SAMPLE PROJECT .NOT FOR CONSTRUCTION

APPLICABLE CODES

1. 2023 FLORIDA BUILDING CODE, 8TH EDITION CHAPTER 16 STRUCTURAL DESIGN, CHAPTER 20 ALUMINUM & CH. 23 WOOD.
2. 2023 FLORIDA BUILDING CODE, 8TH EDITION, RESIDENTIAL
3. ASM 35 FOR ALUMINUM STRUCTURES; PART 1-A OF THE ALUMINUM DESIGN MANUAL.
4. AMERICAN SOCIETY OF CIVIL ENGINEERS(ASCE-7)
5. BUILDING CODE, REQUIREMENT FOR STRUCTURAL CONCRETE(ACI 318)
6. NDS NATIONAL DESIGN SPECIFICATION FOR WOOD.

DESIGN LOAD AND DEFLECTION CRITERIA

LOAD CATEGORY	DESCRIPTION	VALUE
DEAD LOAD	SELF WEIGHT	------
LIVE LOAD	ROOF LOAD-SCREEN ROOF	5 PSF
	ROOF LOAD- SOLID ROOF	20 PSF
MEMBER LOAD	CARRY BEAMS, MAIN BEAMS	300 LB/VER.)
	PURLINS	200 LB/VER.)
WIND LOAD	ULTIMATE WIND SPEED(Vult)	140 MPH
	WIND EXPOSURE CATEGORY	C
	RISK CATEGORY	I
WIND PRESSURE FOR 20"X20"/80.01"/ MESH/SCREEN	HOR. PRESSURE ON WINDWARD SURFACES ------	33 PSF
	HOR. PRESSURE ON LEEWARD SURFACES ------	35 PSF
	VERT. PRESSURE ON SCREEN SURFACES ------	18 PSF
	VERTICAL PRESSURES ON SOLID SURFACES ----	34 PSF

FOR 18" X 14" X0.01)" MESH SCREEN, APPLY FACTOR OF 0.88
FOR ALLOWABLE STRESS DESIGN, APPLY FACTOR OF 0.6

DEFLECTION CRITERIA

LIVE LOAD L/60, TOTAL LOAD: L/60
LATERAL DEFLECTION(DRIFT) L/120

FOUNDATION NOTES:

FOOTING/FOUNDATION NOT REQUIRED IF 4" SLAB IS SOUND (NO CRACKS OR SPALLING).
CONTRACTOR TO VERIFY EXISTING FOUNDATION/FOOTING.
MIN. 8"x8" W/ (#5) BAR REQUIRED.
SEE TYPICAL FOOTING DETAILS FOR REQUIREMENTS.

DRAWING INDEX	
S-01	GENERAL NOTES
S-02	FRAMING PLAN
S-03	DETAILS
S-04	DETAILS

SPECIFICATIONS

A. CAST-IN-PLACE CONCRETE:

TO BE MIXED AND PLACED IN ACCORDANCE WITH ACI 301, ACI 506 & 506.2. ALL REINFORCED CONCRETE TO HAVE 28 DAY COMPRESSIVE STRENGTHS AS FOLLOWS:
-FOUNDATIONS: f'c = 3,000 PSI
-SLAB ON GRADE: f'c = 3,000 PSI

UNLESS NOTED OTHERWISE, NORMAL WEIGHT CONCRETE (145 PCF) SHALL BE USED WITH 3/4" MAX. (ELEVATED) OR 1" MAX. (SLAB-ON-GRADE) COARSE AGGREGATE CONFORMING TO ASTM C 33.

PROTECT FRESHLY POURED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD AND HOT TEMPERATURES. START CURING AS SOON AS FREE WATER HAS DISAPPEARED FROM THE CONCRETE SURFACE AFTER PLACING AND FINISHING. ALL CURING PROCEDURES TO FOLLOW ACI 308.

THE CONCRETE SLAB SHALL BE PLACED OVER A POLYETHYLENE VAPOR BARRIER WHEN PAVERS ARE INSTALLED UNDER ALUMINUM MEMBERS. THE CONTRACTOR SHALL EPOXY TO THE DECK OR GROUT TO THE DECK USING GROUT RATED AT 2000 PSI WITH A BONDING AGENT.

IF A NEW SLAB IS ADDED ADJACENT TO AN EXISTING FOUNDATION, DRILL AND EPOXY #4 X 8' REBAR INTO THE EXISTING FOUNDATION WITH A MINIMUM EMBEDMENT OF 4 INCHES.

FOR NEW FOOTERS CONNECTED TO THE EXISTING FOUNDATION, DRILL AND EPOXY NEW STEEL INTO THE EXISTING FOUNDATION WITH A MINIMUM EMBEDMENT OF 8 INCHES, USING A NON-SHRINK EPOXY-TIE (OR EQUIVALENT) AT ALL LOCATIONS.

WHEN PAVERS ARE UNDER ALUMINUM MEMBERS, EPOXY TO THE DECK OR GROUT TO THE DECK USING GROUT RATED AT 3000 PSI WITH A BONDING AGENT.

B. MASONRY

USE STANDARD HOLLOW CMU BLOCKS; MORTAR SHALL BE TYPE M OR TYPE S WITH A MINIMUM STRENGTH OF 1900 PSI (BASED ON TYPE).

ALL MORTAR SHALL BE TYPE M OR TYPE S.

ALL GROUT SHALL BE 1900 PSI MINIMUM WITH A MAX 3/8" COARSE AGGREGATE.

PROVIDE CLEAN-OUTS FOR REINFORCED CELLS WHEN GROUT POUR HEIGHT EXCEEDS 5 FEET.

C. FASTENERS

FASTENERS SHALL BE SAE GRADE 2 OR BETTER, ZINC-PLATED OR EQUIVALENT, INSTALLED IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.

IF A WOOD DECK IS PRESENT, GALVANIZED LAG SCREWS (APPROXIMATELY 1/2" X 3" OR AS SPECIFIED) SHALL BE USED IN PLACE OF MASONRY ANCHORS UNLESS OTHERWISE NOTED.

NON-STRUCTURAL MEMBERS (1/2" X 2") ATTACHED TO HOST A MASONRY/CONCRETE: GALVANIZED 1/4" X 3" TAPCONS, INSTALLED 6" FROM ENDS AND 24" ON CENTER.

#14 SCREWS (LENGTH AS REQUIRED), INSTALLED 6" FROM ENDS AND 24" ON CENTER, AND #10 SCREWS (LENGTH AS REQUIRED), INSTALLED 6" FROM ENDS AND 16" ON CENTER.

D. ALUMINUM

ALUMINUM EXTRUSIONS SHALL BE 6063-T5 ALLOY UNLESS OTHERWISE NOTED.

ALL SELF-MATING BEAM SECTIONS ARE TO BE STITCHED USING:
a) #14 SCREWS, 6" FROM ENDS AND 24" ON CENTER;
b) #12 SCREWS, 6" FROM ENDS AND 18" ON CENTER;
c) #10 SCREWS, 6" FROM ENDS AND 12" ON CENTER.

ROOF BRACING SHALL BE A MINIMUM OF 2" X 3" X 0.058".

THE MINIMUM ORDINARY THICKNESS OF PROTECTOR PANELS (KICKPLATES) SHALL BE 0.024 INCHES.

SCREEN MATERIAL SHALL BE 18/14 SCREEN UNLESS APPROVED BY ELITE3 ENGINEERING SOLUTIONS.

1X2 AND 1X3 NON-STRUCTURAL MEMBERS MAY BE USED INTERCHANGEABLY.

DOOR LOCATION MAY BE DETERMINED OR RELOCATED BY THE CONTRACTOR IN THE FIELD, NOT TO AFFECT SHOWN DESIGN SPANS AND STRUCTURAL MEMBERS.

E. CFAT (CONCRETE FILLED ALUMINUM TUBES)

UNLESS THE CONCRETE OR MASONRY REMAINS DRY AFTER CURING AND NO CORROSIVE ADDITIVES SUCH AS CHLORIDES ARE USED, ALUMINUM TUBES THAT ARE USED AS CFAT SHALL BE COATED WITH A SUITABLE PAINT, SUCH AS A ZINC MOLYBDATE PRIMER THAT MEETS FEDERAL SPECIFICATION TT-P-645B OR AN EQUIVALENT, COVERED WITH A THICK LAYER OF ALKALI-RESISTANT BITUMINOUS PAINT., OR ISOLATED USING A SUITABLE PLASTIC TAPE OR ANOTHER ISOLATION MATERIAL.

OTHER NOTES

ALL SITE WORK SHALL BE PERFORMED BY A LICENSED CONTRACTOR IN ACCORDANCE WITH APPLICABLE CODES AND ORDINANCES, THE E NGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.

FOR FASTENERS NOT VISIBLE AFTER INSTALLATION, VERIFY AND ENSURE COMPLIANCE WITH MANUFACTURER SPECIFICATIONS AND ATTACHED DETAILS.

PROVIDE NOAs AND INSTALL ALL MATERIALS PER MANUFACTURER SPECIFICATIONS.

ENSURE THE INTEGRITY OF THE EXISTING/HOST STRUCTURE IS NOT COMPROMISED BY THE ATTACHMENT.

OWNER IS RESPONSIBLE FOR MAINTAINING SCREENS AND FASTENERS TO MANUFACTURER SPECIFICATIONS.

LIST OF ABBREVIATIONS

FIN. – FINISHED
FLR. – FLOOR
FTG. – FOOTING
JT.- JOINT
L.W. – LIGHT WEIGHT
MFR. – MANUFACTURER
M.F. – MINIMUM
O.C. – ON CENTER
OPNG. – OPENING
PL. – PLATE
P.T. – PRESSURE TREATED
REINF. – REINFORCEMENT
REQ'D. – REQUIRED
HOR. - HORIZONTAL
VERT. - VERTICAL
SMB - SELF MATING BEAM
T&B – TOP & BOTTOM
T.O.F. – TOP OF FOOTING
TYP. – TYPICAL
VERT. – VERTICAL
V.I.F. – VERIFY IN FIELD
W.W.F. – WELDED WIRE FABRIC
EMBED.-EMBEDMENT
MIN.-MINIMUM
CONC.-CONCRETE
THRU - THROUGH
DIA.-DIAMETER
EA.-EACH

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SAMPLE LICENSE No.XXXXX STATE OF Florida PROFESSIONAL ENGINEER

No.	Issue	Drawn	Approved	Date
1.	ISSUE FOR PERMIT			

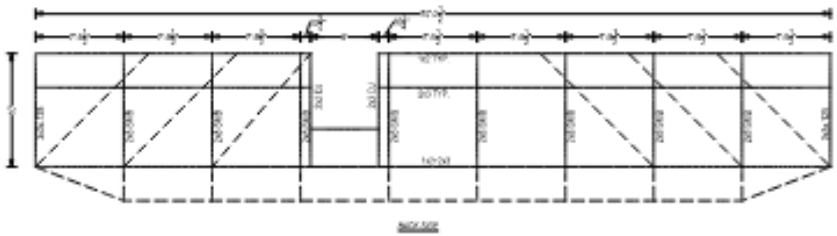
Sheet No. S-01
Title. GENERAL NOTES
Project No. E3E2522xx
Size. 11x17 Scale: NTS

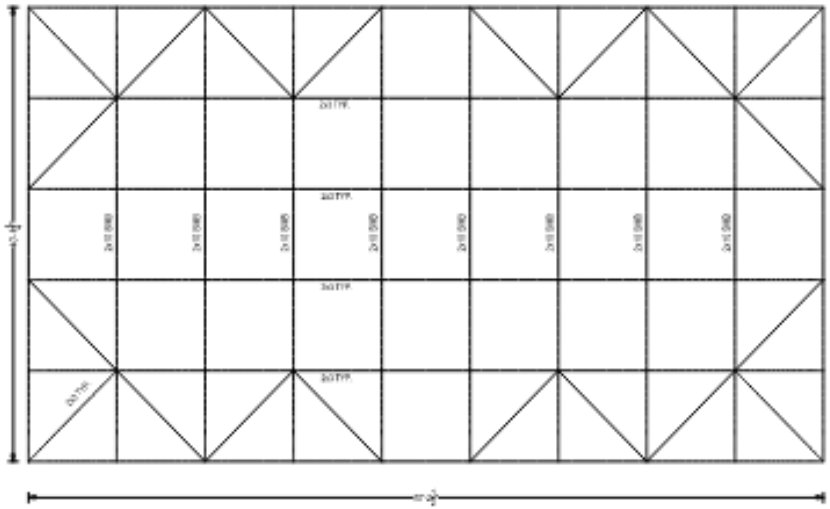
ELITE3 ENGINEERING SOLUTIONS
255 S Orange Avenue Suite 104 #1078 Orlando, FL 32801 United States

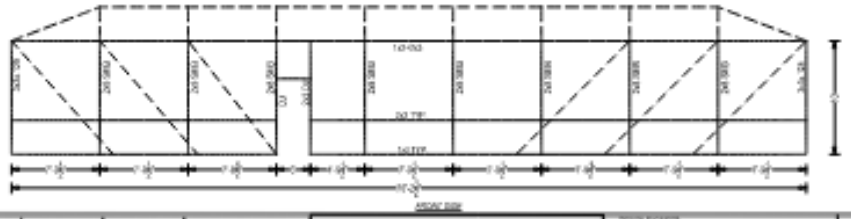
ALUMINUM CONTRACTOR

Project Name
Aluminum enclosures
Project Address:
255 S Orange Ave,
Orlando FL

SAMPLE PROJECT .NOT FOR CONSTRUCTION

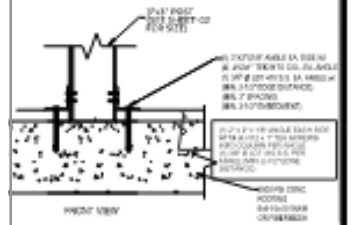






NOTE:
ALL PURLINS SIZES ARE TO BE 2"X2"X.090" NOT EXCEEDING 6' SPACING. PURLINS THAT EXCEED 6' OF SPACING ARE TO BE 2"X3"X.046" UNLESS NOTICE OTHERWISE FOR 250 POUNDS OF CONCENTRATED LOADS.

ALUMINUM MEMBERS DIMENSIONS
HOLLOW SECTIONS
2 x 2: 2"x2"x0.044"
2 x 3: 2"x3"x0.050"
2 x 4: 2"x4"x0.050"
2 x 5: 2"x5"x0.050"
OPEN BACK SECTIONS
1 x 2: 1"x2"x0.044"
1 x 3: 1"x3"x0.050"
SNAP SECTIONS
2 x 2 SNAP: 2"x2"x0.045"
2 x 3 SNAP: 2"x3"x0.050"
2 x 4 SNAP: 2"x4"x0.045"
SELF MATING (SMB)
2 x 4 SMB: 2"x4"x0.044"x0.108"
2 x 5 SMB: 2"x5"x0.050"x0.108"
2 x 6 SMB: 2"x6"x0.050"x0.128"
2 x 7 SMB: 2"x7"x0.050"x0.128"
2 x 8 SMB: 2"x8"x0.072"x0.124"
2 x 8 SMB: 2"x8"x0.072"x0.124"
2 x 10 SMB: 2"x10"x0.092"x0.208"



3X3 POST CONNECTION DETAIL

					Sheet No. S-02		
					Title. FRAMING PLAN		
1.	ISSUE FOR PERMIT				Project No. E3E2522xx		
No.	Issue	Drawn	Approved	Date	Size. 11x17	Scale: NTS	

ELITE3 ENGINEERING SOLUTIONS
255 S Orange Avenue Suite 104 #1078 Orlando, FL 32801 United States

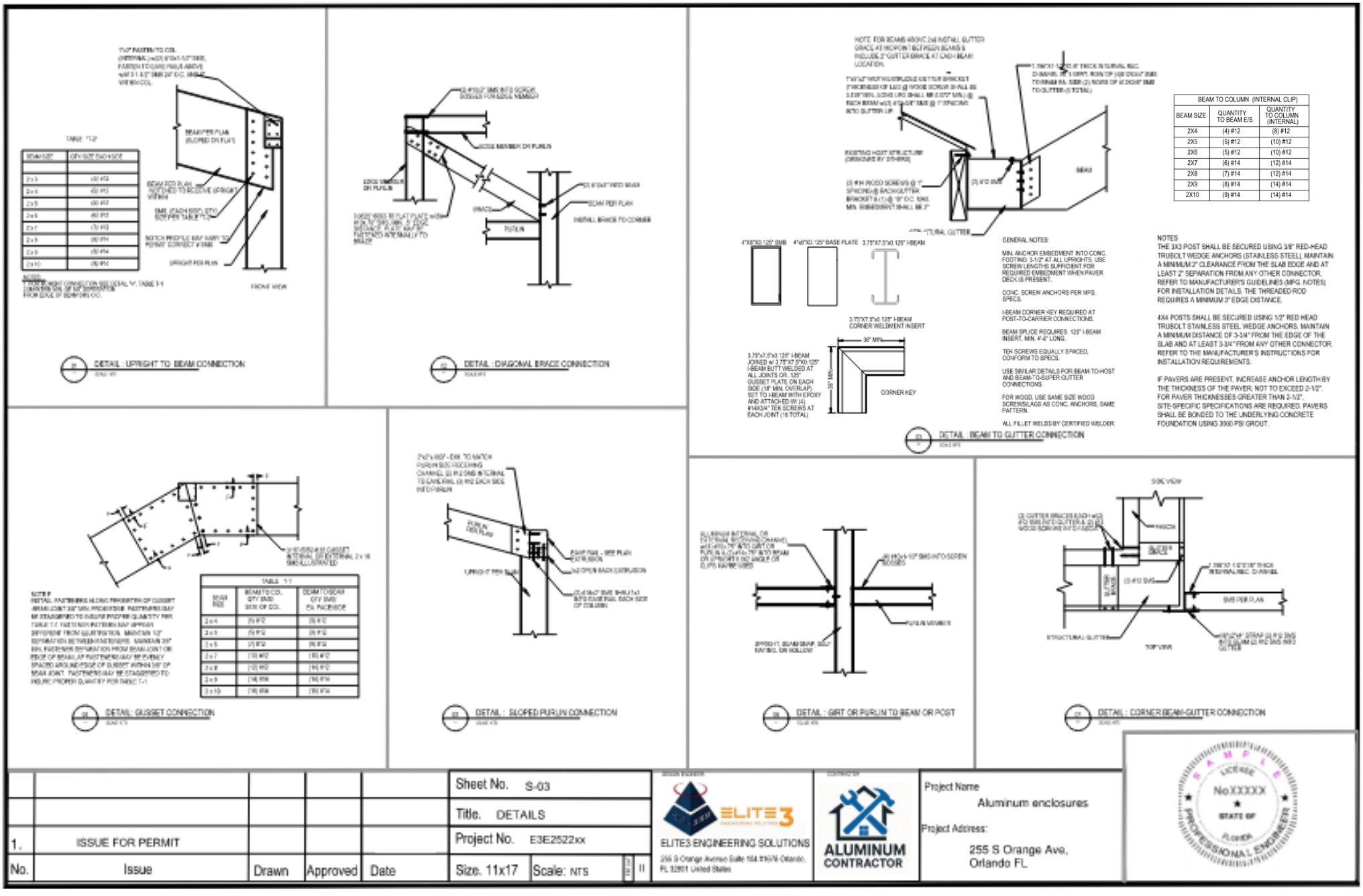
ALUMINUM CONTRACTOR

Project Name
Aluminum enclosures

Project Adress:
255 S Orange Ave,
Orlando FL

SAMPLE
LICENSE
No.XXXXX
STATE OF
Florida
PROFESSIONAL ENGINEER

SAMPLE PROJECT .NOT FOR CONSTRUCTION



DETAIL : UPRIGHT TO BEAM CONNECTION

DETAIL : DIAGONAL BRACE CONNECTION

BEAM TO COLUMN (INTERNAL CLIP)		
BEAM SIZE	QUANTITY TO BEAM E/S	QUANTITY TO COLUMN (INTERNAL)
2X4	(4) #12	(8) #12
2X5	(5) #12	(10) #12
2X6	(5) #12	(10) #12
2X7	(6) #14	(12) #14
2X8	(7) #14	(12) #14
2X9	(8) #14	(14) #14
2X10	(9) #14	(14) #14

GENERAL NOTES:

MIN. ANCHOR EMBEDMENT INTO CONC. FOOTING: 3-1/2" AT ALL UPRIGHTS. USE SCREW LENGTHS SUFFICIENT FOR REQUIRED EMBEDMENT WHEN PAVER DECK IS PRESENT.

CONC. SCREW ANCHORS PER MFG. SPECS.

I-BEAM CORNER KEY REQUIRED AT POST-TO-CARRIER CONNECTIONS.

BEAM SPLICE REQUIRES .125" I-BEAM INSERT, MIN. 4'-6" LONG.

TEK SCREWS EQUALLY SPACED, CONFORM TO SPECS.

USE SIMILAR DETAILS FOR BEAM-TO-HOST AND BEAM-TO-SUPER GUTTER CONNECTIONS.

FOR WOOD, USE SAME SIZE WOOD SCREWS/LAGS AS CONC. ANCHORS, SAME PATTERN.

ALL FILLET WELDS BY CERTIFIED WELDER.

NOTES

THE 3X3 POST SHALL BE SECURED USING 3/8" RED-HEAD TRUBOLT WEDGE ANCHORS (STAINLESS STEEL), MAINTAIN A MINIMUM 2" CLEARANCE FROM THE SLAB EDGE AND AT LEAST 2" SEPARATION FROM ANY OTHER CONNECTOR. REFER TO MANUFACTURER'S GUIDELINES (MFG. NOTES) FOR INSTALLATION DETAILS. THE THREADED ROD REQUIRES A MINIMUM 3" EDGE DISTANCE.

4X4 POSTS SHALL BE SECURED USING 1/2" RED HEAD TRUBOLT STAINLESS STEEL WEDGE ANCHORS. MAINTAIN A MINIMUM DISTANCE OF 3-3/4" FROM THE EDGE OF THE SLAB AND AT LEAST 3-3/4" FROM ANY OTHER CONNECTOR. REFER TO THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION REQUIREMENTS.

IF PAVERS ARE PRESENT, INCREASE ANCHOR LENGTH BY THE THICKNESS OF THE PAVER, NOT TO EXCEED 2-1/2". FOR PAVER THICKNESSES GREATER THAN 2-1/2", SITE-SPECIFIC SPECIFICATIONS ARE REQUIRED. PAVERS SHALL BE BONDED TO THE UNDERLYING CONCRETE FOUNDATION USING 3000 PSI GROUT.

DETAIL : BEAM TO GUTTER CONNECTION

DETAIL: GUSSET CONNECTION

DETAIL : SLOPED PURLIN CONNECTION

DETAIL : GIRT OR PURLIN TO BEAM OR POST

DETAIL : CORNER BEAM-GUTTER CONNECTION

No.	Issue	Drawn	Approved	Date
1.	ISSUE FOR PERMIT			

Sheet No. S-03

Title. DETAILS

Project No. E3E2522xx

Size. 11x17 Scale: NTS

ELITE3 ENGINEERING SOLUTIONS

255 S Orange Avenue Suite 104 #1078 Orlando, FL 32801 United States

ALUMINUM CONTRACTOR

Project Name

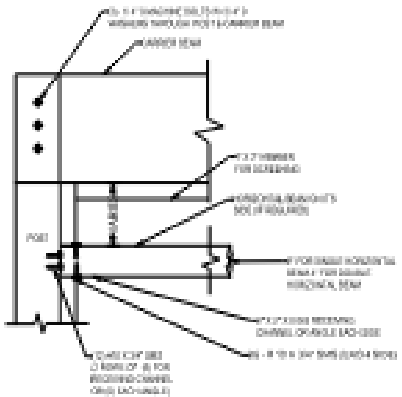
Aluminum enclosures

Project Address:

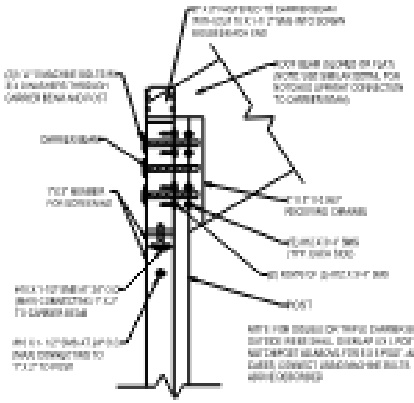
255 S Orange Ave,
Orlando FL

SAMPLE LICENSE No.XXXXX STATE OF FLORIDA PROFESSIONAL ENGINEER

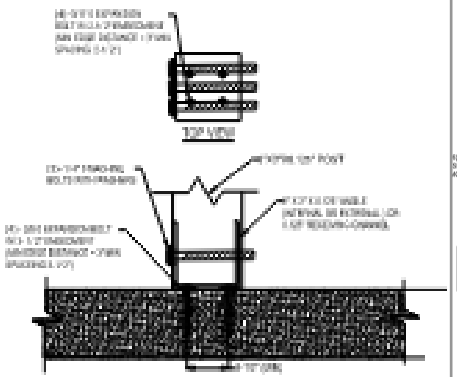
SAMPLE PROJECT .NOT FOR CONSTRUCTION



01 TYPICAL BEAM TO POST DETAIL



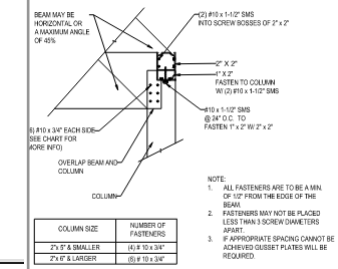
02 TYPICAL CORNER CARRIER BEAM CONNECTION



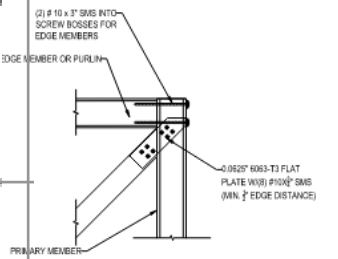
TOP VIEW

FRONT VIEW

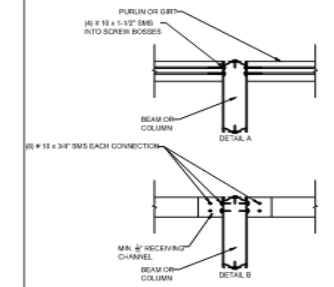
03 POST TO DECK CONNECTION DETAIL



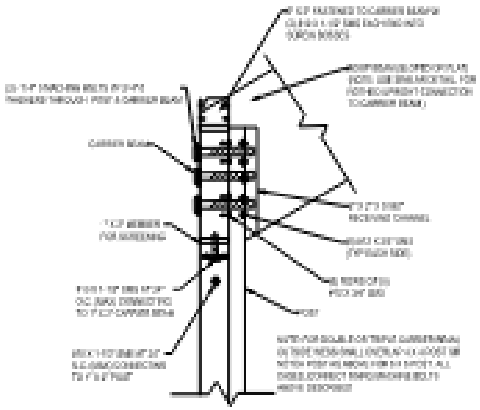
01 TYP. BEAM TO COLUMN DETAIL



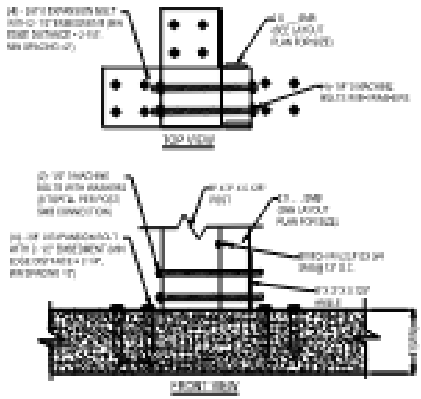
03 ROOF BRACING DETAIL



01-A PURLIN & GIRT CONNECTIONS



02 CARRIER BEAM TO POST



03 POST TO DECK CONNECTION DETAIL

					Sheet No. S-03	
2.	REVISION-1				Title. DETAILS	
1.	ISSUE FOR PERMIT				Project No. E3E2522xx	
No.	Issue	Drawn	Approved	Date	Size. 11x17	Scale: NTS

DESIGN ENGINEER
ELITE3 ENGINEERING SOLUTIONS
255 S Orange Avenue Suite 104 #1678 Orlando, FL 32801 United States

CONTRACTOR
ALUMINUM CONTRACTOR

Project Name
Aluminum enclosures

Project Address:
255 S Orange Ave,
Orlando FL

SAMPLE
License No.XXXXX
STATE OF Florida
PROFESSIONAL ENGINEER