

# MECHANICALLY OPENING LOUVERED PERGOLA

4107 83RD AVE SE  
MERCER ISLAND, WA 98040

## SCOPE OF WORK:

DESIGN & INSTALLATION OF A NEW MECHANICALLY OPENING LOUVERED PERGOLA AS DESIGNED HEREIN AT THE ADDRESS NOTED ABOVE

### EXCLUSIONS:

THE DESIGN OF THE EXISTING HOST STRUCTURE, MECHANICAL ELEMENTS, EGRESS, WATERPROOFING ELECTRICAL, WIRING, FAN BEAMS, FANS, OR ANY ACCESSORY ATTACHMENTS ARE NOT INCLUDED WITH THIS DESIGN OR CERTIFICATION U.N.O

## DESIGN CRITERIA:

INTERNATIONAL BUILDING CODE (2018)  
WASHINGTON BUILDING CODE (2018)  
SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC (2015)  
MERCER, ISLAND CITY CODE (MICC)  
ASCE 7-16 LOAD COMBINATIONS

1. DEAD LOADING	
1.1. ROOF DEAD LOAD.....	3 PSF
2. LIVE LOADING	
2.1. LIVE LOAD.....	20 PSF
2.2. ROOF LIVE LOAD.....	25 PSF
3. SNOW LOADING	
3.1. GROUND SNOW LOAD.....	25 PSF
3.2. RAIN ON SNOW SURCHARGE.....	5 PSF
3.3. SNOW EXPOSURE FACTOR.....	1.0
3.4. SNOW LOAD IMPORTANCE FACTOR....	1.0
3.5. THERMAL FACTOR.....	1.2
3.6. SNOW DRIFT.....	PER CODE
4. WIND LOADING INPUTS	
4.1. METHODOLOGY.....	OPEN
4.2. ULTIMATE WIND SPEED.....	110 MPH (ASD = SQRT(0.6)*Vult)
4.3. WIND EXPOSURE FACTOR.....	C
4.4. DIRECTIONALITY/OTHER FACTORS.....	Kd=0.85, G=0.85, Kz=0.89, Kzt=1.3
4.5. MEAN ROOF HEIGHT.....	20'-8" FT
4.6. SYSTEM MOUNTING HEIGHT.....	0 FT (AT GRADE)
4.7. RESULTANT WIND LOADING	
4.1.1. GRAVITY (+).....	33.00 PSF
4.1.2. UPLIFT (-).....	1.98 PSF
4.1.3. LATERAL.....	23.15 PSF
5. SEISMIC LOADS	
5.1. RISK CATEGORY.....	II
5.2. SITE CLASS.....	D
5.3. S.....	1.419
5.4. S1.....	0.493
5.5. SEISMIC DESIGN CATEGORY (SDC)....	D
5.6. LONG TRANSITION PERIOD (TL).....	6
5.7. RESULTANT SEISMIC DESIGN LOAD.....	1,144.28 LB-FT
5.8. LATERAL RESISTING SYSTEM	
5.8.1. CANTILEVER COLUMN (G.1 SPEC.)	

## GENERAL NOTES

- THIS STRUCTURE HAS BEEN DESIGNED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE STRUCTURAL PROVISIONS OF THE ABOVE REFERENCED BUILDING CODE. STRUCTURE SHALL BE FABRICATED IN ACCORDANCE WITH ALL GOVERNING CODES. CONTRACTOR SHALL INVESTIGATE AND CONFORM TO ALL LOCAL BUILDING CODE AMENDMENTS WHICH MAY APPLY AND GOVERN. DESIGN CRITERIA OR SPANS BEYOND STATED HEREIN MAY REQUIRE ADDITIONAL SITE SPECIFIC SEALED ENGINEERING.
- THE EXISTING HOST STRUCTURE MUST BE CAPABLE OF SUPPORTING THE LOADED SYSTEM AS VERIFIED BY THE ENGINEER & OR ARCHITECT OF RECORD, et.al. THE HOST STRUCTURE WHICH IS DESIGNED, CERTIFIED, AND INSPECTED BY OTHERS MUST PROVIDE SUFFICIENT, CAPACITY FOR THIS SPECIFIED DECK SYSTEM. NO WARRANTY OR GUARANTEE TO THESE CONDITIONS, EITHER EXPRESSED OR IMPLIED, IS OFFERED WITH THIS CERTIFICATION.
- THE CONTRACTOR SHALL CAREFULLY CONSIDER POSSIBLE IMPOSING LOADS ON ROOF, INCLUDING BUT NOT LIMITED TO ANY CONCENTRATED LOADS WHICH MAY JUSTIFY GREATER DESIGN CRITERIA. ALL STRUCTURAL MEMBERS AS SHOWN HAVE BEEN DESIGNED TO CARRY IN PLACE DESIGN LOADS ONLY; THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPORT OF ANY ADDITIONAL LOADS AND FORCES IMPOSED DURING MANUFACTURING, TRUCKING, ERECTING, AND HANDLING.
- SPECIAL INSPECTIONS MAY BE REQUESTED OR REQUIRED AT THE DISCRETION OF THE AUTHORITY HAVING JURISDICTION.

- IN AREAS OF SEISMIC DESIGN CATEGORY (SDC) D-F, AN INSPECTOR SHALL EXAMINE THE DESIGNATED SEISMIC SYSTEM, MOUNTING, AND ANCHORAGE REQUIRING QUALIFICATION IN ACCORDANCE WITH SECTION 13.2.2 OF ASCE 7 PER IBC 1705.12.4, AS WELL AS INSPECT REINFORCEMENT AND VERIFY PLACEMENT PER IBC 1908.4

### LOUVERED PERGOLA DESIGN & OPERATION:

- LOUVERS SHALL BE SPACED SUCH THAT THEY ALLOW 50% SYSTEM POROSITY WHEN FULLY OPENED.
- SYSTEM NOT DESIGNED TO HANDLE CONCENTRATED LOADS FROM HUMAN ACTIVITY.
- DURING SUCH PERIODS OF TIME AS ARE DESIGNATED BY THE U.S. WEATHER BUREAU AS A HIGH WIND OR SNOW ADVISORY FOR THE AREA, THIS SYSTEM MUST BE LOCKED IN THE OPEN POSITION, WITH THE LOUVER BLADES VERTICAL, AND ANY FANS OR ACCESSORY COMPONENTS SHALL BE REMOVED. WINDSCREENS, IF SPECIFIED, SHALL BE RETRACTED PRIOR TO WIND SPEEDS OF 35 MPH.
- THE STRUCTURE SHALL NOT BE WALKED UPON AND IS NOT DESIGNED FOR HUMAN ACTIVITY OR STORAGE.
- THE STRUCTURE SHALL BE POSTED WITH A LEGIBLE AND READILY VISIBLE DECAL OR PAINTED INSTRUCTIONS TO THE OWNER OR TENANT STATING THAT (1) THE SYSTEM IS NOT DESIGNED FOR HUMAN ACTIVITY AND (2) TO REPOSITION THE LOUVERS AND WINDSCREENS DURING WIND OR SNOW ADVISORIES. THE CANOPY OWNER SHALL BE NOTIFIED OF THESE CONDITIONS BY THE PERMIT HOLDER AT THE TIME OF SALE.
- SYSTEM SHALL BE EQUIPPED AND SOMFY CERTIFIED TO OPERATE PROPERLY WITH SENSORS WHICH WILL PROMPT THE LOUVER BLADES TO ROTATE TO THE OPEN (VERTICAL) POSITION WHENEVER THE WIND SPEED REACHES 45 MPH MINIMUM, OR TEMPERATURE DROPS TO 32° FAHRENHEIT OR LOWER, AND/OR INCLUDE THE ABILITY FOR MANUAL OPENING AND LOCKING BY THE USER.
- LOUVERED ROOF SYSTEM SHALL BE PER MANUFACTURER MAXIMUM SPANS OR BY OTHERS.
- NO CERTIFICATION IS OFFERED FOR WATERPROOFING, SIZING, OR OPERATION OF GUTTERS.
- SYSTEM NOT DESIGNED FOR WATERSHED OF RAINFALL FROM ADJACENT ROOFS UNLESS SPECIFICALLY SHOWN HEREIN, TYP.

## STRUCTURAL MATERIALS AND CONNECTIONS

### STRUCTURAL ALUMINUM & ALUMINUM WELDING:

- ALL COMPONENTS SHALL BE STRUCTURAL ALUMINUM (U.N.O.) AND SHALL BE FABRICATED AND ERECTED ACCORDING TO THE GOVERNING BUILDING CODE AND MATERIAL STANDARDS REFERENCED ON THIS SHEET.
- ALL STRUCTURAL ALUMINUM SHALL BE MIN 1/8" THICK U.N.O. AND BE OF THE FOLLOWING ALLOY AND TEMPER:
  - BEAMS, PURLINS, COLUMNS ..... 6063-T6
  - ALL OTHER EXTRUSIONS ..... 6063-T6
  - FASTENERS ..... SS 316
- STRUCTURAL ALUMINUM SHALL BE FRAMED PLUMB AND TRUE AND ADEQUATELY BRACED DURING CONSTRUCTION.
- ALL BEAMS SHALL HAVE A MINIMUM 1 1/2" DEPTH FULL BEARING SUPPORT UNLESS NOTED OTHERWISE.
- WHERE ALUMINUM IS IN CONTACT WITH OTHER METALS EXCEPT 300 SERIES STAINLESS STEEL, ZINC OR CADMIUM AND THE FAYING SURFACES ARE EXPOSED TO MOISTURE, THE OTHER METALS SHALL BE PAINTED OR COATED WITH ZINC, CADMIUM, OR ALUMINUM.
- UNCOATED ALUMINUM SHALL NOT BE EXPOSED TO MOISTURE OR RUNOFF THAT HAS COME IN CONTACT WITH OTHER UNCOATED METALS EXCEPT 300 SERIES STAINLESS STEEL, ZINC, OR CADMIUM. ALUMINUM SURFACES TO BE PLACED IN CONTACT WITH MASONRY, CONCRETE, WOOD, FIBERBOARD, OR OTHER POROUS MATERIAL THAT ABSORBS WATER SHALL BE PAINTED.
- FOR ALUMINUM IN CONTACT WITH CONCRETE: ACCEPTABLE PAINTS: PRIMING PAINT (ONE COAT), SUCH AS ZINC MOLYBDATE PRIMER IN ACCORDANCE WITH FEDERAL SPECIFICATION TT-P-645B ("GOOD QUALITY", NO LEAD CONTENT). ALT: HEAVY COATING OF ALKALI RESISTANT BITUMINOUS PAINT. ALT: WRAP ALUMINUM WITH A SUITABLE PLASTIC TAPE APPLIED IN SUCH A MANNER AS TO PROVIDE ADEQUATE PROTECTION AT THE OVERLAPS.
- ALUMINUM SHALL NOT BE EMBEDDED IN CONCRETE TO WHICH CORROSIVE COMPONENTS SUCH AS CHLORIDES HAVE BEEN ADDED IF THE ALUMINUM WILL BE ELECTRICALLY CONNECTED TO STEEL. EMBEDDED ALUMINUM ELEMENTS WILL BE COVERED WITH PLASTIC TAPE OR OTHERWISE PROTECTED AS PER 2015 ADM M.7.3.
- BOLT HOLES SHALL BE DRILLED THE SAME NOMINAL DIAMETER AS THE BOLT + 1/16".
- ALUMINUM WELDING SHALL BE PERFORMED IN ACCORDANCE WITH WELD FILLER ALLOYS MEETING ANSI/AWS A5.10

STANDARDS TO ACHIEVE ULTIMATE DESIGN STRENGTH IN ACCORDANCE WITH THE ALUMINUM DESIGN MANUAL PART I-A, TABLE 7.3.1. ALL ALUMINUM CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE TOLERANCES, QUALITY, AND METHODS OF CONSTRUCTION AS SET FORTH IN THE AMERICAN WELDING SOCIETY'S STRUCTURAL WELDING CODE-ALUMINUM (D1.2). MINIMUM WELD IS 1/8" THROAT FULL PERIMETER FILLET WELD UNLESS OTHERWISE NOTED.

- STAINLESS STEEL FASTENERS SHALL BE ASTM F593 316 SS COLD WORKED CONDITION. PROVIDE (5) PITCHES MINIMUM PAST THE THREAD PLANE FOR ALL SCREW CONNECTIONS. ALL FASTENER CONNECTIONS TO METAL SHALL PROVIDE 2xDIAMETER EDGE DISTANCE AND 3xDIAMETER SPACING.
- SELF-DRILLING SCREWS SHALL BE TEK BRAND / ALL POINTS FASTENERS OF SIZE #14, STAINLESS STEEL 300 SERIES, WITH MINIMUM 1/2" THREAD ENGAGEMENT BEYOND THE CONNECTED PART, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
- ELECTRICAL GROUND, WHEN REQUIRED, TO BE DESIGNED & INSTALLED BY OTHERS.

### STRUCTURAL WOOD (AS APPLICABLE):

- ALL DIMENSION LUMBER SHALL BE STRUCTURAL GRADE #2 DOUGLAS FIR OR BETTER MEETING APPLICABLE REQUIREMENTS OF THE PACIFIC LUMBER INSPECTION BUREAU (PLIB) AND PRESSURE-IMPREGNATED (PT) BY AN APPROVED PROCESS (ACQ 0.4 PRESSURE TREATED) PRESERVATIVE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE BUILDING CODE AND AMERICAN WOOD PRESERVERS ASSN (AWPA) "BOOK OF STANDARDS" OR 0.42 SPECIFIC GRAVITY MIN.
- ALL METAL CONNECTORS IN CONTACT WITH WOOD USED IN LOCATIONS EXPOSED TO WEATHER SHALL BE GALVANIZED.
- NAILS SHALL PENETRATE THE SECOND MEMBER A DISTANCE EQUAL TO THE THICKNESS OF THE MEMBER BEING NAILED THERETO. THERE SHALL BE NOT LESS THAN 2 NAILS IN ANY CONNECTION.
- MEMBERS SHALL BE FREE OF CRACKS AND KNOTS. MOISTURE CONTENT SHALL BE 19% OR LESS.
- WOOD THAT IS IN CONTACT WITH CONCRETE OR MASONRY, AND AT OTHER LOCATIONS AS SHOWN ON STRUCTURAL DRAWINGS, SHALL BE PROTECTED WITH 30 # FELT (UNLESS NOTED OTHERWISE) OR PRESSURE TREATED IN ACCORDANCE WITH AITC-109. MEMBER SIZE SHOWN ARE NOMINAL UNLESS NOTED OTHERWISE.

### OTHER MATERIALS (AS APPLICABLE)

- ANY SPECIFIED LIGHT GAUGE STEEL MEMBERS SHALL CONFORM TO ASTM A36 AND CURRENT EDITION OF AISC WITH MINIMUM Fy = 36KSI
- GLASS PANELS (IF SHOWN) SHALL BE MIN 3/8" FULLY TEMPERED GLASS & MUST COMPLY WITH ANSI Z97.1 / CATEGORY II CPSC 16 CFR 1201 AS CERTIFIED BY GLASS MANUFACTURER

### ANCHORS & FASTENERS

- ALL FASTENERS TO BE #14 OR GREATER ASTM F593 COLD WORKED 304 STAINLESS STEEL, UNLESS NOTED OTHERWISE. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" BY THE ALUMINUM ASSOCIATION, INC., & ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES.
- ALL METAL CONNECTORS USED IN LOCATIONS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED.
- ALL FASTENERS SHALL BE SPACED WITH 2x DIAMETER END DISTANCE AND 2.5xDIAMETER MIN. SPACING TO ADJACENT FASTENERS, UNLESS NOTED OTHERWISE. PROVIDE (5) PITCHES MINIMUM PAST THE THREAD PLANE FOR ALL FASTENERS.
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE AS NOTED HEREIN. MINIMUM EMBEDMENT AND EDGE DISTANCE ARE DEPTHS INTO SOLID SUBSTRATE AND DO NOT INCLUDE THICKNESS OF STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES. ALL CONCRETE ANCHORS SHALL BE INSTALLED TO NON-CRACKED CONCRETE ONLY.
- ANCHOR QUANTITIES INDICATED IN DETAILS ARE FOR GRAPHICAL PURPOSES ONLY. DO NOT SCALE DIAMETER, LENGTH, OR PENETRATION(S). HEAD STYLE(S) ARE FREELY INTERCHANGEABLE.

### NON-STRUCTURAL ELEMENTS:

- THE INSTALLATION OF ANY ACCESSORIES THAT DO NOT AFFECT THE STRUCTURAL INTEGRITY OF THE STRUCTURE ARE OUTSIDE THE SCOPE OF THIS CERTIFICATION AND NOT REQUIRED TO BE CERTIFIED UNDER THIS STRUCTURAL DRAWING. THEY MAY BE INSTALLED WITHIN LIMITATIONS STATED HEREIN AND AS DESIRED PER MFR. SPECIFICATIONS. DETAILS PROVIDED HEREIN ARE FOR REFERENCE ONLY

## FOUNDATION, CONCRETE, AND REINFORCEMENT

### FOUNDATION & EARTHWORK

- SURROUNDING SOIL TO BE WELL COMPACTED BY MECHANICAL MEANS TO 90% OPTIMUM DENSITY, BE FREE OF MUCK AND ORGANICS, AND ACHIEVE 2000 PSF MIN BEARING PRESSURE AND LATERAL BEARING PRESSURE BELOW NATURAL GRADE OF 150 PSF.
- EXCAVATIONS NEAR ADJACENT FOOTINGS AND FOUNDATIONS SHALL NOT REMOVE LATERAL SUPPORT WITHOUT FIRST UNDERPINNING OR PROTECTING THE THE FOOTING OR FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATION.
- SOIL SHALL BE CLASSIFIED OR VERIFIED BY OTHERS PRIOR TO CONSTRUCTION AS SAND CLASS OR BETTER. SHOULD OTHER CONDITIONS OR MATERIALS BE ENCOUNTERED THE ENGINEER OF RECORD MUST BE NOTIFIED.
- FILL TO BE PLACED OVER THE NATURAL GROUND TO ACHIEVE THE FINISH PAD ELEVATION. BACKFILL MATERIAL SHALL CONSIST OF CLEAN GRANULAR SOILS CONTAINING LESS THAN 5% ORGANIC WITH NO MORE THAN 30% ROCK, AND NO ROCK LARGER THAN 3 INCHES IN DIAMETER AND PLACED IN LOOSE LIFTS NOT TO EXCEED 12 INCHES IN THICKNESS. ALL FILL MATERIAL FOUND AT FOUNDATION LEVEL AND BACKFILL SHALL BE COMPACTED TO 98% OF THE STANDARD PROCTOR DENSITY.

### CONCRETE

- CONCRETE MIXTURES SHALL BE DESIGNED TO REACH A COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS.
- ALL MIXING, TRANSPORTING, PLACING, & CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318.
- NO ADMIXTURES ARE TO BE USED WITHOUT THE WRITTEN APPROVAL OF THE ABOVE-SIGNED ENGINEER.
- CONCRETE SHALL BE TYPE 1 PORTLAND CEMENT MEETING THE REQUIREMENTS OF ASTM C150, AGGREGATES TO MEET ASTM C33. POTABLE WATER SHALL BE USED.
- SLUMP SHALL BE A MINIMUM OF 3" AND MAXIMUM OF 5" CONCRETE DURING AND IMMEDIATELY AFTER DEPOSITING SHALL BY THOROUGHLY COMPACTED BY MEANS OF MECHANICAL VIBRATION.

### REINFORCING STEEL

- ALL REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO CURRENT REQUIREMENTS OF ASTM A615, GRADE 60 (U.O.N.), FREE FROM OIL, LOOSE SCALE AND LOOSE RUST AND BENT, LAPPED, PLACED, SUPPORTED AND FASTENED ACCORDING TO THE "ACI DETAILING MANUAL" (SP-66) AND THE ACI 318.
- ALL WELDING WIRE FABRIC IS TO CONFORM TO ASTM A185 MINIMUM YIELD STRENGTH OF 85 KSI.
- CLEAR COVER FOR REINFORCEMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

FOOTINGS EXPOSED TO EARTH:	3"
UNFORMED FACES EXPOSED TO EARTH:	3"
FORMED FACES IN CONTACT WITH EARTH:	2"
SLABS NOT IN CONTACT WITH EARTH:	3/4"
SLABS EXPOSED TO WEATHER:	2"
BEAMS AND COLUMNS:	1-1/2"
- ALL STEEL SHALL BE SECURELY HELD IN PLACE DURING POURING OF CONCRETE. IF REQUIRED, ADDITIONAL BARS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR TO FURNISH SUPPORT FOR ALL BARS.
- WHEN REINFORCING STEEL IS NOTED AS CONTINUOUS REINFORCING IN SLABS, WALLS, AND/OR BEAMS, SPLICE CONTINUOUS REINFORCING STEEL ONLY WHEN UNAVOIDABLE DUE TO STOCK LENGTHS.
  - LAP CONTINUOUS REINFORCING A MINIMUM OF 48 BAR DIAMETERS IN BEAMS & COLUMNS, 36 BAR DIAMETERS IN SLABS.
  - STAGGER ALL SPLICES A MINIMUM OF FOUR FEET. ADJACENT BAR WITH SPLICES ARE NOT ACCEPTABLE. LOCATE TOP BAR FOR SPLICES WITHIN MIDDLE HALF GO THE SPAN AND LOCATE BOTTOM BAR SPLICES AT SUPPORTS, OR BETWEEN SUPPORTS AND 1/3 SPAN POINT UNLESS NOTED OTHERWISE ON PLANS, DETAILS OR SCHEDULES.
  - CONTINUITY AT COLUMNS SHALL BE PROVIDED BY CONTINUING HORIZONTAL REBARS THROUGH COLUMNS OR BY BENDING HORIZONTAL REINF. INTO COLUMNS A DISTANCE OF 30".
  - PROVIDE 12" STANDARD ACI HOOK MINIMUM FOR ALL DISCONTINUOUS TOP REINFORCING.
  - PROVIDE INTERIOR AND EXTERIOR HORIZONTAL LAPPED CORNER BARS AT ALL CORNERS TO MATCH SIZE, TYPE AND SPACING OF HORIZONTAL WALL REINFORCING IF APPLIED.
  - PROVIDE 2# - 5 X 48" DIAGONALLY AT CORNERS OF ALL OPENINGS WIDER THAN 15". EXTEND BOTTOM BARS 8" PAST OPENINGS GREATER THAN 3'-0" ON BOTH SIDES.



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- LAP SPLICES IN WELDED WIRE FABRIC ARE TO BE MADE SUCH THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THEN THE CROSS WIRE SPACING PLUS 3"
- SHOP DRAWINGS SHALL BE SUBMITTED FOR E.O.R. REVIEW AND APPROVAL BEFORE INSTALLATION.
- ALL STRUCTURAL PRECAST UNITS AND THEIR ATTACHMENTS TO THE MAIN STRUCTURE SHALL BE INSPECTED AFTER ERECTION, BUT BEFORE CONCEALMENT. SUCH INSPECTIONS SHALL BE PERFORMED BY AN ARCHITECT OR PROFESSIONAL ENGINEER REGISTERED IN THE PERMITTING STATE.

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NOTES

FRAME: BRONZE  
LOUVERS: ADOBE  
ELEVATION: AT GRADE

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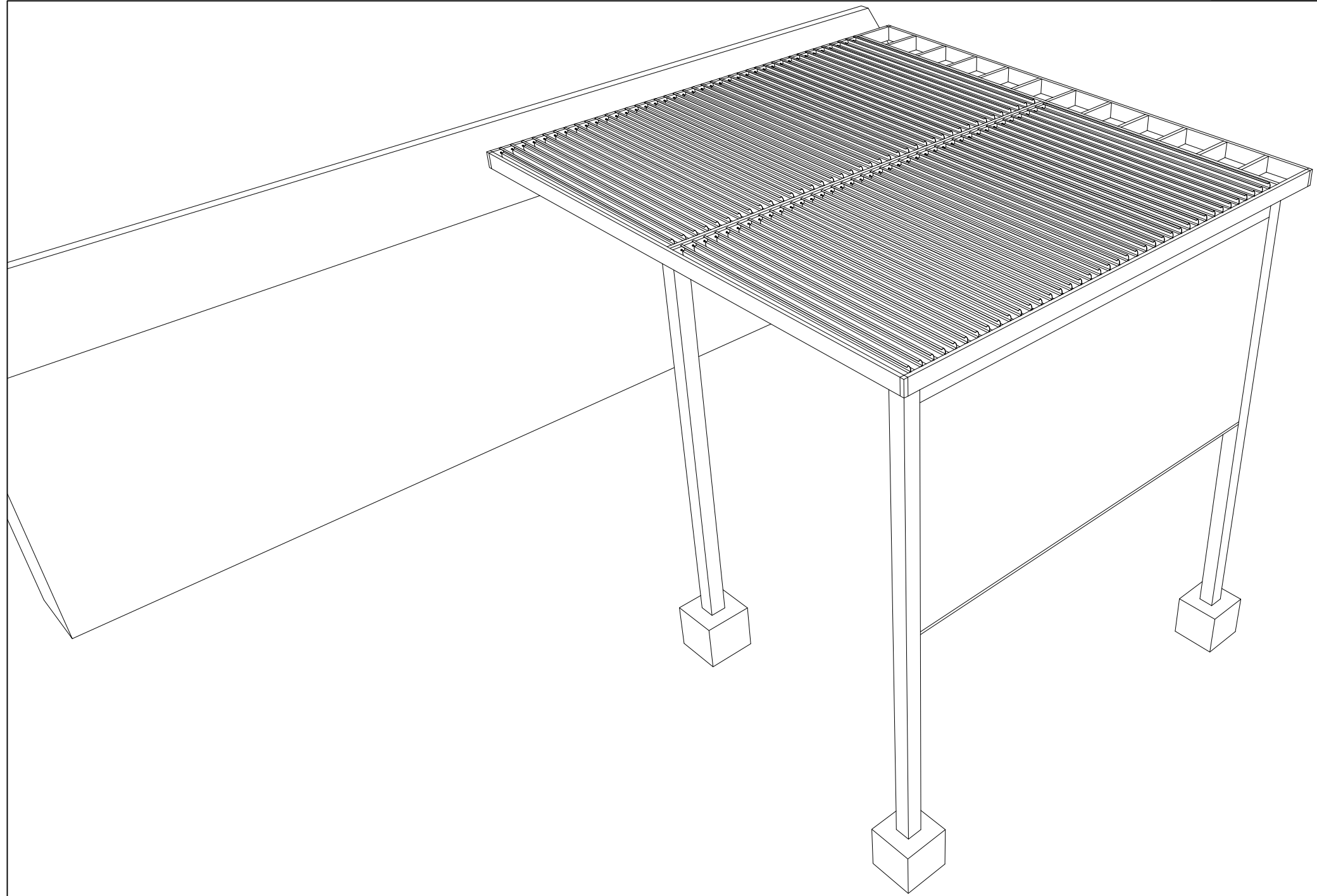
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REVISIONS

PERSPECTIVE  
VIEW

ABBREVIATIONS

LEGEND

DATE  
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SCALE

SHEET NO.  
**A 101**

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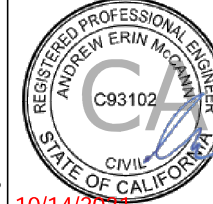
Aluminium Type:  
Louvers 6063-T5  
All Other Components 6063-T6



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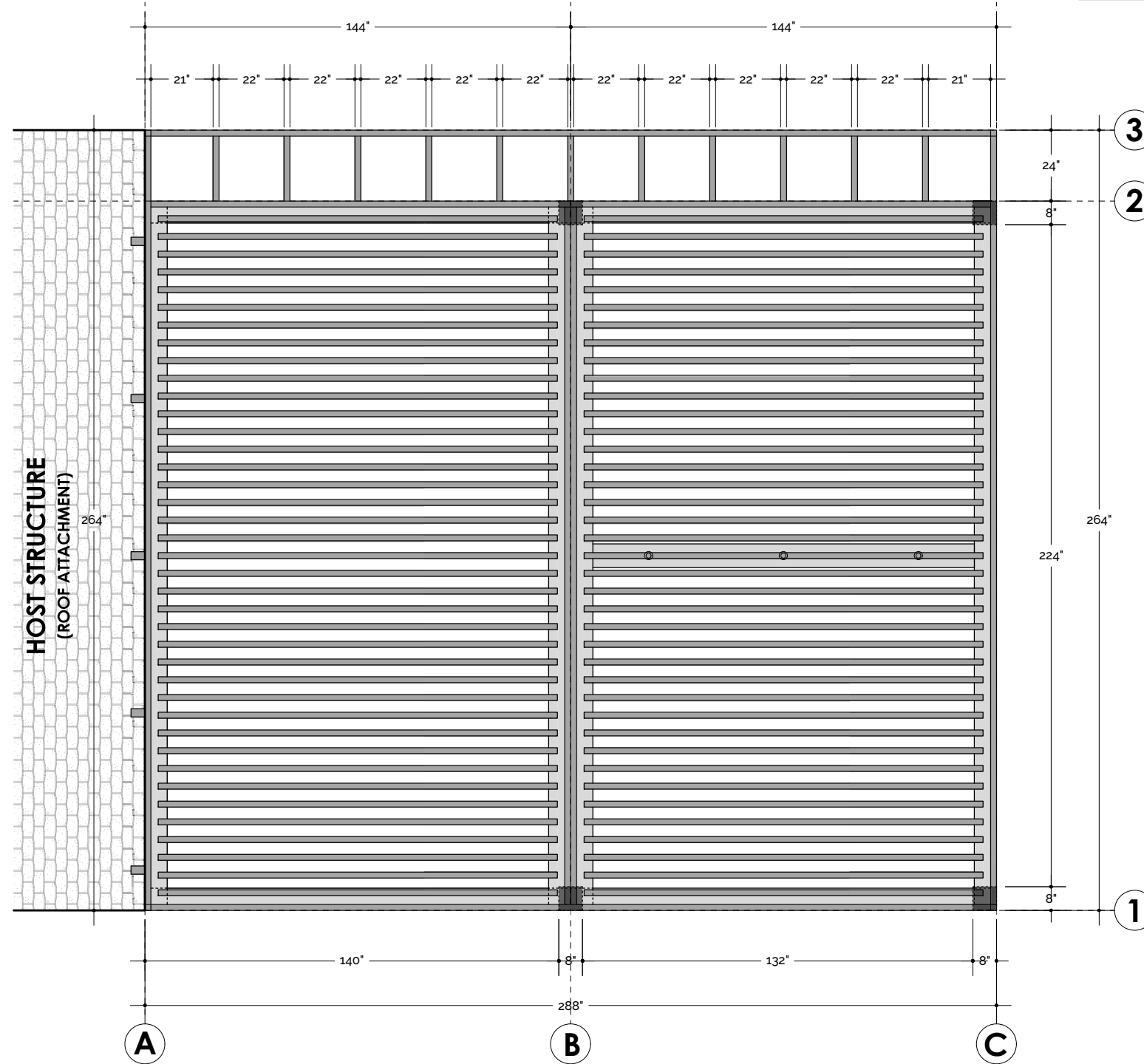


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**1 TOP VIEW**  
SCALE: 1/4" = 1'-0"



**BAKER, BRIAN**  
4107 83RD AVE SE MERCER  
ISLAND, WA 98040

REVISIONS

TOP VIEW

DATE  
09/13/21

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SCALE  
1/4" = 1'-0"

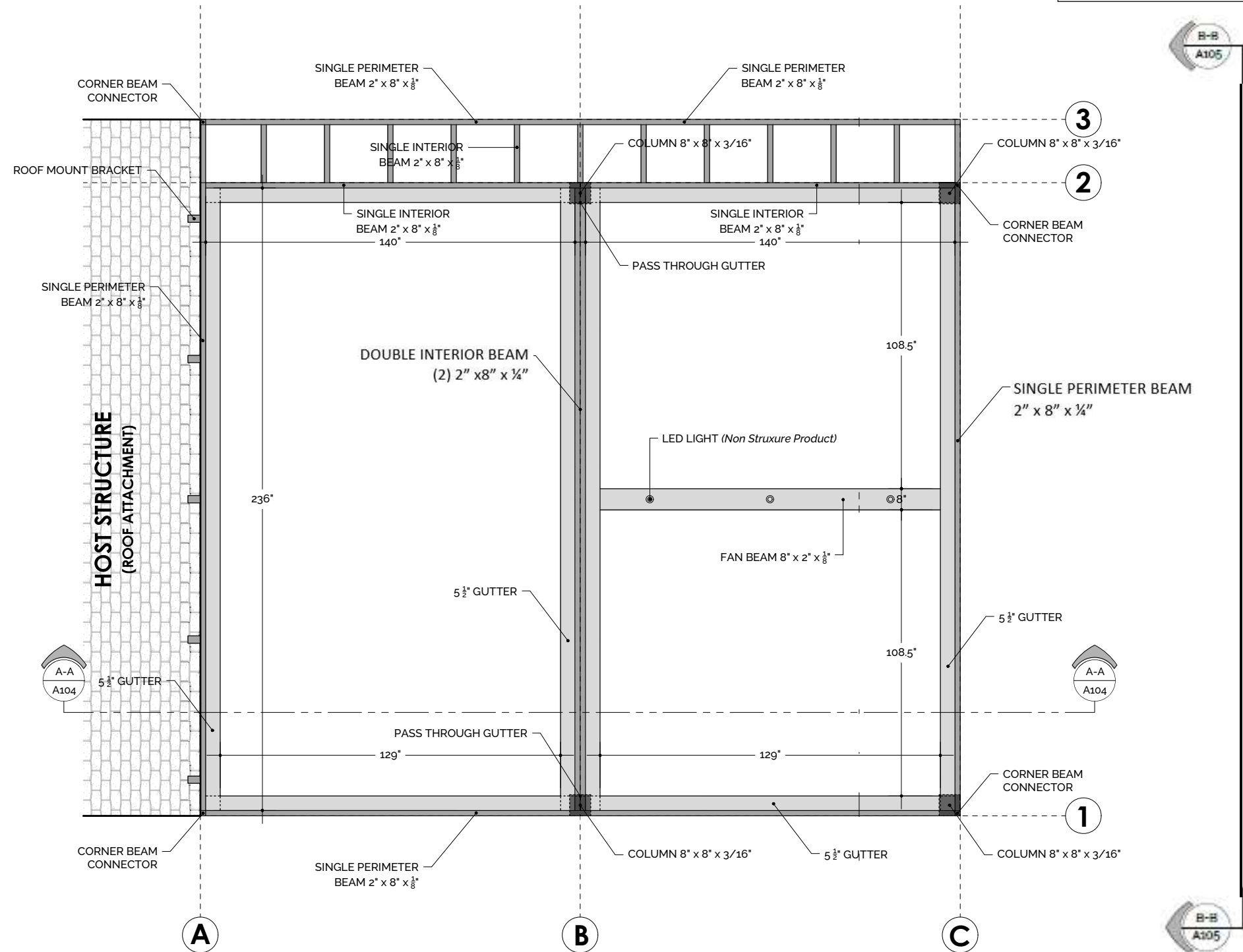
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Aluminium Type:  
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All Other Components 6063-T6

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C093102  
ANDREW ERIN McCANN  
STATE OF CALIFORNIA  
CIVIL  
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SEAL EXPIRATION: 12/31/2021

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**1 BEAMS & GUTTER PLAN**  
SCALE: 1/4" = 1'-0"

REVISIONS

BEAMS &  
GUTTER PLAN

DATE  
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SCALE  
1/4" = 1'-0"

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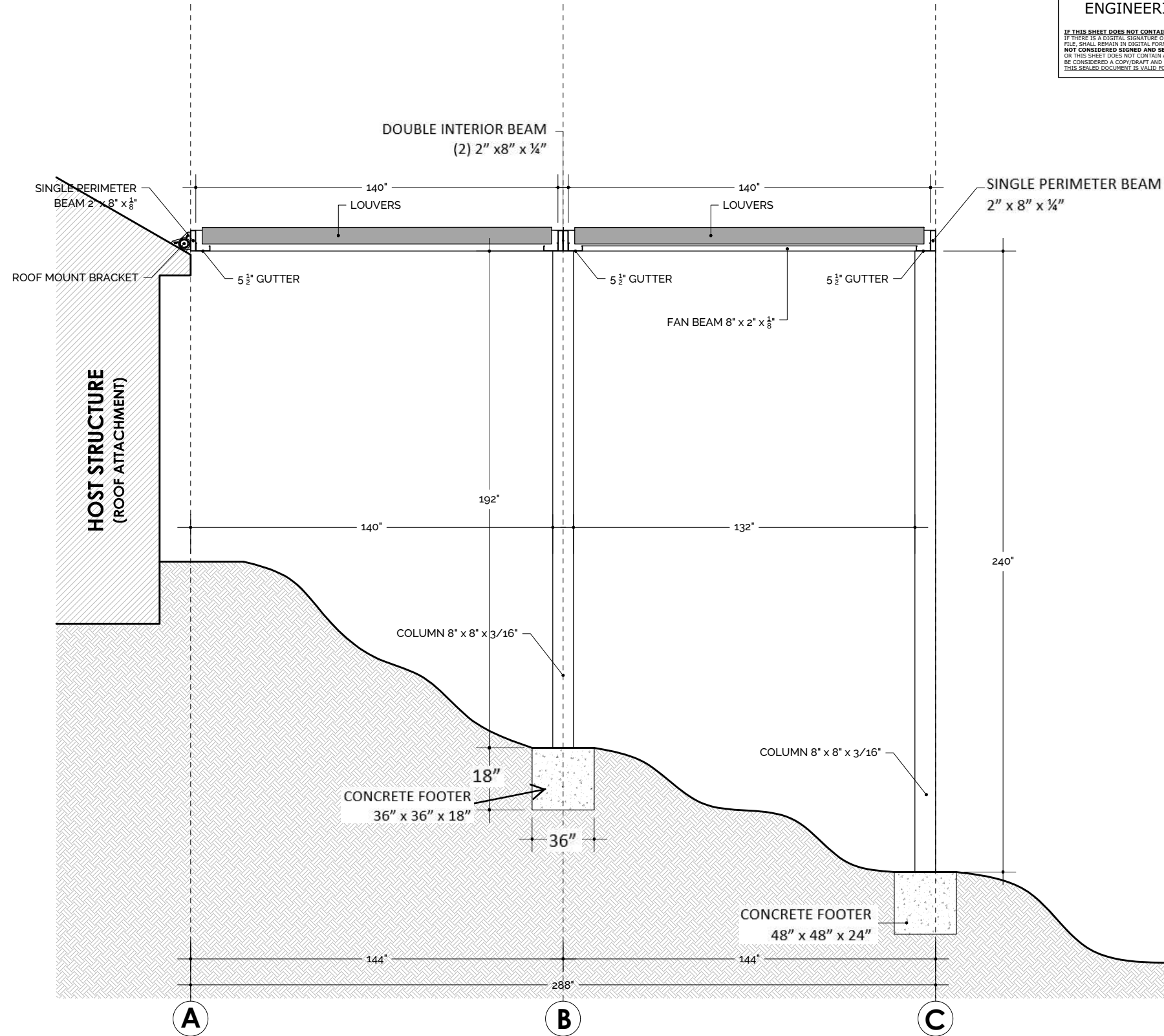
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Aluminium Type:  
Louvers 6063-T5  
All Other Components 6063-T6

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**1 SECTION A-A**  
SCALE: 1/4" = 1'-0"



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SECTION  
A-A

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Aluminium Type:  
Louvers 6063-T5  
All Other Components 6063-T6

SINGLE PERIMETER  
BEAM 2" x 8" x 1/8"

236"  
LOUVER

SINGLE PERIMETER  
BEAM 2" x 8" x 1/8"

PASS THROUGH GUTTER

5 1/2" GUTTER

SINGLE INTERIOR  
BEAM 2" x 8" x 1/8"

FAN BEAM 8" x 2" x 1/8"

248"

240"

COLUMN 8" x 8" x 3/16"

COLUMN 8" x 8" x 3/16"

224"



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24"

48"

CONCRETE FOOTER  
48" x 48" x 24"

240"

24"

264"

1

1

**SECTION B-B**

SCALE: 3/8" = 1'-0"

2

3



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REVISIONS

SECTION  
B-B

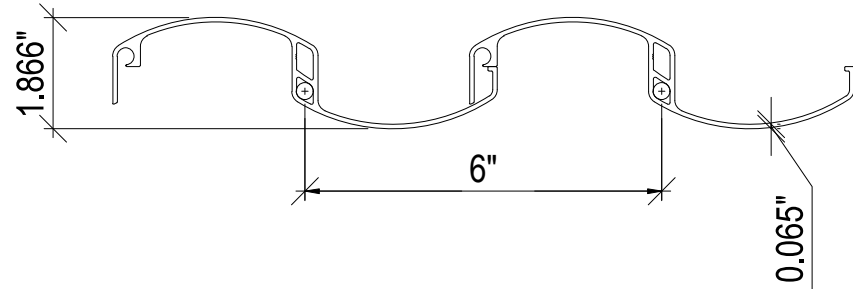
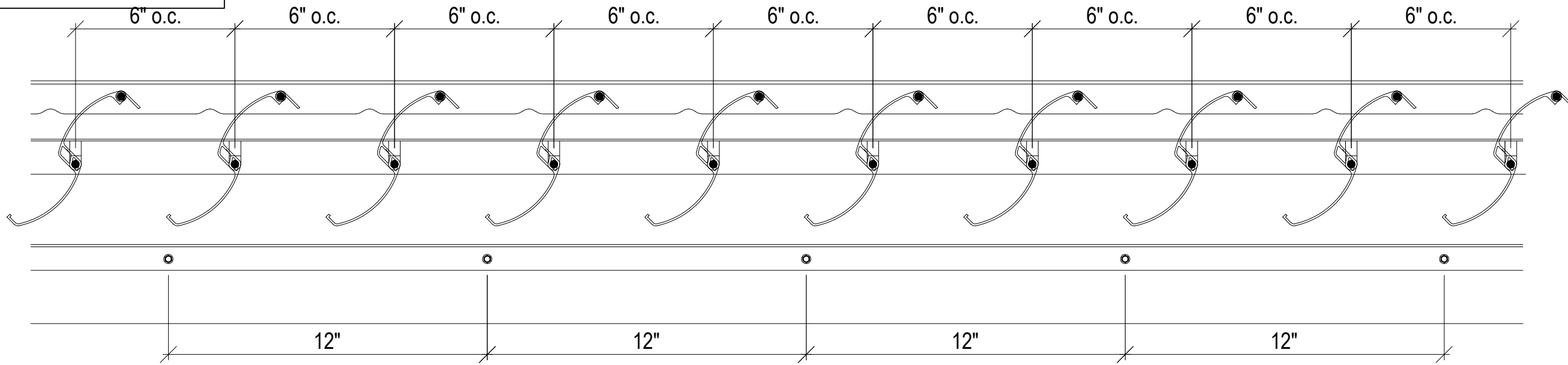
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SCALE  
3/8" = 1'-0"

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**A 105**

Aluminium Type:  
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All Other Components 6063-T6



**LOUVERS DETAIL**



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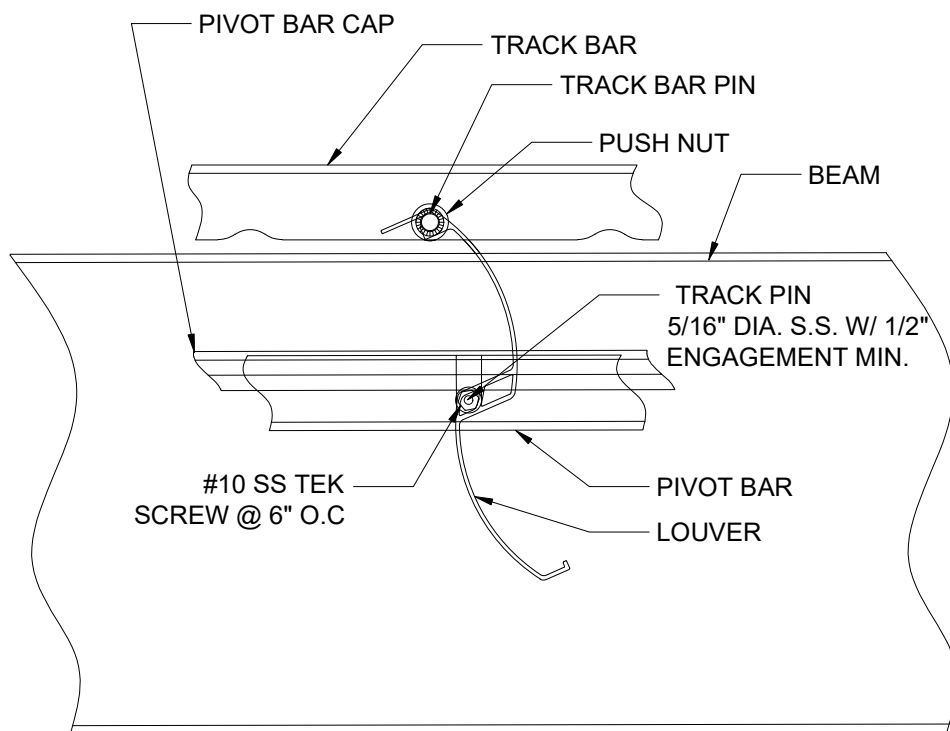
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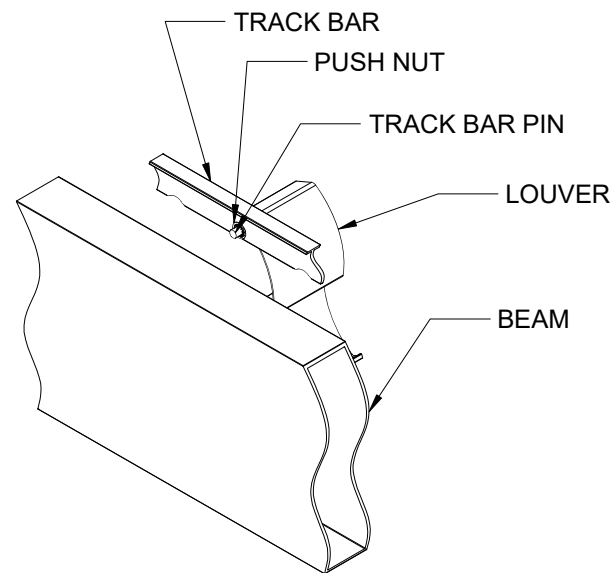
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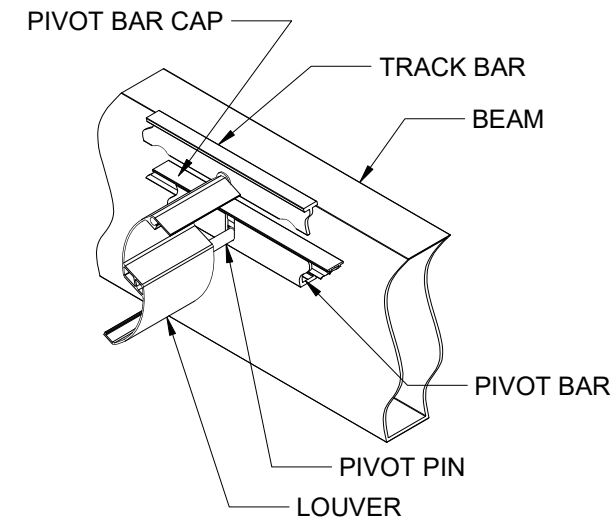
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**SIDE VIEW**



**ISOMETRIC OUT-SIDE VIEW**



**ISOMETRIC IN-SIDE VIEW**

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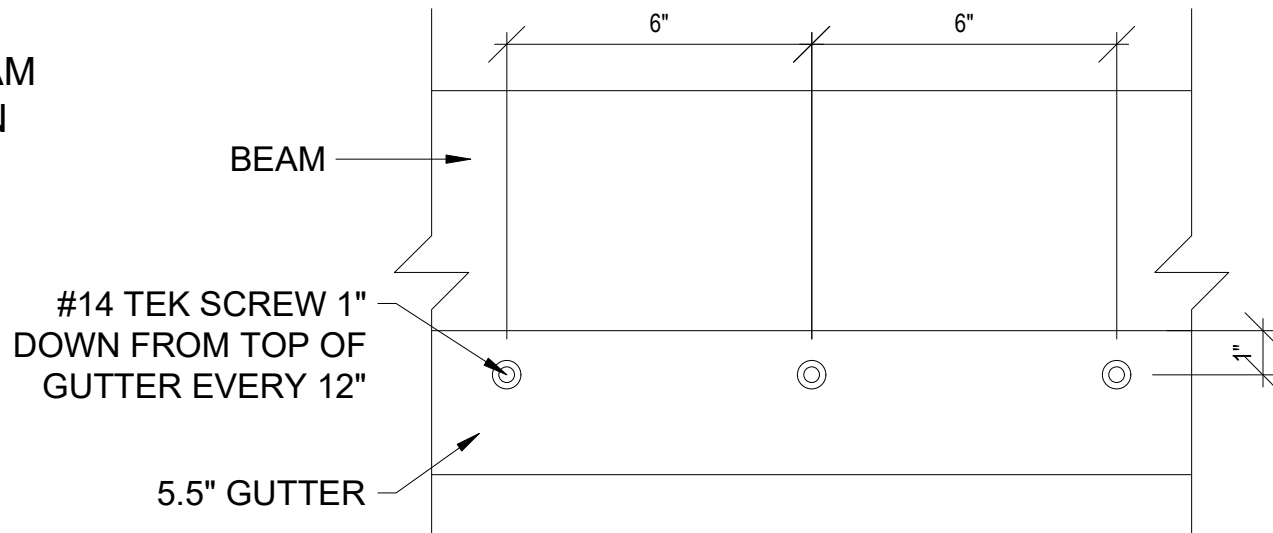
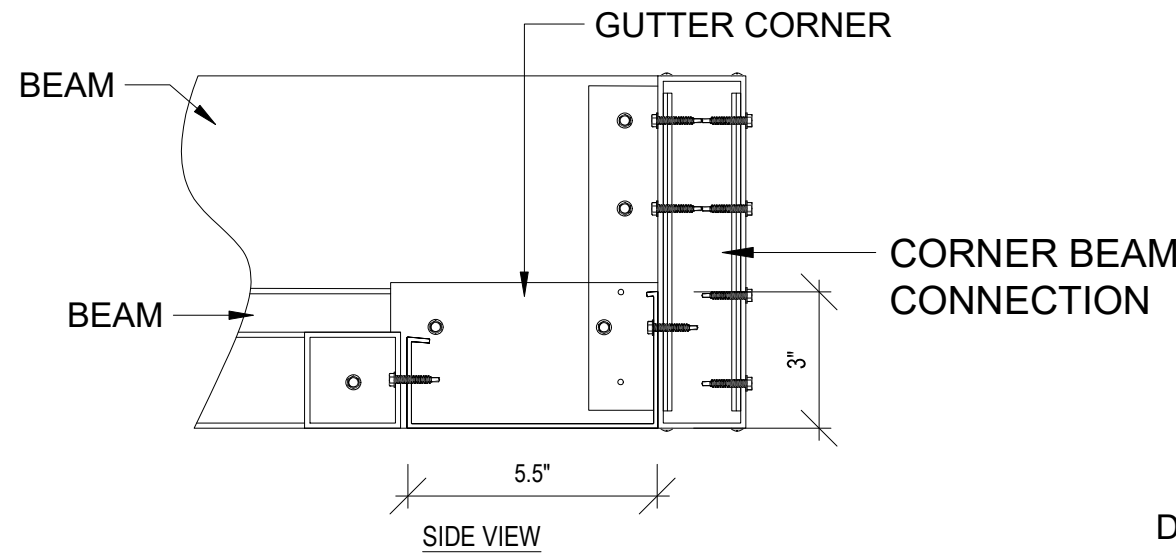
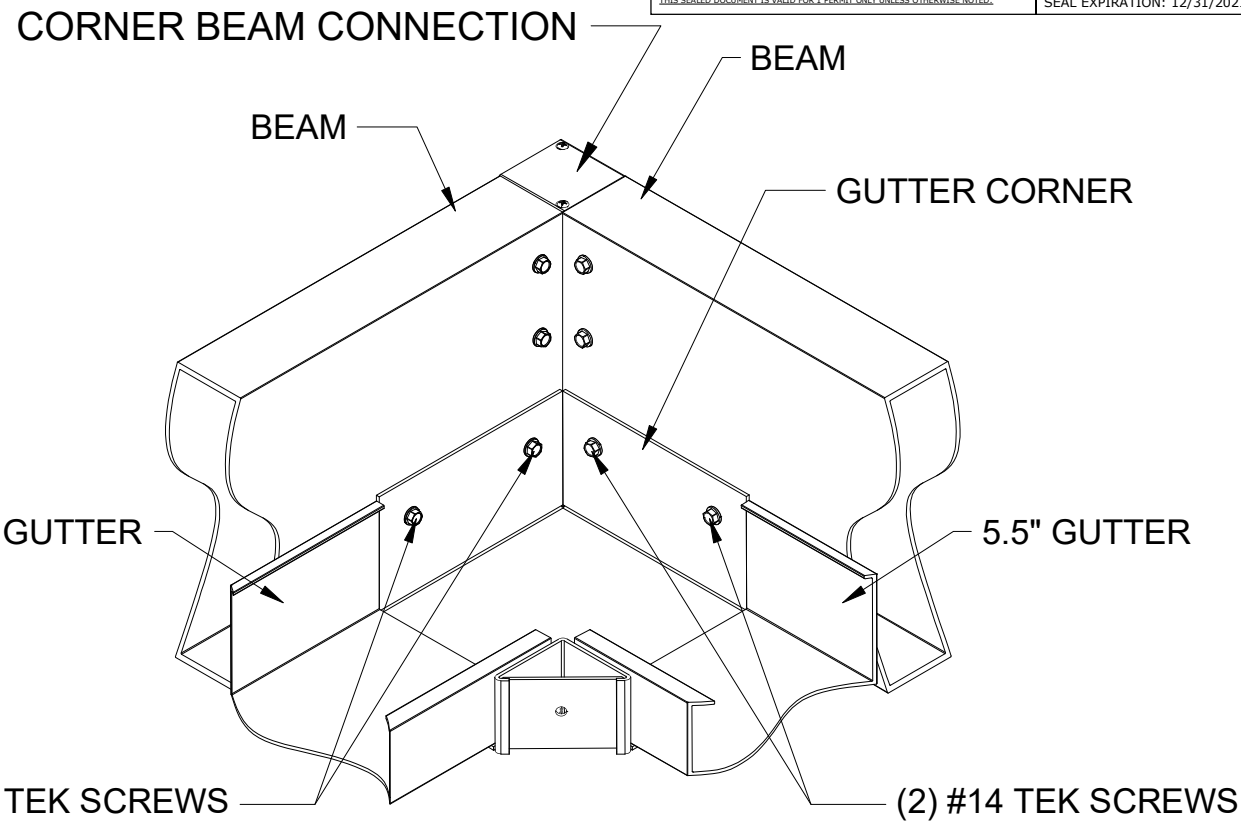
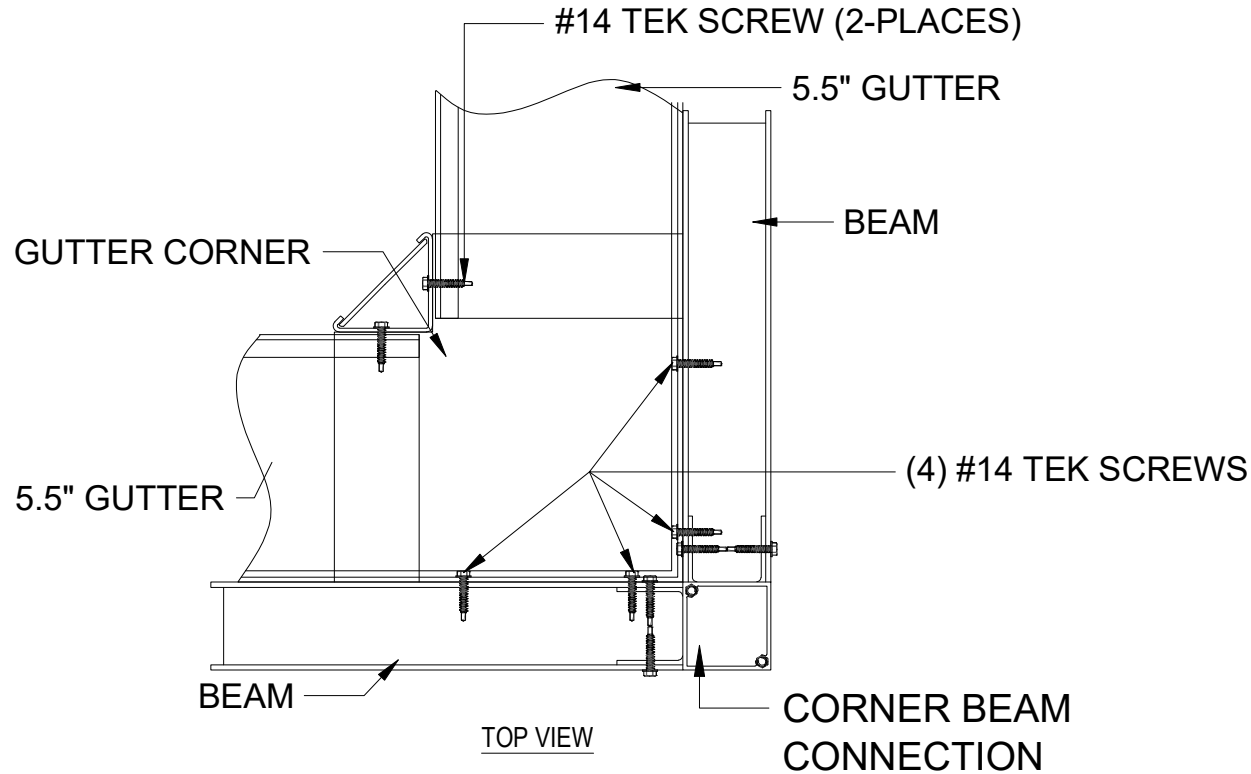


Aluminium Type:  
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All Other Components 6063-T6

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**GUTTER ASSEMBLY**

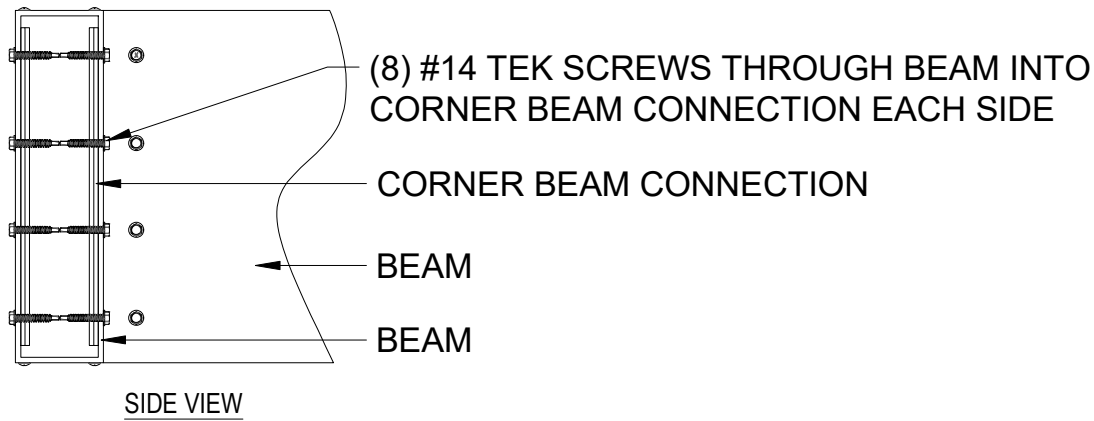
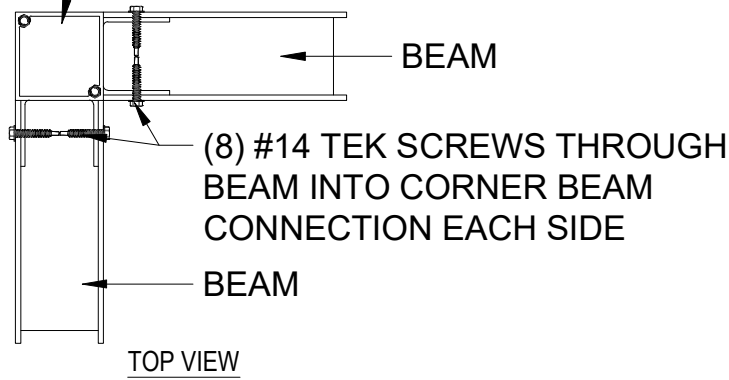
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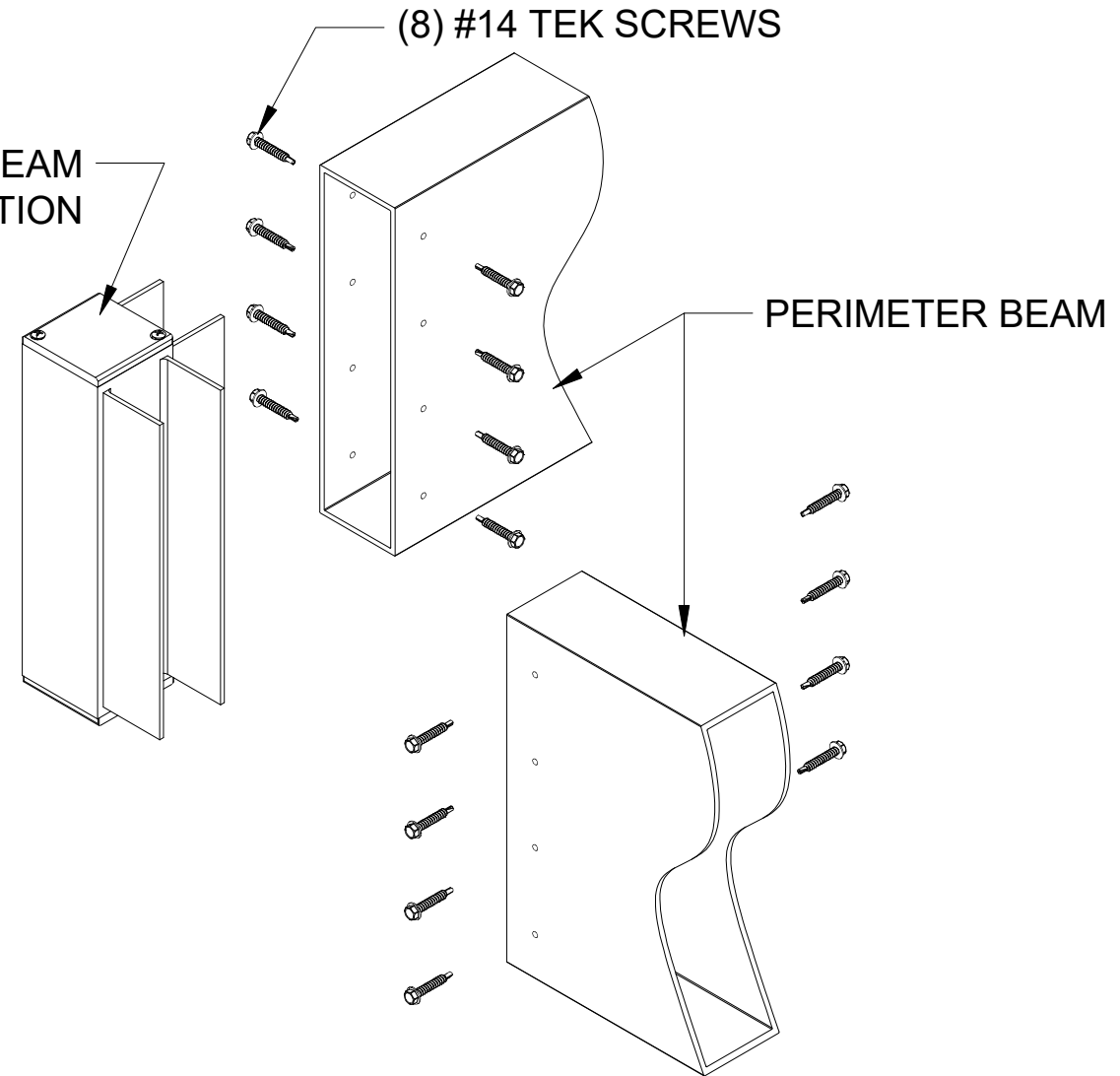
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CORNER BEAM CONNECTION  
- EXTRUDED WITH CAPS



CORNER BEAM CONNECTION



**TYPICAL CORNER ASSEMBLY**

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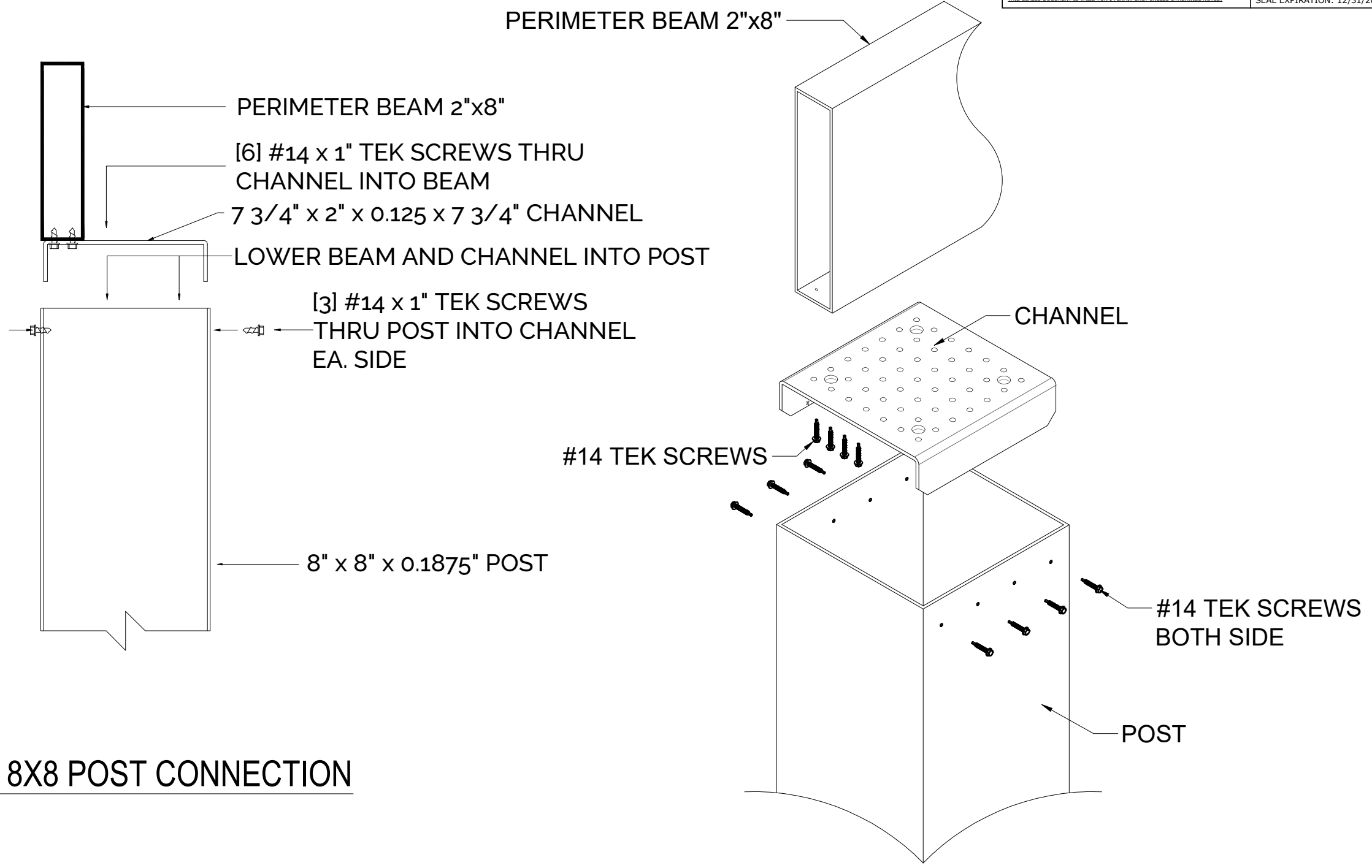
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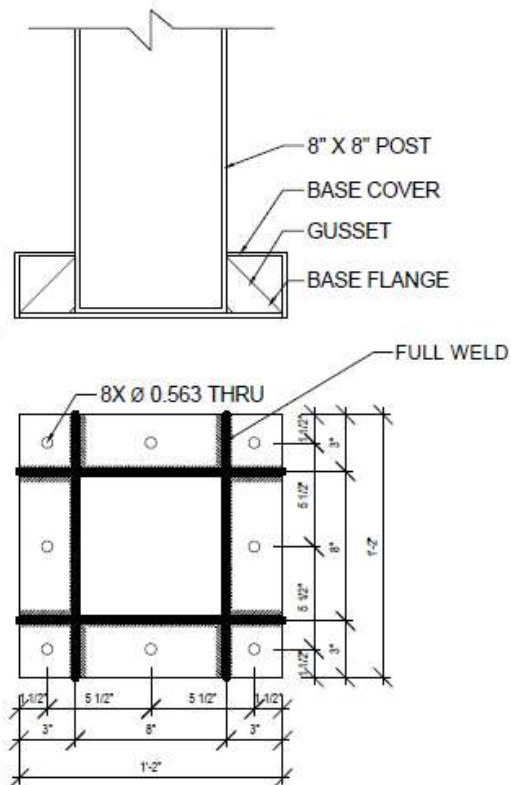
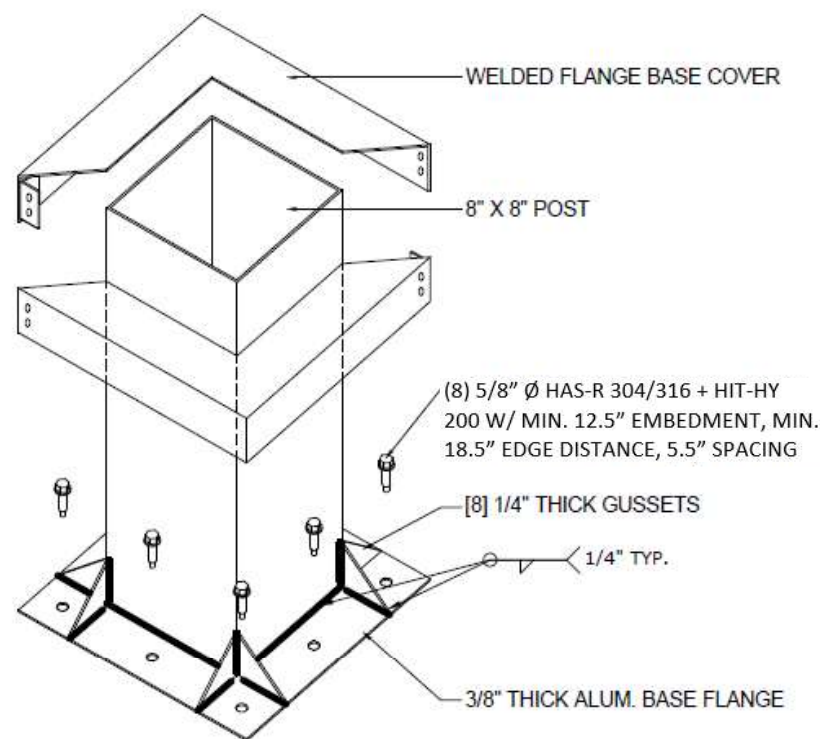
SINGLE BEAM TO 8X8 POST CONNECTION

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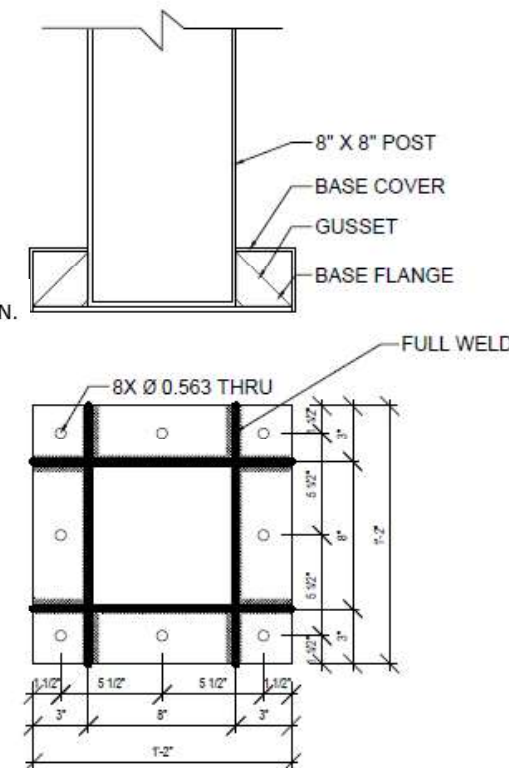
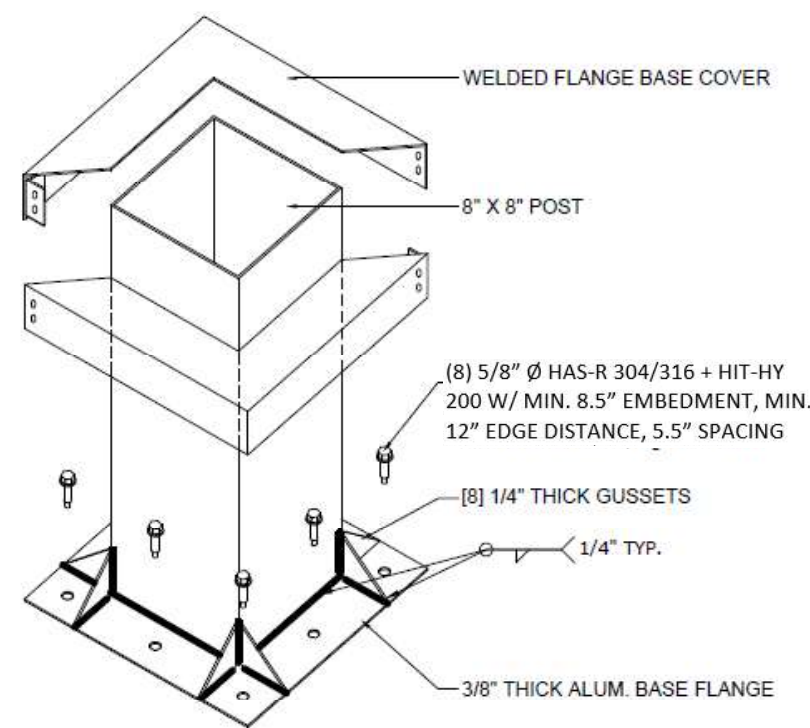
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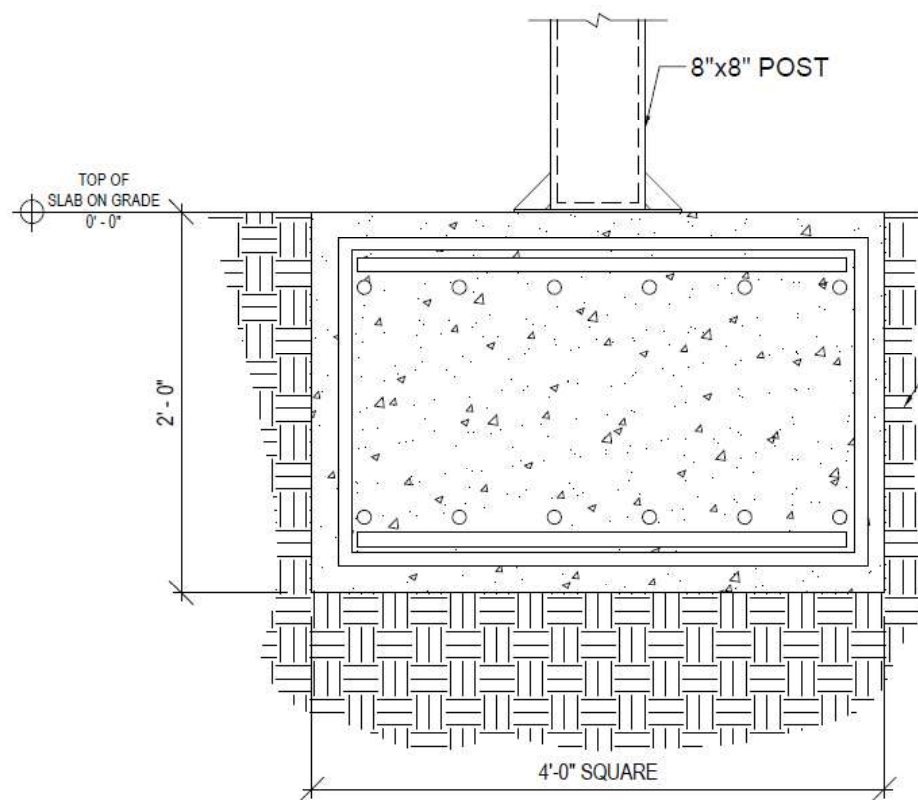
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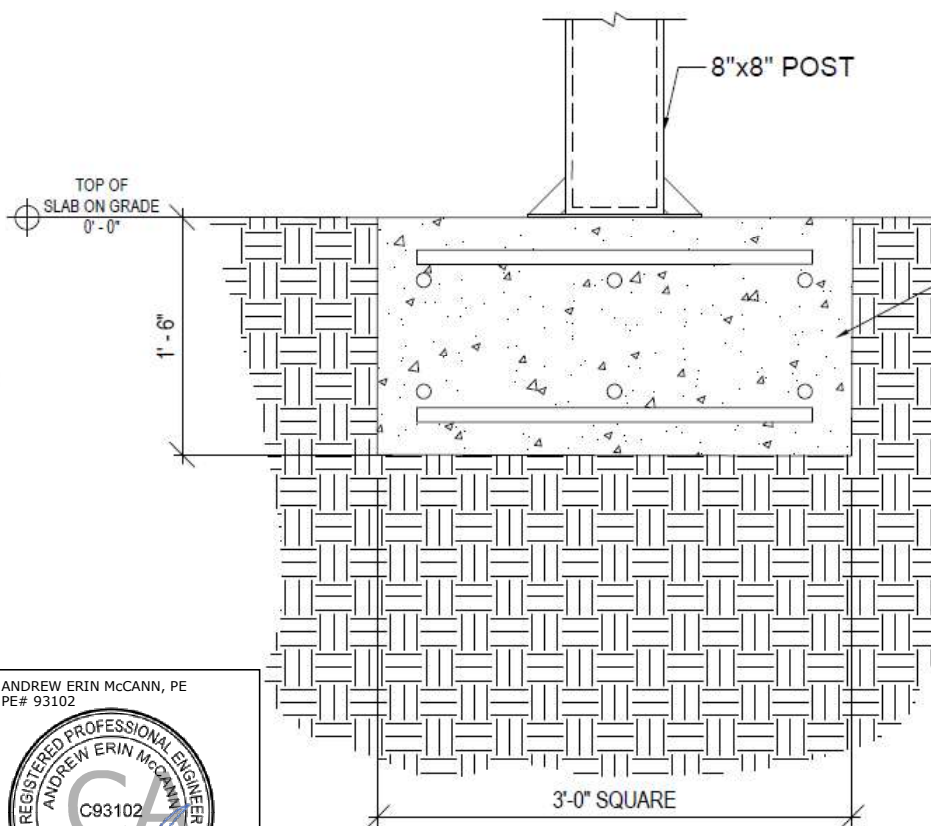


**8\"/>**



**POST TO FOOTER CONNECTION**

48" x 48" x 24" CONCRETE FOOTING W/ (6) #4 TOP AND BOTTOM EACH WAY AND (11) #4 TIES. 3000 PSI MIN CONCRETE



**POST TO FOOTER CONNECTION**

36" x 36" x 18" CONCRETE FOOTING W/ (3) #4 TOP AND BOTTOM EACH WAY. 3000 PSI MIN CONCRETE

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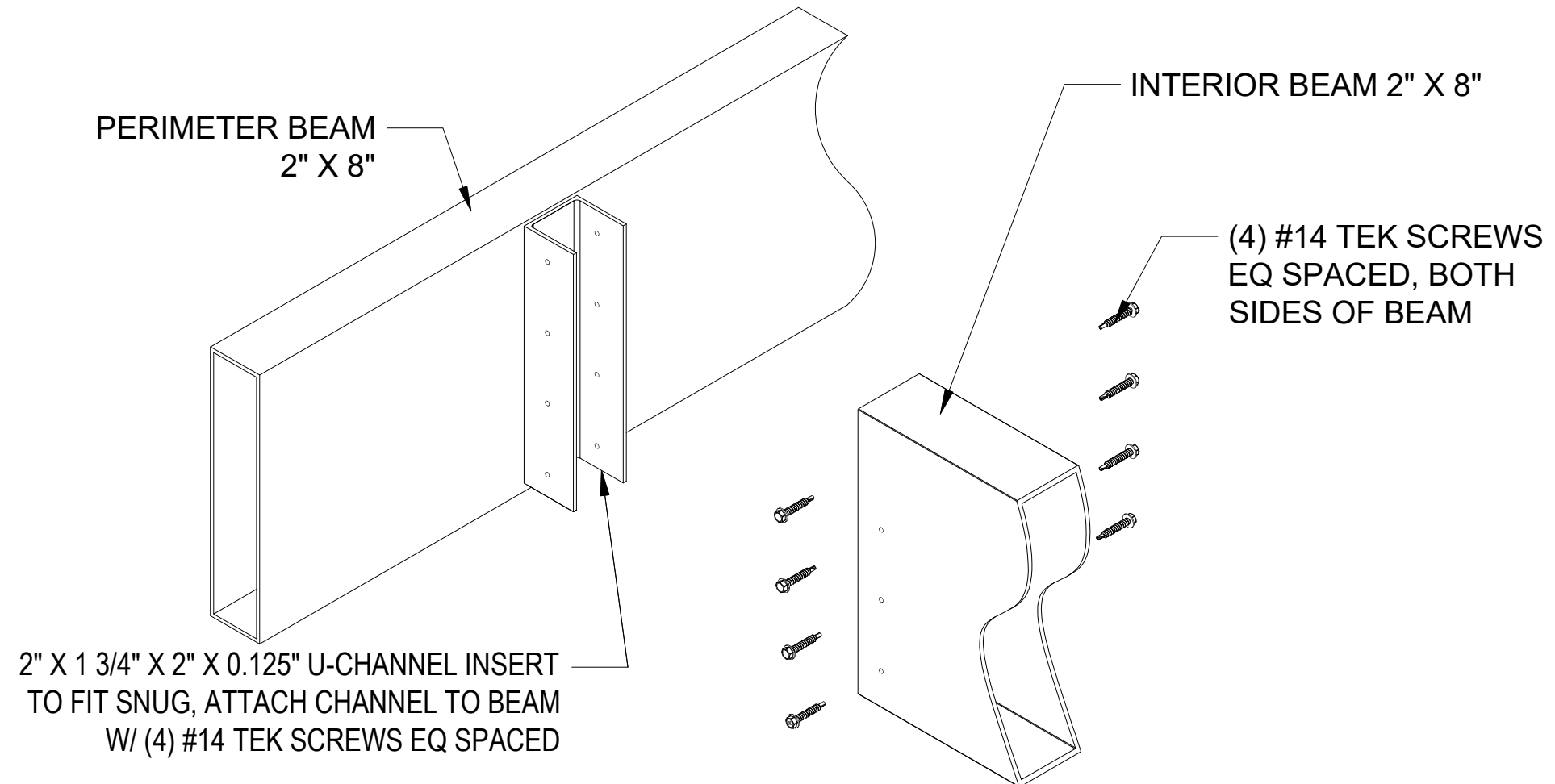
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Aluminium Type:  
Louvers 6063-T5  
All Other Components 6063-T6

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**TYPICAL BEAM TO BEAM CONNECTION**  
**2" X 8" BEAMS**

REVISIONS

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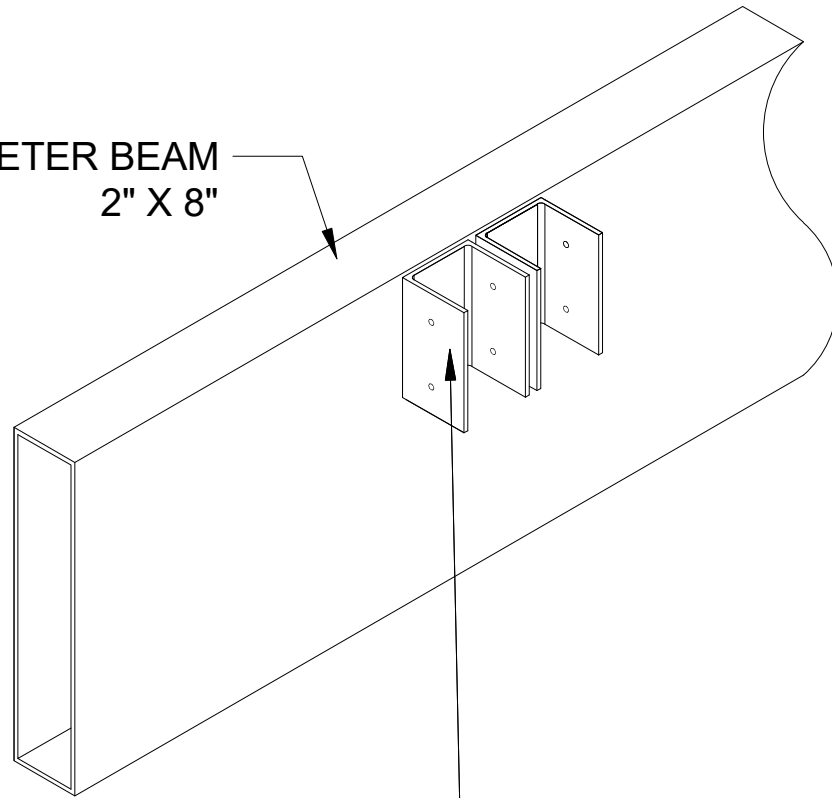
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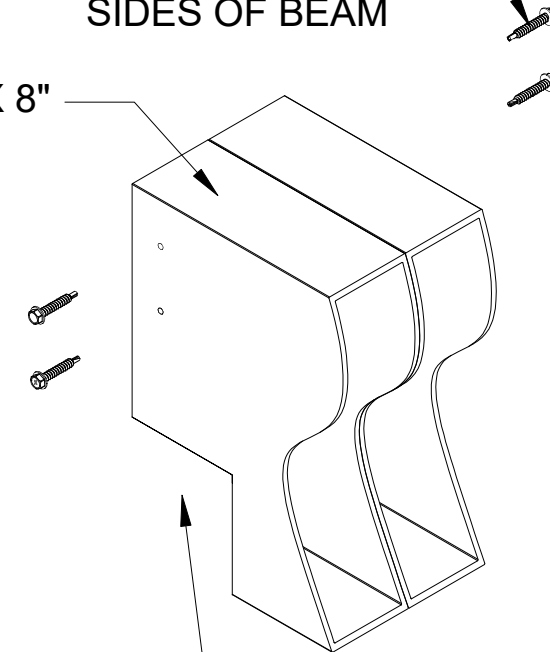
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PERIMETER BEAM  
2" X 8"



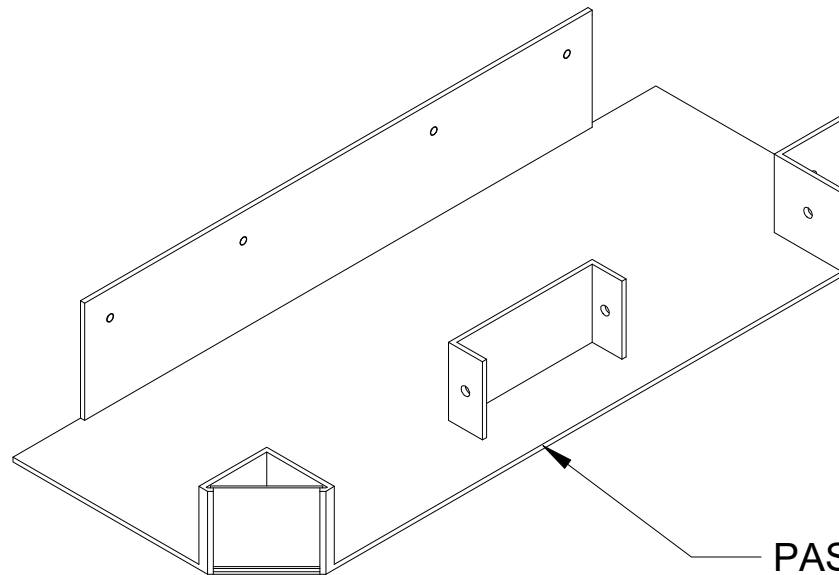
DOUBLE 2" X 1 3/4" X 2" X 0.125" U-CANNEL INSERT  
LENGTH TO FIT SNUG (MIN 4" LONG), ATTACH EA  
CHANNEL TO BEAM W/ (4) #14 TEK SCREWS EQ  
SPACED

(2) #14 TEK SCREWS  
EQ SPACED, BOTH  
SIDES OF BEAM



INTERIOR BEAM [2] 2" X 8"

NOTCHED BEAMS  
5.5" X 3" CUT



PASS THROUGH GUTTER

**TYPICAL DOUBLE BEAM TO  
BEAM CONNECTION**  
**2" X 8" BEAMS**  
**5.5" PASS THROUGH GUTTER**

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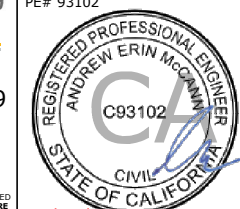
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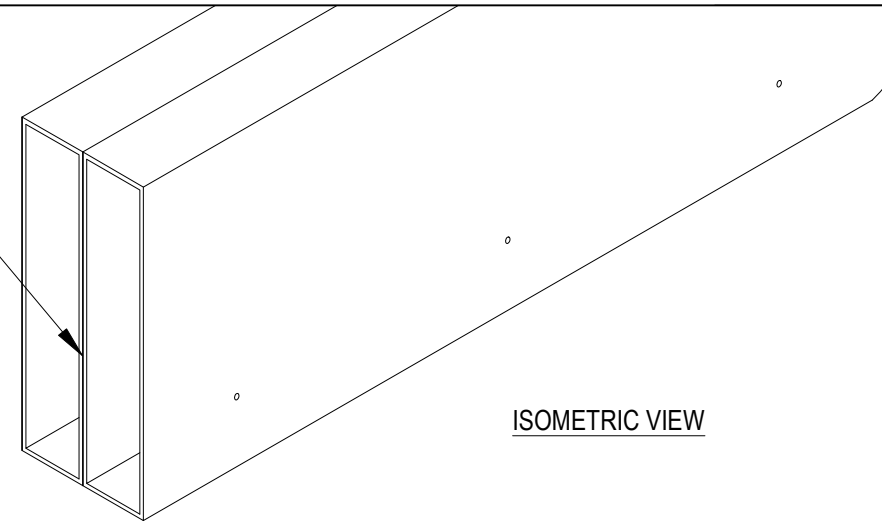
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All Other Components 6063-T6

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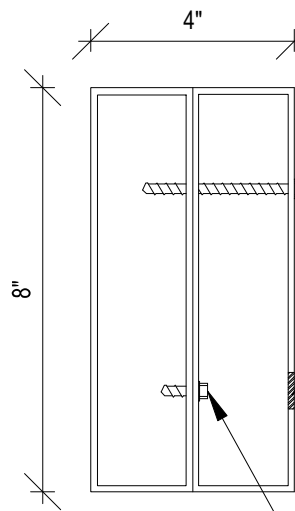
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**DOUBLE 2X8 BEAM**



ISOMETRIC VIEW

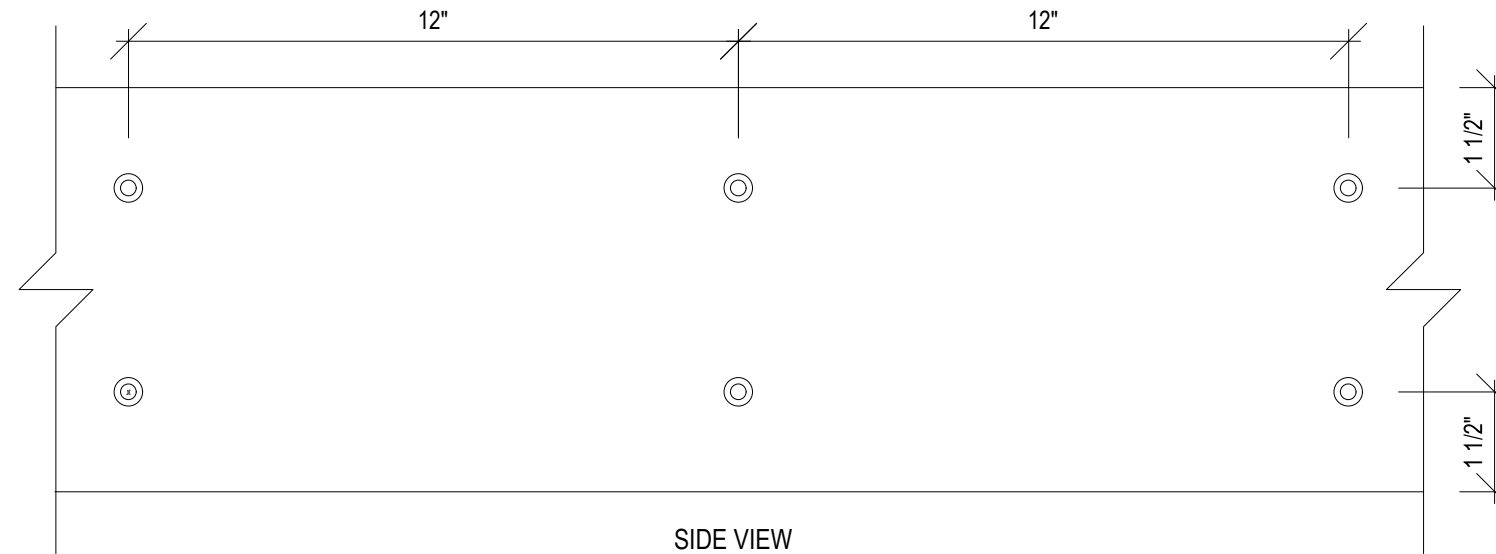
**TYPICAL CONNECTION #14 X 3" TEK SCREWS 12" O.C.**



SECTION

**3/4" HOLE DRILLED FOR SCREW INSTALLATION AND CAPPED.**

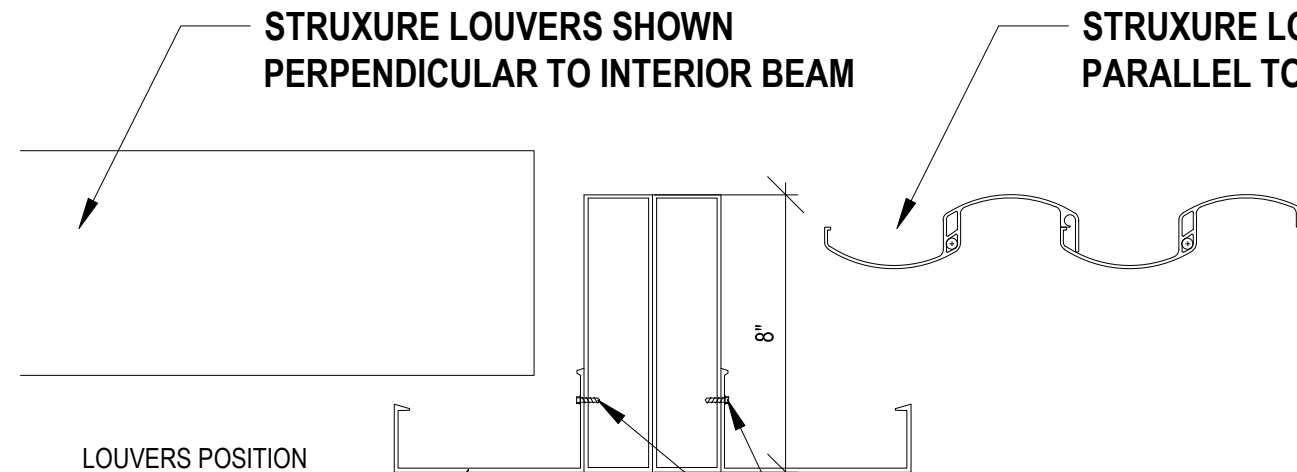
**TYPICAL CONNECTION (2) #14 X 1" TEK SCREWS 12" O.C**



SIDE VIEW

**STRUXURE LOUVERS SHOWN PERPENDICULAR TO INTERIOR BEAM**

**STRUXURE LOUVERS SHOWN PARALLEL TO INTERIOR BEAM**



LOUVERS POSITION

**GUTTER**

**(1) #14 X 1" TEK SCREW 8" O.C.**

**DOUBLE BEAM CONNECTION (2X8)**

REVISIONS

DETAILS

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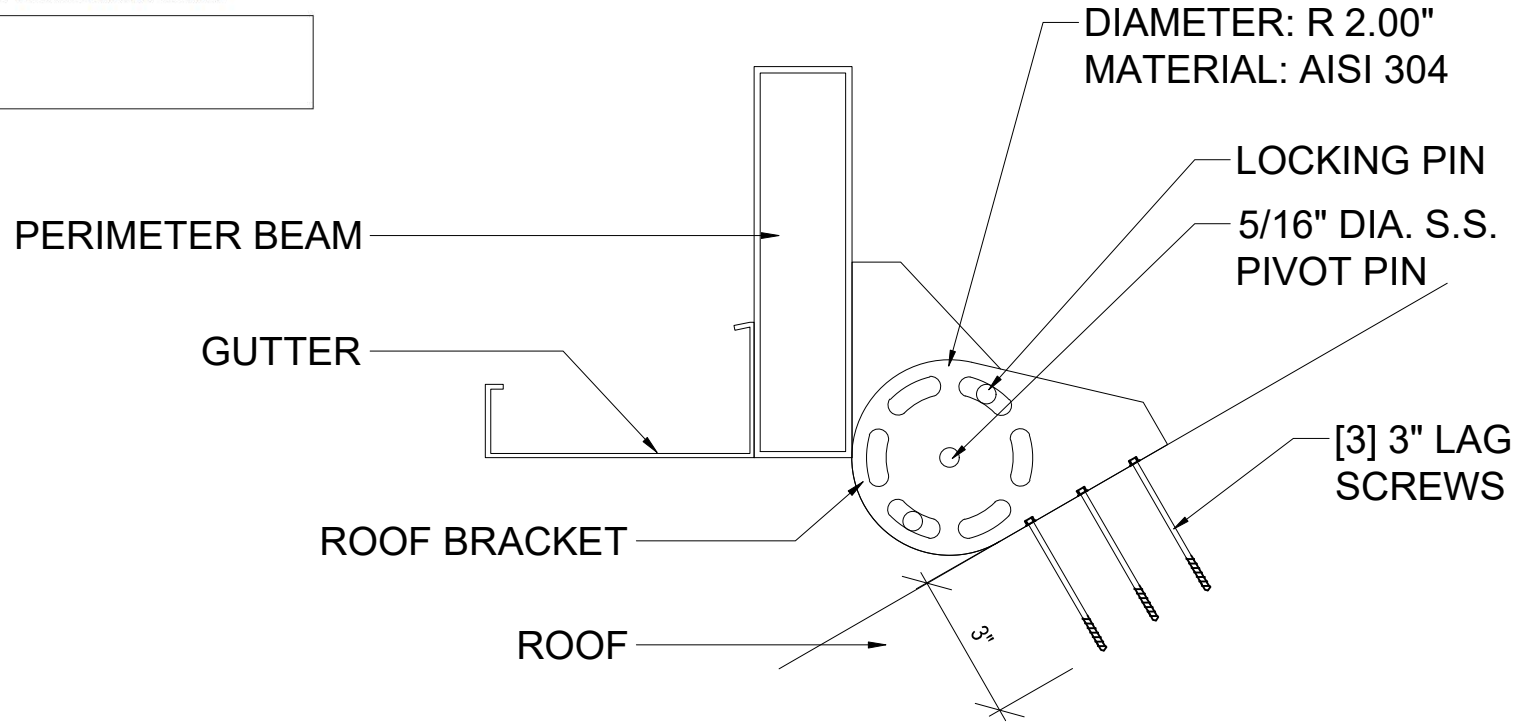
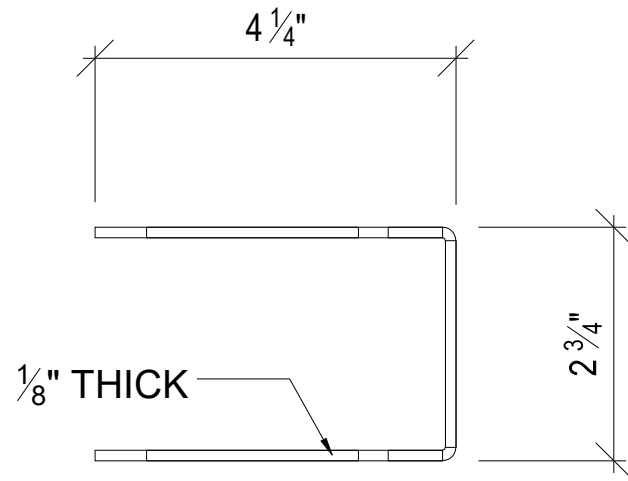
A 113

Aluminium Type:  
Louvers 6063-T5  
All Other Components 6063-T6

**HOST STRUCTURE REACTIONS**

(SUPPORTING STRUCTURE SHALL BE SEPARATELY CERTIFIED & REVIEWED TO RESIST IMPOSED SERVICE LOADS BELOW)

T = 75 LB  
V = 400 LB



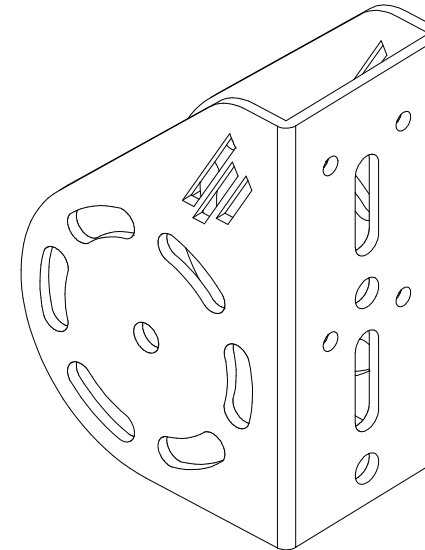
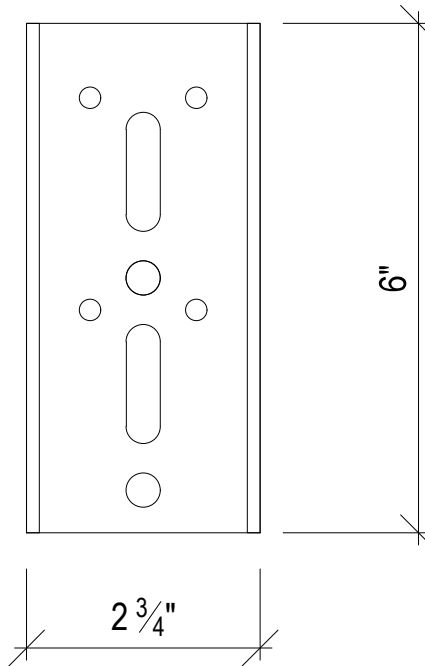
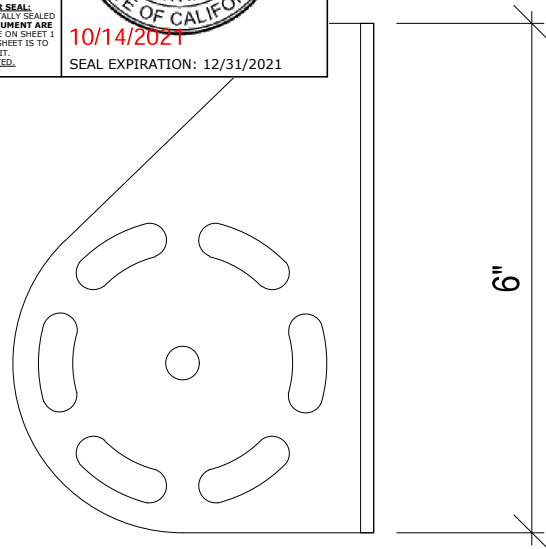
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ANDREW ERIN McCANN, PE  
PE# 93102

REGISTERED PROFESSIONAL ENGINEER  
ANDREW ERIN McCANN  
C093102  
CIVIL  
STATE OF CALIFORNIA

10/14/2021  
SEAL EXPIRATION: 12/31/2021

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**ROOF MOUNT PIVOT BRACKET**

NOTE: PERIMETER BEAM ATTACHED TO PIVOT MOUNT BY [4] #14 X 1" SS TEK SCREWS. PIVOT MOUNT ATTACHED TO ROOF RAFTERS BY [3] 1/4" DIAMETER STAINLESS STEEL LAG SCREWS WITH MINIMUM 1-1/2" THREAD PENETRATION, 0.75" EDGE DISTANCE, 1" APART MIN., INTO DOUGLAS FIR #2 WOOD (G =0.49) OR BETTER. MAX. 48" SPACING BETWEEN ROOF MOUNT PIVOT BRACKETS

**STRUXURE**  
OUTDOOR

154 ETHAN ALLEN DR.  
DAHLONEGA, GA 30553  
(800) 303-5248

**BAKER, BRIAN**  
4107 83RD AVE SE MERCER  
ISLAND, WA 98040

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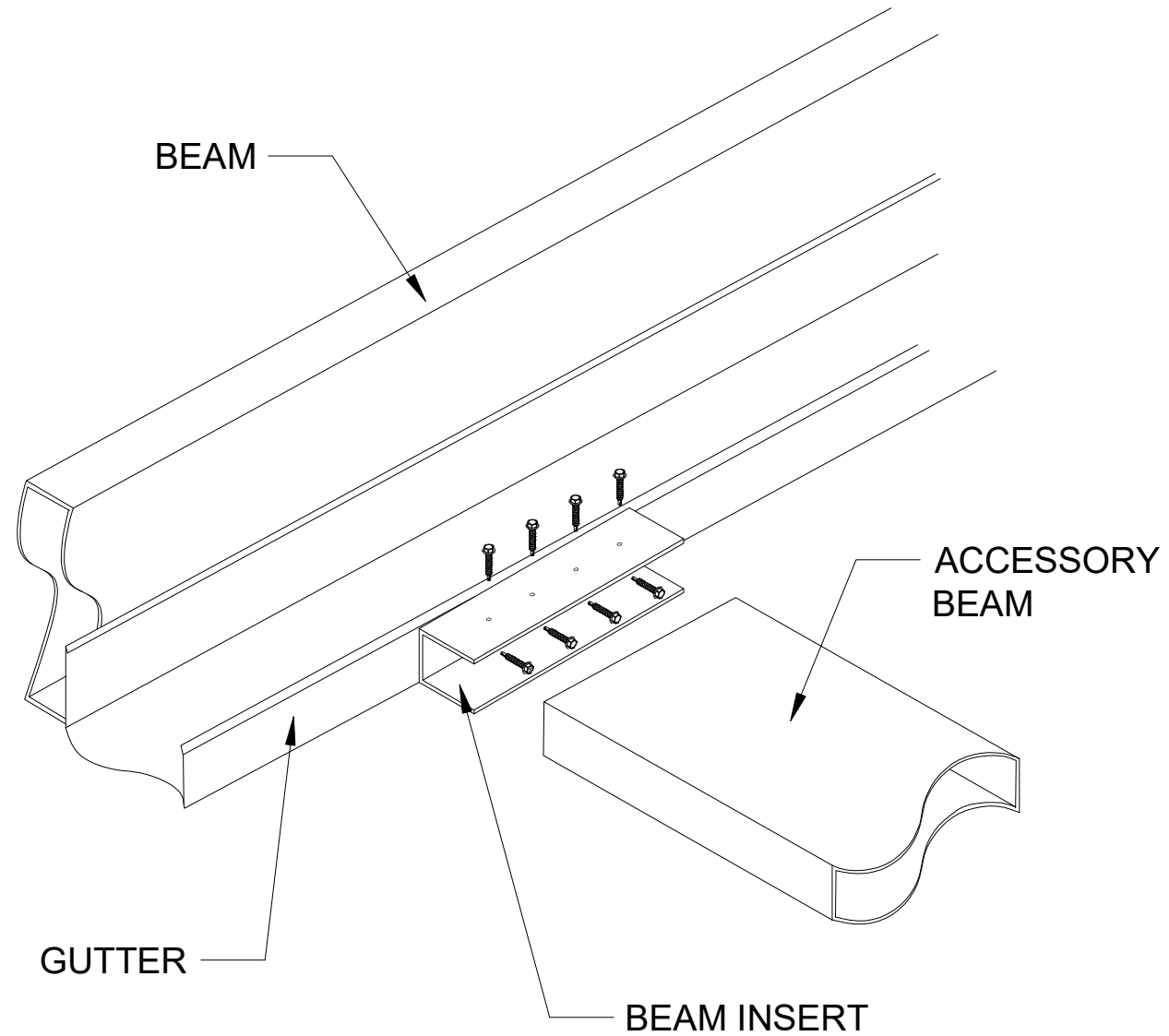
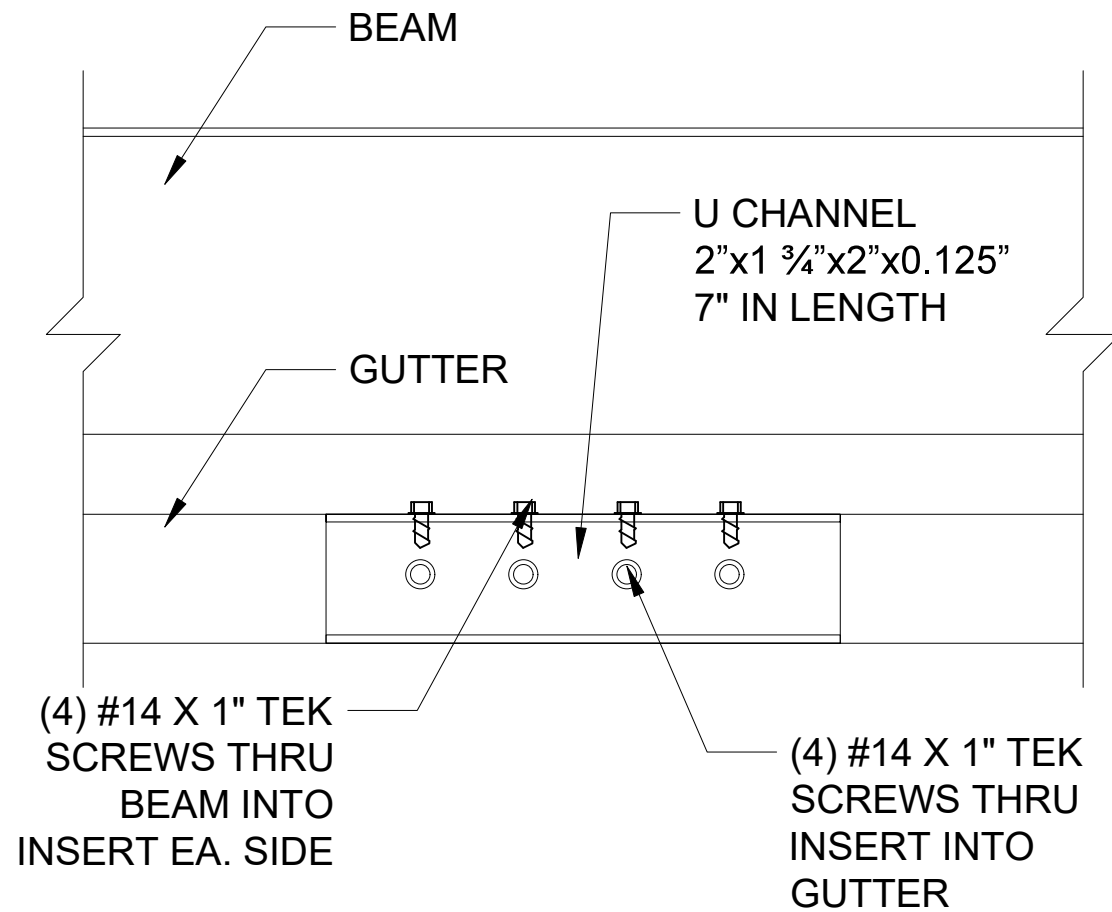
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Aluminium Type:  
Louvers 6063-T5  
All Other Components 6063-T6

**STRUXURE™**  
OUTDOOR

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DAHLONEGA, GA 30553  
(800) 303-5248

**BAKER, BRIAN**  
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**FAN BEAM CONNECTION**

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ANDREW ERIN McCANN, PE  
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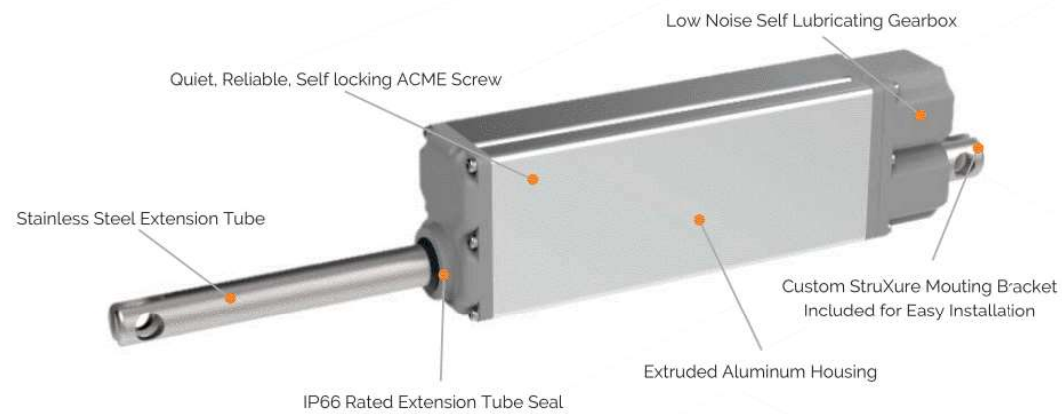


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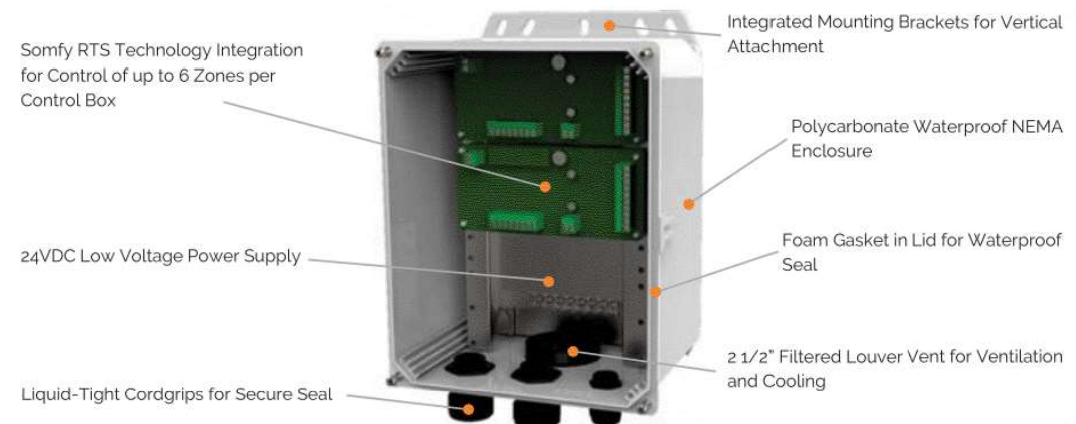
## LOUVERED ROOF MOTOR



### SOMFY TECHNICAL SPECIFICATIONS

SOMFY TECHNICAL SPECIFICATIONS		
<b>VOLTAGE</b>		
Input Voltage	[VDC]	24
<b>LOAD</b>		
Static Load (Fx), max.	[N/lbs]	2500 / 562
Dynamic Load (Fx), max.	[N/lbs]	2500 / 562
<b>STROKE</b>		
Stroke length, standard	[mm]	140
<b>CURRENT</b>		
Current consumption, rated load	[A]	1.875
<b>GENERAL DATA</b>		
Speed, no load	[mm/s]	3.4
Speed, rated load	[mm/s]	2.8
Operating temperature limits	[°C]	-10/+60
Service life	[Cycles]	± 10,000
Sound level	[dB(A)]	≤ 70
Lead screw type		ACME
Protection Class		IP66
Certificates		CE (EN60601-1)
Insulation		CLASS III

## LOUVERED PERGOLA CONTROL



\*Product dimensions: 10.59 x 8.59 x 6.96 in. / 268.99 x 218.19 x 176.78 mm

\*\* Enclosure must be mounted in this vertical orientation.

### COMPONENT RATINGS AND CERTIFICATIONS

COMPONENT RATINGS AND CERTIFICATIONS		
<b>POWER SUPPLY</b>		
Input Voltage	[VAC]	115/230
Input Voltage Frequency Range	[Hz]	47 - 63
Output Voltage	[VDC]	24
Voltage Adjustable Range	[VDC]	21.6 - 28.8V
Current Range	[A]	0 - 14.6
Rated Power	[W]	350.4
Safety Standard	[UL Certification]	UL60950-1
<b>POWER SUPPLY CABLE (NOT SHOWN)</b>		
Safety Standard	[ETL Certification]	#3170291
Voltage Rating	[V]	300
Temperature Rating	[°F]	-40 to 158
<b>ENCLOSURE</b>		
Safety Standard	[UL Certification]	UL508A
	[File Number]	E352997
Temperature Range	[°F]	-40 to 257
Impact Resistance	[in/lb]	500
Dielectric Strength	[volts/mil]	380
UV Rating	[UL Certification]	UL 746C
Flammability Rating	[UL Certification]	UL 94

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4107 83RD AVE SE MERCER  
ISLAND, WA 98040

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