

STRUCTURAL PLANS

Structure Size: 40'x31x11'

Customer: Laura Matthews

Address: 25 Rick Circle, Angier, NC 27501

Prepared For:

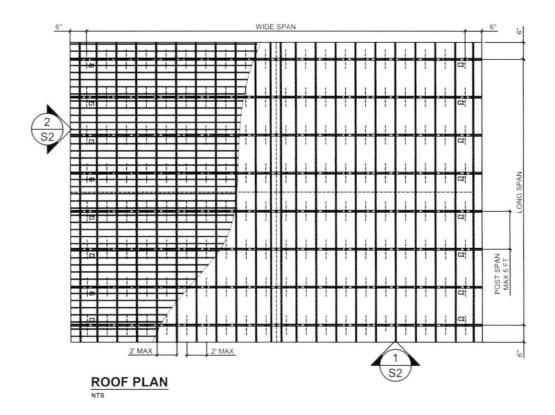
SUPERIOR METAL STRUCTURES & CONCRETE, LLC

Prepared By:



250 SHIPWASH DR, GARNER, NC 27529

THESE STRUCTURAL ENGINEERED PLANS ARE TO BE INCLUDED IN YOUR PERMIT APPLICATION AND STRUCTURE IS TO BE BUILT BY SUPERIOR METAL STRUCTURES & CONCRETE, LLC



GENERAL NOTES

- ALL STRUCTURAL STEEL WORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH NOTES AND DETAILS ON THESE DRAWINGS; DETAILING, FABRICATION, AND ERECTION OF STRUCTURAL CONFORM IN ACCORDANCE WITH THE NORTH CAROLINA BUILDING CODE 2018, INTERNATIONAL BUILDING CODE (IBC) 2021, AND NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2016 (REAFFIRMED 2020). ALLOWABLE SOIL PRESSURE 2000 PSF
- WELDED WIRE FABRIC SHALL BE NEW BILLET STEEL, COLD DRAWN CONFORMING A815 AND SHALL BE SUPPLIED IN SHEET FORM
- ALL WELDING SHALL BE ACCOMPLISHED USING E-70XX LOW-HYDROGEN ELECTRODES AND AWS CERTIFIED WELDERS IN COMPLIANCE WITH CURRENT AWS STANDARDS.
 ALL WELDS SHALL BE COATED WITH GALVANIZE PRIMER & PAINT AFTER WELDING
- THE CONTRACTOR SHALL BE ORDINATE AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION AND ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD. GALVANIZED STRUCTURAL TUBING STEEL SHALL CONFORM TO ASTM A123 AND/OR A153 THE MINIMUM YIELD STRENGTH OF THE TUBE STEEL SHALL BE (Fy. 55,000 PSI)

 THE MINIMUM YIELD STRENGTH OF METAL DECK SHALL BE (Fy. 80,000 PSI)

 THE MINIMUM YIELD STRENGTH OF METAL DECK SHALL BE (Fy. 80,000 PSI)

- 10) THE TUBE STEEL FOR COLUMNS SHALL BE 2 1/4" SQUARE GAUGE 14 FOR COLUMNS UP TO 10 FT TALL AND GAUGE 12 FOR 12' AND ABOVE

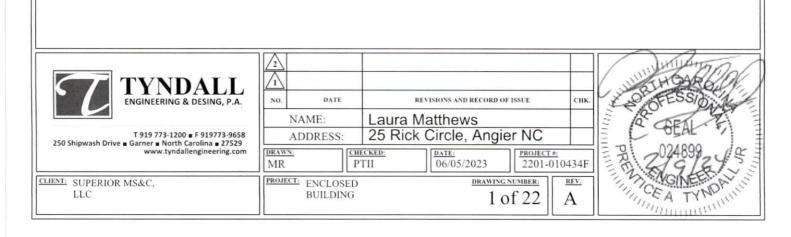
- 11) AT 150 MPH THE STRUCTURE SHALL BE BUILD WITH DOUBLE COLUMN SUPPORT

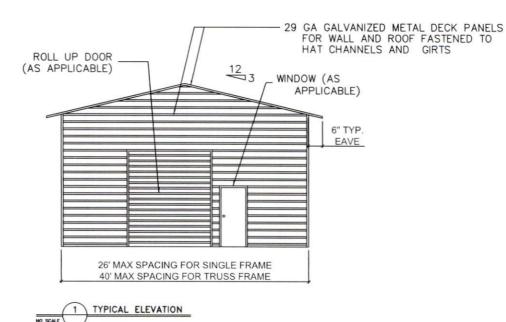
 12) ALL TUBE STEEL CONNECTIONS SHALL BE BEARING TYPE USING #12X14X3/4" SELF DRILLING METAL SCREWS

 13) DECKING SHALL BE GALVANIZED STEEL SHEET METAL STANDARD GA 29 FASTENED WITH (2) #12X14X3/4" SELF DRILLING METAL SCREWS WITH NEOPRENE WASHER, FOR RAFTER, HAT CHANNEL AND POST CONNECTION

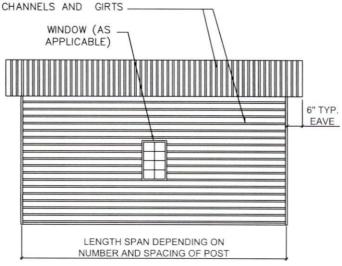
 14) THE CONCRETE DECK SHALL BE 3000 PSI CAPACITY AT 28 DAYS, AND THE SURFACE MUST BE LEVEL.CONTRACTOR
- RESPONSIBLE FOR MEETING THIS REQUIREMENT

 15) BASE RAIL ANCHORAGE TO CONCRETE SHALL BE BEARING 1/2" Ø WEDGE ANCHORS ASTM A325 OR SIMILAR HIGH STRENGTH BOLTS, UNLESS INDICATED OTHERWISE ON THE DRAWINGS





29 GA GALVANIZED METAL DECK PANELS FOR WALL AND ROOF FASTENED TO HAT





ELEVATION PLAN



T 919 773-1200 **E** F 919773-9658 250 Shipwash Drive **E** Garner **E** North Carolina **E** 27529 www.tyndallengineering.com

CLIENT:	SUPERIOR MS&C,
	LLC

2					
NO.	DATE		REVISIONS AND RECORD O	DF ISSUE	СПК
N	AME:	Laura	Matthews		Tv
A	DDRESS:	25 Ric	k Circle, Angi	er NC	
MR		ECKED:	DATE: 06/05/2023	PROJECT #: 2201-01	0434F

PROJECT:	ENCLOSED
	BUILDING

DRAWING NUMBER: 2 of 22



2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

STRUCTURAL DESIGN

DESIGN LOADS:
IMPORTANCE FACTORS: WIND (Iw) 1.00
snow (Is) 1.00
SEISMIC (Ie) <u>1.00</u>
DEAD LOADS: ROOF 10 PSF
LIVE LOADS: ROOF 20 PSF
GROUND SNOW LOAD: 20 PSF
GROUND LOAD: BASIC WIND SPEED 150 mph (ASCE 7-16) *DRIFT LOAD HAS NOT
EXPOSURE CATEGORY B
SEISMIC DESIGN CATEGORY:B
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:
OCCUPANCY CATEGORY 1
SPECTRAL RESPONSE ACCELERATION Ss 20.0 %g S1 8.2 %g
SITE CLASSIFICATIOND FIELD TEST PRESUMPTIVE HISTORICAL DATA
BASIC STRUCTURAL SYSTEM (CHECK ONE)
BEARING WALL DUAL W/ SPECTRAL MOMENT FRAME
X BUILDING FRAME DUAL W/ INTERMEDIATE R/C OR SPECIAL STEEL
MOMENT FRAME INVERTED PENDULUM
ANALYSIS PROCEDURE SIMPLIFIEDX EQUIVALENT LATERAL FORCE MODAL
LATERAL DESIGN CONTROL EARTHQUAKEX WIND
SOIL BEARING CAPACITIES:
PRESUMPTIVE BEARING CAPACITIES: 2,000 PSF
GENERAL NOTES: SEE PAGE 1

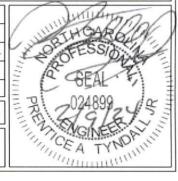


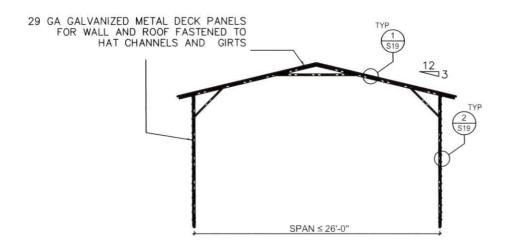
T 919 773-1200 **m** F 919773-9658 250 Shipwash Drive **m** Garner **m** North Carolina **m** 27529 www.tyndallengineering.com

2					
NO.	DATE	F	REVISIONS AND RECORD O	F ISSUE	сик.
	NAME:	Laura M	latthews		
	ADDRESS:		Circle, Angie	er NC	
MR	<u>N:</u>	hecked: PTII	DATE: 06/05/2023	PROJECT #: 2201-01	0434F

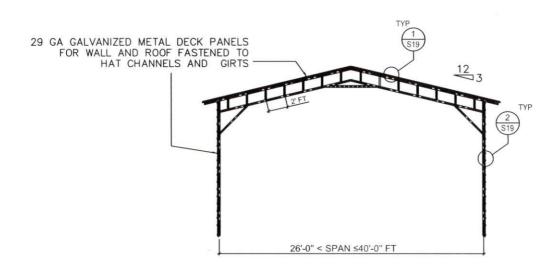
CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

3 of 22 A











ELEVATION PLAN



T 919 773-1200 **m** F 919773-9658 250 Shipwash Drive **m** Garner **m** North Carolina **m** 27529 www.tyndallengineering.com

2					
NO.	DATE		REVISIONS AND RECORD O	DF ISSUE	сик.
N	IAME:	Laura	Matthews		
A	DDRESS:	25 Ric	k Circle, Angi	er NC	
DRAWN: MR	- II-	ECKED:	DATE: 06/05/2023	PROJECT #: 2201-01	0434F

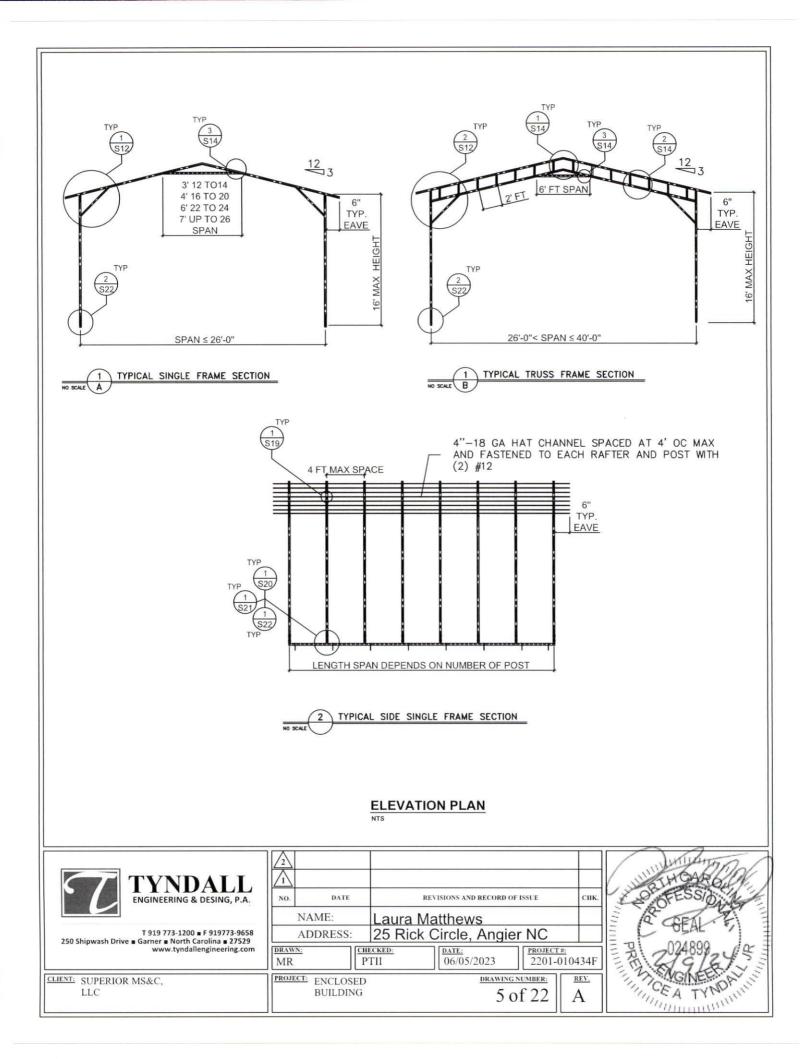
CLIENT: SUPERIOR MS&C, LLC

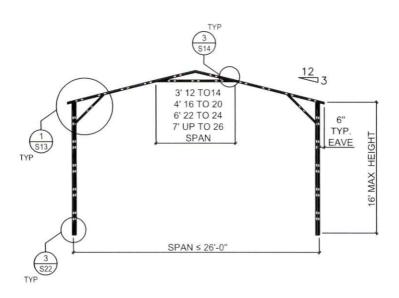
PROJECT: ENCLOSED BUILDING

DRAWING NUMBER: 4 of 22

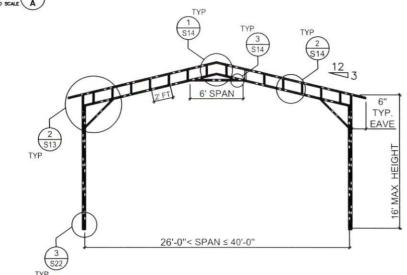
REV. Α







1 TYPICAL SINGLE FRAME DOUBLE SECTION FOR WIND SPEED 105<T0≤150 MPH



1 TYPICAL TRUSS FRAME DOUBLE SECTION FOR WIND SPEED 105<T0≤150 MPH

ELEVATION PLAN



T 919 773-1200 **m** F 919773-9658 250 Shipwash Drive **m** Garner **m** North Carolina **m** 27529 www.tyndallengineering.com

1			
NO.	DATE	REVISIONS AND RECORD OF ISSUE	снк.
N.	AME:	Laura Matthews	
Al	DDRESS:	25 Rick Circle, Angier NC	
MR	-	DATE: PROJECT #: 2201-010	434F

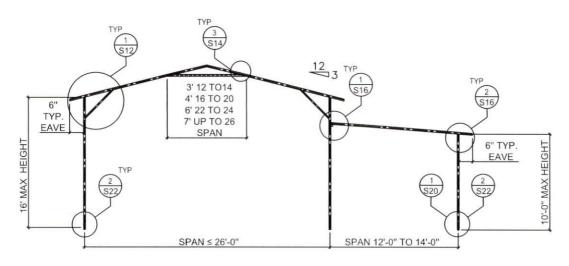
CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

6 of 22

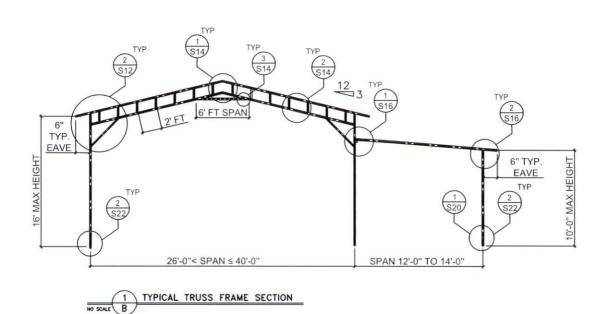
REV.

A

GEAL O24899 CEA TYPONILLING



1 TYPICAL SINGLE FRAME SECTION



ELEVATION PLAN



T 919 773-1200 **m** F 919773-9658 250 Shipwash Drive **m** Garner **m** North Carolina **m** 27529 www.tyndallengineering.com

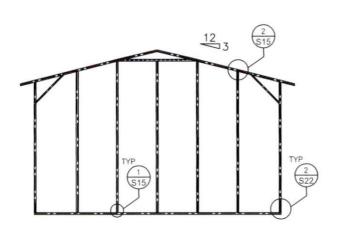
2					
NO.	DATE		REVISIONS AND RECORD	OF ISSUE	СНК
N.	AME:	Laura	Matthews		
A	DDRESS:	25 Ric	k Circle, Angi	er NC	
MR		CHECKED: PTII	DATE: 06/05/2023	PROJECT #: 2201-010)434F

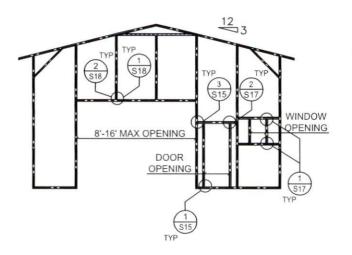
CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

7 of 22

A

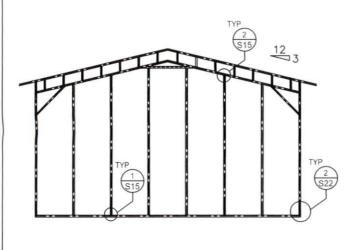
SEAL O24899 CE A TYPE

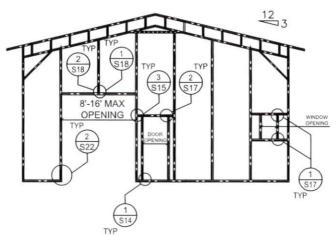




TYPICAL SINGLE FRAME ELEVATION

1 FRAME ELEVATION W/ GARAGE DOOR, DOOR AND WINDOW FRAME





2 TYPICAL TRUSS FRAME ELEVATION

2 FRAME ELEVATION W/ GARAGE DOOR, DOOR AND WINDOW FRAME

ELEVATION PLAN

NTS



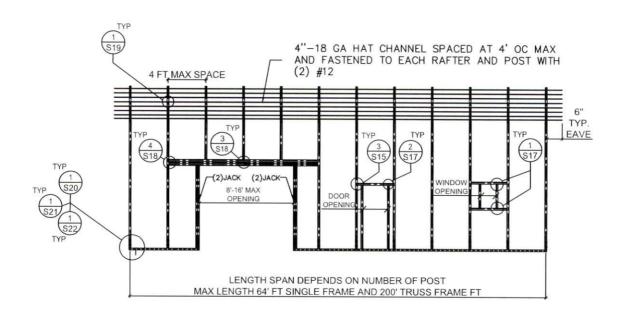
T 919 773-1200 **m** F 919773-9658 250 Shipwash Drive **m** Garner **m** North Carolina **m** 27529 www.tyndallengineering.com

2				
NO.	DATE	REVISIONS AND RECORD OF E	SSUE	СНК
N.	AME:	Laura Matthews		
Al	DDRESS:	25 Rick Circle, Angier	NC	
MR	<u>C</u>	DATE: 06/05/2023	PROJECT #: 2201-0104	134F

CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

B of 22

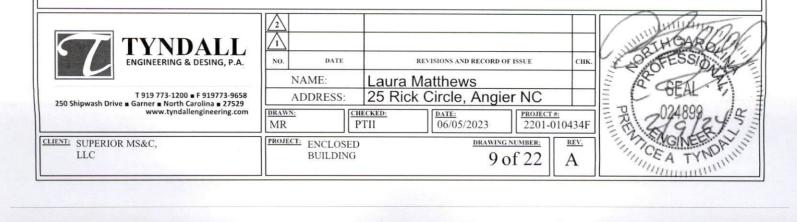


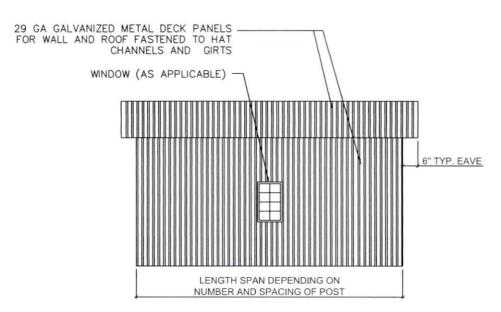


1 FRAME SIDE ELEVATION W/ GARAGE DOOR, DOOR AND WINDOW FRAME

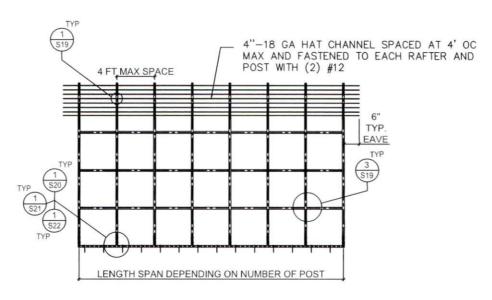
ELEVATION PLAN

NTS





TYPICAL SIDE ELEVATION FOR VERTICAL PANEL DECK



ELEVATION PLAN

TYPICAL SIDE ELEVATION FOR VERTICAL METAL PANEL DECK



2					-
NO.	DATE		REVISIONS AND RECORD O	F ISSUE	СНК.
	NAME:	Laura	Matthews		
	ADDRESS:	25 Ric	k Circle, Angie	er NC	
DRAW MR	<u>N:</u>	HECKED: PTII	DATE: 06/05/2023	PROJECT #: 2201-010)434F

CLIENT: SUPERIOR MS&C,

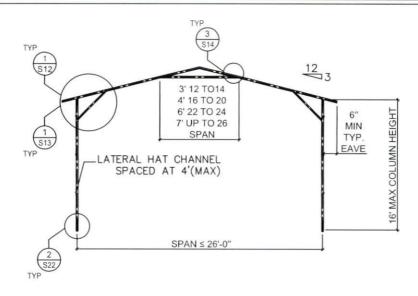
PROJECT: ENCLOSED BUILDING

DRAWING NUMBER: 10 of 22

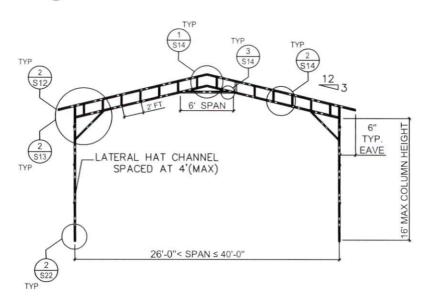
REV.

A

O24899 2 4 S



1 TYPICAL SINGLE FRAME SECTION FOR VERTICAL PANEL DECK



1 TYPICAL TRUSS FRAME SECTION FOR VERTICAL PANEL DECK

ELEVATION PLAN



T 919 773-1200 **E** F 919773-9658 250 Shipwash Drive **E** Garner **E** North Carolina **E** 27529 www.tyndallengineering.com

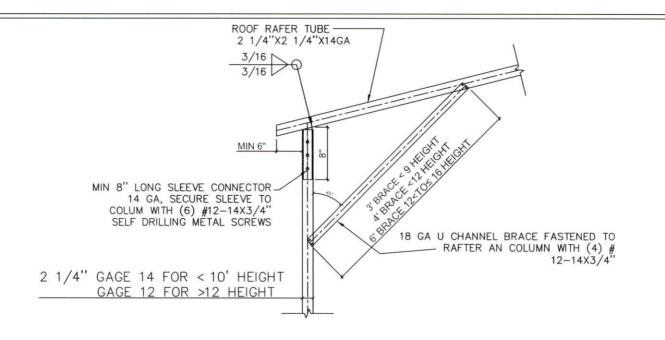
2			
NO.	DATE	REVISIONS AND RECORD OF ISSUE	снк.
N/	AME:	Laura Matthews	
AI	DDRESS:	25 Rick Circle, Angier NC	
MR	11	DATE: 06/05/2023 PROJECT 2201-	010434F

CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

DRAWING NUMBER: 11 of 22

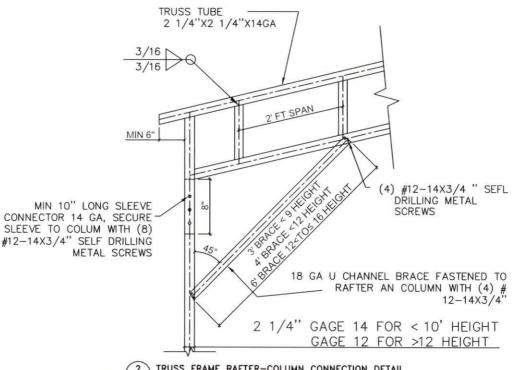
A A





SINGLE FRAME RAFTER-COLUMN CONNECTION DETAIL

FOR WIND SPEEDS UP TO 120 MPH COLUMN HEIGHT ≤16 FT



DETAILS

TRUSS FRAME RAFTER-COLUMN CONNECTION DETAIL

FOR WIND SPEEDS UP TO 120 MPH COLUMN HEIGHT ≤16 FT



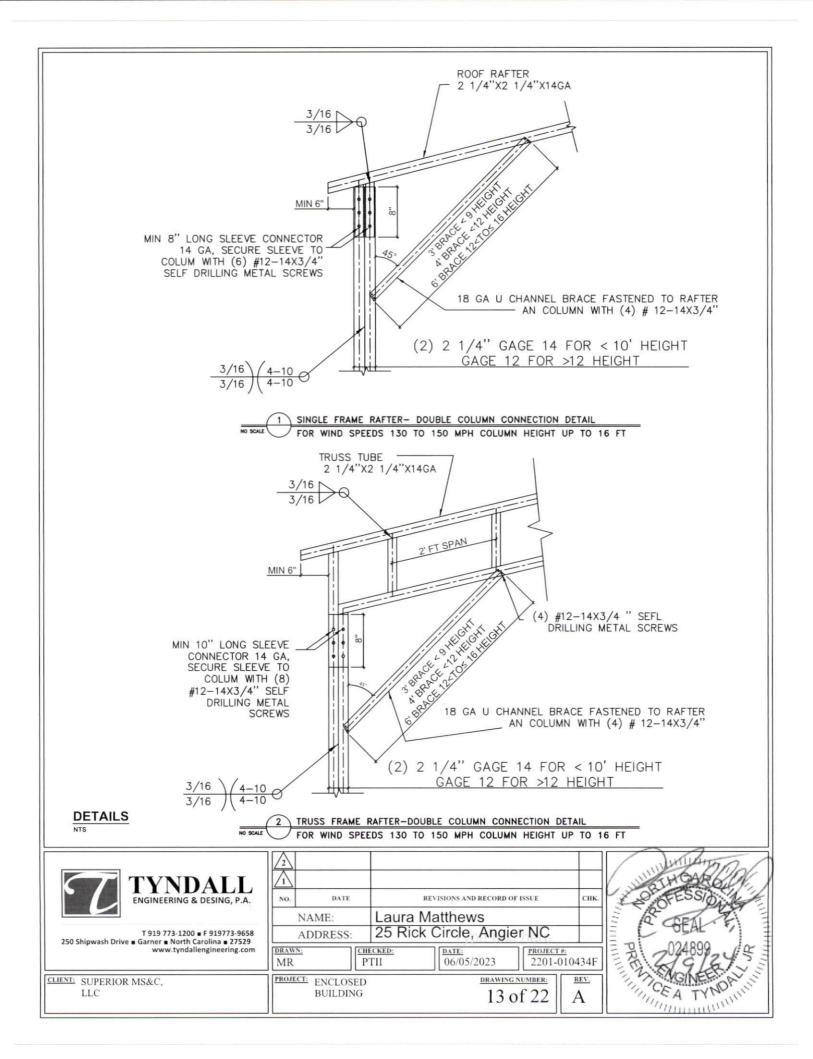
T 919 773-1200 **m** F 919773-9658 250 Shipwash Drive **m** Garner **m** North Carolina **m** 27529 www.tyndallengineering.com

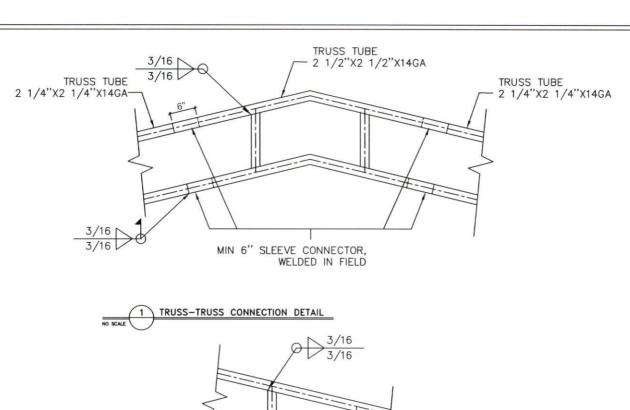
2					
NO.	DATE		REVISIONS AND RECORD 6	OF ISSUE	СНК
	NAME:	Laura N	Matthews		
- 5	ADDRESS:	25 Rick	Circle, Angie	r NC	
MR	<u>i:</u>	CHECKED: PTII	DATE: 06/05/2023	PROJECT #: 2201-010	434F

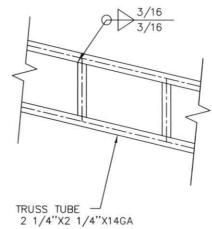
CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

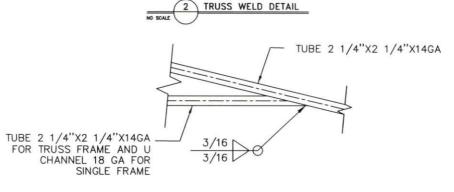
DRAWING NUMBER: 12 of 22











DETAILS



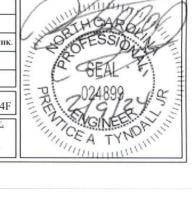


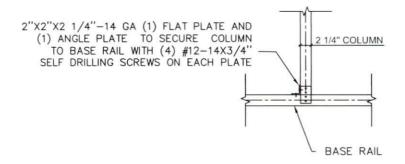
2					
NO.	DATE		REVISIONS AND RECORD O	F ISSUE	сик.
N.	AME:	Laura	Matthews		
A	DDRESS:		k Circle, Angie	er NC	
MR		hecked: PTII	DATE: 06/05/2023	PROJECT #: 2201-010	434F

CLIENT: SUPERIOR MS&C,
LLC

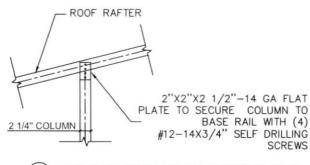
PROJECT: ENCLOSED
BUILDING

DRAWING NUMBER: 14 of 22 A

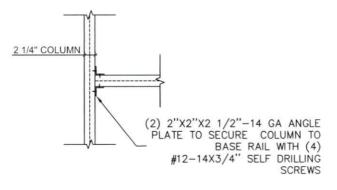


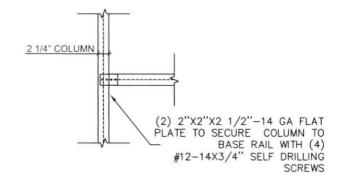


1 FLAT PLATE CONNECTION COLUMN TO BASE RAIL



2 FLAT PLATE RAFTER-COLUMN CONNECTION DETAIL





NO SCALE B FLAT PLATE HEADER-COLUMN CONNECTION DETAIL

3 ANGLE PLATE HEADER-COLUMN CONNECTION DETAIL

DETAILS

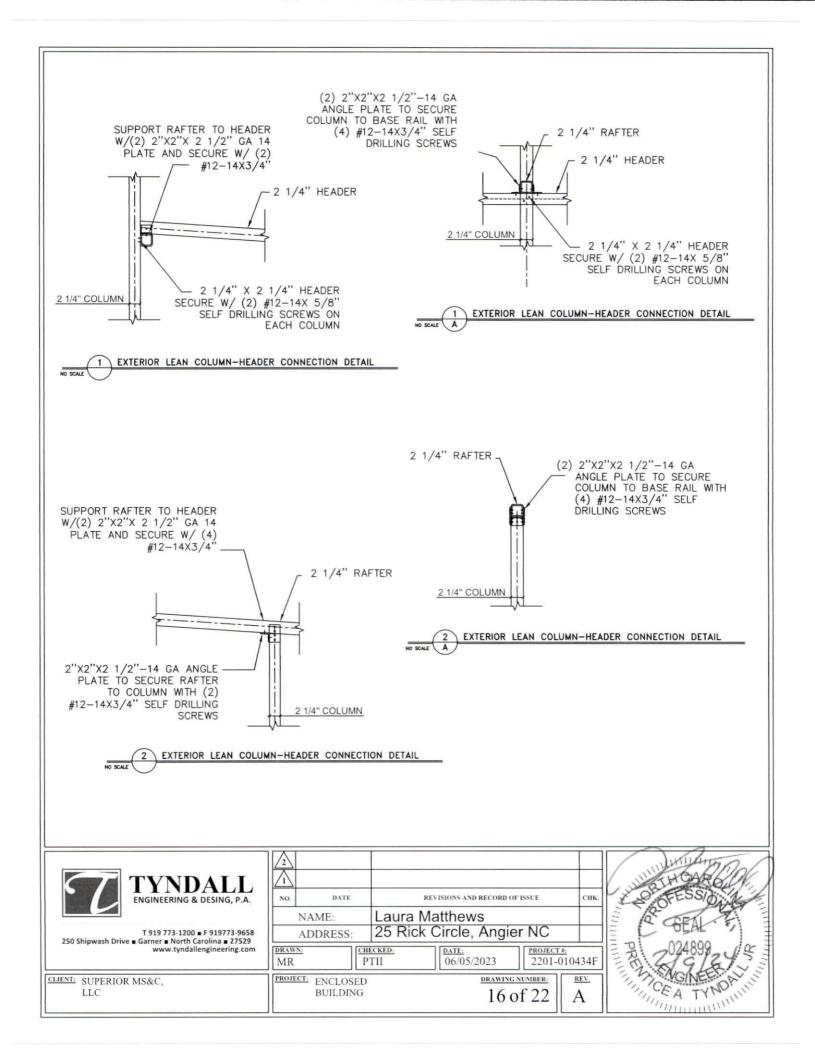


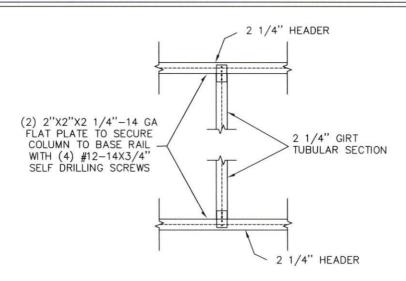
/2			T
Λ			
NO.	DATE	REVISIONS AND RECORD OF ISSUE	СНК
N	NAME:	Laura Matthews	
Α	DDRESS:	25 Rick Circle, Angier NC	

CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

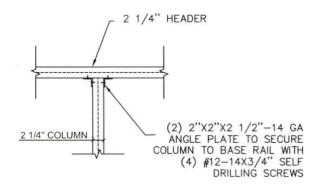
DRAWING NUMBER: 15 of 22 A

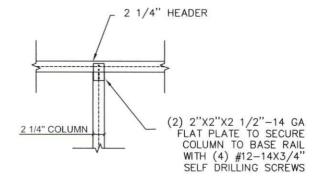






1 FLAT PLATE HEADER CONNECTION FOR WINDOW DETAIL





2 ANGLE PLATE DOOR COLUMN-HEADER CONNECTION DETAIL

2 FLAT PLATE DOOR COLUMN-HEADER CONNECTION DETAIL

DETAILS



T 919 773-1200 **a** F 919773-9658 250 Shipwash Drive **a** Garner **a** North Carolina **a** 27529 www.tyndallengineering.com

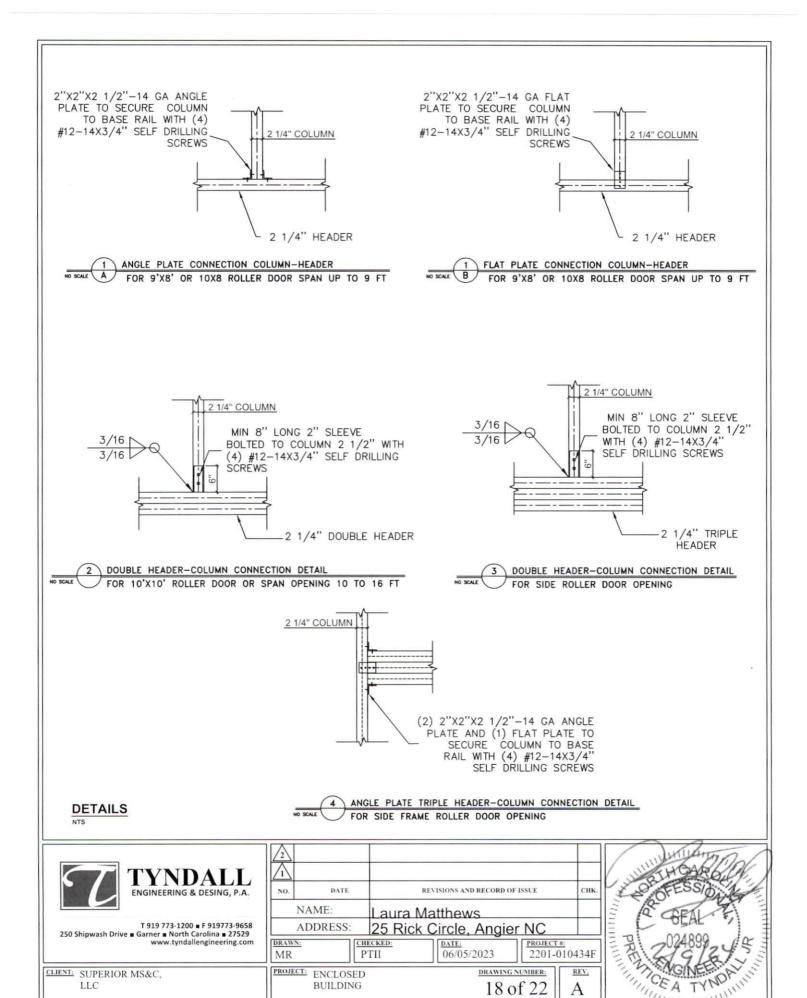
2			
NO.	DATE	REVISIONS AND RECORD OF ISSUE	сик.
1	NAME:	Laura Matthews	
1	ADDRESS:	25 Rick Circle, Angier NC	
MR MR	-	DATE: 06/05/2023 PROJECT #: 2201-010	434F

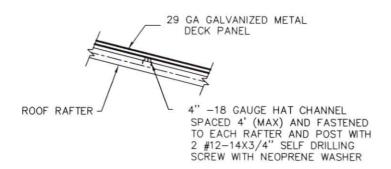
CLIENT: SUPERIOR MS&C,

PROJECT: ENCLOSED BUILDING

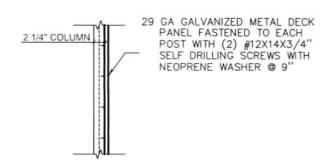
17 of 22



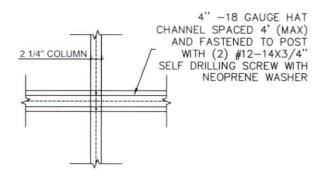




1 SINGLE FRAME RAFTER-COLUMN CONNECTION DETAIL



DECKING-COLUMN CONNECTION
NO SCALE



HAT-COLUMN CONNECTION DETAIL FOR VERTICAL DECKING



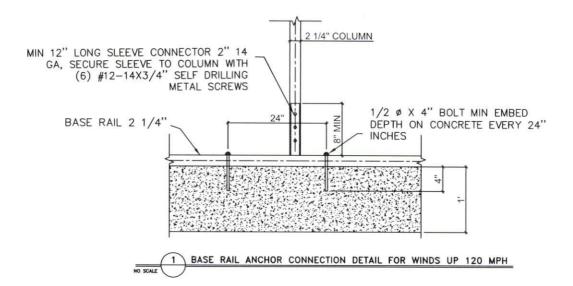
T 919 773-1200 **x** F 919773-9658 250 Shipwash Drive **x** Garner **x** North Carolina **x** 27529 www.tyndallengineering.com

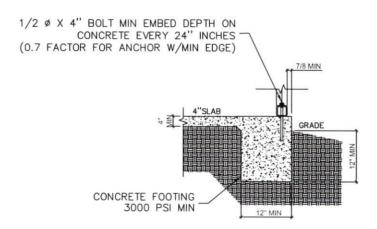
2					T
NO.	DATE		REVISIONS AND RECORD O	OF ISSUE	СНК
	NAME:	Laura M	latthews		
	ADDRESS:	25 Rick	Circle, Angie	er NC	
MR	- 11-	iecked: PTII	DATE: 06/05/2023	PROJECT #: 2201-010	434F

CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

DRAWING NUMBER: 19 of 22







BASE RAIL ANCHOR LATERAL VIEW FOR WINDS UP 120 MPH

DETAILS

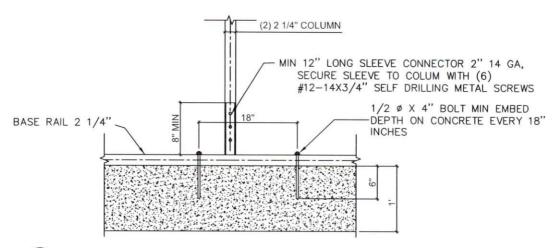


2					
NO.	DATE		REVISIONS AND RECORD O	OF ISSUE	СНК
N	NAME:	Laura	Matthews		
A	ADDRESS:	25 Ric	k Circle, Angi	er NC	
DRAWN:	CH P	ECKED:	DATE: 06/05/2023	PROJECT #: 2201-010)434F

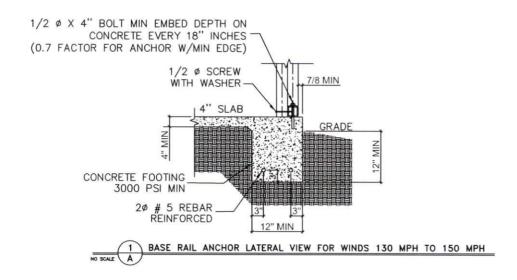
CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

DRAWING NUMBER: 20 of 22





1 DOUBLE COLUMN BASE RAIL ANCHOR CONNECTION DETAIL FOR WINDS 130 MPH TO 150 MPH



DETAILS NTS

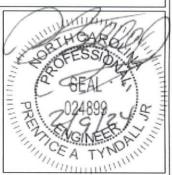


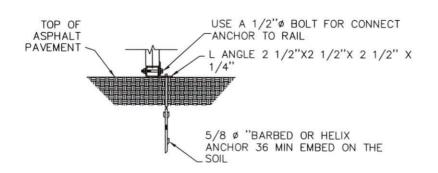
T 919 773-1200 **m** F 919773-9658 250 Shipwash Drive **m** Garner **m** North Carolina **m** 27529 www.tyndallengineering.com

2			
NO.	DATE	REVISIONS AND RECORD OF ISSUE	СНК
NAME:		Laura Matthews	\top
A	DDRESS:	25 Rick Circle, Angier NC	

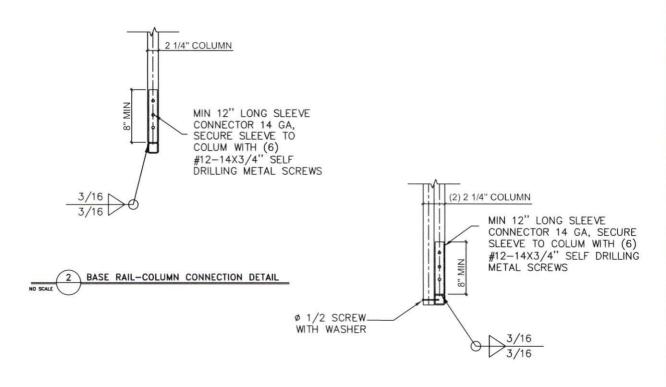
CLIENT: SUPERIOR MS&C, LLC PROJECT: ENCLOSED BUILDING

DRAWING NUMBER: 21 of 22





1 BASE RAIL ANCHORAGE WITH BARBED OR HELIX ANCHOR







CLIENT: SUPERIOR MS&C,

LLC

2		T			T
NO.	DATE		REVISIONS AND RECORD O	OF ISSUE	СНК
NAME:		Laura I	Matthews		
А	DDRESS:	25 Rick	k Circle, Angie	er NC	
DRAWN: MR	11-	HECKED: PTII	DATE: 06/05/2023	PROJECT #: 2201-010	434F

