP DIMENSIONS PER W.O. 66662

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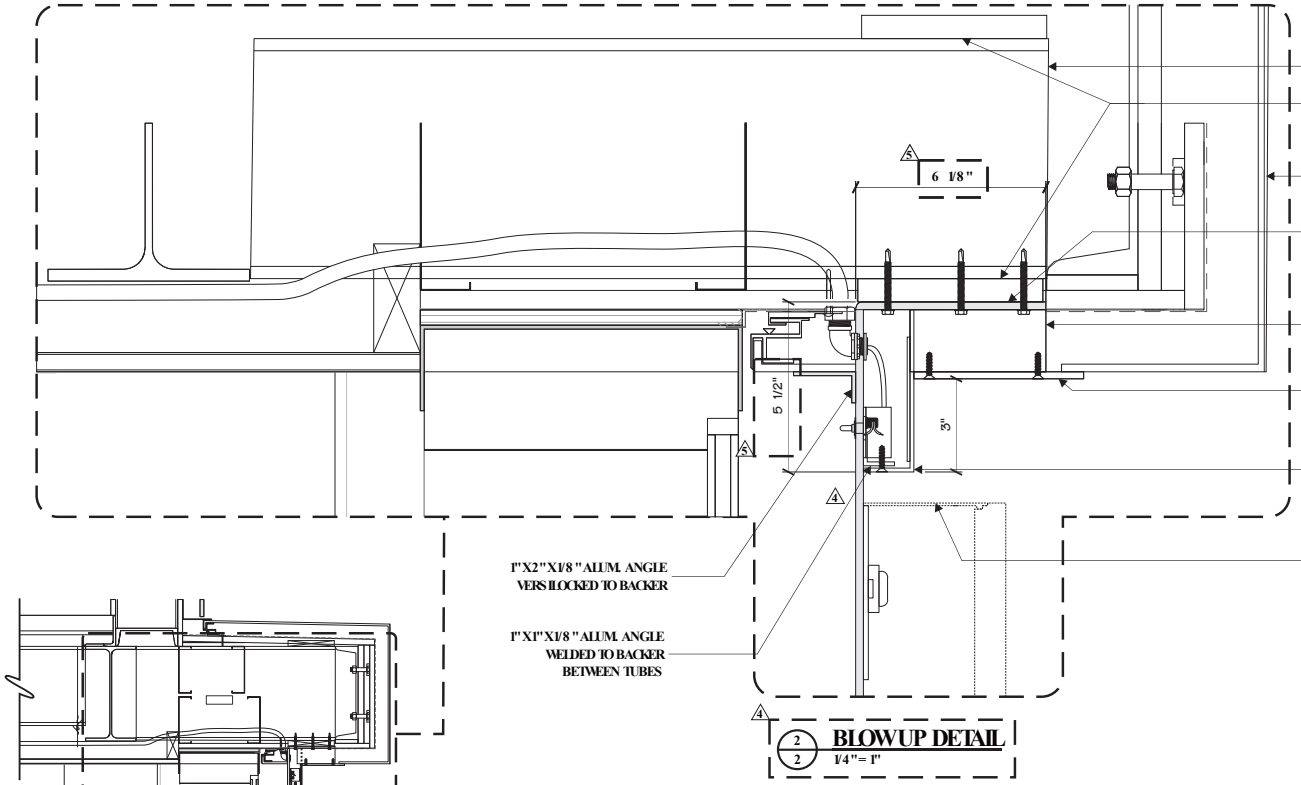
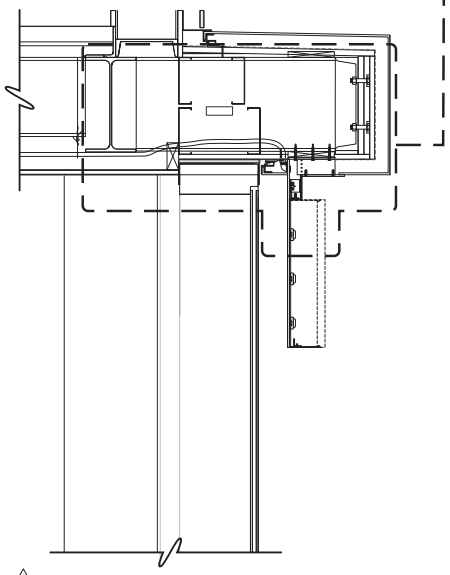
Code	Type
15293	C
Sign Type	**PG #:**
SV-18	1

PRSG20220751



2/2 BLOWUP DETAIL
1/4" = 1"



1/2 SECTION VIEW @ MOUNTING
3/4" = 1' - 0"

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228
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07/12/2022

2655 International Parkway
Virginia Beach, VA 23452

AGI

Project Title: LINCOLN

Date: 09.17.18

AGI EoR	C. MILLER
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Location: PUYALLUP, WA
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Code	Type
15293	C
Sign Type: SV-18	PG #: 2

PRSG20220751

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Engineers
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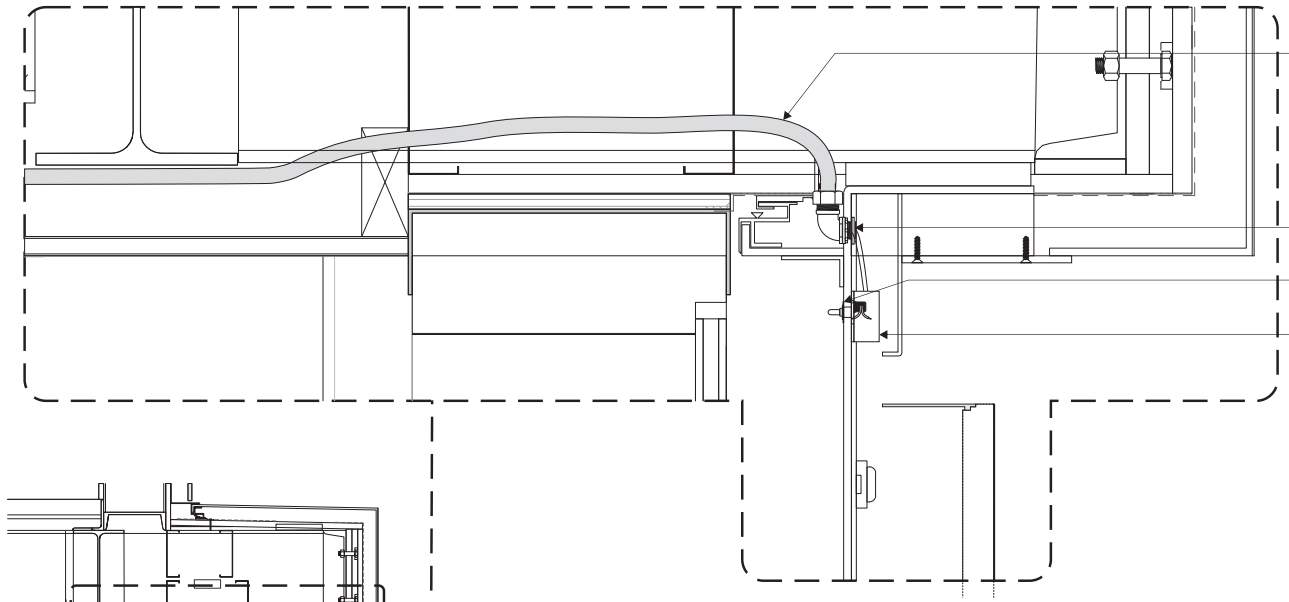


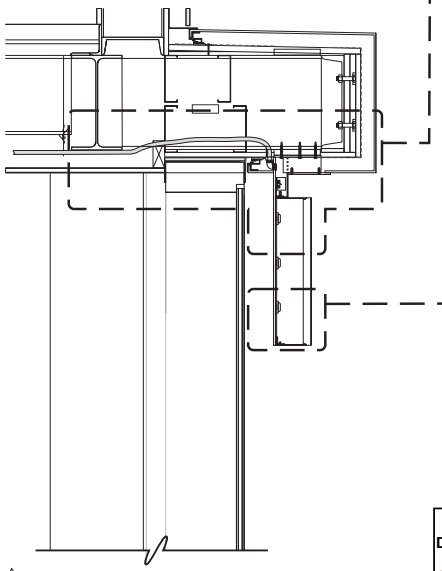
1/2" LIQUIDTIGHT CONDUIT BY G.C
- TO BE IN PLACE AT TIME OF INSTALL

MOUNT ELBOW FOR 1/2" LIQUID TIGHT CONDUIT IN THE SHOP

DISCONNECTS WHICH

AGILIGHT SLIMLINE 60 W POWER SUPPLIES MOUNTED TO BACKER W/ #10 ALUM. SHOT STUDS

07/12/2022



AGILIGHT ULTRA 450 'SIGN WHITE' LED'S

4mm ACM BACKER PANEL W/ VHB TAPED TO BACK

3/4"# 2447 TRANSLUCENT WHITE ACRYLIC EPOXIED TO RETURN WITH FIRST SURFACE APPLIED OIKE VERTICAL BRUSHED CHROME FILM ON FACE

4" DEEP ADAMS TECH CHANNEL LETTER MOUNTED TO ANGLE CLIPS W/ #6 S.S. C.S. SCREWS
- NOTCH RETURNS AROUND TUBES AT TOP
- TRIM INTERNAL RIB AS REQ.

#6 X3/4" C.S. S.S. SCREW

1" X1" X1/8" X1" ALUM. ANGLE CLIPS WELDED TO BACKER @ 8" O.C.

4 / 1 / 3 SECTION VIEW @ ELECTRICAL
3/4" = 1' - 0"

4 / 2 / 3 BLOWUP DETAIL
1/4" = 1"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

2655 International Parkway
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 09.17.18

AGI EoR C. MILLER
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Code 15293
Type C
Sign Type SV-18
PG #: 3

PRSG20220751

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE ASCE 7-16

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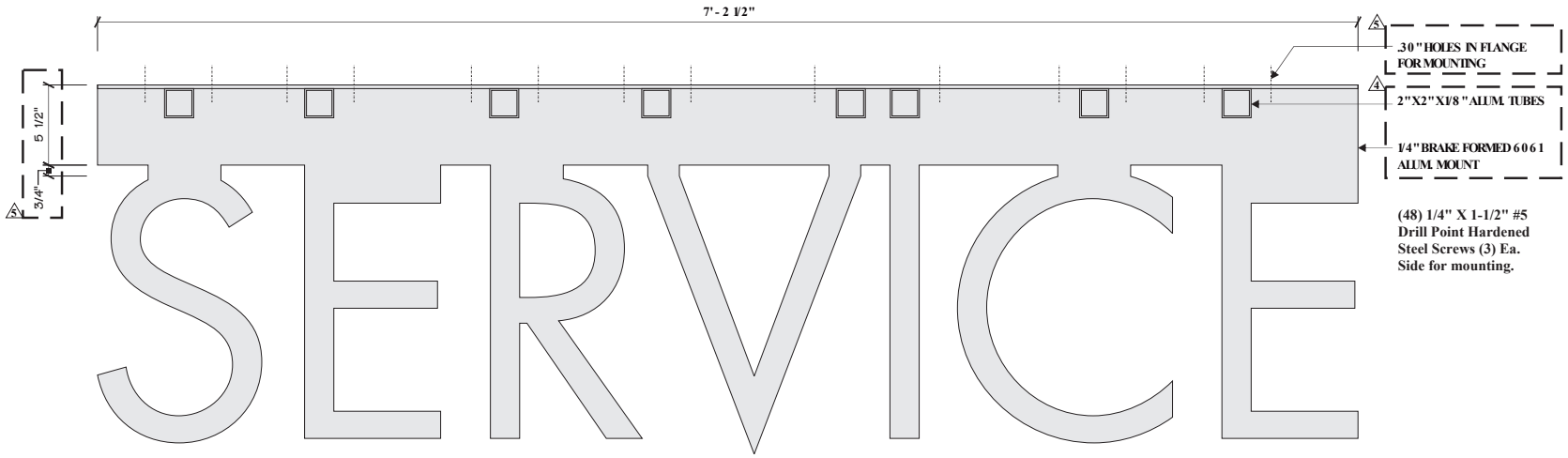
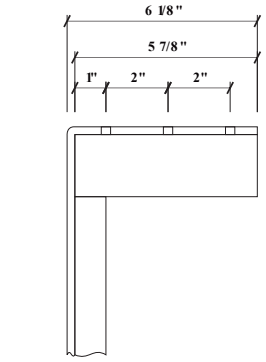


(48) 1/4" X 1-1/2" #5 Drill Point Hardened Steel Screws (3) Ea. Side for mounting.

1/4 **BACKER LAYOUT**
1/8"= 1"



2/4 **SIDE DETAIL**
1/4"= 1"

City of Puyallup
Development & Permitting Services
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Building	Planning
Engineering	Public Works
Fire	Traffic

07/12/2022

2655 International Parkway
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 09.17.18

AGI EoR	C. MILLER
Lead Drafter	FKN
Drawn By	INW
Project Mgr.	L. CLAIBORNE

General Sign Specifications

- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ■ WEIGHT ~ 65 lbs
- ☐ Non-Illuminated
- ■ Illuminated
  120 Volts 1.0 Amps(+/-)

Location PUYALLUP, WA
Windload 115 MPH / IBC 2018

Drawing Revisions

	Drawn By	Date	Change
1	FKN	06.11.19	CHANGED LED MODULE & LAYOUT
2	FKN	04.16.20	CHANGED VINYL COLOR
3	FKN	07.14.21	ADDED SIGN WEIGHT
4	DLR	10.13.21	ADDED ALUM. STIFFENING TUBS, GENERAL UPDATES
5	POR	11.08.21	INCLUDE SHOP DIMENSIONS PER W.O. 66662

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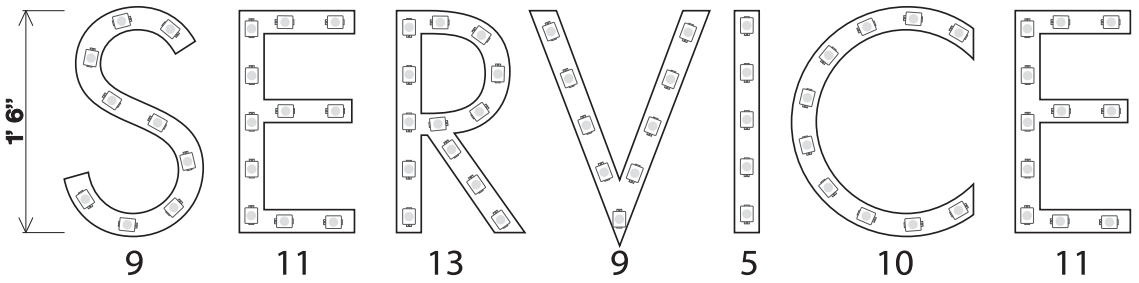
Code	Type
15293	C
Sign Type	**PG #:**
SV-18	4

PRSG20220751

1) **UNLESS OTHERWISE SPECIFIED:** All layouts are for a single face sign or a single set of letters and the depth of the application considered for the layout is 5 inches.
2) LED module placement is approximate. AgiLight® recommends the sign manufacturer verify the LED placement and quantity to ensure even illumination and brightness expectations are achieved.
3) Estimations are based off the quality of art work and information provided by the customer, this includes: font style, letter height, depth, face material, and any special instructions. Missing information may cause delays in the delivery of estimates, as well as effect product selection, accurate quantities, and brightness.
4) For installation instructions of AgiLight® LED systems please refer to www.AgiLight.com under the TOOLS & DOWNLOADS section or contact an AgiLight® Inside Sales Representative at: +1.866.482.0203

15293-SL-18 & 15293-SV-18



Notes:
Layout based off a 4" depth from face.
Modules spaced on 4" centers.

34 feet LS-U450-65K-B150-A - 68 Modules
1 - PS12-60WSL-100-277V

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

18" Service

Face Lit

April 08, 2019 | IDV

AGILIGHT® Light It Up

1074 Arion Circle Suite 116, San Antonio, TX 78216
PH: +1 (866) 482-0203 - Fax: +1 (210) 360-1454
www.AgiLight.com

AGI

Project Title
LINCOLN

Date 09.17.18

AGI EoR C. MILLER
Lead Drafter FKN
Drawn By INW
Project Mgr. L. CLAIBORNE

General Sign Specifications
☐ Interior ■ Exterior
■ Single Faced ☐ Double Faced
■ WEIGHT ~ 65 lbs
☐ Non-Illuminated
■ Illuminated
120 Volts 1.0 Amps(+/-)
Location PUYALLUP, WA
Windload 115 MPH / IBC 2018

Drawing Revisions

Drawn By	Date	Change
1 FKN	06.11.19	CHANGED LED MODULE & LAYOUT
2 FKN	04.16.20	CHANGED VINYL COLOR
3 FKN	07.14.21	ADDED SIGN WEIGHT
4 DLR	10.13.21	ADDED ALUM. STIFFENING TUBS, GENERAL UPDATES
5 POR	11.08.21	INCLUDE SHOP DIMENSIONS PER W.O. 66662

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Code 15293
Type C
Sign Type SV-18
PG #: 5

2655 International Parkway
Virginia Beach, VA 23452

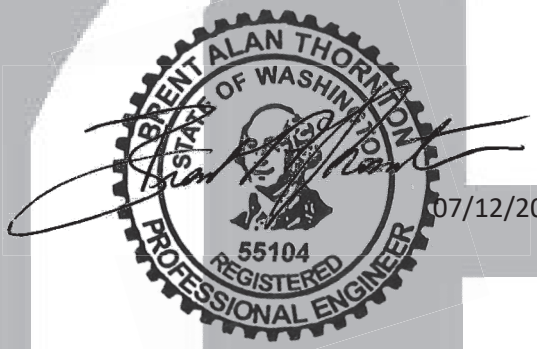
PRSG20220751

Korum Lincoln
100 River Road
Puyallup, WA 98371

RBA Job No. 224639.03

CALCULATIONS FOR:
LN-WLL

Designed in accordance with:
2018 International Building Code
ASCE 7-16
Wind Velocity = 100 mph
Risk Category II

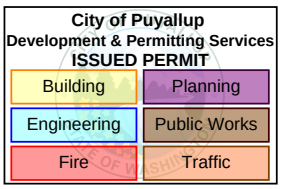


07/12/2022

FABRICATOR
Architectural Graphics, Inc.
2655 International Parkway
Virginia Beach, Virginia 23452

DESIGN ENGINEER
RBA Structural Engineering, LLC
1 Vantage Way, Suite B-400
Nashville, Tennessee 37228

PRSG20220751



Check Trespa Thickness:

- $t = 0.375$ in
- tributary width = 12 in
- $E = 1305000$ psi
- $f_b = 17500$ psi

$$I = \frac{bh^3}{12} = \frac{(12)(0.375)^3}{12} = 0.0527 \text{ in}^4$$

$$S = \frac{bh^2}{6} = \frac{(12)(0.375)^2}{6} = 0.2813 \text{ in}^3$$

$$f_{b,all} = \frac{f_b}{4} = \frac{17500 \text{ psi}}{4} = 4{,}375 \text{ psi}$$

wind load see pg. 2 = 14 psf

span = 27.5 in

$$M_o = \left(\frac{14 \text{ psf}}{12}\right) * \frac{27.5 \text{ in}^2}{8} = 110.3 \text{ lb-in}$$

Bending Stress = $\frac{110.3 \text{ lb-in}}{0.2813 \text{ in}^3} = 392 \text{ psi} < 4{,}375 \text{ psi}$ O.K.

∴ use 3/8" thick trespa panel ∴

Check Deflection:

Deflection criteria = $L/175 = 0.157143$ in

maximum deflection = $\frac{14 \text{ psf} * 27.5 \text{ in}^4 * 5}{12 * 384 * 1305000 \text{ psi} * 0.0527 \text{ in}^4} = 0.12624 \text{ in} < 0.1571 \text{ in}$

O.K.

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

PRSG20220751

Max Span for Moment = $\left(\frac{4375\,psi \times 0.28125\,in^3 \times 8 \times 12_{in}}{14\,psf}\right)^{1/2}$

= 91.9 in > 27.5 in (O.K.)

Max Span for Deflection = $\left(\frac{384 \times 0.0527\,in^4 \times 1305000\,psi}{5 \times (14psf/12_{in}) \times 175}\right)^{1/3}$

= 29.6 in > 27.5 in (O.K.)

Max Span for 1 Degree Deflection = $\left(\frac{384 \times 0.0527\,in^4 \times 1305000\,psi \times \tan(1°)}{2 \times 5 \times (14psf/12in)}\right)^{1/3}$

= 34.1 in > 27.5 in (O.K.)

Max Span for Fasteners = $\left(\frac{155.0\,\#}{14\,psf}\right)^{1/2} \times 12$ =

= 39.9 in > 27.5 in (O.K.)

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

Check Fasteners:

Tributary Area of Fastener at corner = $\frac{7.875\,in \times 22.719\,in}{144\,in^2} = 1.24\,ft^2$

Tributary Area of Fastener at middle = $\frac{27.438\,in \times 14.875\,in}{144\,in^2} = 2.83\,ft^2$

Fastener Load = $14psf \times 2.83\,ft^2 = 39.6\,\#$

Screw Design Load (#10 Lag Screw in ½" plywood) = $275\,\# \times \frac{1}{6} \times 1.1 \times 1.6 = 80.7\,\# > 39.6\,\#$ (O.K.)

$N_{Rd} = \frac{N_{RK}}{\gamma_m} \times \alpha_{Fo} \times \alpha_{6.} \times \alpha_{wet} = \frac{433.9\,\#\,(0.643)(1)(1)}{(1.8)} = 155.0\,\#$

Allowable Fastener Load = 155 # > 39.6 # (O.K.)

PRSG20220751

Project	Lincoln of Korum	ROSS BRYAN ASSOCIATES, INC.	Sheet No.	3
Model	LN-WLL	CONSULTING ENGINEERS	Job No.	22 4639.03
By	BWP	NASHVILLE, TN	Date	7/12/2022

CODES:

Wind Loads per provisions of ASCE 7-16, Chapter 29

SIGN DIMENSIONS:

Length, B =	11.33	ft.	Height, s =	2.48	ft.	OAH Above Grade, h =	3	ft.
Depth, t =	0.875	ft.	A_{sign} =	28.1	ft^2	Ground Elevation, z_g =	0	ft.

WIND LOADS:

Natural Frequency = 1 **RIGID STRUCTURE**

Exposure Category = C Risk Category = II

$q_h = 0.00256 * K_z * K_{zt} * K_d * K_e * V^2$		Velocity Pressure, ASCE 7-16, Section 26.10.2
K_z =	0.85	Velocity Pressure Exposure Coefficient, ASCE 7-16, Table 26.10-1
K_{zt} =	1.0	Topographic Factor, ASCE 7-16, Section 26.8.2
K_d =	0.85	Wind Directionality Factor, ASCE 7-16, Table 26.6-1
K_e =	1.00	Ground Elevation Factor, ASCE 7-16, Table 26.9-1
V =	100	Basic Wind Speed, mph, ASCE 7-16, Figure 26.5-1B

q_h = 18.50 lb/ft^2

$F/A = q_h * G * C_f$		Design Wind Loads, ASCE 7-16, Section 29.3.1
G =	0.85	Gust Effect Factor, ASCE 7-16, Section 26.11
B/s =	4.57	Length of Sign/Depth of Sign
s/h =	0.83	Depth of Sign/Overall Height
C_f =	1.48	Force Coefficient, ASCE 7-16, Figure 29.3-1

F/A = 23.26 lb/ft^2

CASE A: resultant acts normal to sign face through the geometric center

CASE B: resultant acts normal to sign face at a distance from the geometric center toward the windward edge equal to 1.27'

CASE C loading applies

LRFD Loading:

Use wind pressure = 23.26 lb/ft^2 for 1.0*W from ASCE 7-16, Section 2.3.1

ASD Loading:

Use wind pressure = 13.95 lb/ft^2 for 0.6*W from ASCE 7-16, Section 2.4.1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

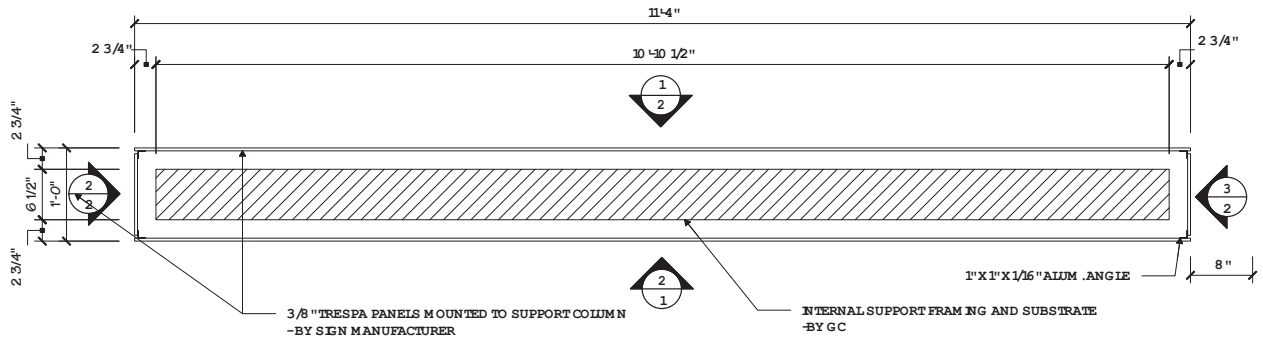
PRSG20220751

NOTE:
PERMIT ONLY - SURVEY REQUIRED PRIOR TO MANUFACTURING

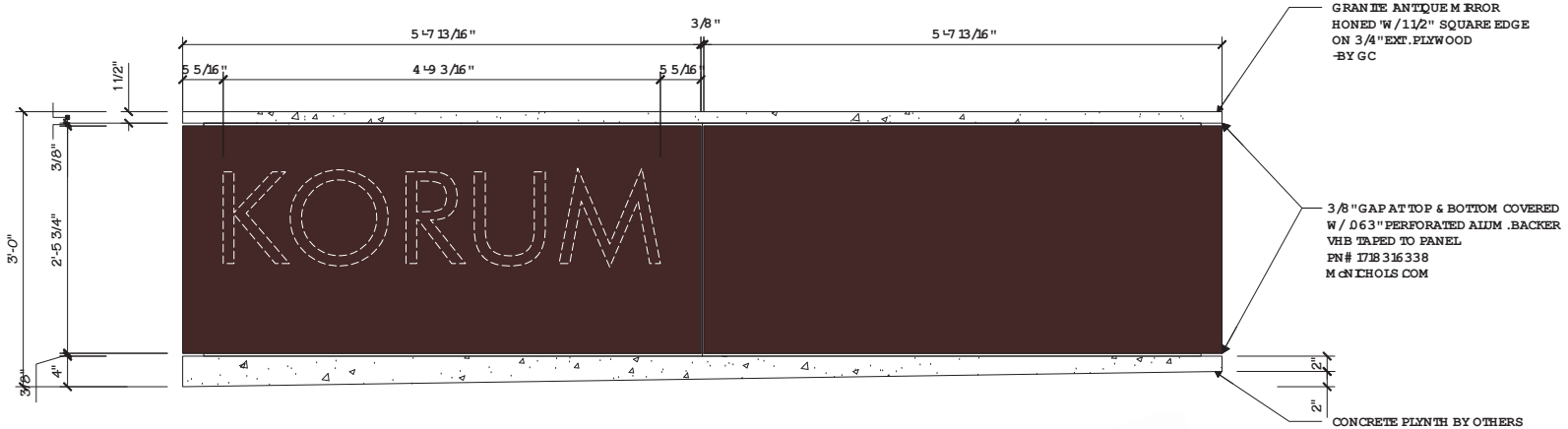
RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE ASCE 7-16

"SEALED FOR STRUCTURAL COMPONENTS ONLY"
It is unlawful to alter this document as sealed by a professional engineer.



1/1 PLAN SECTION
3/4"=1'-0"



2/1 FRONT ELEVATION
3/4"=1'-0"

07/12/2022

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 12.16.21

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. M. YARBROUGH

General Sign Specifications
- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ☐ _____
- ☐ Non-Illuminated
- ■ Illuminated
- _____ Volts _____ Amps (+/-)
- Location PUYALLUP, WA
- Windspeed 100 MPH / IBC 2018

Drawing Revisions

	Drawn By	Date	Change
1	ELL	12.16.21	51595 - FOR INITIAL RELEASE
2	ELL	06.15.22	54499 - REVISE PER SURVEY
3			
4			
5			
6			
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8			

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Code 51595
Type A
Sign Type LN-W LL
PG.#: 1

2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE ASCE 7-16

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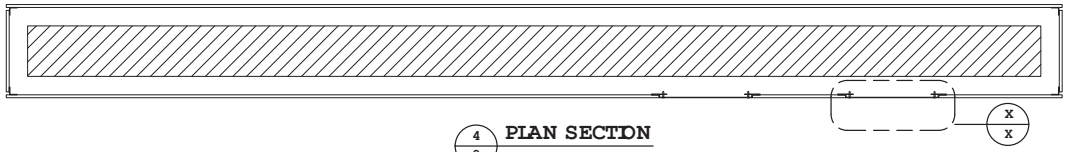
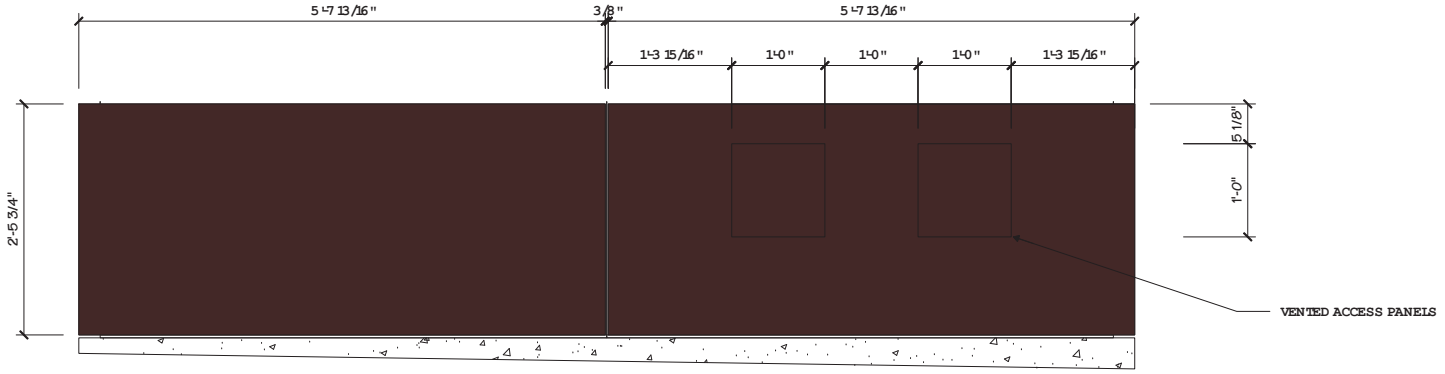
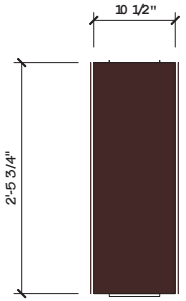


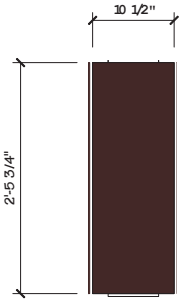
4/2 PLAN SECTION
3/4"=1'-0"



1/2 REAR ELEVATION
3/4"=1'-0"

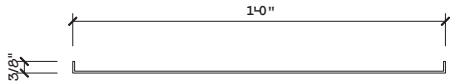


2/2 LEFT SIDE VIEW
3/4"=1'-0"



3/2 RIGHT SIDE VIEW
3/4"=1'-0"

2/5/2 RIGHT SIDE VIEW
3"=1'-0"



2/6/2 PERF. ALUM. DETAIL
3"=1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

GRENT ALAN THORNTON — STATE OF WASHINGTON — 55104 — REGISTERED PROFESSIONAL ENGINEER

07/12/2022

2655 International Pkwy.
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 12.16.21

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. M. YARBROUGH

General Sign Specifications
- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ☐ _____
- ☐ Non-Illuminated
- ■ Illuminated
- _____ Volts _____ Amps (+/-)
- Location PUYALLUP, WA
- Windspeed 100 MPH / IBC 2018

Drawing Revisions

	Drawn By	Date	Change
1	ELL	12.16.21	51595 - FOR INITIAL RELEASE
2	ELL	06.15.22	54499 - REVISE PER SURVEY
3			
4			
5			
6			
7			
8			

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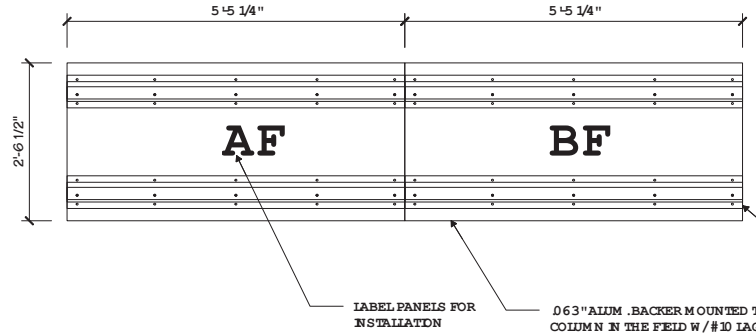
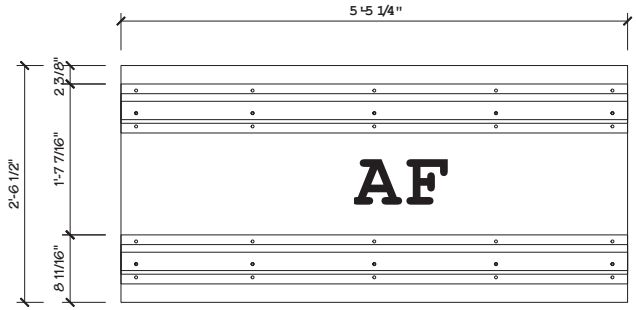
Code	Type
51595	A
Sign Type	**PG. #:**
LN-W LL	2

PRSG20220751

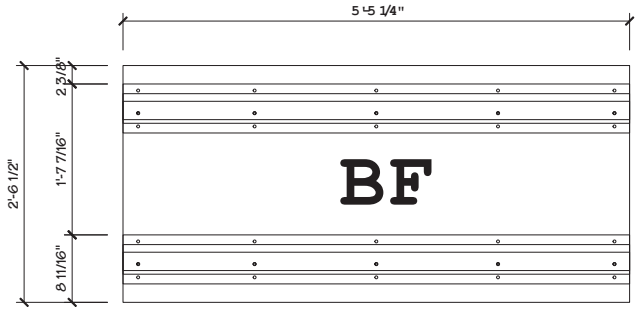


All Aluminum panels mounted using 4 #10 lag screws.

1/3 FRONT MOUNTING PANELS DETAILS
1/2"= 1'-0"



2/3 MOUNTING PANEL AF
3/4"= 1'-0"



3/3 MOUNTING PANEL BF
3/4"= 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 12.16.21

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. M. YARBROUGH

General Sign Specifications
- [ ] Interior
- [x] Exterior
- [x] Single Faced
- [ ] Double Faced
- [ ]
- [ ] Non-Illuminated
- [x] Illuminated
____ Volts ____ Amps (+/-)
Location PUYALLUP, WA
Windspeed 100 MPH / IBC 2018

Drawing Revisions

	Drawn By	Date	Change
7	ELL	12.16.21	51595 - FOR INITIAL RELEASE
6	ELL	06.15.22	54499 - REVISE PER SURVEY
5			
4			
3			
2			
1			

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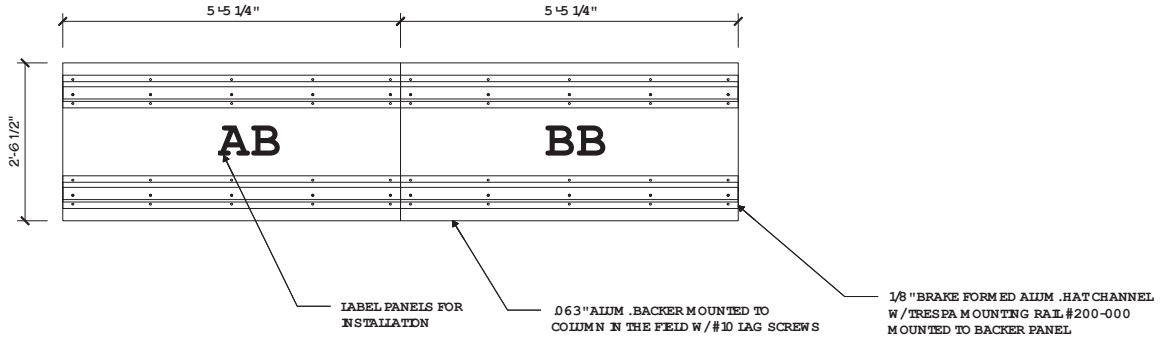
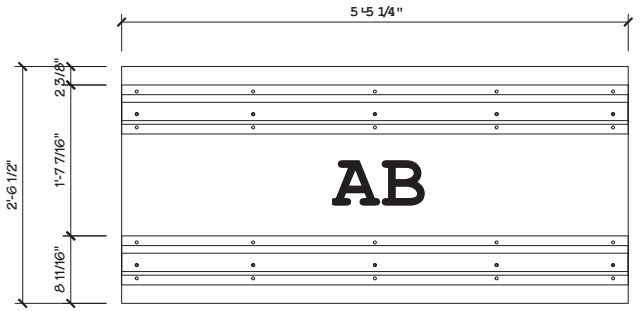
Code 51595
Type A
Sign Type LN-W LL
PG. #: 3

2655 International Pkwy.
Virginia Beach, VA 23452

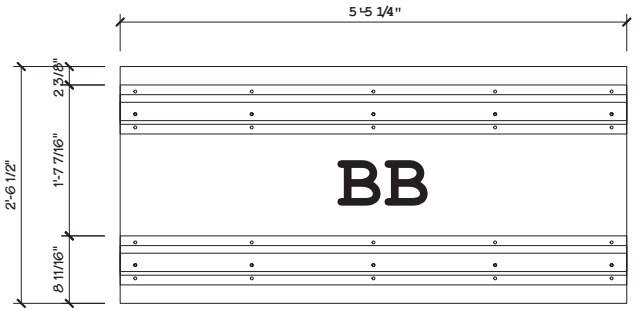
PRSG20220751



1/4 BACK MOUNTING PANELS DETAILS
1/2"= 1'-0"



2/4 MOUNTING PANEL AB
3/4"= 1'-0"



3/4 MOUNTING PANEL BB
3/4"= 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 12.16.21

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. M. YARBROUGH

General Sign Specifications
- ☐ Interior ■ Exterior
- ■ Single Faced ☐ Double Faced
- ☐ _____
- ☐ Non-Illuminated
- ■ Illuminated
- ____ Volts ____ Amps (+/-)

Location PUYALLUP, WA
Windspeed 100 MPH / IBC 2018

Drawing Revisions

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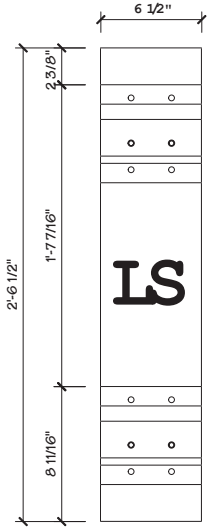
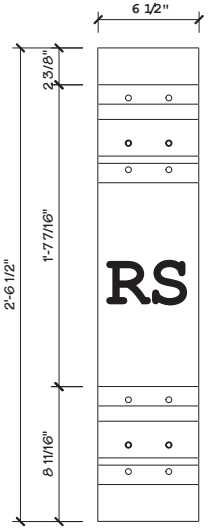
Code 51595
Type A
Sign Type LN-W LL
PG. #: 4

2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751



1/5 MOUNTING PANEL LS
1-1/2"= 1'-0"



2/5 MOUNTING PANEL RS
1-1/2"= 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 12.16.21

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. M. YARBROUGH

General Sign Specifications
☐ Interior ■ Exterior
■ Single Faced ☐ Double Faced
☐ _____
☐ Non-Illuminated
■ Illuminated
____ Volts ____ Amps (+/-)
Location PUYALLUP, WA
Windspeed 100 MPH / IBC 2018

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1	ELL	12.16.21	51595 - FOR INITIAL RELEASE
2	ELL	06.15.22	54499 - REVISE PER SURVEY
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Type A
Sign Type LN-W LL
PG. #: 5

2655 International Pkwy.
Virginia Beach, VA 23452

PRSG20220751

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

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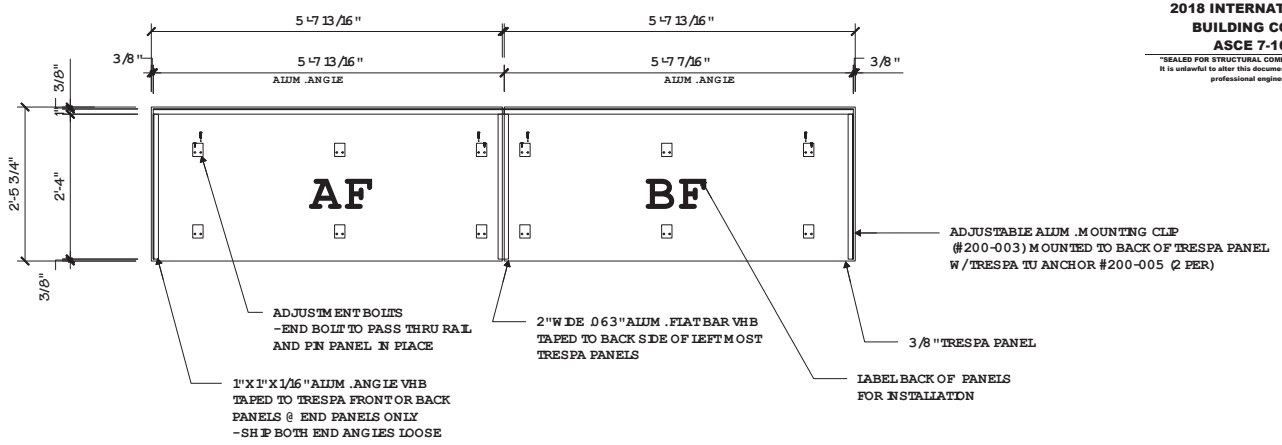
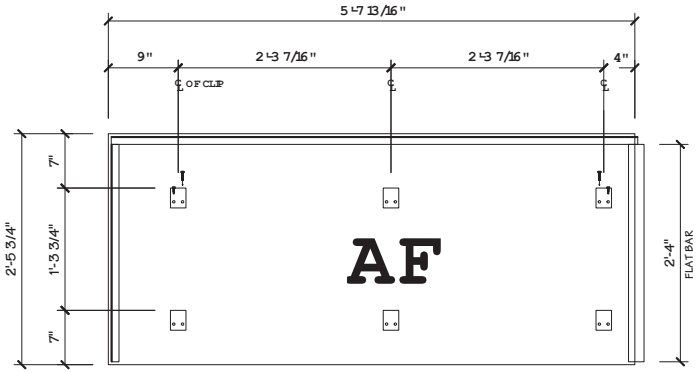
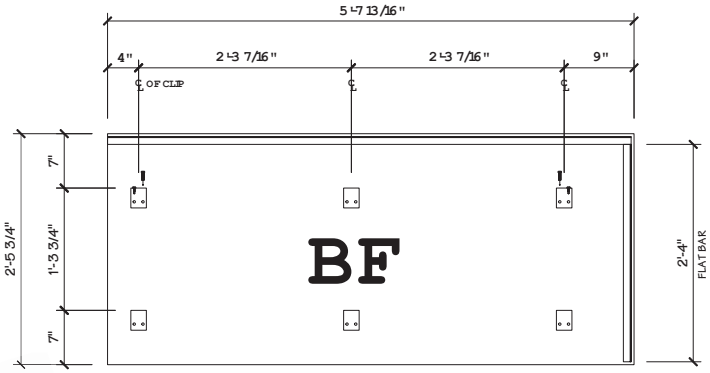


1/6 **FRONT TRESPA PANEL DETAIL (REAR)**
1/2" = 1'-0"



2/6 **TRESPA PANEL AF (REAR)**
1/2" = 1'-0"



3/6 **TRESPA PANEL BF (REAR)**
1/2" = 1'-0"

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City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 12.16.21

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. M. YARBROUGH

General Sign Specifications
☐ Interior ■ Exterior
■ Single Faced ☐ Double Faced
☐ _____
☐ Non-Illuminated
■ Illuminated
____ Volts ____ Amps (+/-)
Location PUYALLUP, WA
Windspeed 100 MPH / IBC 2018

Drawing Revisions

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Type A
Sign Type LN-W LL
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Virginia Beach, VA 23452

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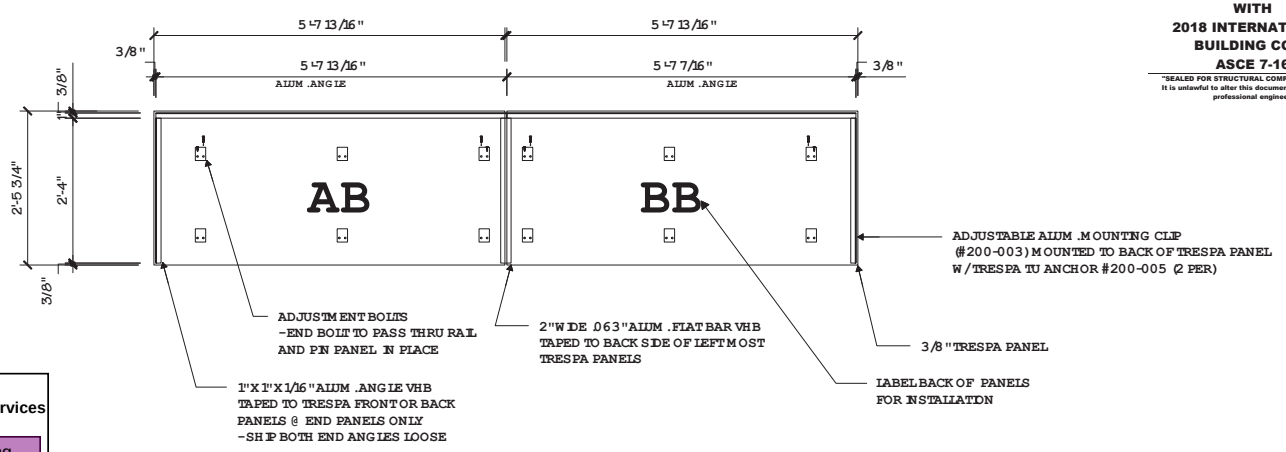
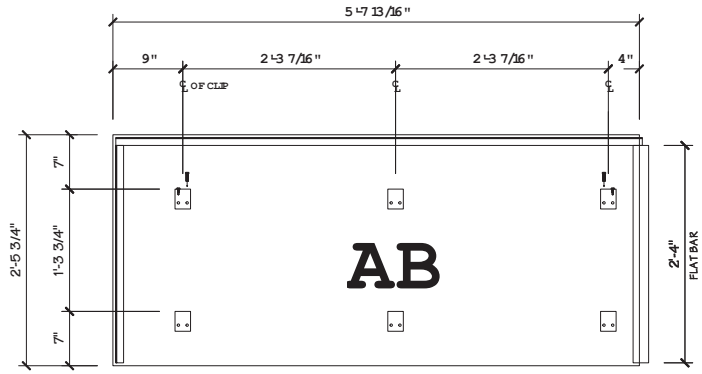


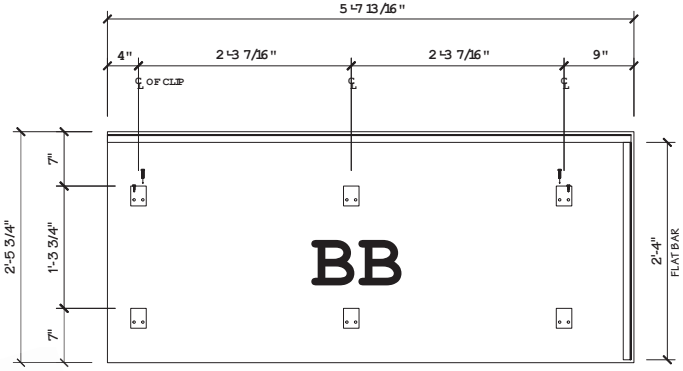
1/7 **BACK TRESPA PANEL DETAIL (REAR)**
1/2" = 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

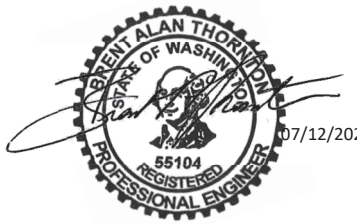
Building	Planning
Engineering	Public Works
Fire	Traffic



2/7 **TRESPA PANEL AB (REAR)**
1/2" = 1'-0"



3/7 **TRESPA PANEL BB (REAR)**
1/2" = 1'-0"



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Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 12.16.21

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. M. YARBROUGH

General Sign Specifications
☐ Interior ■ Exterior
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☐ _____
☐ Non-Illuminated
■ Illuminated
____ Volts ____ Amps (+/-)
Location PUYALLUP, WA
Windspeed 100 MPH / IBC 2018

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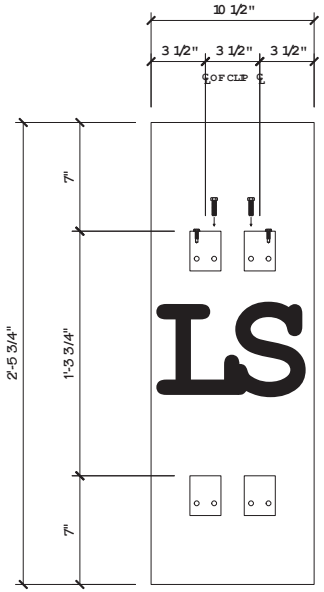
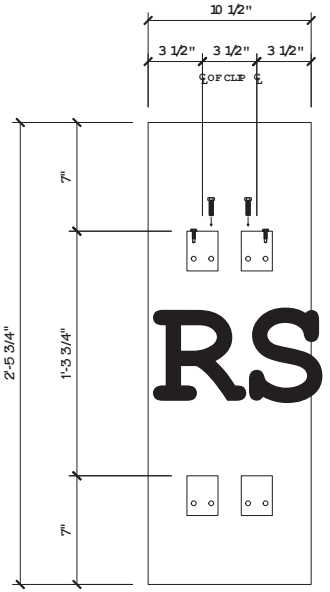


1/8 TRESPA PANEL LS (REAR)
1-1/2" = 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic



2/8 TRESPA PANEL RS (REAR)
1-1/2" = 1'-0"

BRENT ALAN THORNTON
STATE OF WASHINGTON
55104
REGISTERED
PROFESSIONAL ENGINEER
07/12/2022

2655 International Pkwy.
Virginia Beach, VA 23452

AGI

Project Title
LINCOLN

Date 12.16.21

AGI EoR M. SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. M. YARBROUGH

General Sign Specifications
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PG. #: 8

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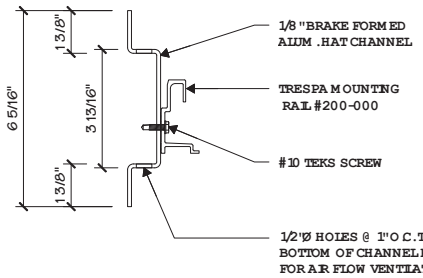
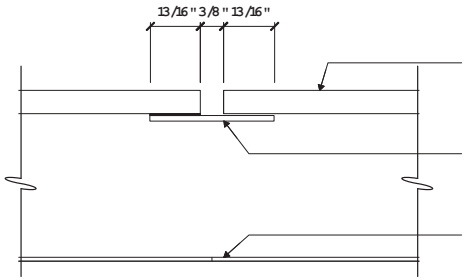
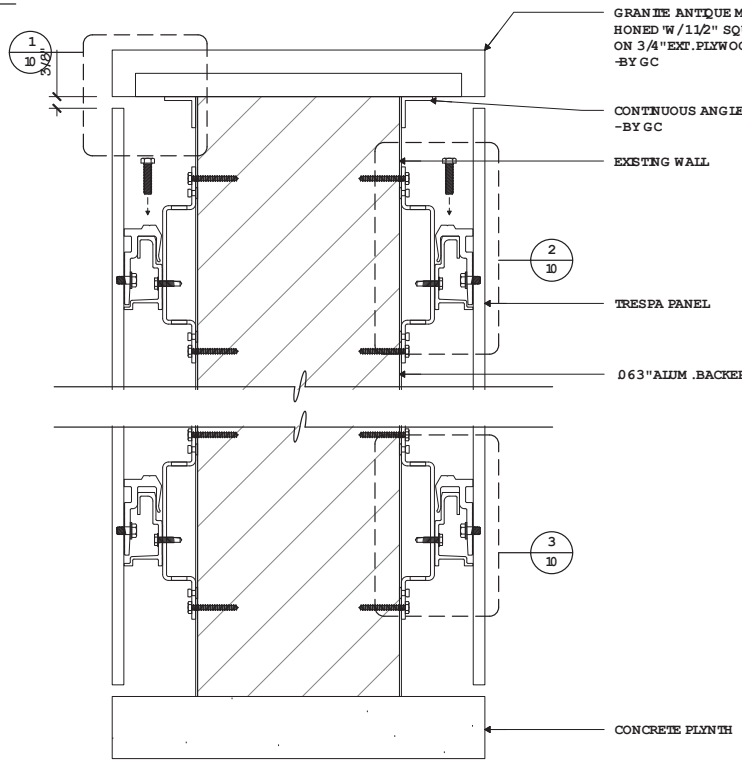


1/9 HAT CHANNEL ASSEMBLY
1=4



2/9 TYPICAL SEAM DETAIL
1/2"=1"



3/9 SECTION VIEW (TYP)
1"=1-0"

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City of Puyallup
Development & Permitting Services
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Building	Planning
Engineering	Public Works
Fire	Traffic

AGI

Project Title
LINCOLN

Date 12.16.21

AGI EoR M.SMITH
Lead Drafter FKN
Drawn By ELL
Project Mgr. M.YARBROUGH

General Sign Specifications
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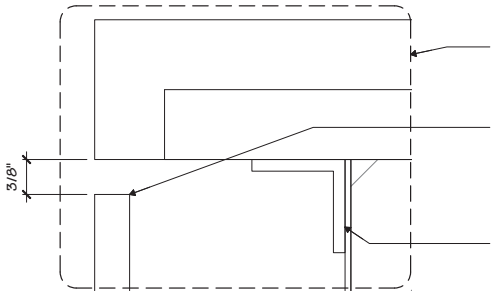

1/10 BLOW-UP DETAIL
3/4"=1"

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City of Puyallup
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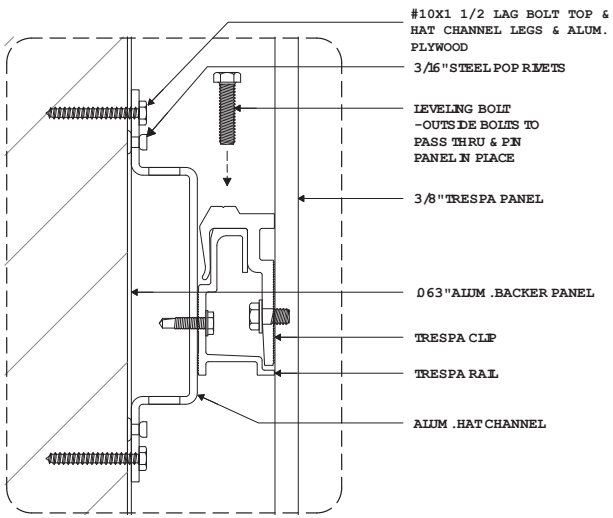
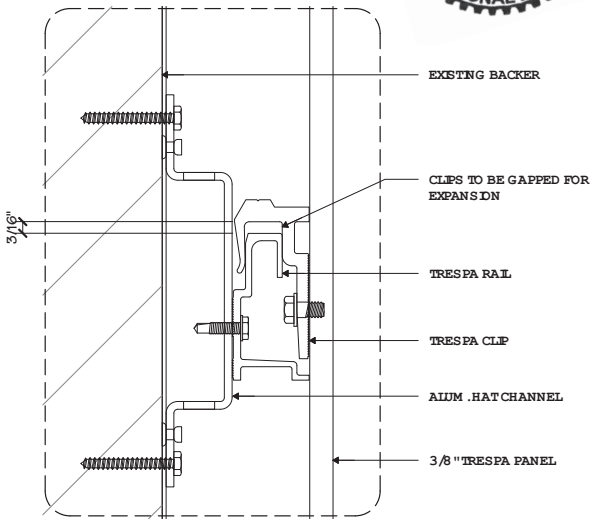


2/10 BLOW-UP DETAIL
1/2"=1"



3/10 BLOW-UP DETAIL
1/2"=1"

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Virginia Beach, VA 23452

AGI

Project Title
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AGI EoR M.SMITH
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Location PUYALLUP, WA
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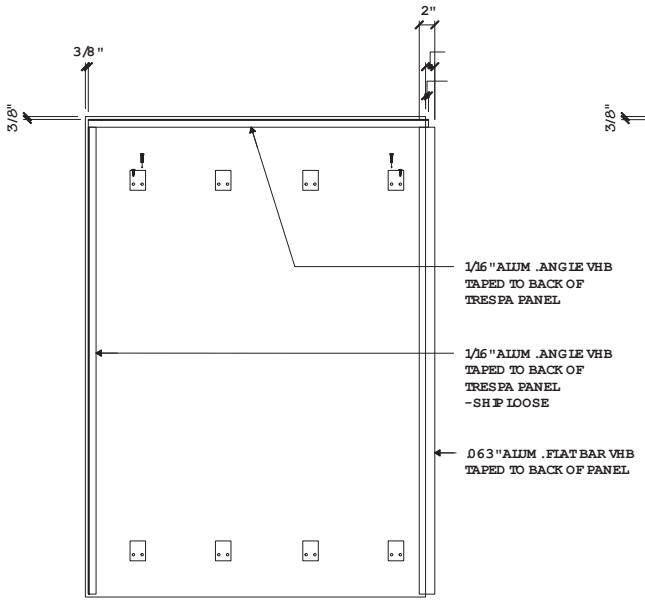
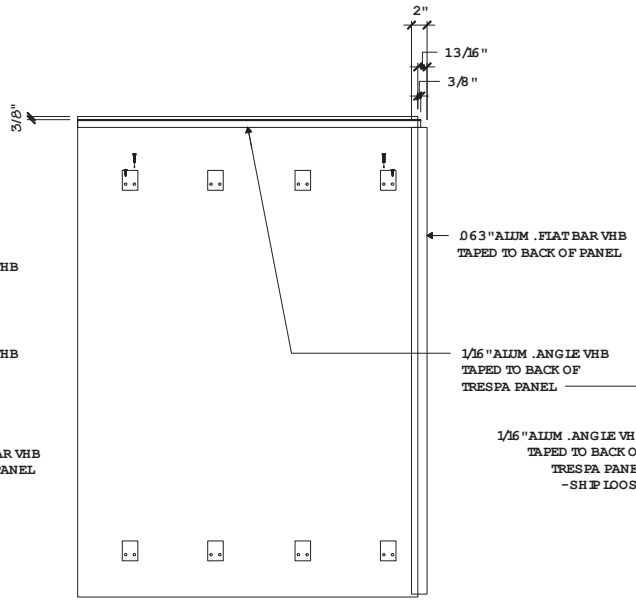
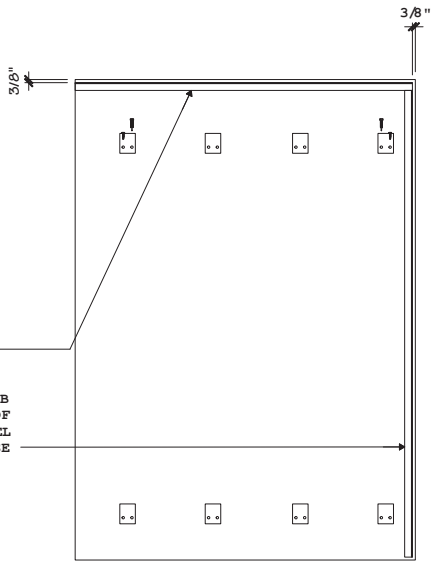


1/11 **FRONT END PANEL (TYP)**
3/4"=1'-0"



2/11 **MIDDLE PANEL (TYP)**
3/4"=1'-0"



3/11 **BACK END PANEL (TYP)**
3/4"=1'-0"

City of Puyallup
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Fire	Traffic

BRENT ALAN THORNTON
STATE OF WASHINGTON
55104
REGISTERED
PROFESSIONAL ENGINEER
07/12/2022

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PG.#: 11

13/16"

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