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Pool Screen/ Expansio Car Port Pergola Swimming P	n Sun Room Cage (Non-Remover Non Standard) Patio Cover ool (Non Standard) Chen (Non Standard)	/able Screen – E dard) rd)	esigned to with	nstand actual W	electronic copies. Date: 2024.03.11 15:29 -04'00' ind Speed
* Standard	Non Standard	Revision	Commercial	₹ \$75.00 Rus	h Fee
*Project Addre	ess: 185 SW Woodle	eaf Court			
*City: LAke City,	FL 32024			Date: 03/11/24	
*Address: 244 NV *City: Ocala, FL *Zip Code: 34475 *Phone/Fax: 352- *Email: Beldiana1 *Choose One: *(For FedEx option) *Payment:	445-7684 @aol.com Mail Pick United Pick Un	Up	PDF Page Separate om and provide l esign.com to pay		•

Engineer: Michael Thompson, MSc, P.E. (P.E. # 47509)

4401 Vineland Road- Suite A6 Orlando, FL 32811 Office:888-607-0747 or 407-734-1470 Cell: 407-721-2292 Project Manager Paul Thomas 386-479-9504 Fax: 888-923-8181 Email: aluminumscreendesign@yahoo.com

Website: www.aluminumscreendesign.com ca#30930





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* Ultimate Wind Speed (mph): 150 Exposed Category: C Risk Category: 1
Screen Room Fill In Sun Room (Window Type Vinyl or Glass)
Roof Type: Insulated " Pan Roof " Roof Connecting to: Gutter Fascia Block Wall Conventional Wall 4 th Wall Riser Front Wall: Uprights X Top Plate X Bottom Plate X Chair Rail X Side Wall: Uprights X Top Plate X Bottom Plate X Chair Rail X Roof Ridge Beam (gable style): Beams X Kick Plate
Pool Screen/Cage :
Roof Type: Dome Gable Mansard/Hip Flat/Slope
Roof Connecting to: Gutter Fascia Block Wall Conventional Wall Riser
Roof: Beams 2 X8 Front Wall: Uprights 2 X5 Purlin 2 X2 Chair Rail 2 X2
Side Wall: Uprights 2 X 5 Chair Rail 2 X 2 Expansion View: Beams X Post X Kick Plate
Car Port Patio Cover or Pergola (pergola material □ Aluminum □ Wood)
Roof Type: Insulated Pan Roof None (Pergola Only)
Roof Connecting to: Gutter Fascia Block Wall Conventional Wall 4 th Wall
BeamsX PostX Pergola Purlins X
Roof Ridge Beam (gable style): BeamsX
Swimming Pool Gunite Fiberglass Overall Deck SQ FT
Summer Kitchen
Concrete:
✓ Existing New 4" w/6" Thickened Edge Pier X_X
Ribbon FooterX With#Rebar
Pavers with FooterX With#Rebar
Other:

Note: In the event that there is a conflict with the design plans and general notes and design standard, the contractor shall utilize the more stringent dimensions and member sizes prior to ordering materials, fabrication and/or construction between the plans and the general notes and design standard.

Engineer: Michael Thompson, MSc, P.E. (PE#47509) 4401 Vineland Road Suite A6, Orlando, FL 32811 (CA#30930)-Ph 407-734-1470/Fax 407-734-1790



General Notes & Design Standards

(Non-Removable Pool Screen)

The following are general design standards. More stringent design standards may be noted on the plans. In the event of a conflict in plans and/or design standard dimensions and/or member sizes, the contractor must utilize the more stringent dimensions and/or member sizes prior to ordering materials, fabrication and/or construction.

Design Codes:

Florida Building Code 2023 (8th Edition) Aluminum Design Manual 2020 ASCE 7-22

Design Loads:

Pursuant to FBC Chapters 16 & 20

Ultimate Wind: -150 MPH (FBC Table 2002.4)

Risk Category:-See attach site specific plan sheet (FBC Table 1604.5) Exposure Category: -See attach site specific plan sheet (FBC 1609.4.3)



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Additional Load requirements:

Structural members supporting screened enclosures are designed for wind in both of two orthogonal directions using the pressures given in Table 2002.4. Each primary member is also designed for a 300 pound load applied vertically downward along any 1 foot of any member, not occurring simultaneously with wind load. In addition to wind pressures, purlins is also be designed for a 200 pound load applied vertically downward along any 1 foot of any member, not occurring simultaneously with wind load.

Design Basis:

Allowable Stress Design (ASD) = Allowable Strength Design (ASD) divide by safety factor

General Requirements:

Reproductions of contract drawings by contractor in lieu of preparation of shop drawings signifies acceptance of information shown as correct and obligates himself to any expense, real or implied, arising from their use.

A change to the structural drawings due to the acceptance of alternates and/or substitutes is the responsibility of the contractor and must be submitted to the engineer for approval.

The general contractor and each subcontractor shall review the approve construction plans in its entirety and verify all existing conditions prior to the start of any work. All inconsistencies shall be reported to the designer and/or structural engineer, if needed. Should contractor construct the premises in a fashion not consistent with the plans prepared by the designer and/or structural engineer, or in any fashion, change the plans and drawing without the review and approval from the designer and/or structural engineer. Then designer and/or structural engineer shall bear no responsibility or liability for the construction of premises and accuracy of the drawings.

Foundation and Earthwork:

Applicable only when unsuitable soils are encountered.

When unsuitable soils are encountered as specified bearing strata, notify owner's representative/engineer. Soil bearing capacity – 2,000 psf Minimum

Provide neat excavation for footing and place concrete immediately after excavation and inspection.

Pump water from footing excavation if greater than one inch. Compact all fill to 95% ASTM D698 density.

Unit soil weight = 105 pcf Internal angle of friction = 30 degrees

Coeff. Of friction between footing and soil = 0.5



Structural Aluminum:

Conform to latest edition of Florida Building Code and Aluminum Design Manual standard practice for aluminum design.

All aluminum shall be 6005-T5 (E= 10,000 ksi; Fy = 35 ksi) with a minimum wall thickness of 0.046"

Splicing prohibited without prior approval as to location and type.

Burning of holes in aluminum members is prohibited. Any member with burned holes must be replaced.

Aluminum Protection:

Shall be pursuant FBC 2003.8.4. Aluminum surfaces in contact with dissimilar materials, lime-mortar, concrete, or other masonry materials, shall be protected with powder coated or ESP paint or alkali-resistant coatings, such as heavy-bodied bituminous paint or water-white methacrylate lacquer.

Screws:

Aluminum self-tapping screws shall conform to ASME B18.6.4 specification.

Self –tapping screws shall meet the requirements of ADM J.5

Maximum fastener spacing shall not exceed (3+20t) where "t" is the member thickness in inches.

For roofing and siding connection, use minimum #12 screws for end and side laps spaced at 12" max for side lap and end lap fasteners shall be no more than 2" from the end of overlapping sheets.

For bottom plate and column base, secure with 1/4" tapcons a minimum embedment of 1 1/8" and 2 1/4" respectively into concrete footer.

Bolts:

Bolts and other fasteners shall be aluminum, stainless steel, hot-dip or electro-galvanized steel. Double cadmium plated steel bolts may also be used. Bolt holes diameter shall not exceed 1/16" larger than the bolt diameter and shall be spaced at a minimum of 2.5 times the bolt diameter with minimum edge distance of 1.5 times the bolt diameter. Bolts shall meet the requirements of ADM J.3

Chair Rails, Purlins & Wind Brace:

Chair rails, purlins and wind brace shall conform with the below maximum span length. If the event contractor's specific site plan conflict with the below recommended length, the contractor shall utilize the more stringent dimensions and member sizes prior to ordering materials, fabrication and/or construction. Screen mesh cover areas shall be continuously secure to each top rail, bottom rail, chair rail, upright, beam and purlin.

Wind Speed = 150 MPH

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2 x 2 Chair Rail = 4'-9" 2 x 2 Purlins = 6'-6" 2 x 2 Wind Brace = 4'-3" 2 x 3 (0.125) Wind Brace = 8'-0" 2 x 3 Chair Rail = 6'-9" 2 x 3 Purlins = 6'-9" 2 x 3 Wind Brace = 6'-9" 2 x 4 Wind Brace = 8'-0"
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Concrete:

Conform to ACI 318, latest edition and ACI 301 Compressive Ultimate Strength (Minimum at 28 days) shall be 3000 psi Exposed chamfer edges shall be 3/4"

Reinforcing Steel:

Conform to ACI 318 and 315, Latest edition
All reinforcement steel shall be ASTM A615 Grade 60.
Smooth dowels & ties shall be ASTM A185
Welded Wire Fabric shall be ASTM A185 or A82 (Flat sheet).
Deformed bar anchors shall be ASTM A496, Grade 70
Cover: Footing 3"

<u> Washer:</u>

Washers shall be used under bolt heads and under nuts.



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Hole Alignment:

Poor matching holes must be rejected. Contractor shall prevent holes from drifting and distort the metal. All chips and foreign matter between contacting surfaces shall be removed before assembly.

Cables:

Contractor shall provide a minimum 1/8" diameter stainless steel cable tie down at side and rear walls of pool screen enclosure. Contractor shall secure cable to top of column located at each corner and where there is a difference in column height locations. In addition, cables shall be spaced to provide wall support not exceeding 227.5 ft² with bottom each end of cables secure to concrete slab with a minimum 3"ASTM A-36 steel clip with 2-1 ½" x ¼" tapcons or equal.

Beams & Uprights:

In the event of a conflict with the values in this table and the site specific plan, the contractor must utilize the more stringent dimensions and/or member sizes between the site specific plan and the below applicable span limitations prior to ordering materials, fabrication and/or construction.

brior to ordering materials, rabrication and/or construction.								
150 MPH								
PRIMARY ROOF MEMBERS-POOL CAGE ENCLOSURES								
SIZE	Roof Span *Maximum Beam Spacing = 6'-0"	Roof Span *Maximum Beam Spacing = 6'-8" Roof Span *Maximum Beam Spacing = 7'-2"						
2 X 4	14'-3"	13'-3"	10'-6"					
2 X 5	19'-0"	18'-0"	15'-6"					
2 X 6	22'-3"	20'-0"	18'-9"					
2 X 7	24'-0"	21'-8"	21'-6"					
2 X 8	28'-0"	26'-9"	26'-6"					
2 X 9	30'-0"	28'-5"	28'-0"					
2 X 10	33'-6"	31'-11"	31'-6"					

Upright -Pool Cage Enclosures						
Upright	150 MPH					
SIZE	Height					
2 X 4	10'-3"					
2 X 5	12'-3"					
2 X 6	13'-3"					
2 X 7 2 X 8	14'-6" 15'-6"					
2 X 9	16'-6"					



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Knee Bracing:

Contractor shall provide knee bracing on 45 degree angle pursuant the attach detail sheet that specified size and length requirements. Knee bracing on upright above super gutter intersection shall be connected to upright no more than 6" above the super gutter. Knee brace size shall be a minimum of 2 x 2 for beam span of 15' max; 2 x 3 for 30' max; 2 x 4 for beam span greater than 30'.

Purlin:

Contractor is required to install purlins spaced to align with column spacing; however, spacing between purlins shall not exceed 7'-2".

Header Beam:

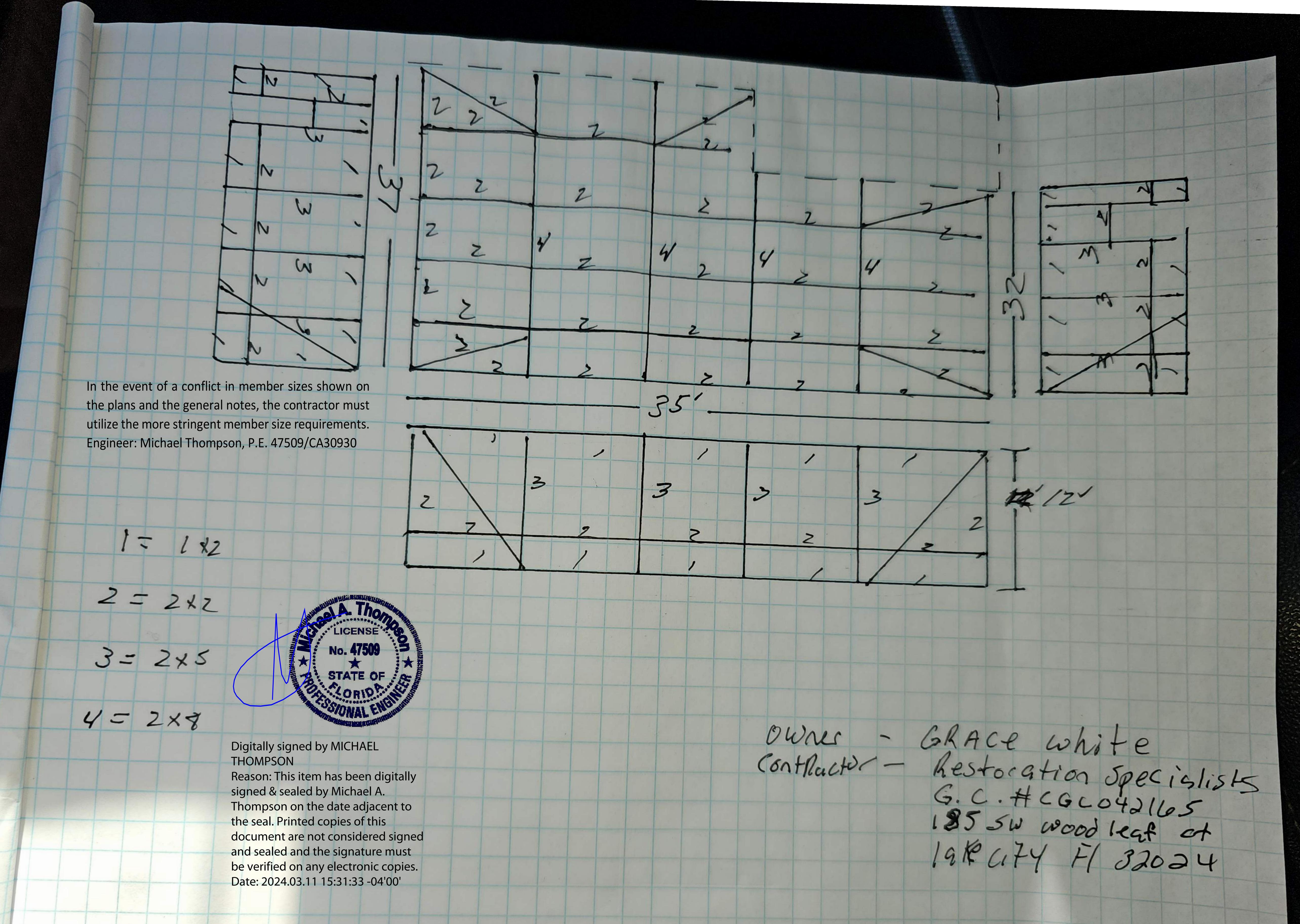
Contractor is required to install a minimum 2 x 7 header beam supported with 3 x 3 column space at 10 feet (max) with a 2' x 2' x 1'-6" concrete footer with 3#5 each way when screen enclosed is required to be attached super gutter at the interface of the insulated roof panel. Contractor is required to install insulated roof covering pursuant to the Florida product approval specification (45 psf).

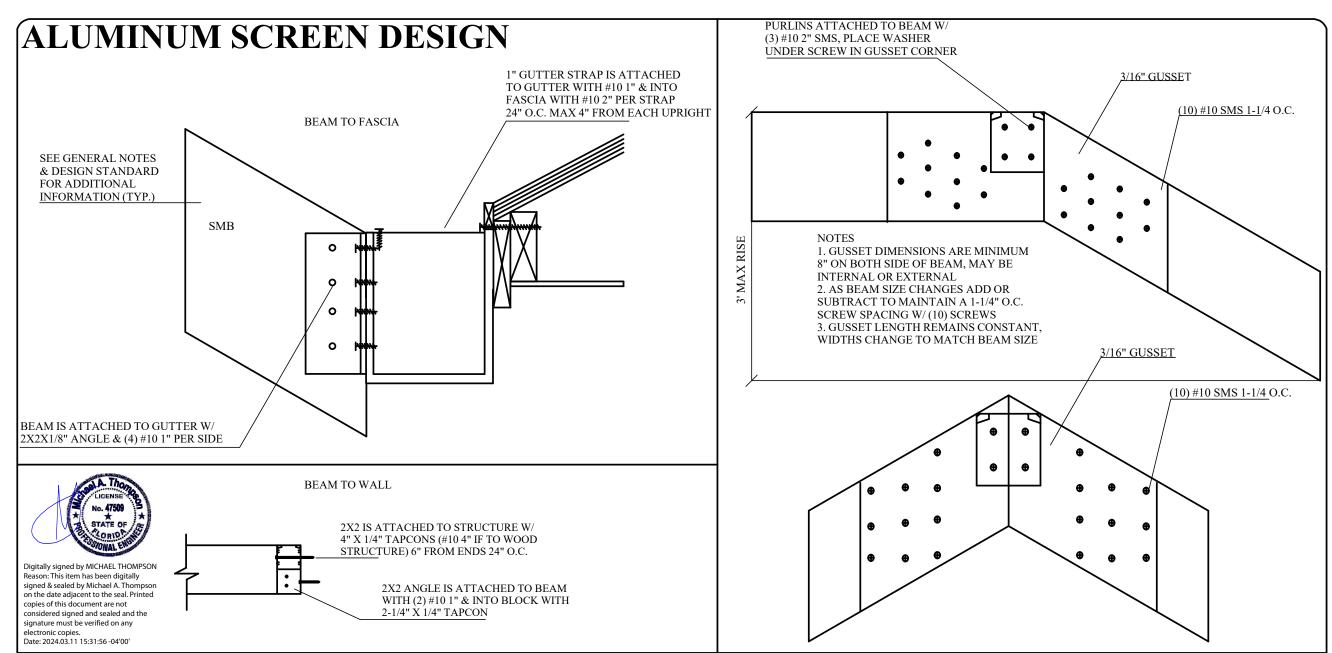
Intermediate Girts:

Contractor is required to install intermediate chair rails/girts spaced at mid-span between the chair rails and top rail or 6'-0" max on center when column height exceeds 11 feet. Contractor is also required to install one additional intermediate chair rail/girt to be located 3 feet below the top rail when column height exceeds 14 feet.

Edge Distance:

Contractor is required to install uprights to provide a 2" minimum clearance from edge of slab and/or footer.





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@YAHOO.COM

PHONE: 407-734-1470

FAX: 407-734-1790

DESIGN STATEMENT

METAL IS .046 THICKNESS OR GREATER, ALLOY IS 6005-T5 ALL TAPCONS SHALL PROVIDE MINIMUM OF 1 1/8" CONCRETE EMBEDMENT DEPTH

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE TO MEET THE REQUIREMENTS OF THE 2023 (8TH EDITION)
FLORIDA BUILDING CODE FOR OPEN AND SEMI-OPEN STRUCTURES AND SHALL WITH STAND ULTIMATE WIND SPEEDS OF 150 MPH
(FOR 3 SECOND GUSTS) NOMINAL SPEED 117 MPH UP TO A 15FT ROOF HEIGHT, FACTOR OF 1.0, AND EXPOSURE C, RISK CATEGORY 1.
CONTRACTOR SHALL FIELD VERIFY ALL PLANS DIMENSIONS PRIOR TO MATERIAL PURCHASE, FABRICATION AND CONSTRUCTION
CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD SITE CONDITIONS DIFFER FROM CONSTRUCTION PLANS

MICHAEL THOMPSON 4401 VINELAND ROAD SUITE A6 ORLANDO, FL 32811 P.E. # 47509

CA#30930

ALUMINUM SCREEN DESIGN

SIDE WALL CONNECTION DETAILS WHEN PURLIN DOESNT HIT POST

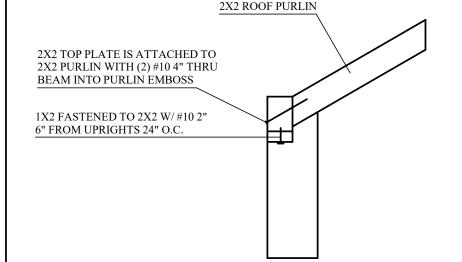
SIDE WALL CONNECTION DETAILS WHEN PURLIN DOESNT HIT POST



DOOR FULL Z OR DOOR JAM **STANDARD**

2X3 POST OR DOOR JAMB

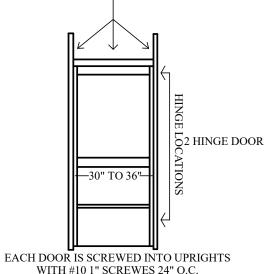
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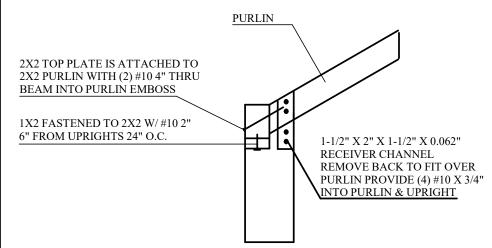
2X2 EDGE BEAM 2-1/8" X 1-1/2" C-CHANNEL C-CHANNEL ATTACHES UPRIGHT TO TOP PLATES WITH (4) #10 1" INTO

UPRIGHT & (3) #10 1" INTO TOP PLATES

UPRIGHT ATTACHES TO PURLIN W/ 1X2 ANGLE & (4) #10 1" PER SIDE



SLOPED PURLIN CONNECTION DETAIL



SMB BEAM IS NOTCHED OVER UPRIGHT 2X2 INTERNALLY SCREWED THRU BEAM W/(3) #10 2" 1X2 FASTENED TO 2X2 W/#10 2" 6" FROM UPRIGHTS 24" O.C. (6) #10 1" INTO GUSSET

PLATE PER SIDE TYP.

FRONT WALL TO BEAM

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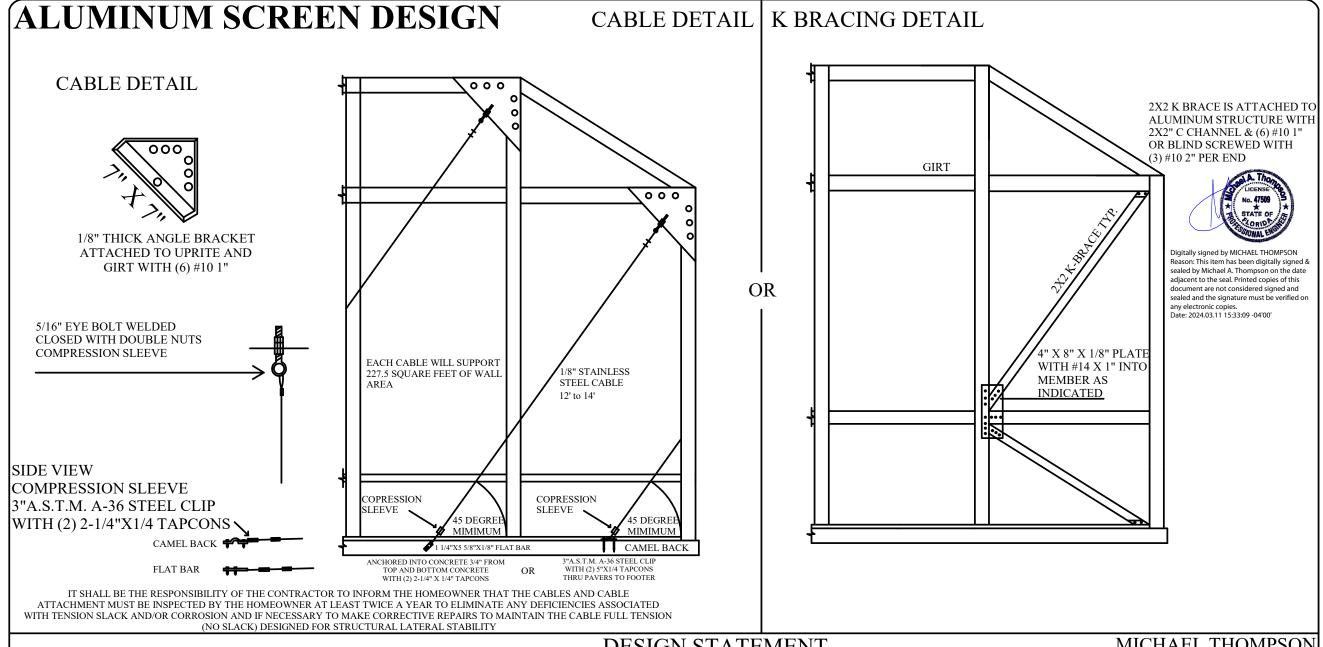
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MICHAEL THOMPSON 4401 VINELAND ROAD SUITE A6 ORLANDO, FL 32811

P.E. # 47509 CA#30930



ALUMINUMSCREENDESIGN.COM ALUMINUMSCREENDESIGN

@YAHOO.COM

PHONE: 407-734-1470 FAX: 407-734-1790

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ALUMINUM SCREEN DESIGN BLIND CLIP & CAPRI CLIP DETAILS CHAIR RAIL & KICK PLATE DETAIL eason: This item has been digitally signed & SIDE WALL DETAIL sealed by Michael A. Thompson on the date CHAIR RAILS & GIRTS ARE adjacent to the seal. Printed copies of this ATTACHED W/ INTERNAL CLIPS document are not considered signed and sealed and the signature must be verified on any W/ (4) #10 1", CAPRI CLIPPED, electronic copies. Date: 2024.03.11 15:33:47 -04'00' W/ RECIEVING CHANNEL & (6) #10 1" 1X2 W/(8) #10 1", OR BLIND SCREWED W/(3) #10 2" 1X2 TOP PLATE IS ATTACHED TO 2X2 WALL BEAM WITH #10 2" 6" FROM ENDS 24" O.C. KICK PLATE IS ATTACHED TO STRUCTURE WITH #10 1" 6" FROM ENDS 18" O.C. (OPTIONAL) 1X2 SIDE WALL IS ATTACHED TO FRONT WALL WITH #10 2" 6" FROM ENDS 24" O.C SELF MATING UPRIGHT DETAILS |X2 IS |2/1/4"| UPRIGHT SHALL BE STITCHED SIDE WALL UPRIGHT #10 1" 12" O.C.: #12 1" 18" O.C.: #14 1" 24" O.C. 6" FROM ENDS RECIEVING CHANNEL CLIP DETAILS 1X2 INTERNALLY SCREWED THRU 2X2X1/8" ANGLE TO UPRIGHT W/(2)#10 X SEE GENERAL NOTES 1-1/2" FASTEN 1X2 TO & DESIGN STANDARD CONCRETE W/3" X 1/4" FOR ADDITIONAL (5" X 1/4" TAPCONS IF THRU PAVERS) INFORMATION (TYP.) (#10 2" IF TO WOOD DECK) SCREW CONCRETE ANCHOR 6" FROM UPRIGHT 24" O.C. (2) #10 1" PER SIDE 1X2 BOTTOM PLATE IS ATTACHED 1X2 BOTTOM PLATE IS ATTACHED TO TO CONCRETE WITH 2-1/4" X 1/4" TAPCONS UPRIGHTS WITH CAPRI CLIP WITH (4) (5" X 1/4" IF THRU PAVERS TO FOOTER)

#10 1" OR BLIND SCREWED WITH (2)

#10 2" PER SIDE

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(#10 2" IF TO WOOD DECK) 6" FROM ENDS 24" O.C.

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DESIGN STATEMENT

MIN 4" SLAB 2500 PSI CONCRETE W/ FIBERMESH

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