NUCOR
BUILDING SYSTEMS
A DIVISION OF NUCOR CORPORATION

MBMA MEMBER | IAS ACCREDITED AC 472 | CSSBI | CWB CERTIFIED CSA W47.1 | CWB CERTIFIED CSA A660

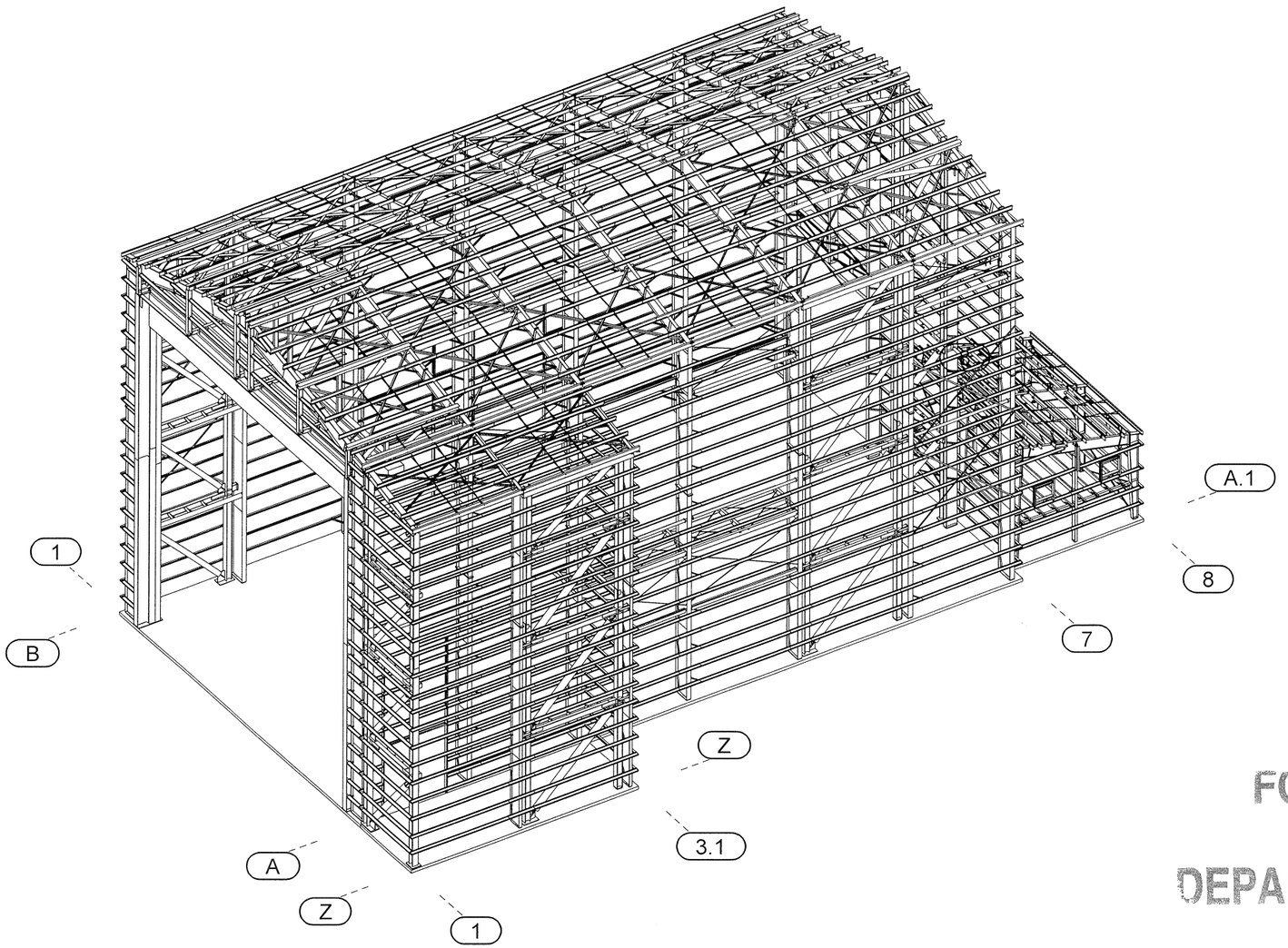
Number
U18H0248A
Name
Port of Toledo
Location: City, County, State
Toledo, Lincoln, OR
Customer
JH KELLY LLC

Required Manuals

Wall Sheeting
H9430 - Erection Manual

CFR Roof Sheeting
H9700 - Erection Manual

Drawing Index



FOR BUILDING
JUL 09 2018
DEPARTMENT REVIEW

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo, Toledo, OR
CUSTOMER NAME: JH KELLY LLC, Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Coversheet

JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET
C1 OF 4

Notes and Specifications:

Building Erection Notes

1) The general contractor and/or erector is responsible to safely and properly erect the metal building system in conformance with these drawings, OSHA requirements, and either MBMA or CSA S16 standards pertaining to proper erection. This includes, but is not limited to, the correct use of temporary guys and bracing where needed for squaring, plumbing, and securing the structural and secondary framing. Secondary wall framing members(girts or bar joists) are not designed to function as a work platform or provide safety tie off attachment in accordance with OSHA requirements. Secondary roof framing members (purlins or bar joists) are not designed to provide safety tie off attachment in accordance with OSHA requirements.

2) A325 & A490 Bolt tightening requirements:
It is the responsibility of the erector to ensure proper bolt tightness in accordance with applicable regulations. For projects in the United States, see the RCSC Specification for Structural Joints Using A325 or A490 Bolts or for projects in Canada, see the CAN/CSA S16 Limit States Design of Steel Structures for more information.
The following criteria may be used to determine the bolt tightness (i.e., "snug-tight" or "fully-pretensioned"), unless required otherwise by local jurisdiction or contract requirements:
A) All A490 bolts shall be "fully-pretensioned".
B) All A325 bolts in primary framing (rigid frames and bracing) may be "snug-tight", except as follows:
"Fully-pretension" A325 bolts if:
a) Building supports a crane system with a capacity greater than 5 tons.
b) Building supports machinery that creates vibration, impact, or stress-reversals on the connections. The Engineer-of-Record for the project should be consulted to evaluate for this condition.
c) The project site is located in a high seismic area. For IBC-based codes, "High Seismic Area" is defined as "Seismic Design Category" of 'D', 'E', or 'F'. See the "Building Loads" section on this page for the defined seismic design category for this project.
d) Any connection designated in these drawings as "A325-SC". "Slip-Critical (SC)" connections must be free of paint, oil, or other materials that reduce friction at contact surfaces. Galvanized or lightly-rusted surfaces are acceptable.
C) In Canada , all A325 and A490 bolts shall be "fully-pretensioned", except for secondary members (purlins, girts, opening framing, etc.) and flange braces.
D) Secondary members (purlins, girts, opening framing, etc.) and flange brace connections may always be "snug-tight", unless indicated otherwise in these drawings.

3) The metal building supplier shall be notified prior to any field modifications. Modifications shall be approved by the metal building supplier before work is undertaken.

4) Common Abbreviations:

a) TYP UNO – Typical Unless Noted Otherwise	f) SIM – Similar
b) SLV – Short Leg Vertical	g) NIC – Not In Contract
c) LLV – Long Leg Vertical	h) SL – Steel Line
d) NS & FS – Near Side and Far Side	i) N/A – Not Applicable
e) O.A.L. – Overall Length	j) MBS – Metal Bldg. Supplier

5) Construction loads shall not be placed on any structural steel framework unless such framework is safely bolted, welded, or otherwise adequately secured.
6) Purlins and girts shall not be used as an anchorage point for a fall arrest system unless written approval is obtained from the metal building supplier.
7) Purlins may only be used as a walking/working surface when installing safety systems, after all permanenent bridging has been installed and fall protection is provided.
8) Construction loads may be placed only within a zone that is within 8 feet of the center line of the primary support member. CFR bundles should be placed directly over the rigid frames.
9) All lifting devices must meet OSHA or MSHA standards and in no case is it acceptable to use structural members supplied by the MBS as a spreader bar or lifting device.

General Design Notes

1) All structural steel sections and welded plate members are designed in accordance with ANSI/AISC 360 "Specifications for Structural Steel Buildings" or the CAN/CSA S16 "Limit States Design of Steel Structures", as required by the specified building code.
2) All welding of structural steel is based on either AWS D1.1 "Structural Welding Code - Steel" or CAN/CSA W59 "Welded Steel Construction (Metal Arc Welding)", as required by the specified building code.
3) All cold formed members are designed in accordance with ANSI/AISI S100 or CAN/CSA S136 "Specifications for the Design of Cold Formed Steel Structural Members", as required by the specified building code.
4) All welding of cold formed steel is based on AWS D1.3 "Structural Welding Code - Sheet Steel" or CAN/CSA W59 "Welded Steel Construction (Metal Arc Welding)", as required by the specified building code.
5) This Nucor Building Systems facility is IAS AC-472 Accredited and CAN/CSA A660 and W47.1 Certified (if applicable) for the design and manufacturing of Metal Building Systems.
6) If joists are included with this project, they are supplied as a part of the systems engineered metal building and are fabricated in accordance with the requirements of Section 1926.758 of the OSHA safety standards for steel erection, dated January 18, 2001.

Material Specifications

Plate and Flange Material:		
5"-12" Wide, To 1¾" Th.	–	A529, Grade 55
Others	–	A572 Grade 50
Built-Up Structural Web	–	A1011 SS (or HSLAS Class 1) Grade 55
Hot-Rolled Structural	–	A36 or A572 Grade 50 or A992 Grade 50
Structural Tube	–	A500 Grade B (46 KSI)
Structural Pipe	–	A500 Grade B (42 KSI)
Cold-Formed Structural	–	A1011 or A1039 SS (or HSLAS Class 1) or A653 Grade 55
Classic Roof Panel	–	A792 Grade 80
CFR / VR16 Roof Panel	–	A792 Grade 50, Class 1
All Wall Panel Profiles	–	A653 Grade 80, Class 1 or A792 Grade 80, Class 1
Rod Bracing	–	A529 Grade 50
Welds	–	AWS D1.1/D1.3 or CSA W59 per Building Code
High-Strength Bolts	–	A325 Type 1 or A490 Type 1 Heavy Hex
Machine Bolts	–	A307 Grade A Hex

MAIN

Primary and Secondary Steel Primer Color

Gray

Roof Sheeting

Type: CFR, 24 Gage, Finish: POLAR WHITE
Roof Panel Clip Type: Tall Fixed
Thermal Blocks: Yes EPS Foam Spacers: No
Roof insulation(NOT BY NBS). Thickness: 4" With Basket Liner
Roof Line Trim. Color: POLAR WHITE
Gutters. Color: POLAR WHITE
Downspouts. Color: FOX GRAY

Wall Sheeting

Type: Classic, 26 Gage, Finish: FOX GRAY
Wall Corner Trim. Color: FOX GRAY
Wall Base Trim. Color: FOX GRAY
Wall Framed Openings. Trim Color: POLAR WHITE
Wall Framed Openings. Cover Trim Color: POLAR WHITE
Wall insulation(NOT BY NBS). Thickness: 4"

Building Options

(8) 3070 Preassembled Walkdoor(s). Color: WHITE
Crane. (See crane plan for additional information)
Mezzanine. (See mezzanine plan for additional information)
Wall Translucent Panels. Length:10'-8" , Quantity: 96

THIS BUILDING SYSTEM DESIGN IS BASED ON UNIFORMLY APPLYING THE CONTRACT-SPECIFIED LIVE LOAD AND ROOF SNOW LOAD. IN ADDITION, THE DESIGN IS BASED ON APPLYING A CODE-DEFINED LIVE LOAD (INCLUDING APPLICABLE REDUCTIONS) AND A CODE-DEFINED SNOW LOAD (BASED ON CONTRACT-SPECIFIED GROUND SNOW) FOR ALL PARTIAL LOADING AND UNBALANCED SNOW LOAD CONDITIONS.

THE 28'-0" x 36'-0" ROLL-UP DOOR FRAMED OPENING SUPPLIED ON THIS PROJECT HAS BEEN DESIGNED TO SUPPORT A TOTAL HANGING DEAD WEIGHT OF 9350 LBS. IN ADDITION, THE FRAMED OPENING HAS BEEN DESIGNED TO SUPPORT WIND LOAD, NORMAL TO THE DOOR, BASED ON THE STANDARD BUILDING CODE CRITERIA. THE FRAMED OPENING HAS NOT BEEN DESIGNED FOR ANY ADDITIONAL MOMENT OR CATENARY FORCE FROM THE DOOR. ANY CHANGE TO THE INFORMATION SHOWN HERE WOULD REQUIRE AN ENGINEERING INVESTIGATION AND POSSIBLE BUILDING REINFORCEMENT.

WINDOWS AND DOORS THAT ARE PROVIDED BY OTHERS ARE ASSUMED TO MEET THE WIND LOADING REQUIREMENTS OF THE STRUCTURE AND THE OPENINGS FOR THESE MUST BE IMPACT-RESISTANT OR PROTECTED BY AN IMPACT-RESISTANT COVERING AS SEPCIFIED IN THE BUILDING CODE WHEN A HIGH WIND EVENT IS ANTICIPATED.

STRUCTURAL OBSERVATIONS, TESTS AND INSPECTION:

1) WHEN STRUCTURAL OBSERVATIONS ARE REQUIRED AS PER OSSC 1704.6, OBSERVATIONS SHALL BE PERFORMED BY AN INDEPENDENT ENGINEERING AGENCY EMPLOYED BY THE ARCHITECT OR OWNER.
2) THE SPECIAL INSPECTOR'S DUTIES ARE AS DESCRIBED IN SPECIAL INSPECTION. THE SPECIAL INSPECTOR'S DUTIES ARE AS DESCRIBED IN OSSC 1704.3 AND OSSC 1705
3) ALL TESTS AND INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT TESTING AND INSPECTION AGENCY EMPLOYED BY THE OWNER OR ARCHITECT.
4) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE TEST AND INSPECTION FIRM WITH A SCHEDULE TO FACILITATE THE PROPER COORDINATION OF WORK.
5) PORTIONS OF WORK REQUIRING SPECIAL INSPECTION:

AGENCY RESPONSIBLE FOR INSPECTION AND TESTING TO BE NAMED BY OWNER LATER.	YES	NO	N/A
A. STRUCTURAL STEEL:			
1. MILL REPORTS AND IDENTIFICATION OF STEEL (AFFIDAVIT OF COMPLIANCE)	☐	■	☐
2. SAMPLING AND TESTING OF SPECIMENS	☐	■	☐
B. WELDING:			
1. ALL STRUCTURAL WELDING (INCLUDES DECKING AND WELDED STUDS), EXCEPT WELDING IN APPROVED SHOPS PER OSSC 1704.2.2	■	☐	☐
2. ULTRASONIC TESTING OF FULL PENETRATION WELD CONNECTIONS AT MOMENT FRAMES, BRACED FRAMES, BEAM SPLICES, AND FIELD WELDS.	☐	■	☐
3. STRUCTURAL LIGHT GAGE METAL FRAME WELDING	☐	■	☐
C. BOLTING:			
1. HIGH STRENGTH BOLT A325SC AND A490SC (PRETENSION VERIFICATION)	■	☐	☐
2. HIGH STRENGTH BOLT A325N AND A490X (PER COVER SHEET NOTES)	■	☐	☐
3. EXPANSION/ADHESIVE ANCHORS IN CONCRETE OR MASONRY	■	☐	☐

Building Loads:

Design Code:	Oregon 2014 (OSSC 2014)
Building End Use:	3B-Commercial warehousing and storage
MBMA Occupancy Class:	II - Standard Buildings
Roof Live Load: REDUCIBLE PER CODE	20.00
Ground Snow Load:	25.00
Snow Exposure Factor, Ce:	1.00
Snow Importance Factor, Is:	1.00
Seismic Information:	Ss: 1.500 S1: 0.698
Seismic Sds/ Sd1:	0.900 / 1.117
Site Class:	E
Seismic Imp. Factor Ie:	1.00
Seismic Design Category:	D
Analysis Procedure:	Equivalent Lateral Force Procedure
Basic SFRS:	Main: Buckling Restrained Braced Frames REW: Intermediate Moment Resisting Frames/ Braced Frame
Wind (MPH): (Vult) / (Vasd)	135 / 105
C & C Pressures (PSF):	58 / -77
Exposure:	C
UL90:	Yes

Name	MAIN	FSW LEAN-TO	REW LEAN-TO
Roof Dead (PSF)	5.0	5.0	5.0
Primary Collateral (PSF)	5.0	10.0	5.0
Secondary Collateral (PSF)	5.0	10.0	5.0
Snow Ct	1.0	1.0	1.0
Snow Cs	1.00	1.00	1.00
Roof Snow Ps (PSF)	17.50	17.50	17.50
Roof Snow **Pm (PSF)	20.00	20.00	20.00
Wind Enclosure	Enclosed	Enclosed	Enclosed
GCpi	+/- 0.18	+/- 0.18	+/- 0.18
Seismic R	8.00	8.00	3.25
Seismic Cs	0.112	0.112	0.277
Base Shear (KIPS)	76.7	14.0	37.4

* Primary Structural Not Included
***Design wind pressures to be used for wall exterior component and cladding materials not provided by Nucor Building Systems.

Project Notes:

1) Collateral dead loads, unless otherwise noted, are assumed to be uniformly distributed. When suspended sprinkler systems, lighting, HVAC equipment, ceilings, etc., are suspended from roof members, consult the M.B.S. If these concentrated loads exceed 500 pounds (using the web mount detail) or 200 lbs (using the flange mount detail), or if individual members are loaded significantly more than others.

2) The design of structural members supporting gravity loads is controlled by the more critical effect of roof live load or roof snow load, as determined by the applicable code.

3) **Pm is based on the minimum roof snow load calculated per building code or the contract specified roof snow, whichever is greater. This value, Pm, is only applied in combination with the dead and collateral loads. Roof snow in other loading conditions is determined per the specified building code.

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CUSTOMER NAME: JH KELLY LLC
Longview, WA
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REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:05:12pm

SHEET C2 OF 4

REW LEAN-TO

Primary and Secondary Steel Primer Color

Gray

Roof Sheeting

Type: CFR, 24 Gage, Finish: POLAR WHITE
Roof Panel Clip Type: Tall Fixed
Thermal Blocks: Yes EPS Foam Spacers: No
Roof insulation(NOT BY NBS). Thickness: 4" with Basket Liner
Roof Line Trim. Color: POLAR WHITE
Gutters. Color: POLAR WHITE
Downspouts. Color: FOX GRAY

Wall Sheeting

Type: Classic, 26 Gage, Finish: FOX GRAY
Wall Corner Trim. Color: FOX GRAY
Wall Base Trim. Color: FOX GRAY
Wall Framed Openings. Trim Color: POLAR WHITE
Wall insulation(NOT BY NBS). Thickness: 4"

Building Options

Mezzanine. (See mezzanine plan for additional information)

FSW LEAN-TO

Primary and Secondary Steel Primer Color

Gray

Roof Sheeting

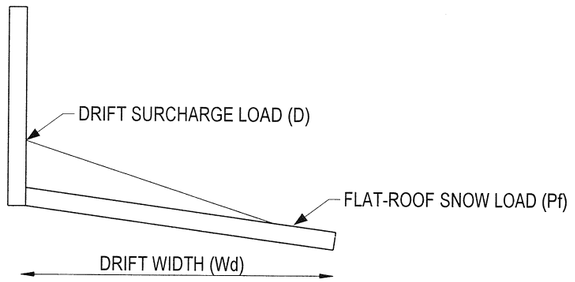
Type: CFR, 24 Gage, Finish: POLAR WHITE
Roof Panel Clip Type: Tall Fixed
Thermal Blocks: Yes EPS Foam Spacers: No
Roof insulation(NOT BY NBS). Thickness: 4" with Basket Liner
Roof Line Trim. Color: POLAR WHITE
Gutters. Color: Polar White
Downspouts. Color: Fox Gray

Wall Sheeting

Type: Classic, 26 Gage, Finish: FOX GRAY
Wall Corner Trim. Color: FOX GRAY
Wall Base Trim. Color: FOX GRAY
Wall insulation(NOT BY NBS). Thickness: 4"

Building Options

Wall Translucent Panels. Length:10'-8", Quantity: 24



THE CONDITIONS AT THE FOLLOWING LOCATIONS PRODUCE DRIFT SURCHARGE LOADS:

1. LOCATION: REW D(psf): 70.0 Pf(psf): 17.5 Wd(ft): 16.5

THIS PROJECT INCLUDES NO PROVISION FOR DYNAMIC LOAD CRITERION (VIBRATIONS) AND ITS EFFECTS ON MEZZANINES. IT SHALL BE THE RESPONSIBILITY OF THE "ENGINEER OF RECORD", NOT THE METAL BUILDING SUPPLIER, TO DETERMINE THE PRESENCE OF DYNAMIC LOADS AND THE IMPACT OF THESE VIBRATIONS ON THE STRUCTURE.

FOR BUILDINGS WITH AN OCCUPANCY CATEGORY I OR II, IBC ALLOWS FOR SINGLE STORY BUILDINGS TO HAVE NO LIMIT FOR THE SEISMIC STORY DRIFT. PLEASE NOTE THAT ANY INTERIOR WALLS, PARTITIONS, CEILINGS, AND EXTERIOR WALLS SHOULD BE DETAILED (BY OTHERS) TO ACCOMODATE THIS STORY DRIFT.

THE STRUCTURE IS DESIGNED FOR SEISMIC LOADING FOR A PLENUM ON GRID 7 AND FOR A SINGLE 60" DUCT JUST OUTSIDE THE BUILDING ON GRID 7. IF THERE ARE OTHER HVAC EQUIPMENT THAT WILL LOAD THE STRUCTURE EITHER UNDER GRAVITY OR SEISMIC LOAD IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE BUILDING OWNER TO NOTIFY NUCOR BUILDING SYSTEMS IN WRITING. DUCTWORK OTHER THAN THOSE DESCRIBED ABOVE MUST BE SUPPORTED WITH TRAPEZE ASSEMBLIES AND THE TOTAL WEIGHT OF THE DUCTWORK MUST BE LESS THAN 10 LBS/ FT OR THE DUCTWORK MUST BE SUPPORTED BY HANGERS WHERE THE HEIGHT OR THE HANGER IS LESS THAN 12". WHERE ROD HANGERS ARE USED THEY SHALL BE EQUIPPED WITH SWIVELS TO PREVENT INELASTIC BENDING IN THE ROD.

MEGADOOR/LARGE DOOR OPERATION
The struture is designed as enclosed for wind loading. Doors are not to remain open under wind loading

NUCOR SPECIFIES MINIMUM REINFORCING AND fc FOR CONCRETE FILLED MEZZANINE DECKS. IT IS THE RESPONSIBILITY OF THE EOR TO ENSURE THAT THIS MINIMUM REINFORCING IS ADEQUATE FOR DIAPHRAGM LOAD TRANSFER AROUND ANY OPENINGS OR IRREGULARITIES. ADDITIONAL REINFORCING WHERE REQUIRED IS NOT PROVIDED BY NUCOR AND IS TO BE DESIGNED BY THE EOR.

SDI RECOGNIZED SCREWS ARE CALLED OUT FOR MEZZANINE DECK ATTACHMENT. THESE MAY BE SDI RECOGNIZED SCREWS OR PNEUMATIC FASTENERS, SPECIFICALLY HILTI FASTENERS OR PNEUTEK FASTENERS. ALL MECHANICAL FASTENERS MUST BE INSTALLED PER MANUFACTURERS SPECIFICATIONS AND UNDERGO ANY APPLICABLE TESTING. THEY SHALL ALSO COMPLY WITH MINIMUM AND MAXIMUM SUBSTRATE THICKNESS REQUIREMENTS FOR EACH APPLICABLE FASTENER. ARC SPOT OR SEAM WELDS MAY ALWAYS BE SUBSTITUED IN PLACE OF MECHANICAL FASTENERS, BUT MECHANICAL FASTENERS CAN NEVER BE SUBSTITUTED IN PLACE OF WELDS.

SHEARFLEX FASTENERS MAY REPLACE SDI FASTENERS. AN SDI FASTENER MAY NEVER REPLACE A SHEARFLEX FASTENER.

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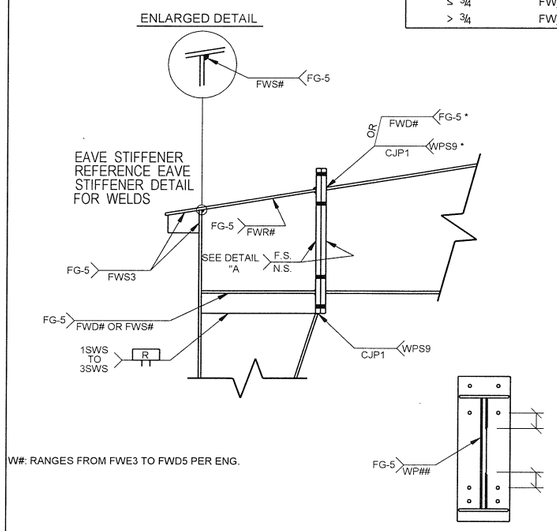
07/09/2018 10:34:21am

SHEET
C3 OF 4

STANDARD WELDS AND LEGEND

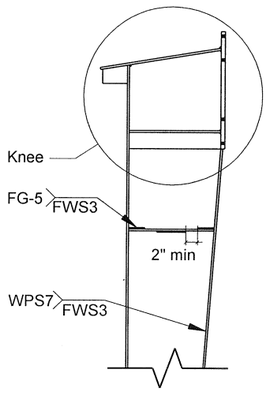
Thickest Mat. Joined	Weld
≤ 1/2	FW_3
≤ 3/4	FW_4
> 3/4	FW_5



Perpendicular Knee Column

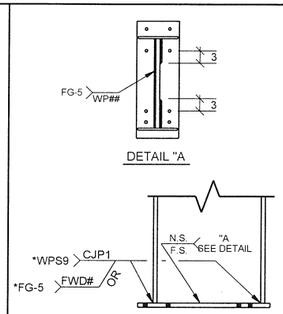
See Weld Standard sheet for WPS description

Thickest Mat. Joined	Weld
≤ 1/2	FW_3
≤ 3/4	FW_4
> 3/4	FW_5



Typical Column

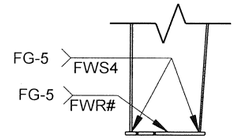
See Weld Standard sheet for WPS description



TYP. FIXED BASE DETAIL

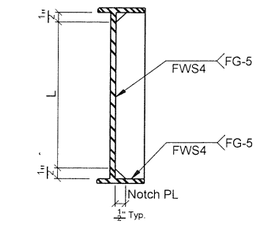
See Weld Standard sheet for WPS description

Base plate extension and anchor bolt locations may vary.

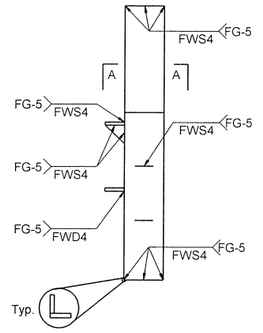


TYP. PINNED BASE DETAIL

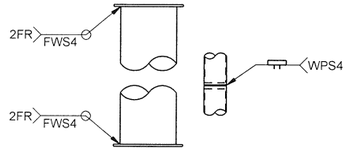
See Weld Standard sheet for WPS description



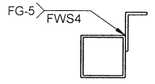
Typ Stiffener Detail Section A-A



Structural Column



Pipe or Tube Column



Tube Bracket

Structural Details

See Weld Standard sheet for WPS description

FWS$ - FILLET WELD, ONE SIDE

$	FILLET LEG
3	3/16
4	1/4
5	5/16

NEAR SIDE WELD: FWS$ $

FAR SIDE WELD: FWS$ $ $ FILLET

FWD$ - FILLET WELD, BOTH SIDES

$	FILLET LEG
3	3/16
4	1/4
5	5/16

FWD$ OR FWD$ $ $ FILLET

FWR_-Full length fillet on near side with *(Max. D/5 or 3") fillet return at both ends on opposite side of plate.

$	FILLET LEG
3	3/16
4	1/4
5	5/16

FWR$ OR FWR$ $ $ *(Max.D/5 or 3")

WP1$ - Full length fillet on near side of web with 3" of fillet past inner most hole in from each flange along the opposite side of web.

$	FILLET LEG
3	3/16
4	1/4
5	5/16

WP1$ OR WP1$ $ $ 3" OF WELD PAST INNER MOST HOLE IN FROM EACH FLANGE

CJP1 - COMPLETE JOINT PENETRATION, SINGLE BEVEL WELD

NEAR SIDE WELD: CJP1 BACK GOUGE 45°

FAR SIDE WELD: CJP1 45° BACK GOUGE

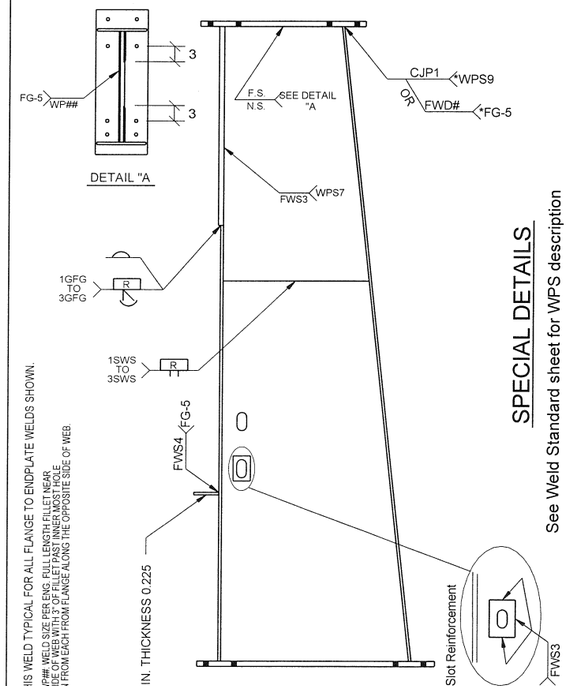
CJP1 CJP2 BACK GOUGE & SQUARE GROOVE WELD (GRIND FLUSH - CJP2) BEVEL SIDE SINGLE BEVEL GROOVE WELD

PURLIN / GIRT / CHANNEL

QTY — SHAPE — (2) 08C060 — THICKNESS X 1000 — SIZE

EAVE STRUT

QTY — SHAPE — SLOPE — (2) 8E2075 — THICKNESS X 1000 — SIZE

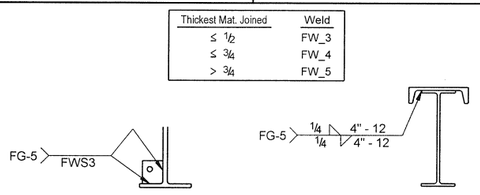


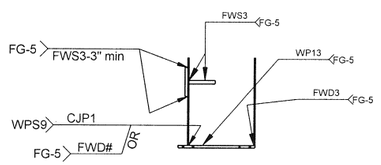
* THIS WELD TYPICAL FOR ALL FLANGE TO ENDPLATE WELDS SHOWN.
WP## WELD SIZE PER ENG. FULL LENGTH FILLET NEAR SIDE OF WEB WITH 3" OF FILLET PAST INNER MOST HOLE IN FROM EACH FLANGE ALONG THE OPPOSITE SIDE OF WEB.

SPECIAL DETAILS

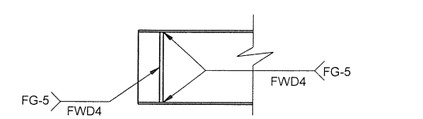
See Weld Standard sheet for WPS description

Thickest Mat. Joined	Weld
≤ 1/2	FW_3
≤ 3/4	FW_4
> 3/4	FW_5





Interior Wide Flange Fixed Base Plate Crane Stop



Runway End

SPECIAL DETAILS

See Weld Standard sheet for WPS description

WPS #	Description	Process	Weld Code	Preq	Position	Limitation	Plant Location UT	IN	SC	TX
FG-4	3/8" & 1/2" multi-pass fillet weld	GMAW (3/8" - multi-pass fillet weld)	AWSD1.1-10	PQR	1G	3/16" - 5/16"	X	X	X	
FG-5	3/16" & 5/16" single-pass fillet ≤ weld	GMAW (3/16" - 5/16" single-pass fillet weld)	AWSD1.1-10	PQR	2F	1/8" - 1 - 1/2"	X	X	X	
1GFG	3/8" through 1" flange splice	GMAW (3/8" - 1" flange splice)	AWSD1.1-10	PQR	1G	3/8" - 1"	X	X	X	
2GFG	5/16" flange splice	GMAW (5/16" flange splice)	AWSD1.1-10	PQR	1G	3/16" - 5/16"	X	X	X	
3GFG	1/2" to 1/4" flange splice	GMAW (1/2" — 1/4" flange splice)	AWSD1.1-10	PQR	1G-2F	Groove 1/4 Fillet 3/8	X	X	X	
2036	5/8" to 5/16" flange splice	GMAW (5/8" — 5/16" flange splice)	AWSD1.1-10	PQR	1G-2F	Groove 5/16 Fillet 3/8	X	X	X	
5GFG	1" flange splice	GMAW (1" flange splice)	AWSD1.1-10	PQR	1G-2F	Groove 1	X	X	X	
1SWS	web splice for 0.275" through 0.313" thick	SAW (0.275-0.313" Web splice)	AWSD1.1-10	PQR	1G	0.275 - 0.313	X	X	X	
2SWS	web splice for 0.125" through 0.150" thick	SAW (0.125-0.150" Web splice)	AWSD1.1-10	PQR	1G	0.125 - 0.150	X	X	X	
3SWS	web splice for 0.175" through 0.250" thick	SAW (0.175-0.250" Web splice)	AWSD1.1-10	PQR	1G	0.175 - 0.250	X	X	X	
2038	web splice for 0.375" through 0.500" thick	SAW (0.375-0.500" Web splice)	AWSD1.1-10	PQR	1G	0.375 - 0.500	X	X	X	
2FR	pipe to endplate weld	GMAW (Pipe-to-Endplate Weld)	AWSD1.1-10	PQR	2F ROTATED	6" thru 10	X	X	X	
FBG-1	Rod to plate/ angle weld	GMAW (Rod-to-Plate Weld)	AWSD1.1-10	PQR	1G	Diameter, 3/8", 1/2", 5/8", 3/4", & 1"	X	X	X	
WPS4	pipe splice for 0.134" through 0.375" thick	GMAW (Pipe Splice, 0.134" - 0.375")	AWSD1.1-10	YES	1G ROTATED	Diameter 6 - 10	X	X	X	
WPS5	pipe splice for 0.375" through 0.500" thick	GMAW (Pipe Splice, 0.375" - 0.500")	AWSD1.1-10	YES	1G ROTATED	0.375 - 0.50 Diameter 8 -10	X	X	X	
WPS6	wide-flange beam splice, all sizes	GMAW (Hot-Rolled Splice Weld)	AWSD1.1-10	YES	1G	0.313 - 1.50	X	X	X	
WPS7	flange to web weld made by autowelder using 0.062" Ø electrode	SAW (Autowelder Weld)	AWSD1.1-10	YES	2F	0.125 - 1.00	X	X	X	
WPS8	flange to web weld made by autowelder using 0.052" Ø electrode	SAW (Small Autowelder Welds)	AWSD1.1-10	YES	2F	0.125 - 1.00	X	X	X	
WPS9	complete penetration groove weld for tee connection, 3/8" thick	GMAW (Flange to endplate weld)	AWSD1.1-10	YES	1G	0.375 - 1.00	X	X	X	
WPS11	vertical tack fitters	GMAW (Vertical tack fitters)	AWSD1.1-10	YES	3F	0.125 - Unlimited	X	X	X	
WPS-1	Cold-Form seam stitch weld	GMAW (CF seam stitch weld)	AWSD1.3-08	PQR	FLAT	0.0625" - 0.210	X	X	X	
WPS-1a	Cold-Form seam stitch weld (galvanized)	GMAW (CF seam stitch weld) (galvanized)	AWSD1.3-08	PQR	FLAT	0.0625" - 0.210	X	X	X	
WPS-2	Cold-Form seam weld	GMAW (CF seam weld)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215"	X	X	X	
WPS-2a	Cold-Form seam weld (galvanized)	GMAW (CF seam weld) (galvanized)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215"	X	X	X	
WPS-3	cold-form seam weld to support steel ≥ 0.3125" thick	GMAW (CF seam weld to support steel)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215", t2≥ 0.3125"	X	X	X	
WPS-3a	cold-form seam weld to support steel 0.3125" thick (galvanized)	GMAW (CF seam weld to support steel) (galvanized)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215", t2≥ 0.3125"	X	X	X	
WPS-4	cold-form tee connection fillet weld	GMAW (CF tee fillet weld)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215"	X	X	X	
WPS-4a	cold-form tee connection fillet weld (galvanized)	GMAW (CF tee fillet weld) (galvanized)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215"	X	X	X	
WPS-5	cold-form tee connection fillet weld to support steel ≥ 0.313" thick	GMAW (CF tee fillet to support steel)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215"	X	X	X	
WPS-5a	cold-form tee connection fillet weld to support steel ≥ 0.313" thick (galvanized)	GMAW (CF tee fillet to support steel) (galvanized)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215", t2≥ 0.3125"	X	X	X	
WPS-6	cold-form lap fillet weld	GMAW (CF lap fillet weld)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215"	X	X	X	
WPS-6a	cold-form lap fillet weld (galvanized)	GMAW (CF lap fillet weld) (galvanized)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215"	X	X	X	
WPS-7	cold-form lap fillet weld to support steel ≥ 0.3125" thick	GMAW (CF lap fillet to support steel)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215", t2≥ 0.3125"	X	X	X	
WPS-7a	cold-form lap fillet weld to support steel ≥ 0.3125" thick (galvanized)	GMAW (CF lap fillet to support steel) (galvanized)	AWSD1.3-08	PQR	HORIZ.	t1=0.0625" - 0.215", t2≥ 0.3125"	X	X	X	

07/06/2018 06:05:22pm

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo
Toledo, OR

CUSTOMER NAME: JH KELLY LLC
Longview, WA

JOB NUMBER: U18H0248A

SHEET TITLE: Standard Welds and Legend

SHEET: C4 OF 4

REGISTERED PROFESSIONAL ENGINEER 90648PE OREGON SEP. 8, 2015 GRANT J. ROTH
09 2018
EXPIRATION DATE: 12-31-2018

REVISION 1: FRAME OFFSETS AT GRID 7
REVISION 2: ANCHOR BOLT LOCATION AT GRID 1
REVISION 3: EOR REQUESTED REVS TO F3

FINISH FLOOR = 100'-0"
BOTTOM OF BASE PLATE = 100'-0" (UNLESS NOTED OTHERWISE)

ANCHOR BOLT SCHEDULE			
QUANTITY	SIZE	MAT'L	PROJECTION
20	3/4"	Gr 55	3" FROM BOTTOM OF BPL
206	1-1/4"	Gr 55	4" FROM BOTTOM OF BPL
132	1-1/2"	Gr 105	SEE DETAIL
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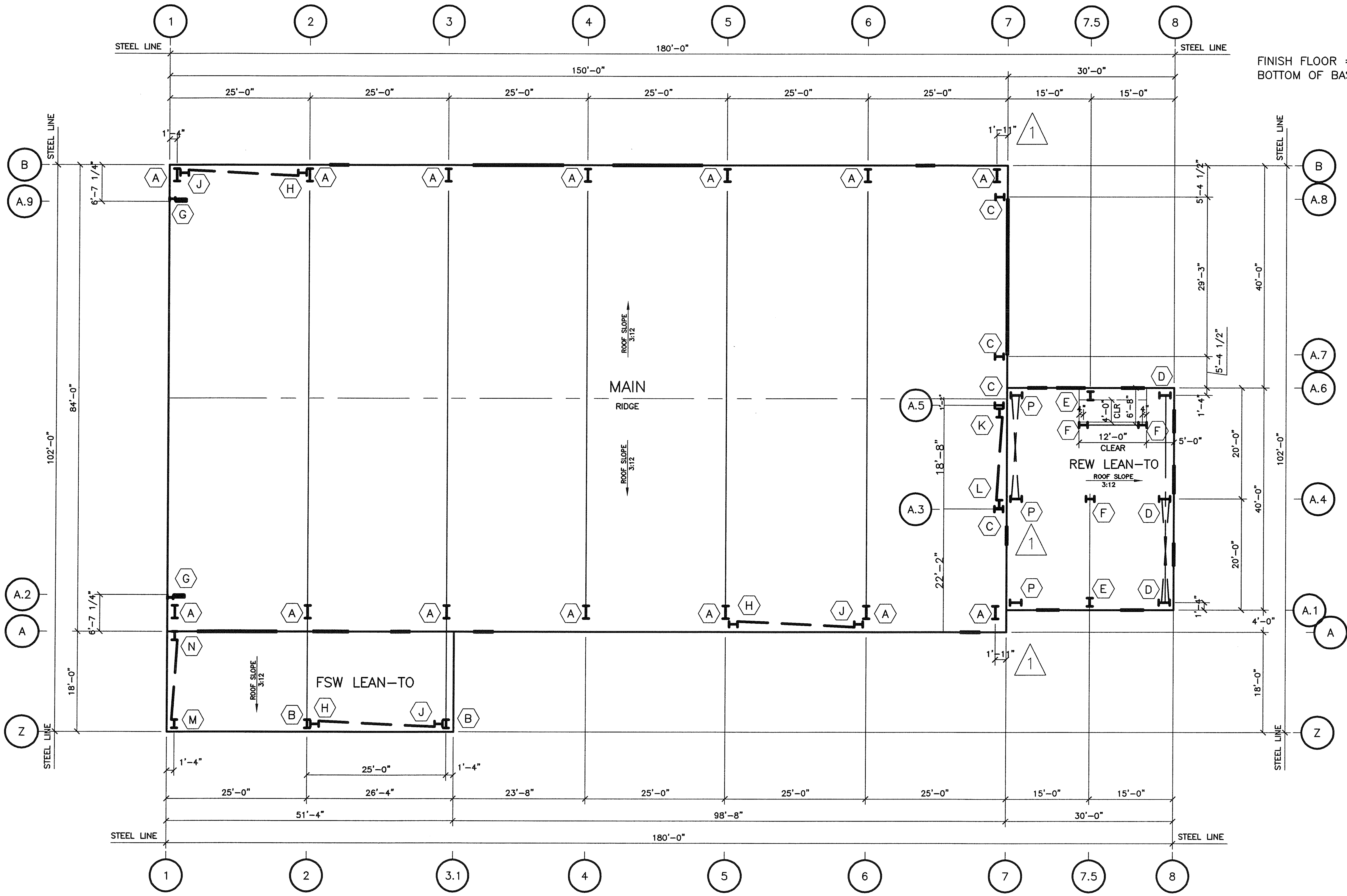

CONST. ANCHOR BOLT PLAN	NBS	EOP	CLE	GJR	5/31/2018
REV1 CONST. AB PLAN	NBS	EOP	CLE	GJR	6/6/2018
REV2 CONST. AB PLAN	NBS	EOP	CLE	GJR	6/21/2018
REV3 CONST. AB PLAN EOR REVS	NBS	EOP	CLE	GJR	7/9/2018
FOR BUILD DEPT REVIEW	LCE	CLP	CLE	GJR	7/9/2019

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SHEET TITLE
ANCHOR BOLT PLAN

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

This seal pertains only to the materials designed and supplied by the Metal Building Supplier. The drawings and the metal buildings which they represent are the product of the Metal Building Supplier. The registered professional engineer whose seal appears on these drawings is employed by the Metal Building Supplier and does not serve as or represent the project engineer of record and shall not be construed as such.

SHEET
F1 of 3

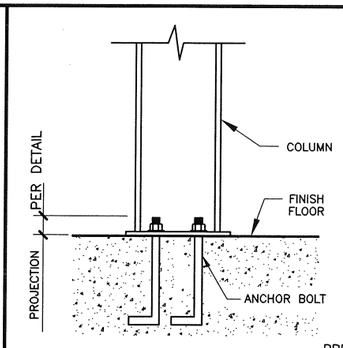
ANCHOR BOLT PLAN

GENERAL NOTES

1. THE SPECIFIED ANCHOR ROD DIAMETER ASSUMES F1554 GRADE 55 UNLESS NOTED OTHERWISE. ANCHOR ROD MATERIAL OF EQUAL DIAMETER MEETING OR EXCEEDING THE STRENGTH REQUIREMENTS SET FORTH ON THESE DRAWINGS MAY BE UTILIZED AT THE DISCRETION OF THE FOUNDATION DESIGN ENGINEER. ANCHOR ROD EMBEDMENT LENGTH SHALL BE DETERMINED BY THE FOUNDATION DESIGN ENGINEER.
2. THE METAL BUILDING MFR. IS NOT RESPONSIBLE FOR PROJECT FOUNDATION DESIGN. THE FOUNDATION DESIGN IS THE RESPONSIBILITY OF A REGISTERED PROFESSIONAL ENGINEER, FAMILIAR WITH LOCAL SITE CONDITIONS.
3. ALL ANCHOR RODS, FLAT WASHERS FOR ANCHOR RODS, EXPANSION BOLTS, AS WELL AS ALL CONCRETE/MASONRY EMBED PLATES ARE NOT BY THE METAL BUILDING MFR.
4. THIS DRAWING IS NOT TO SCALE.
5. FINISHED FLOOR ELEVATION = 100'-0" UNLESS NOTED OTHERWISE.
6. "SINGLE" CEE COLUMNS SHALL BE ORIENTED WITH THE "TOES" TOWARD THE LOW EAVE UNLESS NOTED OTHERWISE.
7. THE ANCHOR BOLT LOCATIONS PROVIDED BY THE METAL BUILDING MANUFACTURER SATISFY ANY PERTINENT REQUIREMENTS FOR THE DESIGN OF THE MATERIALS SUPPLIED BY THE METAL BUILDING MANUFACTURER. PLEASE NOTE THAT THESE REQUIREMENTS MAY NOT SATISFY ALL ANCHOR BOLT CONCRETE EDGE DISTANCE REQUIREMENTS DEPENDING ON THE DETAILS OF THE FOUNDATION DESIGN. BECAUSE FOUNDATION DESIGN IS NOT WITHIN THE SCOPE OF WORK OF THE METAL BUILDING MANUFACTURER, IT IS THE RESPONSIBILITY OF THE QUALIFIED PROFESSIONAL DESIGNING THE FOUNDATION TO VERIFY THAT SUFFICIENT CONCRETE EDGE DISTANCE IS PROVIDED FOR THE ANCHOR BOLTS IN THE DETAILS THEREOF.
8. THE ANCHOR BOLT SETTINGS SHOWN ON THESE DRAWINGS NOT ONLY INDICATE WHERE THE ANCHOR BOLTS ARE TO BE PLACED, BUT ALSO THE FOOTPRINT OF THE METAL BUILDING. IT IS ESSENTIAL THAT THESE BOLT PATTERNS BE FOLLOWED. IN THE EVENT THAT THESE SETTINGS DIFFER FROM THE ARCHITECTURAL FOUNDATION PLANS, THE METAL BUILDING MANUFACTURER MUST BE CONTACTED IMMEDIATELY, PREFERABLY BEFORE CONCRETE IS PLACED.

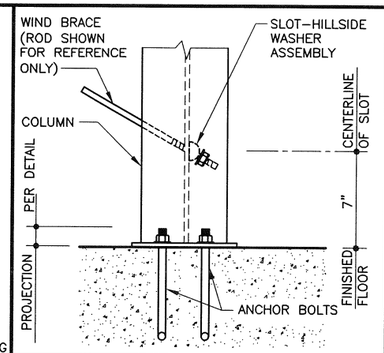
– CROSS BRACING

BERTNOTE

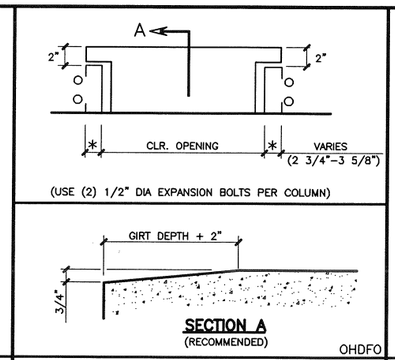


BPFFNG

TYPICAL COLUMN BASE PLATE DETAIL

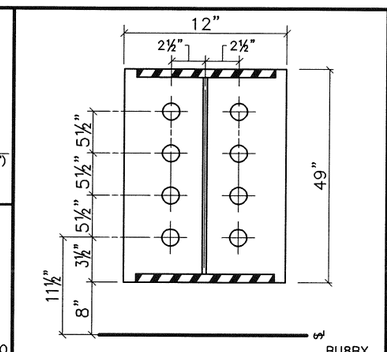


TYPICAL COLUMN BASE PLATE DETAIL AT SLOT–HILLSIDE WASHER LOCATION



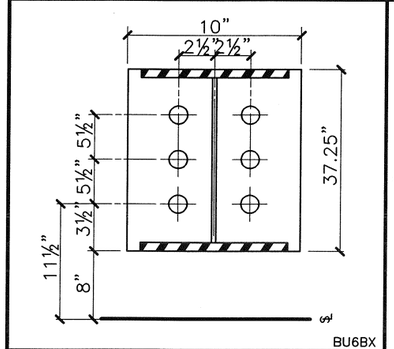
OHDFO

TYPICAL OVERHEAD DOOR FRAMED OPENING



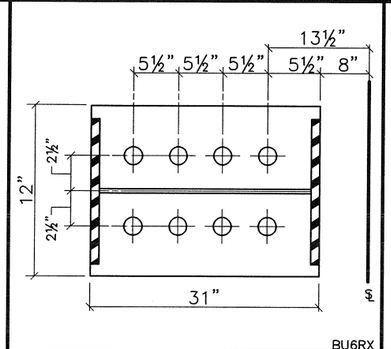
BU8BX

A | (8) 1–1/4" ø ANCHOR BOLTS WITH A 4" PROJECTION



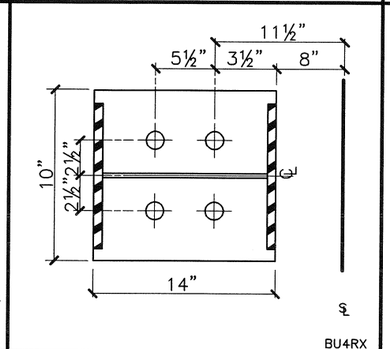
BU6BX

B | (6) 1–1/4" ø ANCHOR BOLTS WITH A 4" PROJECTION



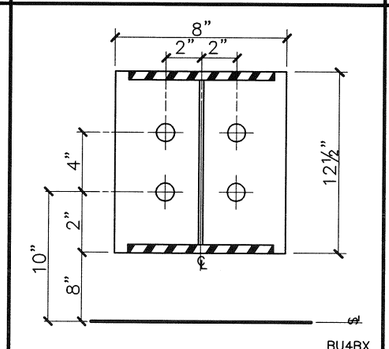
BU6RX

C | (8) 1–1/4" ø ANCHOR BOLTS WITH A 4" PROJECTION



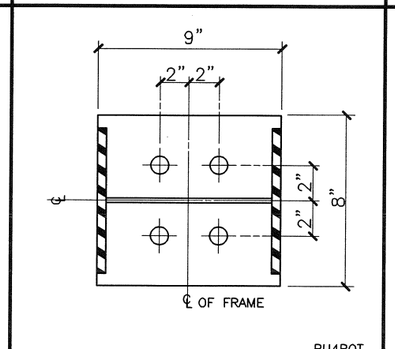
BU4RX

D | (4) 1–1/4" ø ANCHOR BOLTS WITH A 3" PROJECTION



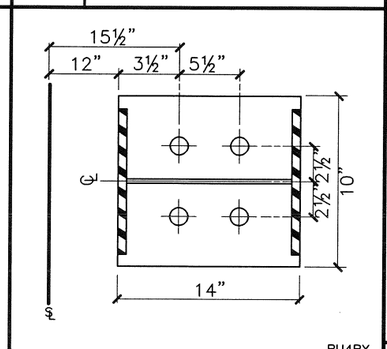
BU4BX

E | (4) 3/4" ø ANCHOR BOLTS WITH A 3" PROJECTION



BU4ROT

F | (4) 3/4" ø ANCHOR BOLTS WITH A 3" PROJECTION



BU4RX

P | (4) 1–1/4" ø ANCHOR BOLTS WITH A 3" PROJECTION

1

FOUNDATION DESIGN NOTE:

THE ORIENTATION OF THE ANCHOR BOLT DETAILS SHOWN ON THIS PAGE MAY NOT COINCIDE WITH THE ACTUAL COLUMN ORIENTATION SHOWN ON PAGE F1. PLEASE REFERENCE THE SIDEWALL (SW) AND ENDWALL (EW) STEEL LINES SHOWN ON THE ANCHOR BOLT DETAILS WITH THE ANCHOR BOLT PLAN ON PAGE F1 DURING LAYOUT OF COLUMN AND ANCHOR BOLT LOCATIONS.

SHEET	DWN	CHK	ENG	PE	DATE
CONST. ANCHOR BOLT PLAN	NBS	EOP	CLE	GJR	5/31/2018
REV1 CONST. AB PLAN	NBS	EOP	CLE	GJR	6/6/2018
REV2 CONST. AB PLAN	NBS	EOP	CLE	GJR	6/21/2018
REV3 CONST. AB PLAN EOR REVS	NBS	EOP	CLE	GJR	7/9/2018
FOR BUILD DEPT REVIEW	LCE	CLP	CLE	GJR	7/9/2019

NUCOR BUILDING SYSTEMS GROUP
1050 North Walery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

MBMA METAL BUILDING MANUFACTURERS ASSOCIATION

ACCREDITED AC472

PROJECT NAME: Port of Toledo
Toledo, OR

CUSTOMER NAME: Kelly LLC
Longview, WA

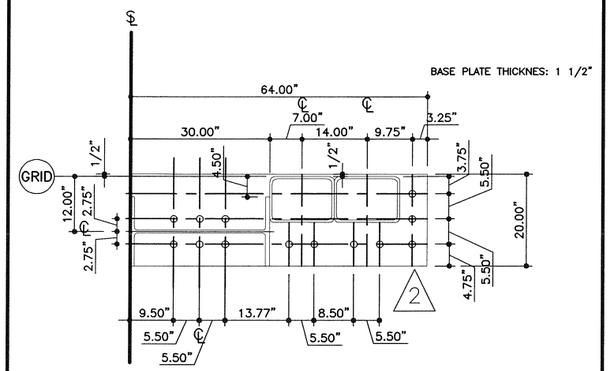
JOB NUMBER: U18H0248A

SHEET TITLE: ANCHOR BOLT DETAILS

JUL 09 2018

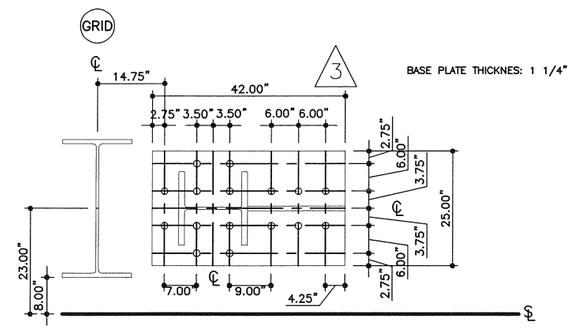
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET F2 of 3



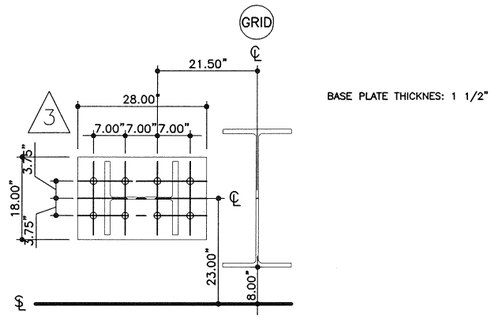
**ANCHOR BOLT MATERIAL F1554-55
** SEE FRAME COLUMN FOR OFFSET, ORIENTATION MAY VARY ** WG-3

G	FRAME COLUMN	SEE FRAME COLUMN ANCHOR BOLT DETAIL	BRB COLUMN	(13)1-1/4" ø ANCHOR BOLTS WITH A 4" PROJECTION



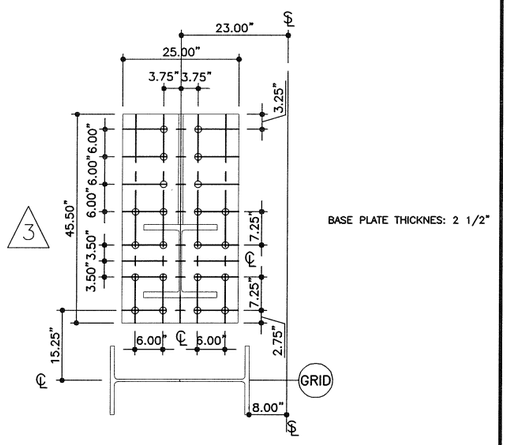
**ANCHOR BOLT MATERIAL F1554-105
** SEE FRAME COLUMN FOR OFFSET, ORIENTATION MAY VARY ** WG-3

H	FRAME COLUMN	SEE FRAME COLUMN ANCHOR BOLT DETAIL	BRB COLUMN	(16)1-1/2" ø ANCHOR BOLTS WITH A 5" PROJECTION



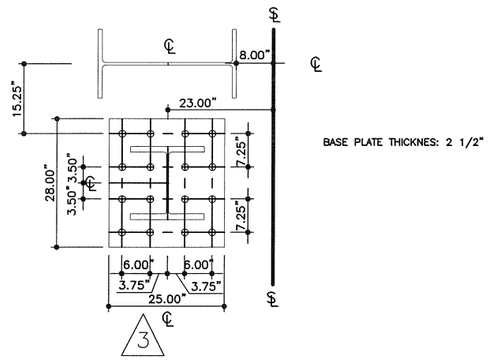
**ANCHOR BOLT MATERIAL F1554-105
** SEE FRAME COLUMN FOR OFFSET, ORIENTATION MAY VARY ** WG-3

J	FRAME COLUMN	SEE FRAME COLUMN ANCHOR BOLT DETAIL	BRB COLUMN	(8) 1-1/2" ø ANCHOR BOLTS WITH A 5" PROJECTION



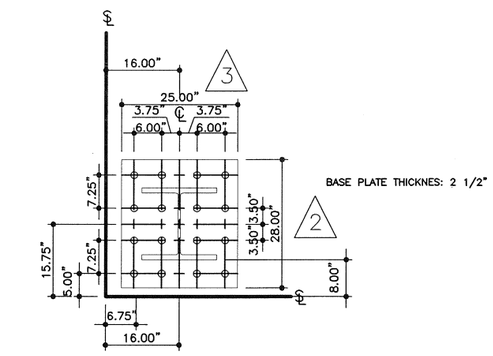
**ANCHOR BOLT MATERIAL F1554-105
** SEE FRAME COLUMN FOR OFFSET, ORIENTATION MAY VARY **

K	FRAME COLUMN	SEE FRAME COLUMN ANCHOR BOLT DETAIL	BRB COLUMN	(22)1-1/2" ø ANCHOR BOLTS WITH A 6" PROJECTION



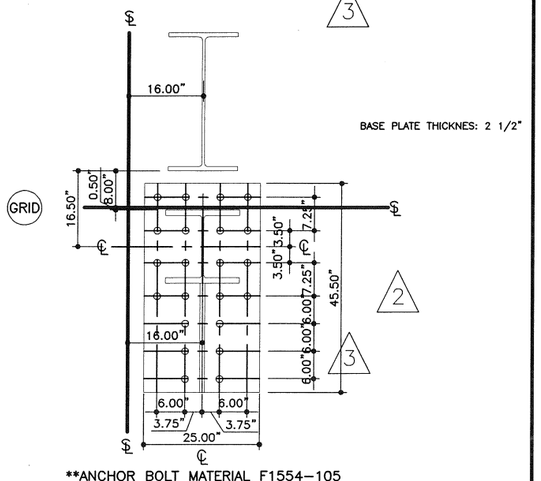
**ANCHOR BOLT MATERIAL F1554-105
** SEE FRAME COLUMN FOR OFFSET, ORIENTATION MAY VARY **

L	FRAME COLUMN	SEE FRAME COLUMN ANCHOR BOLT DETAIL	BRB COLUMN	(16)1-1/2" ø ANCHOR BOLTS WITH A 6" PROJECTION



**ANCHOR BOLT MATERIAL F1554-105
** SEE FRAME COLUMN FOR OFFSET, ORIENTATION MAY VARY **

M	FRAME COLUMN	SEE FRAME COLUMN ANCHOR BOLT DETAIL	BRB COLUMN	(16)1-1/2" ø ANCHOR BOLTS WITH A 6" PROJECTION



**ANCHOR BOLT MATERIAL F1554-105
** SEE FRAME COLUMN FOR OFFSET, ORIENTATION MAY VARY **

N	FRAME COLUMN	SEE FRAME COLUMN ANCHOR BOLT DETAIL	BRB COLUMN	(22)1-1/2" ø ANCHOR BOLTS WITH A 6" PROJECTION

FOUNDATION DESIGN NOTE:
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SHEET	DWN	CHK	ENG	PE	DATE
CONST. ANCHOR BOLT PLAN	NBS	EOP	CLE	GJR	5/31/2018
REV1 CONST. AB PLAN	NBS	EOP	CLE	GJR	6/6/2018
REV2 CONST. AB PLAN	NBS	EOP	CLE	GJR	6/21/2018
REV3 CONST. AB PLAN EOR REVS	NBS	EOP	CLE	GJR	7/9/2018
FOR BUILD DEPT REVIEW	LCE	CLP	CLE	GJR	7/9/2019

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

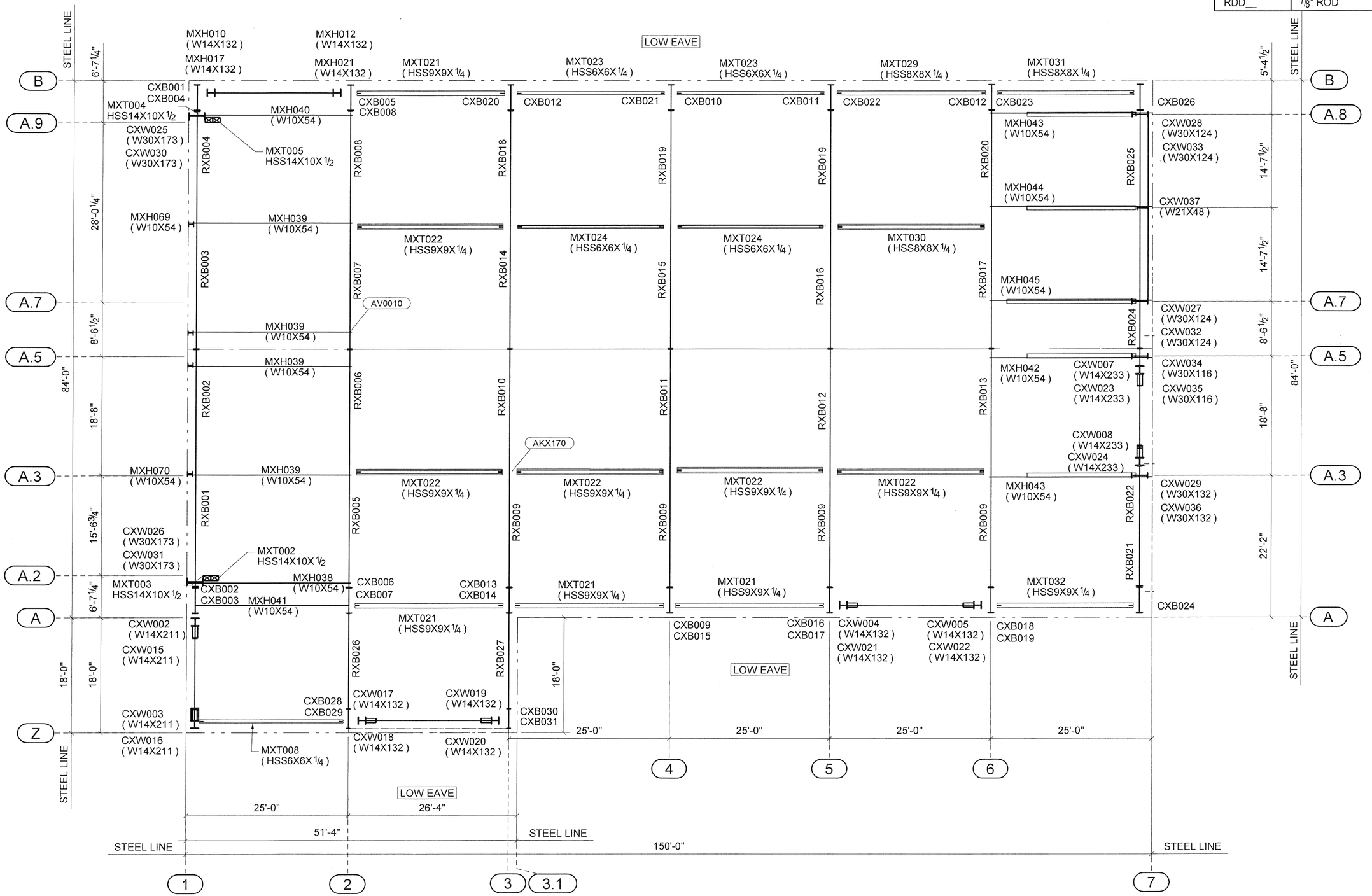
MBMA METAL BUILDING MANUFACTURERS ASSOCIATION
ACCREDITED AC472

PROJECT NAME: Port of Toledo
Port of Toledo, OR
CUSTOMER NAME: JH Kelly LLC
Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: ANCHOR BOLT DETAILS

JUL 09 2019
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET F3 of 3

Part Sizes	
RDD__	7/8" ROD



Notes:

Place metal tagged end of rafters toward the low eave.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

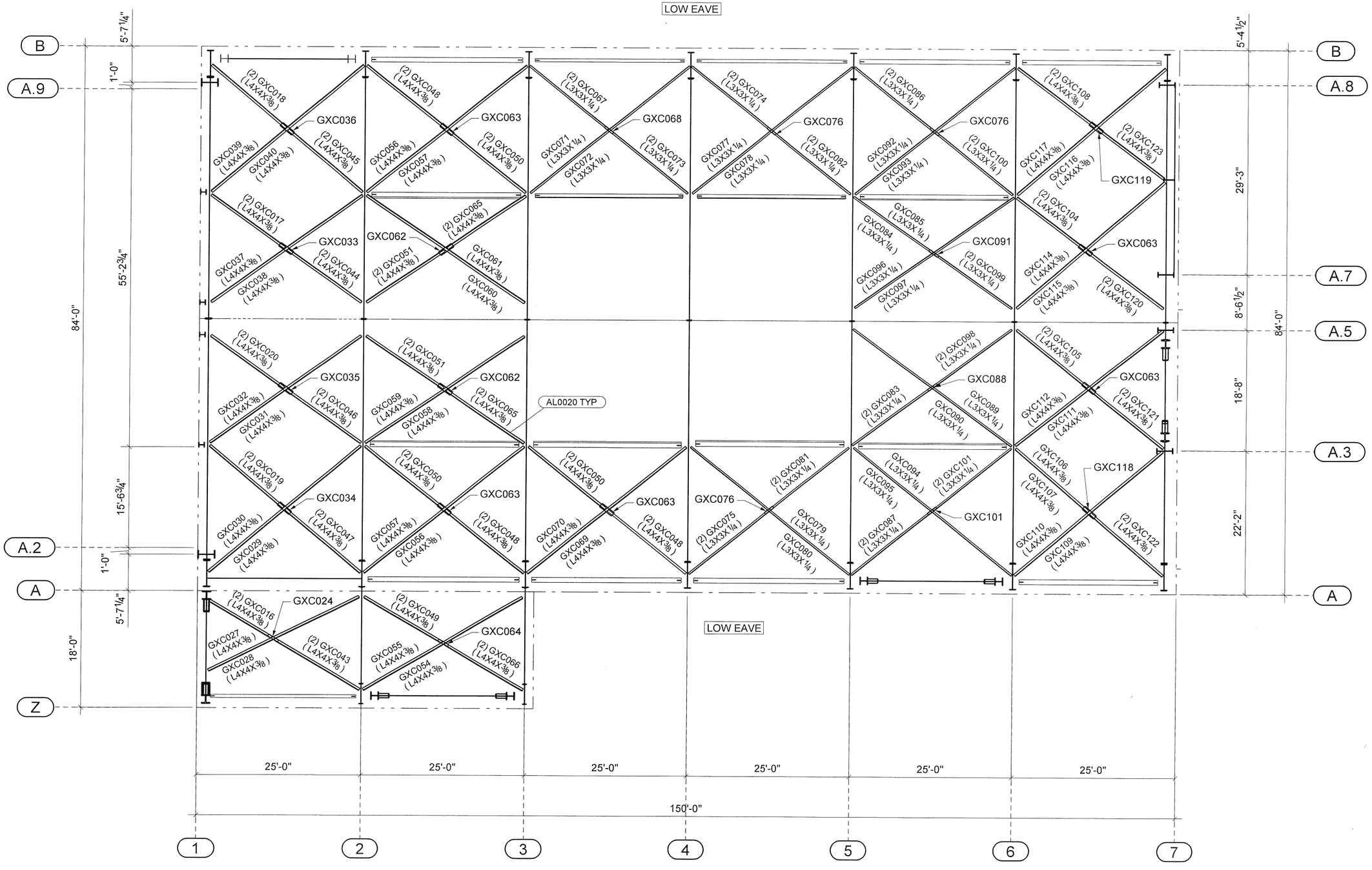
PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Mark Number Plan

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

JUL 2 2018

07/06/2018 06:05:25pm

SHEET: P1 OF 18



Notes:

Place metal tagged end of rafters toward the low eave.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR

CUSTOMER NAME: JH KELLY LLC Longview, WA

JOB NUMBER: U18H0248A

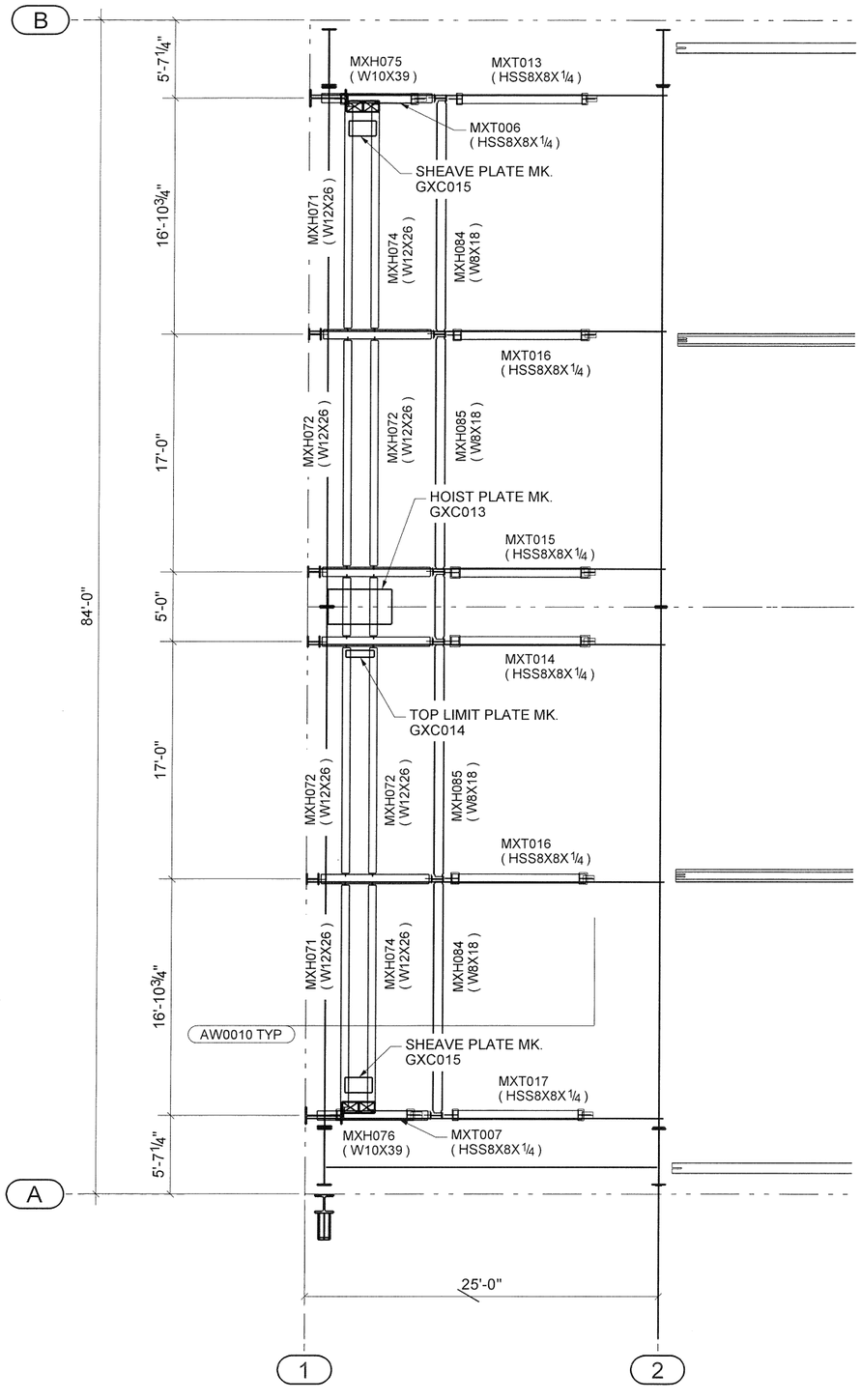
SHEET TITLE: Roof Bracing Plan

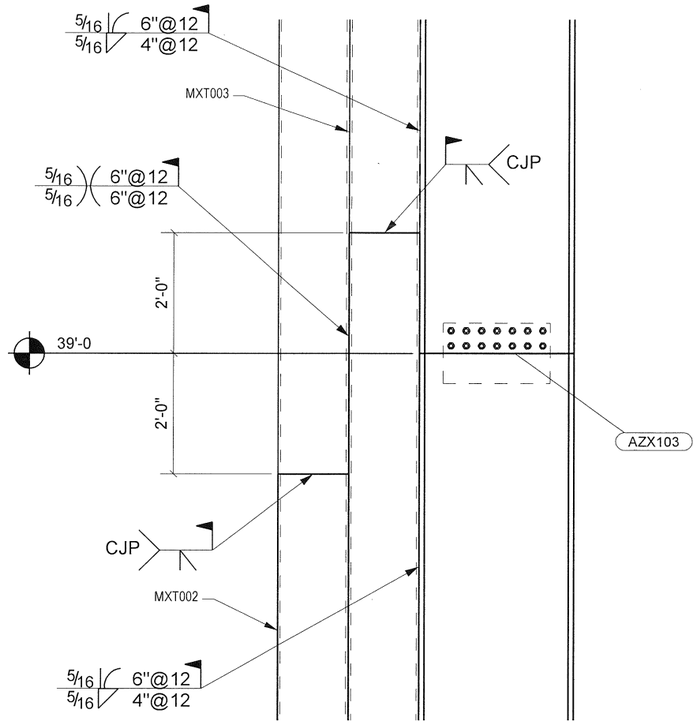
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

JUL 09 2018

07/09/2018 10:34:33am

SHEET P2 OF 18





TUBE JAMB WELD DETAIL

Notes:

Place metal tagged end of rafters toward the low eave.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

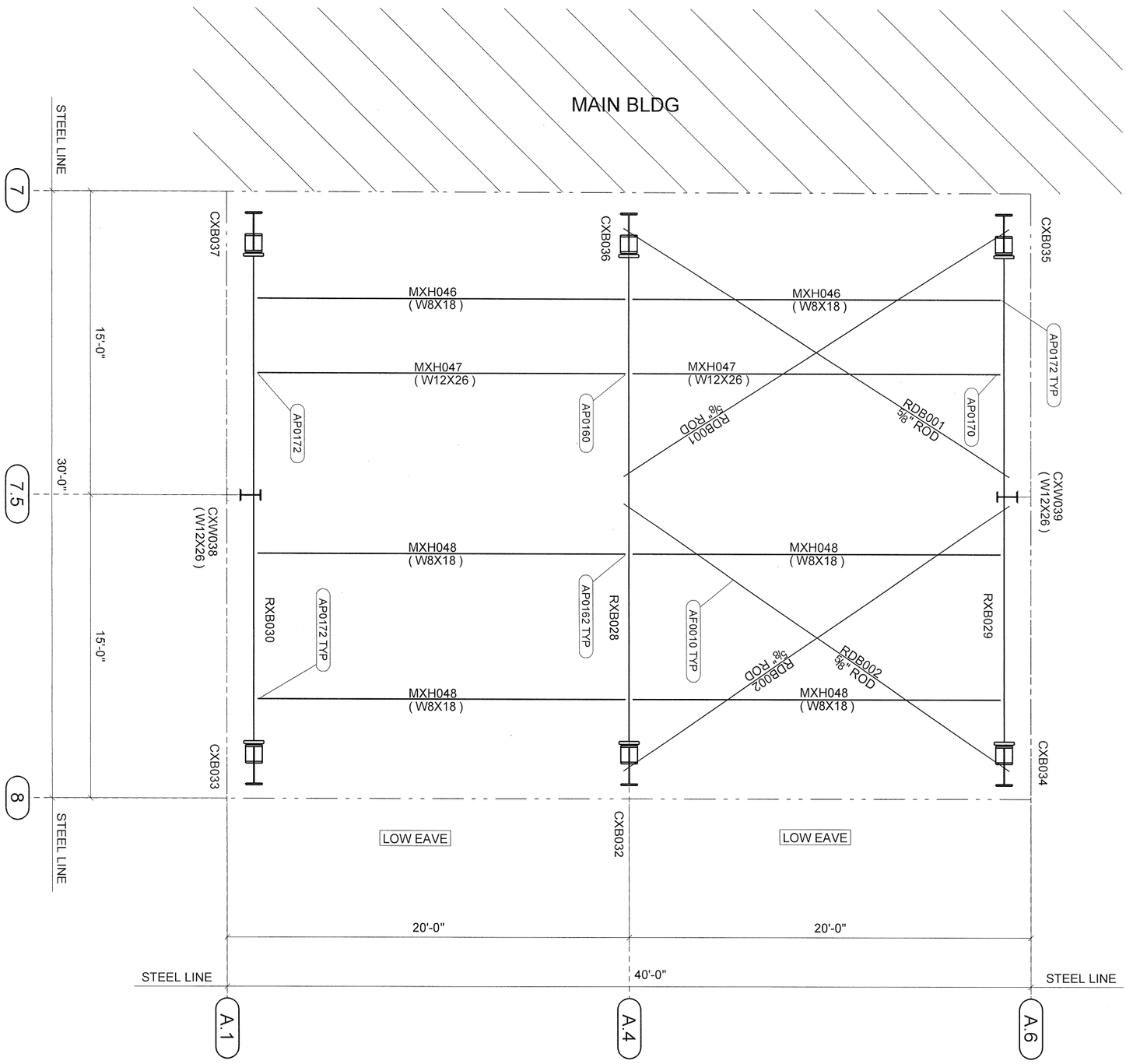
NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Megadoor Framing Plan

JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET P3 OF 18

07/09/2018 10:34:39am
This seal pertains only to the metal building system supplied by Nucor Building Systems, a division of Nucor Corporation. The responsibility and the metal building which they represent are the product of Nucor Building Systems. The registered professional engineer whose seal appears on these drawings is employed by Nucor Building Systems and does not serve as consultant. The registered engineer of record and shall not be construed as such.



07/09/2018 10:34:43am

This seal pertains only to the materials designed and supplied by Nucor Building Systems, a division of Nucor Corporation. The drawings and the metal building which they represent are the product of Nucor Building Systems. The registered professional engineer whose seal appears on these drawings is employed by Nucor Building Systems and does not serve as or represent the project engineer of record and shall not be construed as such.

SHEET
P4 OF 18

EXPIRATION DATE: 12-31-2018

OREGON
JUNE 30, 2015
GRANT J. ROTH
90648PE
REGISTERED PROFESSIONAL ENGINEER

JUL 09 2018

PROJECT NAME
Port of Toledo
Toledo, OR

CUSTOMER NAME
JH KELLY LLC
Longview, WA

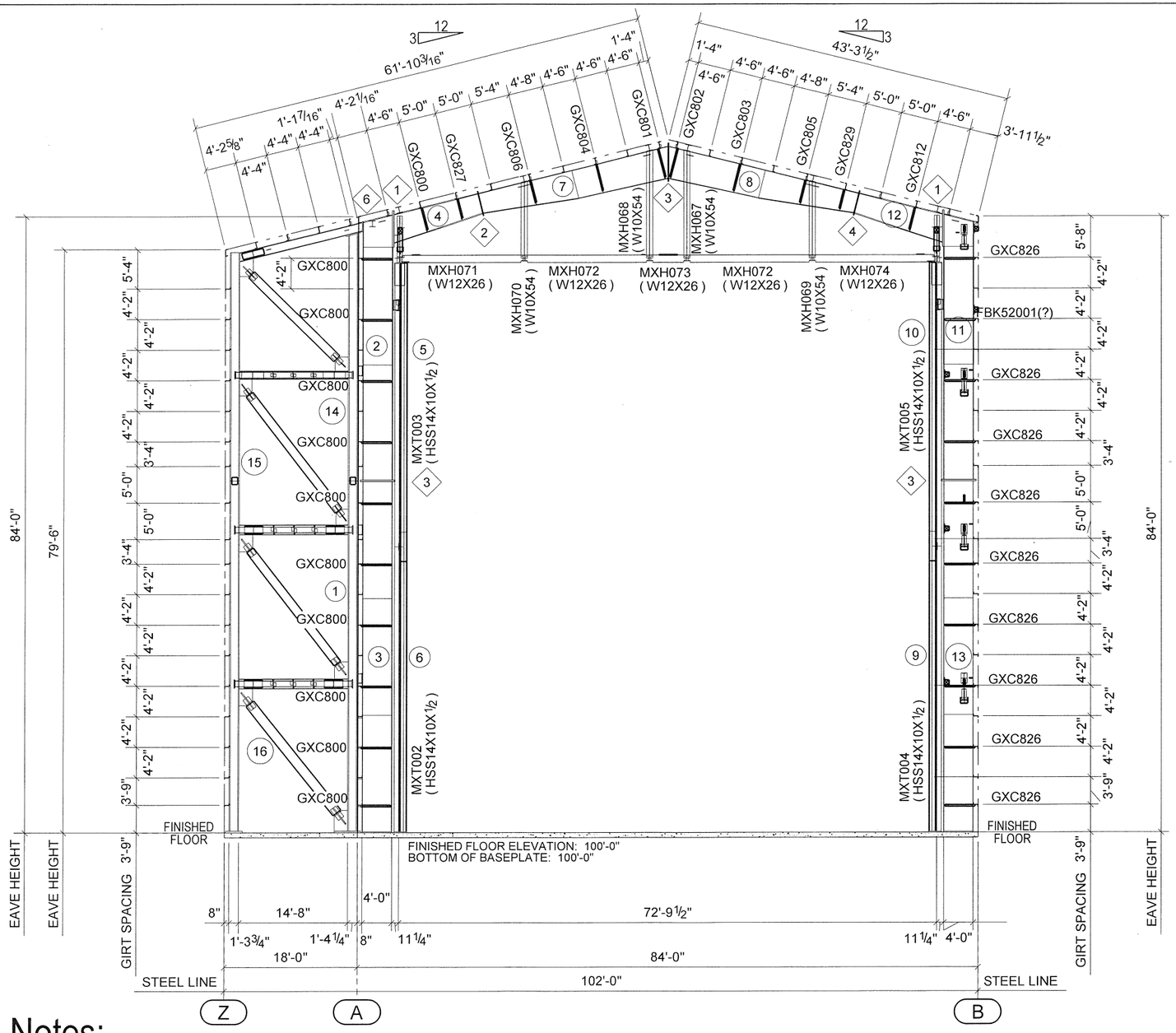
JOB NUMBER
U18H0248A

SHEET TITLE
Mark Number Plan REW Lean-to

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

MBMA IAS ACCREDITED AC 472

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018



Material Schedule

ID	Low Plate Width	Low Plate Thick	High Plate Width	High Plate Thick	Outside Flange Width	Outside Flange Thick	Inside Flange Width	Inside Flange Thick	Web Depth1	Web Thick	Web Depth2
1	24.00	2.50	-	-	-	-	-	-	W14X211	-	-
	-	-	-	-					W16X77	-	-
	-	-	-	-					W16X77	-	-
2	12.00	1.25	12.00	1.50	12.00	0.75	12.00	0.75	47.00	0.22	47.00
	-	-	-	-	12.00	1.00	12.00	1.00	47.00	0.28	47.00
	-	-	-	-					47.00	0.50	47.00
3	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00
4	12.00	1.50	12.00	1.00	12.00	1.25	12.00	1.25	43.88	0.31	32.06
5	-	-	16.00	1.25	-	-	-	-	W30X173	-	-
6	20.00	1.50	-	-	-	-	-	-	W30X173	-	-
7	10.00	1.00	12.00	1.00	10.00	1.00	10.00	1.00	32.06	0.31	46.00
	-	-	-	-	10.00	0.75	10.00	0.75	46.00	0.31	49.94
8	10.00	1.00	12.00	1.00	10.00	1.00	10.00	1.00	32.06	0.31	46.00
	-	-	-	-	10.00	0.75	10.00	0.75	46.00	0.31	49.94
9	20.00	1.50	-	-	-	-	-	-	W30X173	-	-
10	-	-	16.00	1.25	-	-	-	-	W30X173	-	-
11	12.00	1.25	12.00	1.50	12.00	0.75	12.00	0.75	47.00	0.22	47.00
	-	-	-	-	12.00	1.00	12.00	1.00	47.00	0.28	47.00
	-	-	-	-					47.00	0.28	47.00
12	12.00	1.50	12.00	1.00	12.00	1.25	12.00	1.25	43.88	0.31	32.06
13	12.00	1.25	-	-	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00
14	-	-	-	-	-	-	-	-	W14X211	-	-
	-	-	-	-					W16X77	-	-
	-	-	-	-					W16X77	-	-
15	-	-	-	-	-	-	-	-	W14X211	-	-
	-	-	-	-					W16X77	-	-
	-	-	-	-					W16X77	-	-
16	24.00	2.50	-	-	-	-	-	-	W14X211	-	-
	-	-	-	-					W16X77	-	-
	-	-	-	-					W16X77	-	-

Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

GXC8 indicates the use of a single hot rolled angle L 2 1/2x2 1/2x1/4" flange brace.

Bolt Schedule

ID	Qty	Bolt Description	Bolt #	Nut #
1	16	1 1/2" X 6" A490	H0671	H0350
2	12	1" X 3 1/4" A325	H0640	H0330
3	16	1 1/4" X 5" A490	H0665	H0340
4	16	1" X 3 1/4" A325	H0640	H0330
5	6	1 1/2" X 6" A490	H0671	H0350

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

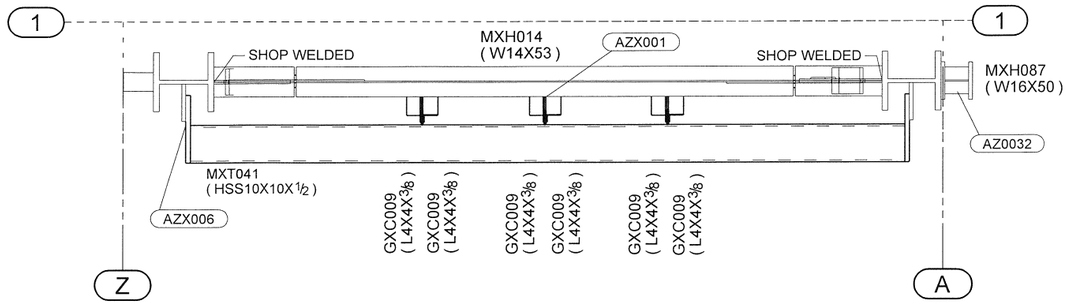
PROJECT NAME: Port of Toledo, Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Cross Section At Line 1

JUL 17 2018

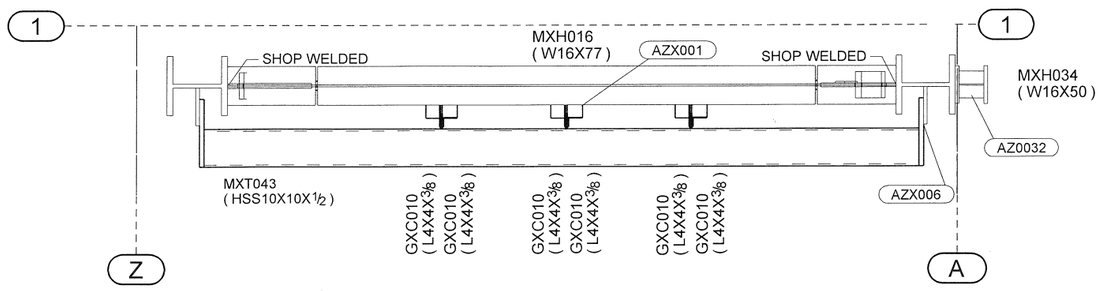
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:05:36pm

SHEET P5 OF 18



SECTION A - A



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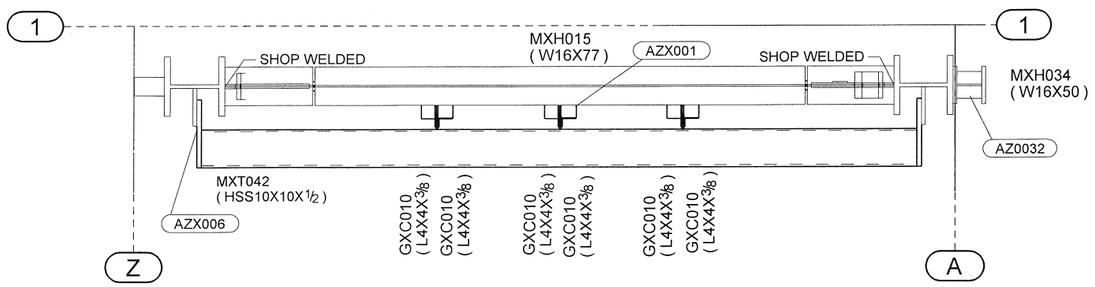
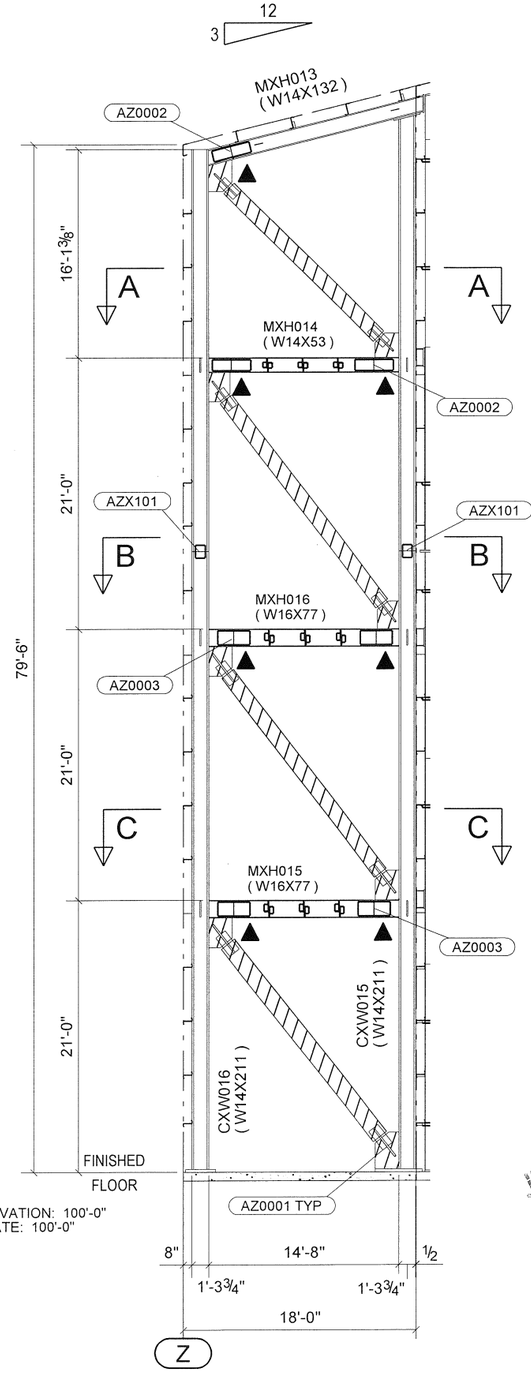


SECTION C - C

INDICATES PROTECTED ZONE
NO CONNECTIONS OF ANY
KIND PERMITTED IN THIS AREA.

▲ INDICATES CLASS "A" FAYING SURFACE, THE SURFACE MUST BE FREE OF SCALE EXCEPT TIGHT MILL SCALE AND FREE OF COATINGS, INCLUDING INADVERTENT OVERSPRAY, IN AREAS CLOSER THAN ONE BOLT DIAMETER BUT NOT LESS THAN 1 INCH FROM THE EDGE OF ANY HOLE AND IN ALL AREAS WITHIN THE BOLT PATTERN.



FINISHED FLOOR ELEVATION: 100'-0"
BOTTOM OF BASEPLATE: 100'-0"

Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

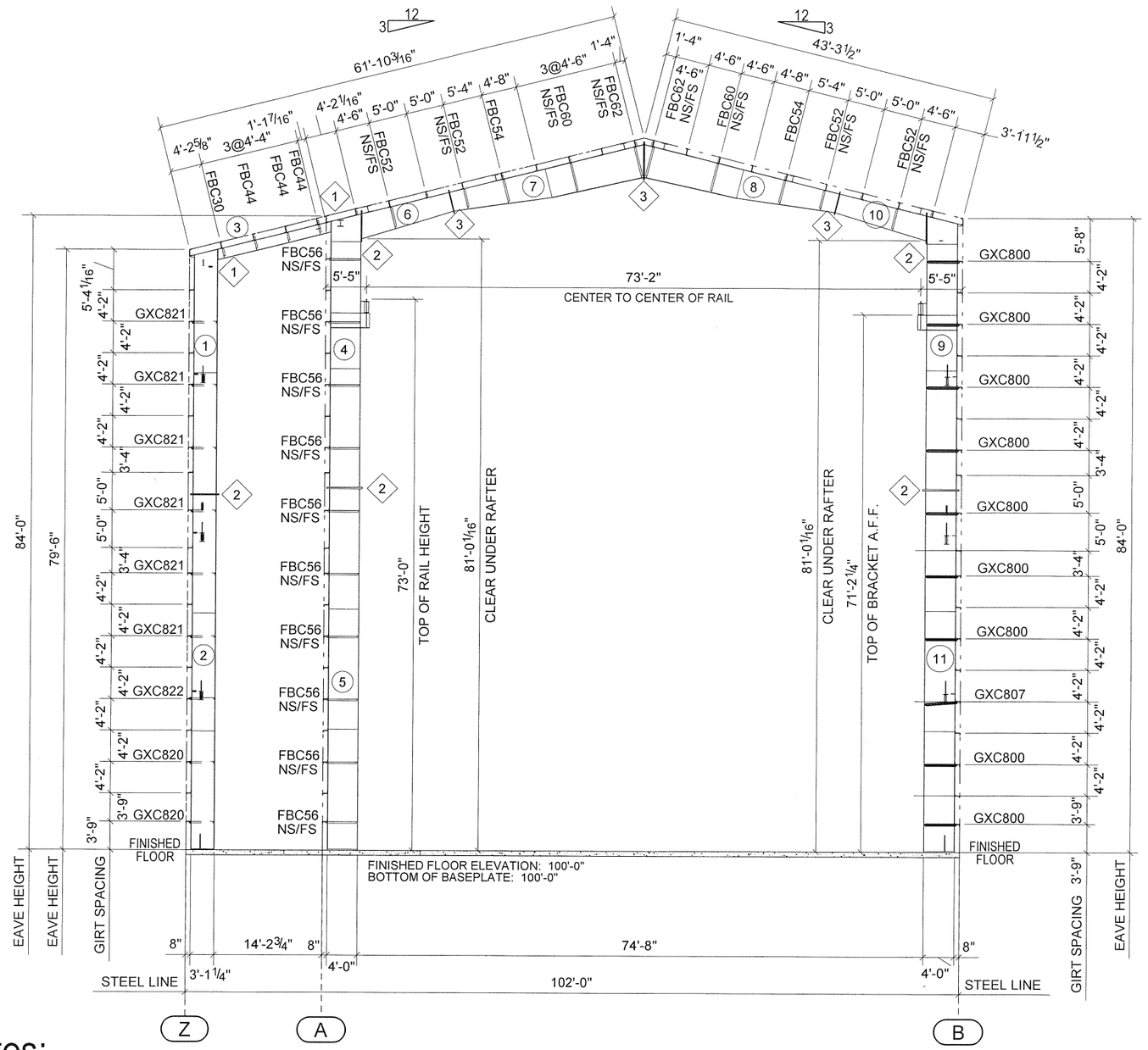
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo
Toledo, OR
CUSTOMER NAME: JH KELLY LLC
Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: BRB Cross Section At Line 1

JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:05:39pm

SHEET P6 OF 18



Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

GXC8 indicates the use of a single hot rolled angle L 2 1/2x2 1/2x1/4" flange brace.

Material Schedule

ID	Low Plate Width	Low Plate Thick	High Plate Width	High Plate Thick	Outside Flange Width	Outside Flange Thick	Inside Flange Width	Inside Flange Thick	Web Depth1	Web Thick	Web Depth2
1	10.00	1.00	8.00	0.38	8.00	0.63	8.00	0.75	36.00	0.22	36.00
	-	-	-	-					36.00	0.25	36.00
2	8.00	1.00	10.00	1.00	8.00	0.63	8.00	0.63	36.00	0.25	36.00
	-	-	-	-			8.00	0.75	36.00	0.22	36.00
	-	-	-	-					36.00	0.22	36.00
3	5.00	0.50	6.00	0.50	5.00	0.38	5.00	0.38	16.00	0.22	16.00
4	12.00	1.25	12.00	1.00	12.00	0.50	12.00	0.50	47.00	0.22	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.31	47.00
5	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00
6	10.00	1.00	10.00	0.75	8.00	0.50	8.00	0.50	37.94	0.31	30.00
7	10.00	0.75	10.00	1.00	8.00	0.50	8.00	0.50	30.06	0.28	46.00
	-	-	-	-	8.00	0.63	8.00	0.75	46.00	0.25	49.97
8	10.00	0.75	10.00	1.00	8.00	0.50	8.00	0.50	30.06	0.28	46.00
	-	-	-	-	8.00	0.63	8.00	0.75	46.00	0.25	49.97
9	12.00	1.25	12.00	1.00	12.00	0.50	12.00	0.50	47.00	0.22	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.31	47.00
10	10.00	1.00	10.00	0.75	8.00	0.50	8.00	0.50	37.94	0.31	30.00
11	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00

Bolt Schedule

ID	Qty	Bolt Description	Bolt #	Nut #
1	6	3/4" X 3" A325	H0633	H0320
2	16	1 1/4" X 5" A490	H0665	H0340
3	12	1" X 3 1/4" A325	H0640	H0330

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

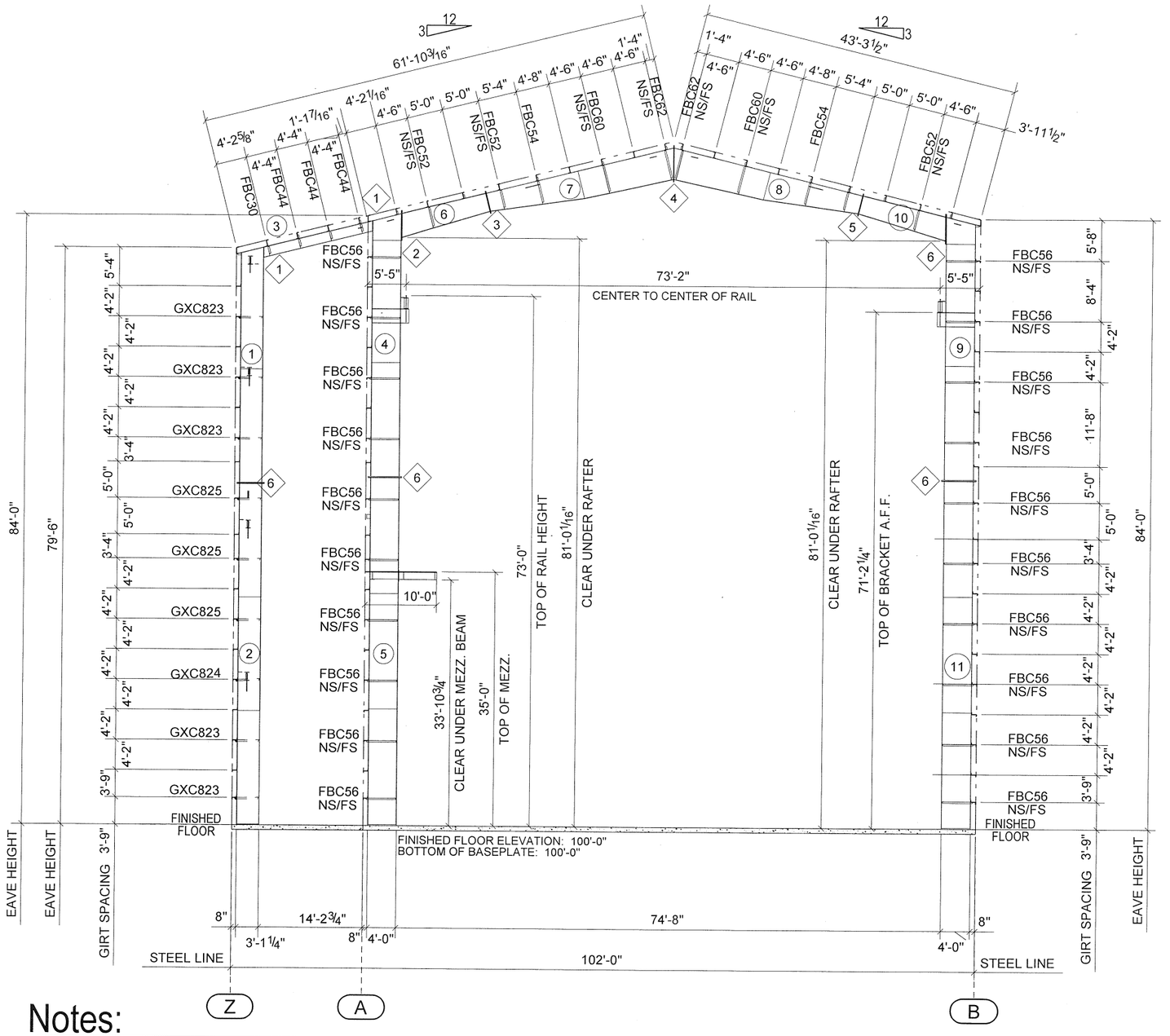
PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Cross Section At Line 2

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:05:42pm

SHEET P7 OF 18



Material Schedule

ID	Low Plate Width	Low Plate Thick	High Plate Width	High Plate Thick	Outside Flange Width	Outside Flange Thick	Inside Flange Width	Inside Flange Thick	Web Depth1	Web Thick	Web Depth2
1	10.00	1.00	8.00	0.38	8.00	0.63	8.00	0.75	36.00	0.22	36.00
	-	-	-	-					36.00	0.25	36.00
2	8.00	1.00	12.00	1.25	8.00	0.63	8.00	0.63	36.00	0.25	36.00
	-	-	-	-			8.00	0.75	36.00	0.22	36.00
	-	-	-	-					36.00	0.22	36.00
3	5.00	0.50	6.00	0.50	5.00	0.38	5.00	0.38	16.00	0.22	16.00
4	12.00	1.25	12.00	1.00	12.00	0.50	12.00	0.50	47.00	0.22	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
5	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	11.13	0.19	11.13
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00
6	10.00	1.00	10.00	0.75	8.00	0.50	8.00	0.50	37.95	0.25	30.04
7	10.00	0.75	10.00	0.75	8.00	0.38	8.00	0.50	30.08	0.25	46.00
	-	-	-	-	8.00	0.50	8.00	0.75	46.00	0.25	49.98
8	10.00	0.75	10.00	0.75	8.00	0.38	8.00	0.50	30.08	0.25	46.00
	-	-	-	-	8.00	0.50	8.00	0.75	46.00	0.25	49.98
9	12.00	1.25	12.00	1.00	12.00	0.50	12.00	0.50	47.00	0.22	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.28	47.00
10	10.00	1.00	10.00	0.75	8.00	0.50	8.00	0.50	37.95	0.25	30.04
11	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00

Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

GXC8 indicates the use of a single hot rolled angle L 2 ½x2 ½x¼" flange brace.

Bolt Schedule

ID	Qty	Bolt Description	Bolt #	Nut #
1	6	¾" X 3" A325	H0633	H0320
2	12	1 ¼" X 5" A490	H0665	H0340
3	8	1" X 3 ¼" A325	H0640	H0330
4	12	1" X 3 ¼" A325	H0640	H0330
5	16	1" X 3 ¼" A325	H0640	H0330
6	16	1 ¼" X 5" A490	H0665	H0340

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

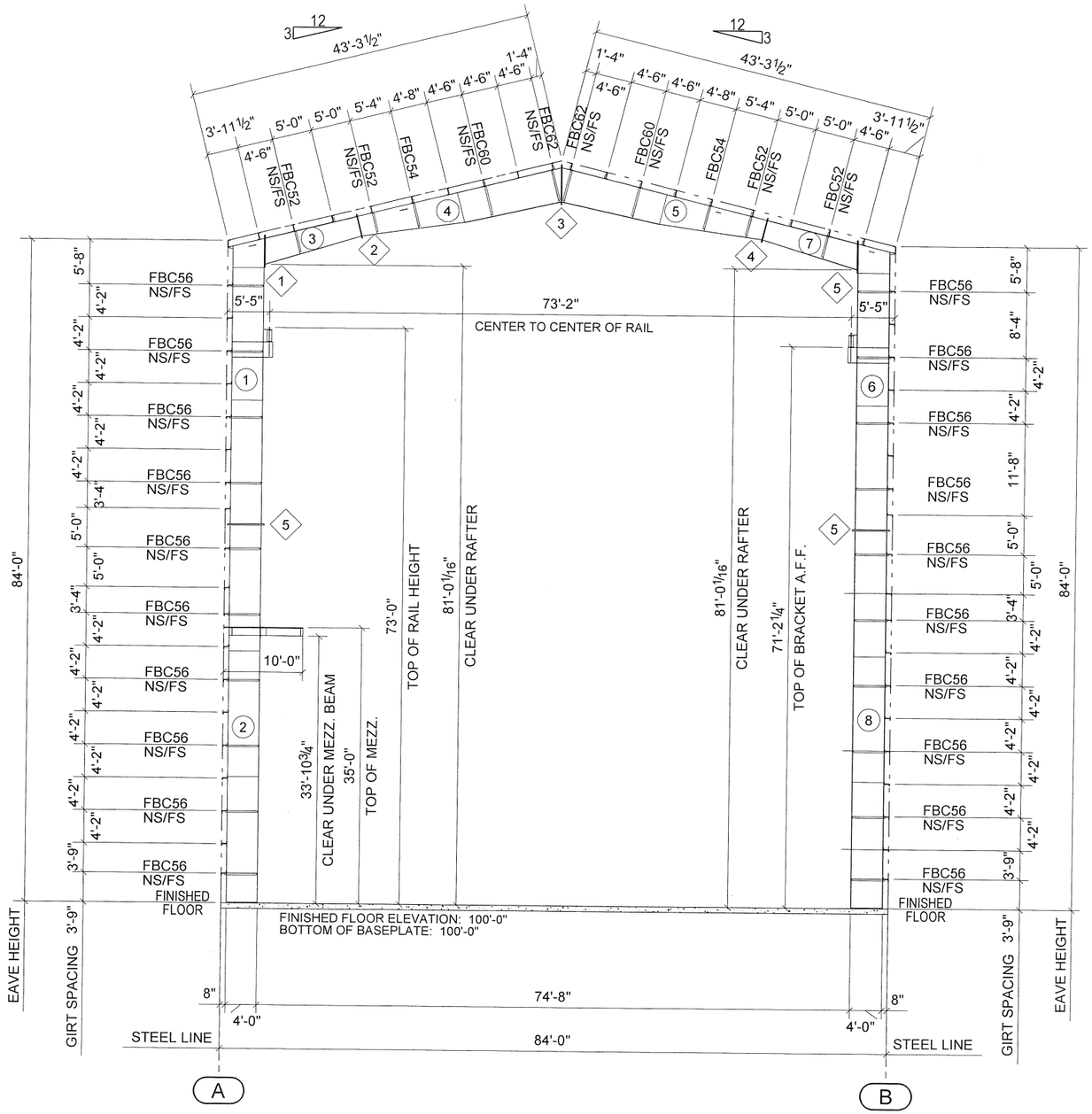
NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo
Toledo, OR
CUSTOMER NAME: JH KELLY LLC
Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Cross Section At Line 3

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET P8 OF 18



Material Schedule

ID	Low Plate Width	Low Plate Thick	High Plate Width	High Plate Thick	Outside Flange Width	Outside Flange Thick	Inside Flange Width	Inside Flange Thick	Web Depth1	Web Thick	Web Depth2
1	12.00	1.25	12.00	1.00	12.00	0.50	12.00	0.50	47.00	0.22	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
2	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	11.13	0.19	11.13
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00
3	10.00	1.00	10.00	0.75	8.00	0.50	8.00	0.50	37.94	0.25	30.03
4	10.00	0.75	10.00	0.75	8.00	0.38	8.00	0.50	30.06	0.25	46.00
	-	-	-	-	8.00	0.50	8.00	0.75	46.00	0.25	49.98
5	10.00	0.75	10.00	0.75	8.00	0.38	8.00	0.50	30.06	0.25	46.00
	-	-	-	-	8.00	0.50	8.00	0.75	46.00	0.25	50.00
6	12.00	1.25	12.00	1.00	12.00	0.50	12.00	0.50	47.00	0.22	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.28	47.00
7	10.00	1.00	10.00	0.75	8.00	0.50	8.00	0.50	37.94	0.25	30.03
8	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00

Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

Bolt Schedule

ID	Qty	Bolt Description	Bolt #	Nut #
1	12	1 1/4" X 5" A490	H0665	H0340
2	8	1" X 3 1/4" A325	H0640	H0330
3	12	1" X 3 1/4" A325	H0640	H0330
4	16	1" X 3 1/4" A325	H0640	H0330
5	16	1 1/4" X 5" A490	H0665	H0340

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

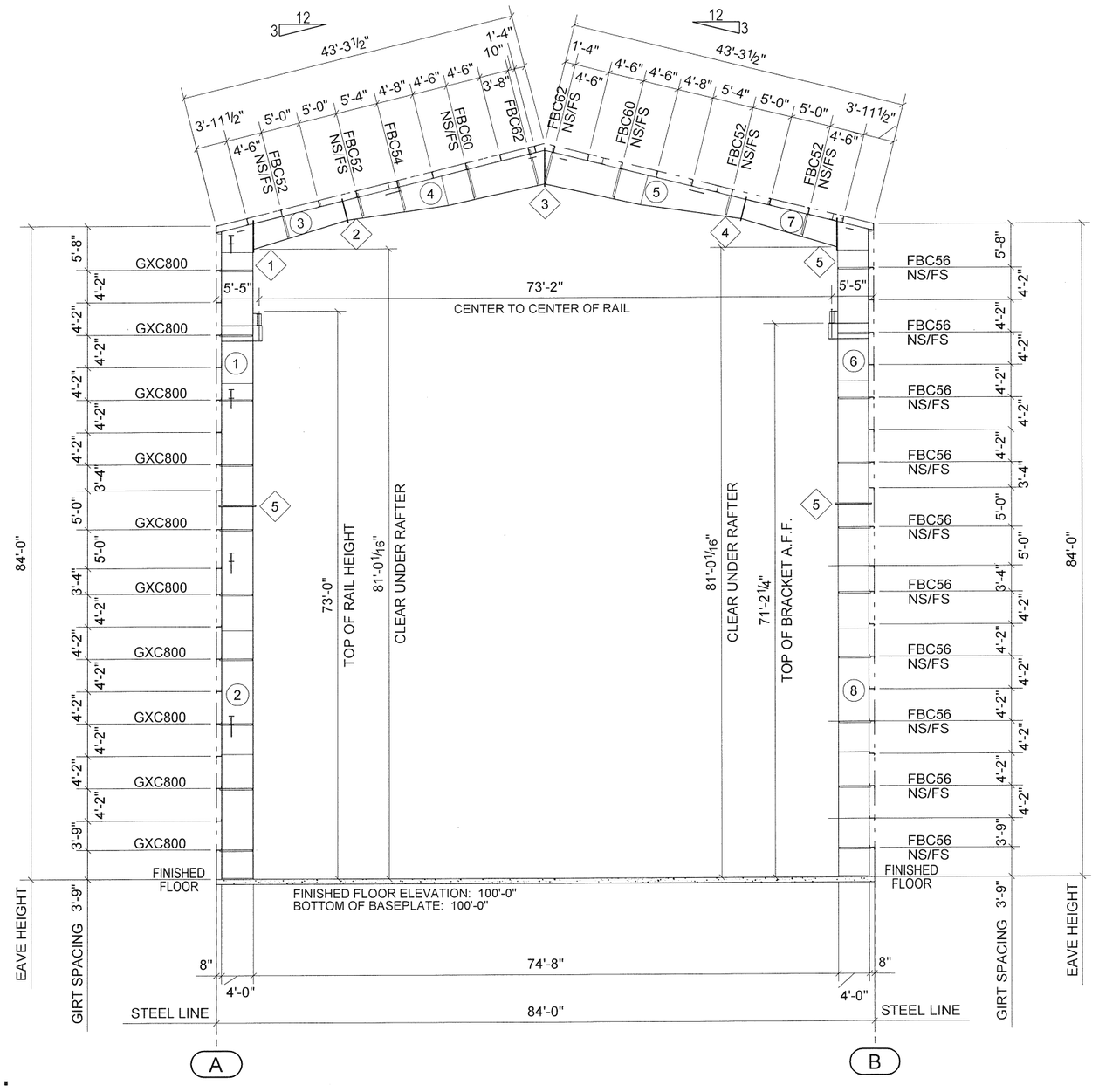
PROJECT NAME: Port of Toledo
Toledo, OR
CUSTOMER NAME: JH KELLY LLC
Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Cross Section At Line 4 & 5

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:05:48pm

SHEET P9 OF 18



Material Schedule

ID	Low Plate		High Plate		Outside Flange		Inside Flange		Web		
	Width	Thick	Width	Thick	Width	Thick	Width	Thick	Depth1	Thick	Depth2
1	12.00	1.25	12.00	1.00	12.00	0.50	12.00	0.50	47.00	0.22	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
2	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00
3	10.00	1.00	10.00	0.75	8.00	0.50	8.00	0.50	37.94	0.25	30.03
4	10.00	0.75	10.00	0.75	8.00	0.38	8.00	0.50	30.06	0.25	46.00
	-	-	-	-	8.00	0.50	8.00	0.75	46.00	0.25	50.00
5	10.00	0.75	10.00	0.75	8.00	0.38	8.00	0.50	30.06	0.25	46.00
	-	-	-	-	8.00	0.50	8.00	0.75	46.00	0.25	50.00
6	12.00	1.25	12.00	1.00	12.00	0.50	12.00	0.50	47.00	0.22	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.28	47.00
7	10.00	1.00	10.00	0.75	8.00	0.50	8.00	0.50	37.94	0.25	30.03
8	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00

Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

GXC8 indicates the use of a single hot rolled angle L 2 1/2x2 1/2x1/4" flange brace.

Bolt Schedule

ID	Qty	Bolt Description	Bolt #	Nut #
1	12	1 1/4" X 5" A490	H0665	H0340
2	8	1" X 3 1/4" A325	H0640	H0330
3	12	1" X 3 1/4" A325	H0640	H0330
4	16	1" X 3 1/4" A325	H0640	H0330
5	16	1 1/4" X 5" A490	H0665	H0340

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: H KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Cross Section At Line 6

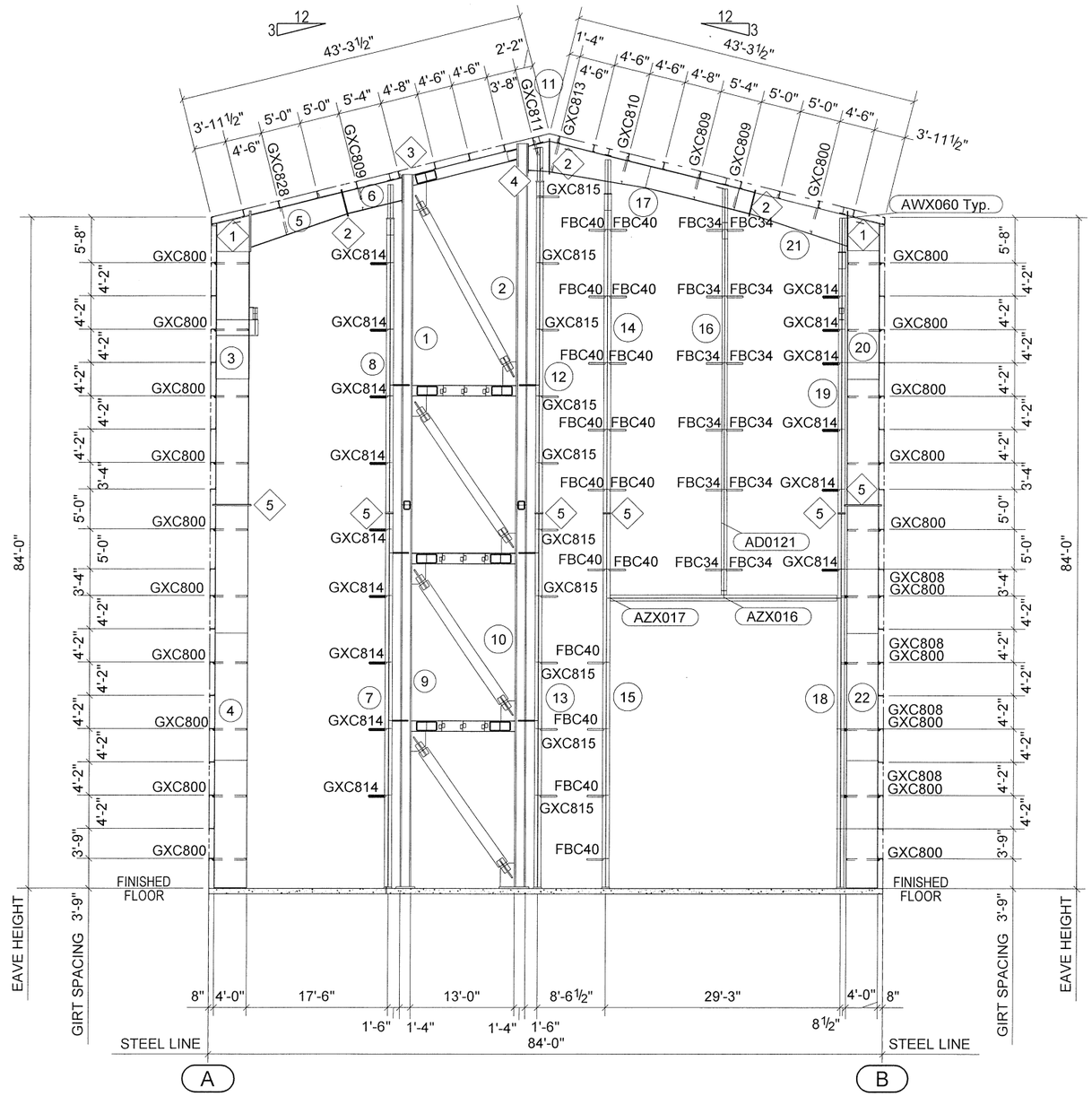
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/09/2018 06:05:50pm

SHEET: P10 OF 18

Material Schedule

ID	Low Plate Width	Low Plate Thick	High Plate Width	High Plate Thick	Outside Flange Width	Outside Flange Thick	Inside Flange Width	Inside Flange Thick	Web Depth1	Web Thick	Web Depth2
1	-	-	-	-	-	-	-	-	W14X233	-	-
	-	-	-	-					W16X77	-	-
	-	-	-	-					W16X77	-	-
2	-	-	-	-	-	-	-	-	W14X233	-	-
	-	-	-	-					W16X77	-	-
3	12.00	1.25	12.00	1.75	12.00	0.75	12.00	0.75	47.00	0.22	47.00
	-	-	-	-	12.00	1.00	12.00	1.00	47.00	0.28	47.00
	-	-	-	-					47.00	0.50	47.00
4	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00
5	12.00	1.50	12.00	1.00	12.00	1.25	12.00	1.25	45.88	0.31	32.09
6	10.00	1.00	10.00	1.00	10.00	1.00	10.00	1.00	32.00	0.31	32.00
7	12.00	1.75	12.00	1.25	-	-	-	-	W30X132	-	-
8	12.00	1.25	12.00	1.25	-	-	-	-	W30X132	-	-
9	24.00	2.50	-	-	-	-	-	-	W14X233	-	-
	-	-	-	-					W16X77	-	-
	-	-	-	-					W16X77	-	-
10	24.00	2.50	-	-	-	-	-	-	W14X233	-	-
	-	-	-	-					W16X77	-	-
	-	-	-	-					W16X77	-	-
11	10.00	0.75	10.00	0.75	10.00	0.75	10.00	0.75	34.25	0.31	43.75
12	12.00	1.25	12.00	1.25	-	-	-	-	W30X116	-	-
13	12.00	1.75	12.00	1.25	-	-	-	-	W30X116	-	-
14	12.00	1.25	12.00	1.25	-	-	-	-	W30X124	-	-
15	12.00	1.75	12.00	1.25	-	-	-	-	W30X124	-	-
16	-	-	8.00	0.38	-	-	-	-	W21X48	-	-
17	10.00	1.00	10.00	0.75	10.00	1.00	10.00	1.00	32.00	0.31	32.00
	-	-	-	-	10.00	0.75	10.00	0.75	32.00	0.31	43.94
18	12.00	1.75	12.00	1.25	-	-	-	-	W30X124	-	-
19	12.00	1.25	12.00	1.25	-	-	-	-	W30X124	-	-
20	12.00	1.25	12.00	1.25	12.00	0.75	12.00	0.75	47.00	0.22	47.00
	-	-	-	-	12.00	1.00	12.00	1.00	47.00	0.28	47.00
	-	-	-	-					47.00	0.50	47.00
21	12.00	1.00	8.00	0.75	8.00	0.38	8.00	0.63	43.94	0.22	32.06
22	12.00	1.25	12.00	1.25	12.00	0.50	12.00	0.50	47.00	0.25	47.00
	-	-	-	-					47.00	0.25	47.00
	-	-	-	-					47.00	0.22	47.00



Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

GXC8 indicates the use of a single hot rolled angle L 2 ½x2 ½x¼" flange brace.

Bolt Schedule

ID	Qty	Bolt Description	Bolt #	Nut #
1	16	1 ½" X 6" A490	H0671	H0350
2	16	1" X 3 ¼" A325	H0640	H0330
3	8	1" X 5" A325	X____	X____
4	16	1" X 5" A325	X____	X____
5	16	1 ¼" X 5" A490	H0665	H0340

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

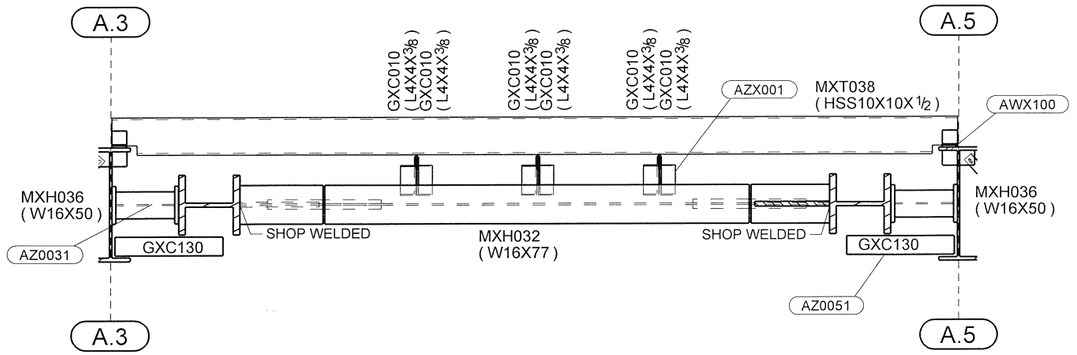
NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

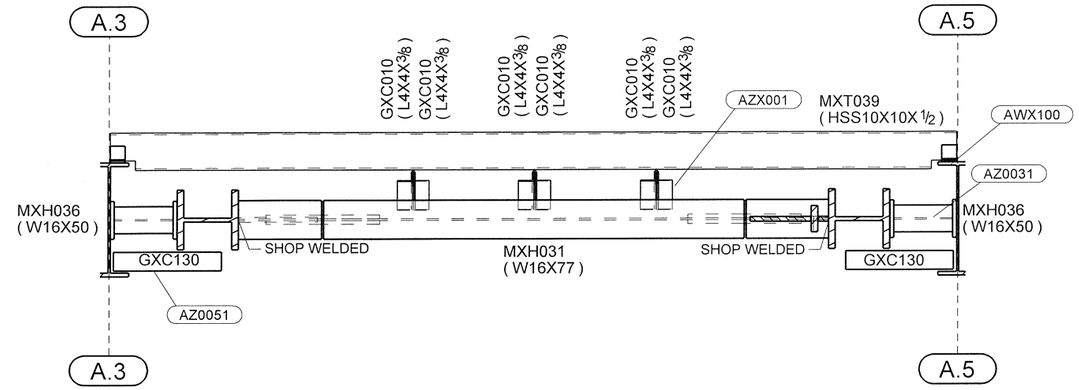
PROJECT NAME: Port of Toledo
Toledo, OR
CUSTOMER NAME: JH KELLY LLC
Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Cross Section At Line 7

JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

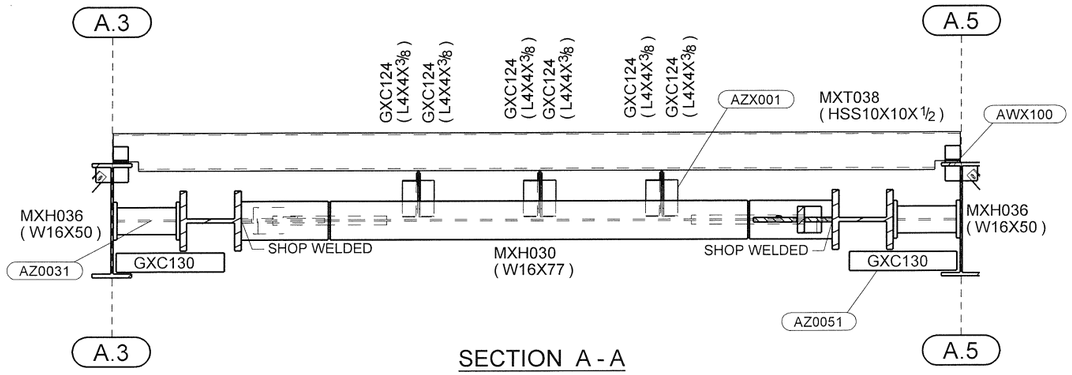
07/06/2018 06:05:53pm

SHEET P11 OF 18





SECTION B - B

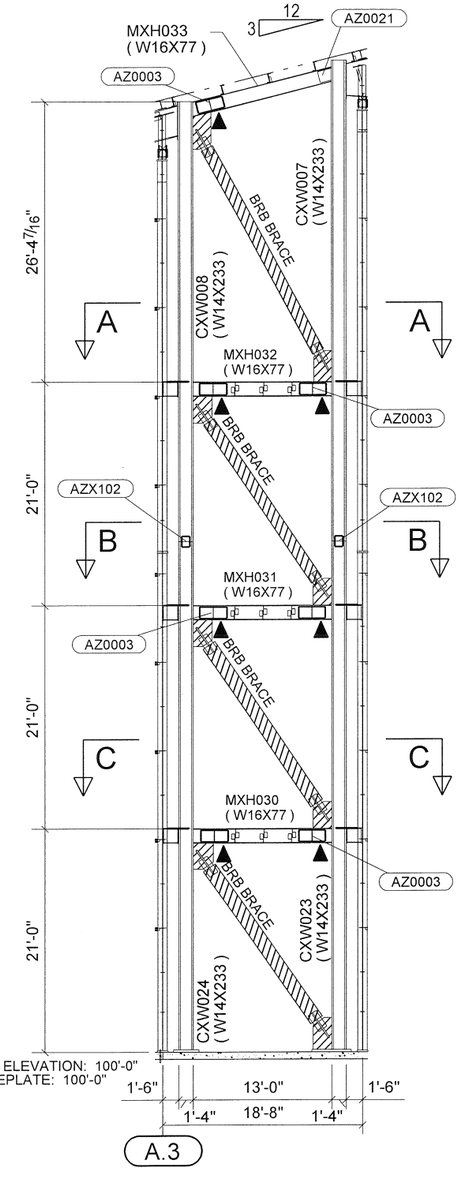


SECTION A - A

SECTION C - C

INDICATES PROTECTED ZONE NO CONNECTIONS OF ANY KIND PERMITTED IN THIS AREA.

INDICATES CLASS "A" FAYING SURFACE, THE SURFACE MUST BE FREE OF SCALE EXCEPT TIGHT MILL SCALE AND FREE OF COATINGS, INCLUDING INADVERTENT OVERSPRAY, IN AREAS CLOSER THAN ONE BOLT DIAMETER BUT NOT LESS THAN 1 INCH FROM THE EDGE OF ANY HOLE AND IN ALL AREAS WITHIN THE BOLT PATTERN.



Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

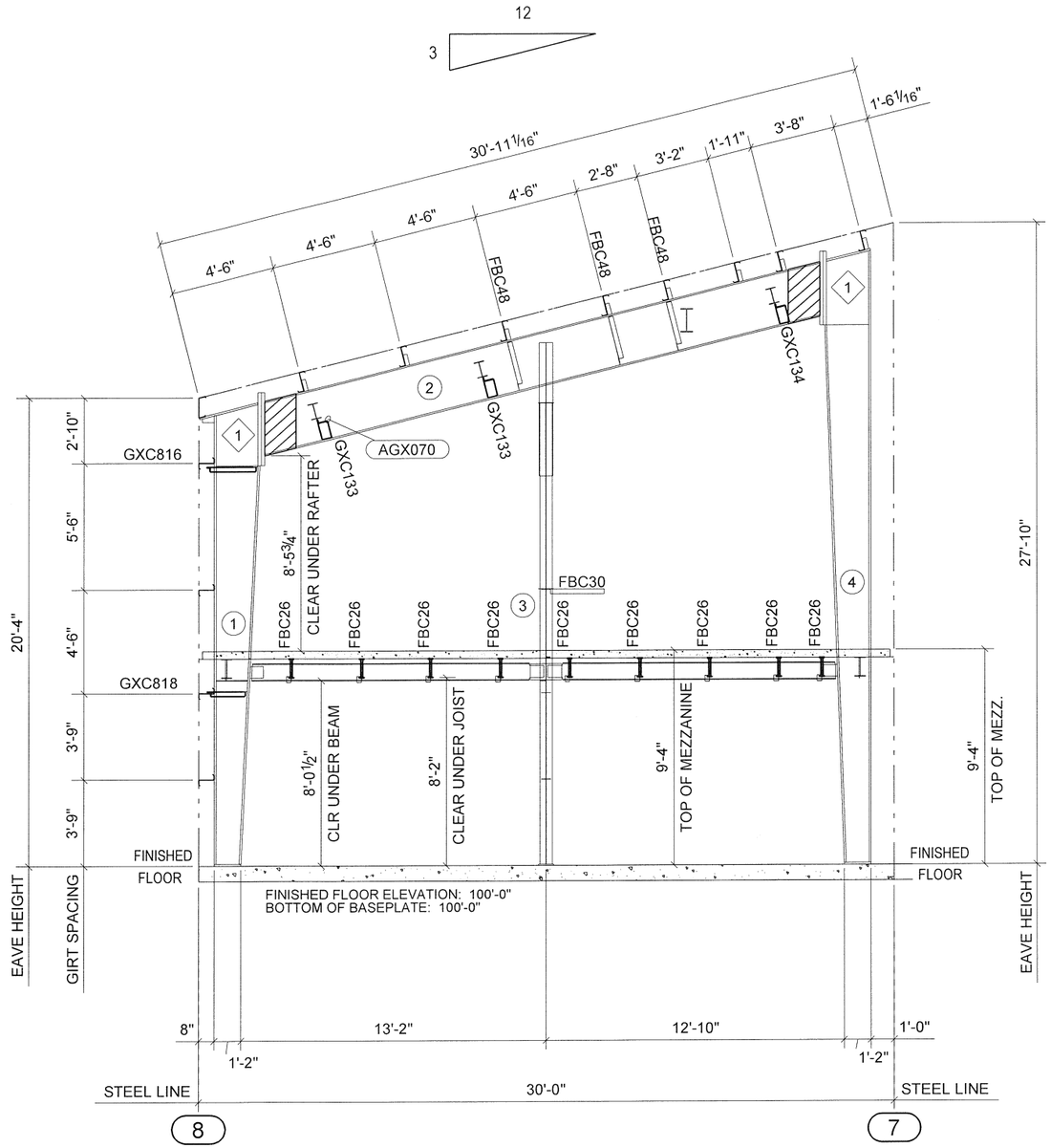
ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo, Toledo, OR
CUSTOMER NAME: J H KELLY LLC, Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: BRB Cross Section At Line 7

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET P12 OF 18



Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

GXC8 indicates the use of a single hot rolled angle L 2 ½x2 ½x¼" flange brace.

The first 18" of the rafter is considered the 'Protected Zone' per ANSI/AISC 341-05 Section 7.4. NO welded or Bolted connections are permitted in this zone.

Material Schedule

ID	Low Plate		High Plate		Outside Flange		Inside Flange		Web		
	Width	Thick	Width	Thick	Width	Thick	Width	Thick	Depth1	Thick	Depth2
1	10.00	1.00	12.00	1.75	10.00	1.00	10.00	1.00	12.00	0.38	22.00
	-	-	-	-					22.00	0.38	22.00
2	12.00	1.75	12.00	1.75	6.00	0.75	6.00	0.75	26.00	0.31	26.00
3	8.00	0.50	8.00	0.25	-	-	-	-	W12X26	-	-
4	10.00	1.00	12.00	1.75	10.00	1.00	10.00	1.00	12.00	0.38	22.00
	-	-	-	-					22.00	0.38	22.00

Bolt Schedule

ID	Qty	Bolt Description	Bolt #	Nut #
1	8	1 ¼" X 5 ½" A490	X____	X____

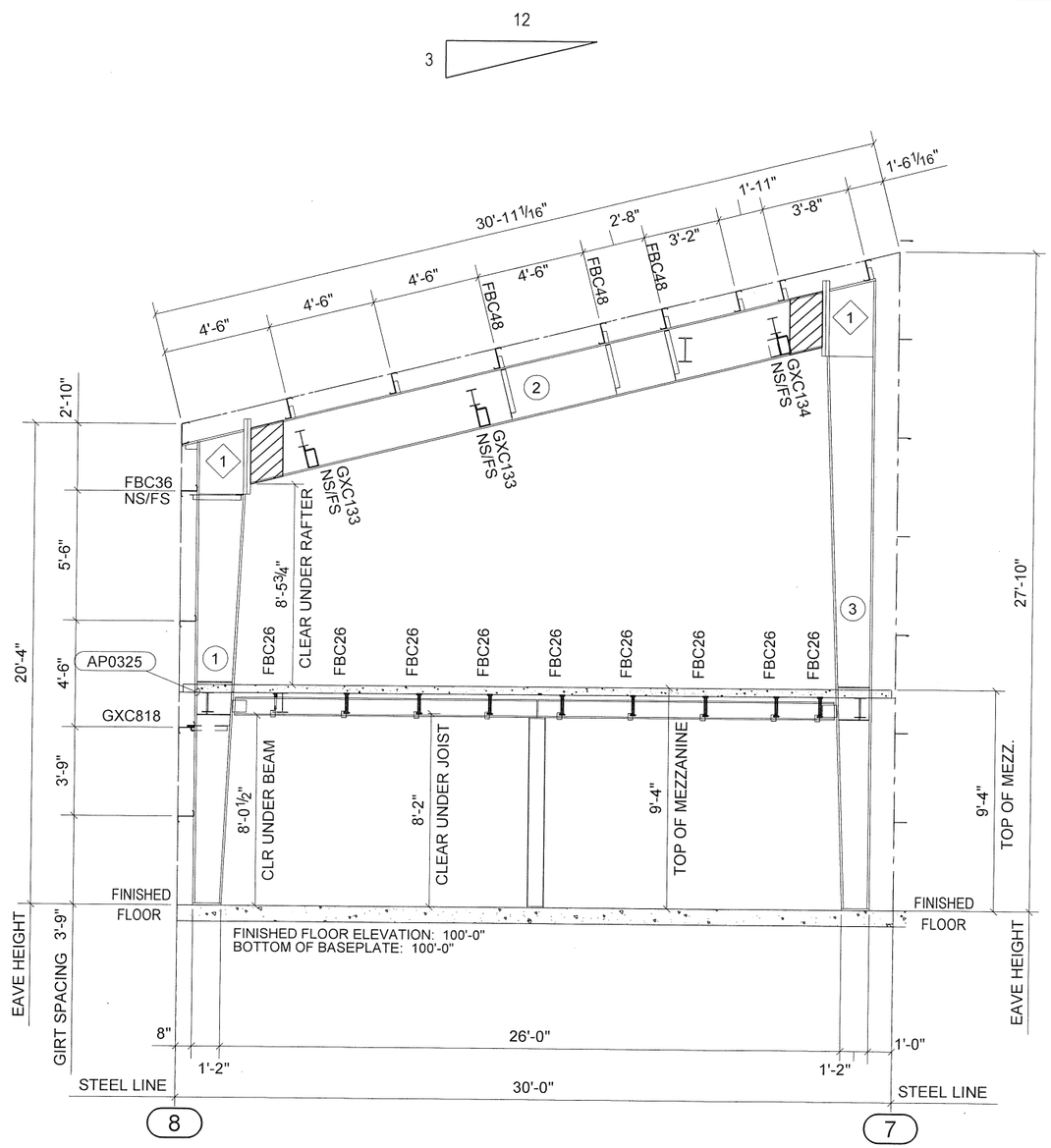
ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo
Toledo, OR
CUSTOMER NAME: JH KELLY LLC
Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Cross Section At Line A.1

JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET
P13 OF 18



Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

GXC8 indicates the use of a single hot rolled angle L 2 ½x2 ½x¼" flange brace.

The first 18" of the rafter is considered the 'Protected Zone' per ANSI/AISC 341-05 Section 7.4. NO welded or Bolted connections are permitted in this zone.

Material Schedule

ID	Low Plate Width	Low Plate Thick	High Plate Width	High Plate Thick	Outside Flange Width	Outside Flange Thick	Inside Flange Width	Inside Flange Thick	Web Depth1	Web Thick	Web Depth2
1	10.00	1.00	12.00	1.75	10.00	1.00	10.00	1.00	12.00	0.37	22.00
	-	-	-	-					22.00	0.37	22.00
2	12.00	1.75	12.00	1.75	6.00	0.75	6.00	0.75	26.00	0.31	26.00
3	10.00	1.00	12.00	1.75	10.00	1.00	10.00	1.00	12.00	0.37	22.00
	-	-	-	-					22.00	0.37	22.00

Bolt Schedule

ID	Qty	Bolt Description	Bolt #	Nut #
1	8	1 1/4" X 5 1/2" A490	X	X

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

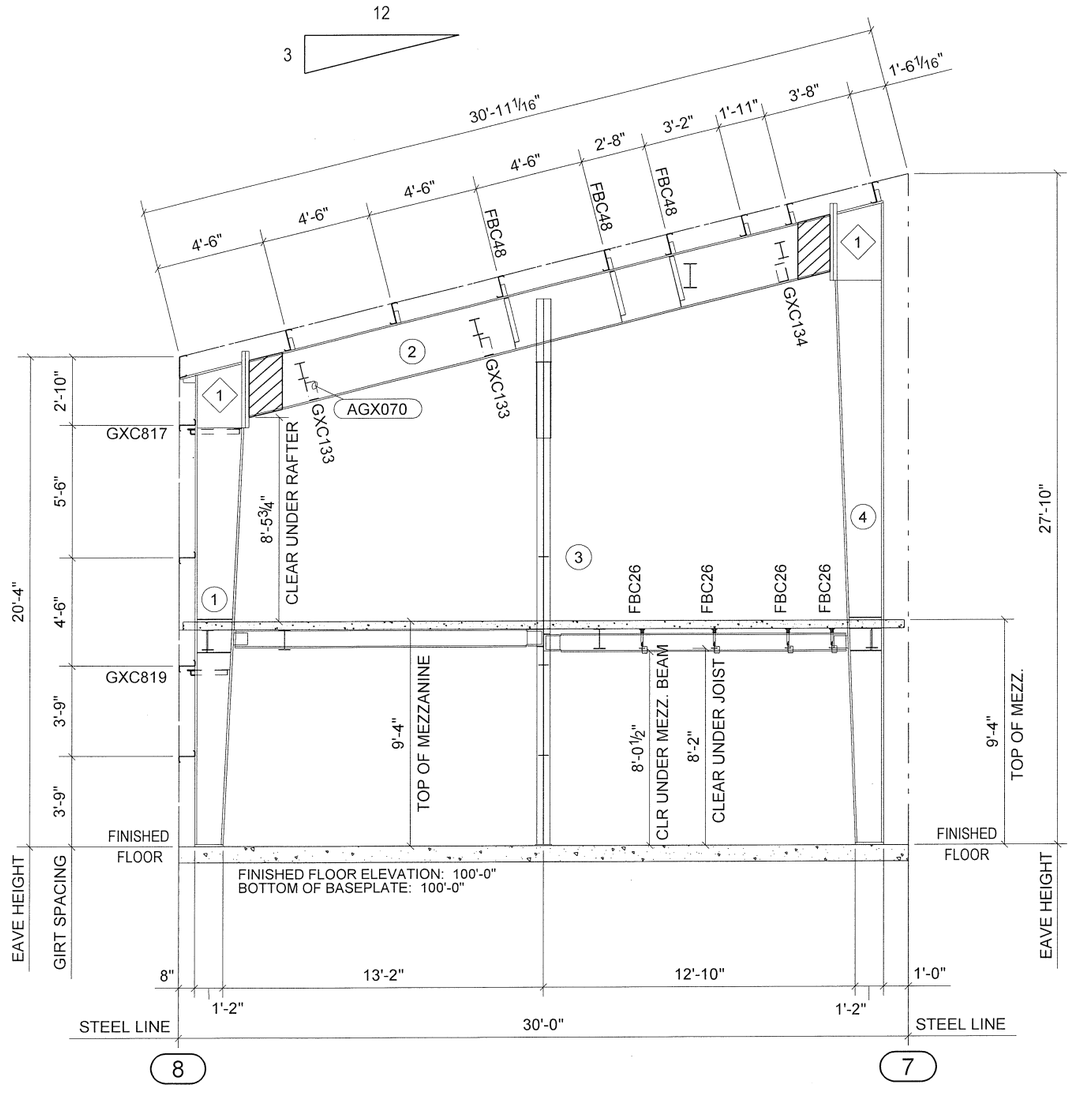
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Cross Section At Line A.4

JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:00pm

SHEET P14 OF 18



Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

If NS/FS is NOT indicated, only one flange brace is required and can be located on either side of the frame.

"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

GXC8 indicates the use of a single hot rolled angle L 2 ½x2 ½x¼" flange brace.

The first 18" of the rafter is considered the 'Protected Zone' per ANSI/AISC 341-05 Section 7.4. NO welded or Bolted connections are permitted in this zone.

Material Schedule

ID	Low Plate Width	Low Plate Thick	High Plate Width	High Plate Thick	Outside Flange Width	Outside Flange Thick	Inside Flange Width	Inside Flange Thick	Web Depth1	Web Thick	Web Depth2
1	10.00	1.00	12.00	1.75	10.00	1.00	10.00	1.00	12.00	0.38	22.00
	-	-	-	-					22.00	0.38	22.00
2	12.00	1.75	12.00	1.75	6.00	0.75	6.00	0.75	26.00	0.31	26.00
3	8.00	0.50	8.00	0.25	-	-	-	-	W12X26	-	-
4	10.00	1.00	12.00	1.75	10.00	1.00	10.00	1.00	12.00	0.38	22.00
	-	-	-	-					22.00	0.38	22.00

Bolt Schedule

ID	Qty	Bolt Description	Bolt #	Nut #
1	8	1 ¼" X 5 ½" A490	X____	X____

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

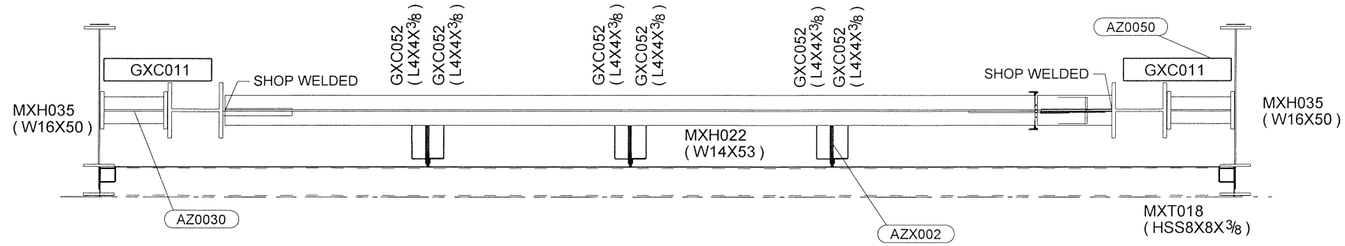
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo
Toledo, OR
CUSTOMER NAME: JH KELLY LLC
Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Cross Section At Line A.6

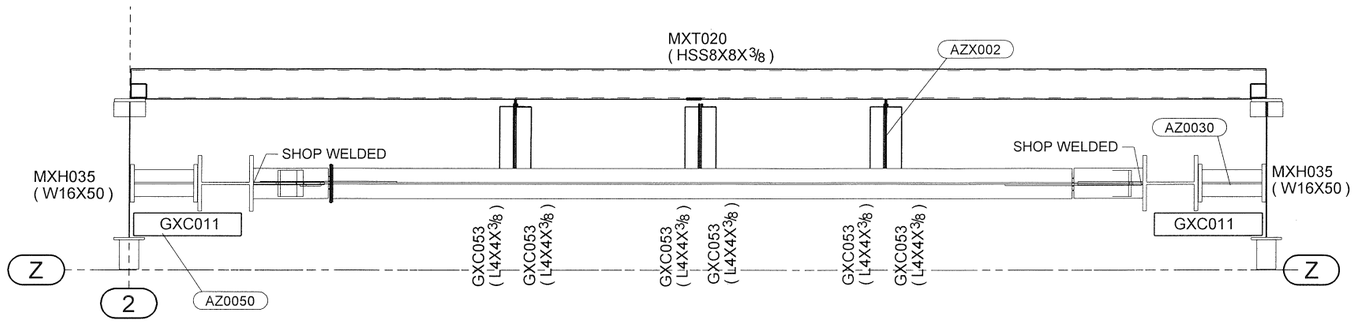
JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:03pm

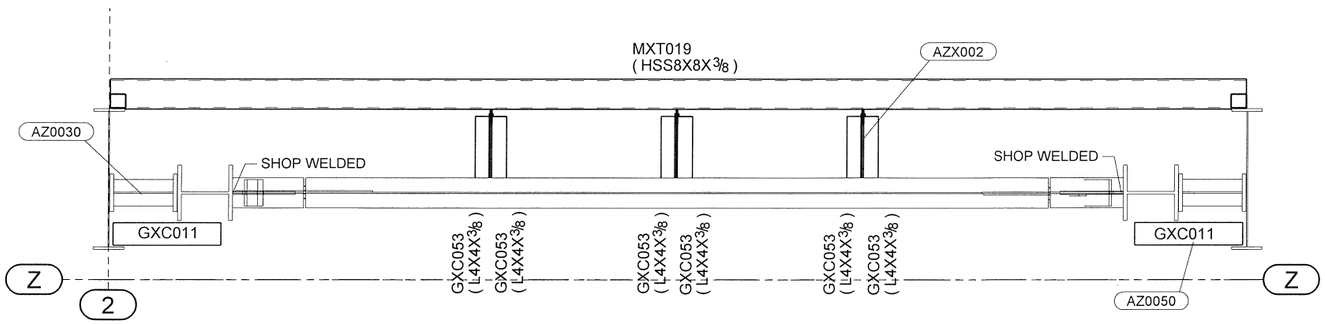
SHEET P15 OF 18



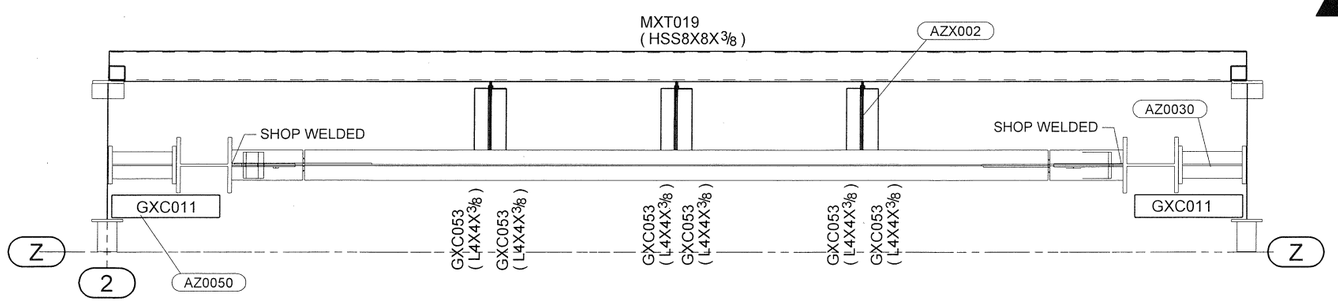
SECTION A - A



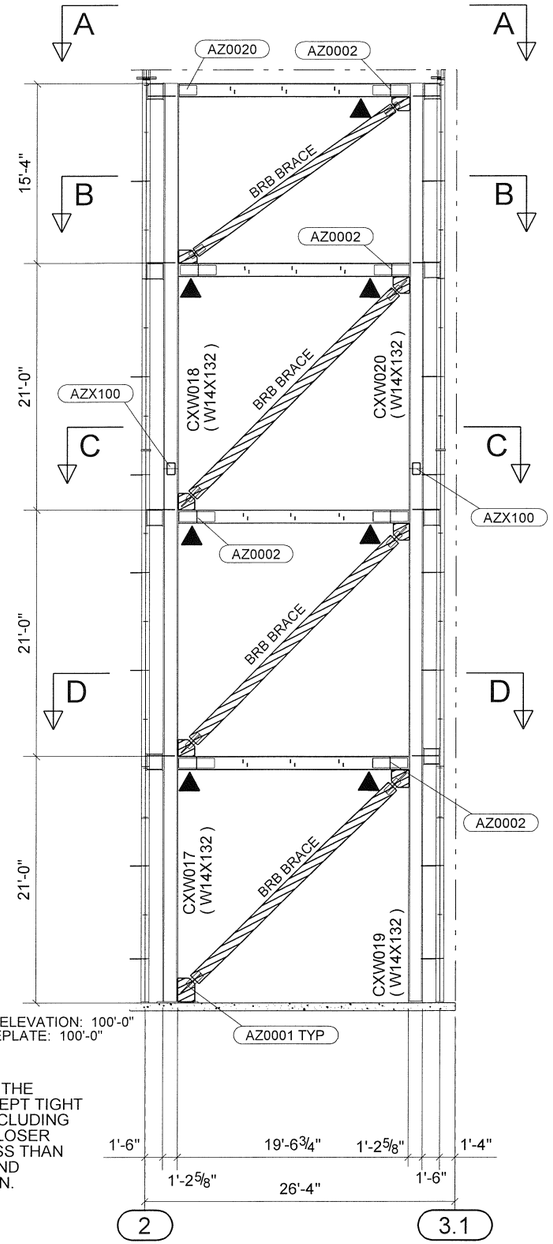
SECTION B - B



SECTION C - C



SECTION D - D



INDICATES PROTECTED ZONE
NO CONNECTIONS OF ANY
KIND PERMITTED IN THIS AREA.

FINISHED FLOOR ELEVATION: 100'-0"
BOTTOM OF BASEPLATE: 100'-0"

▲ INDICATES CLASS "A" FAYING SURFACE, THE SURFACE MUST BE FREE OF SCALE EXCEPT TIGHT MILL SCALE AND FREE OF COATINGS, INCLUDING INADVERTENT OVERSPRAY, IN AREAS CLOSER THAN ONE BOLT DIAMETER BUT NOT LESS THAN 1 INCH FROM THE EDGE OF ANY HOLE AND IN ALL AREAS WITHIN THE BOLT PATTERN.

Notes:

For column and rafter mark numbers, see Mark Number Plan.

NS/FS indicates that flange bracing is required on both sides of the frame line.

For expandable endwall rigid frames, if flange bracing is required on both sides (NS/FS) of an expandable endframe, the opposite side flange brace will have to be installed at the time of expansion. These flange braces have been provided, as required, for this future condition.

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"*" indicates the long side of the interior columns. Columns at the ridge are typically "flat-top" columns, unless indicated by the "*" symbol.

Rigid frames shall have 50% of their bolts installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

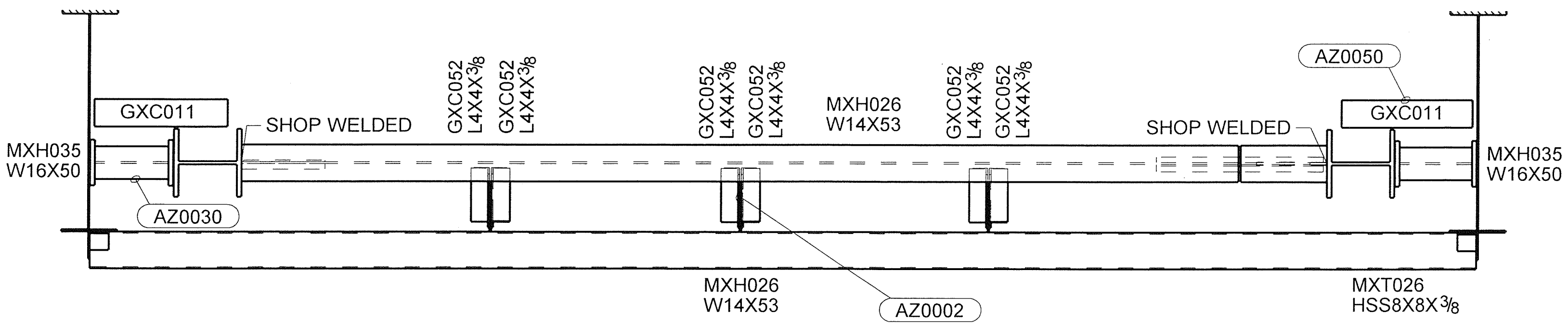
NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo, Toledo, OR
CUSTOMER NAME: JH KELLY LLC, Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: BRB Cross Section At Line Z

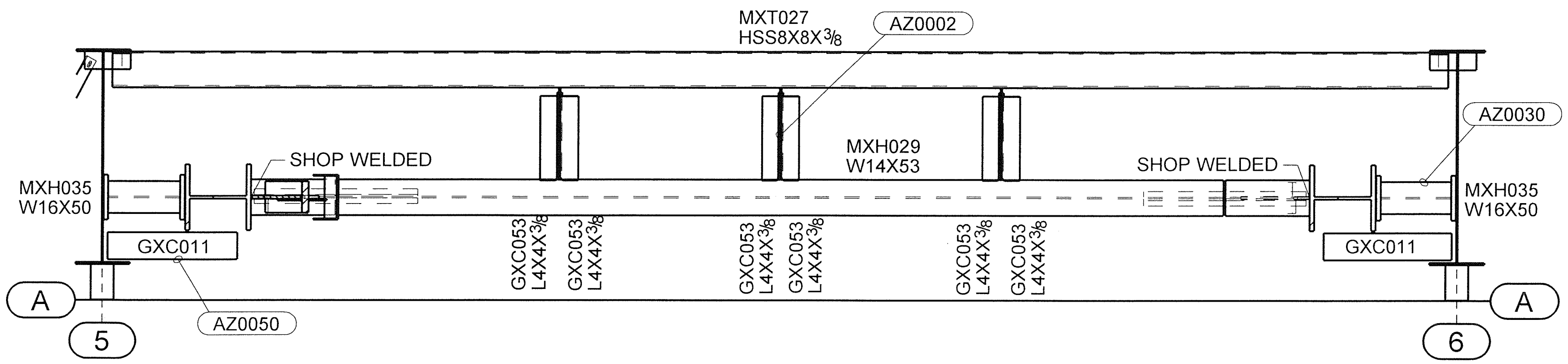
JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

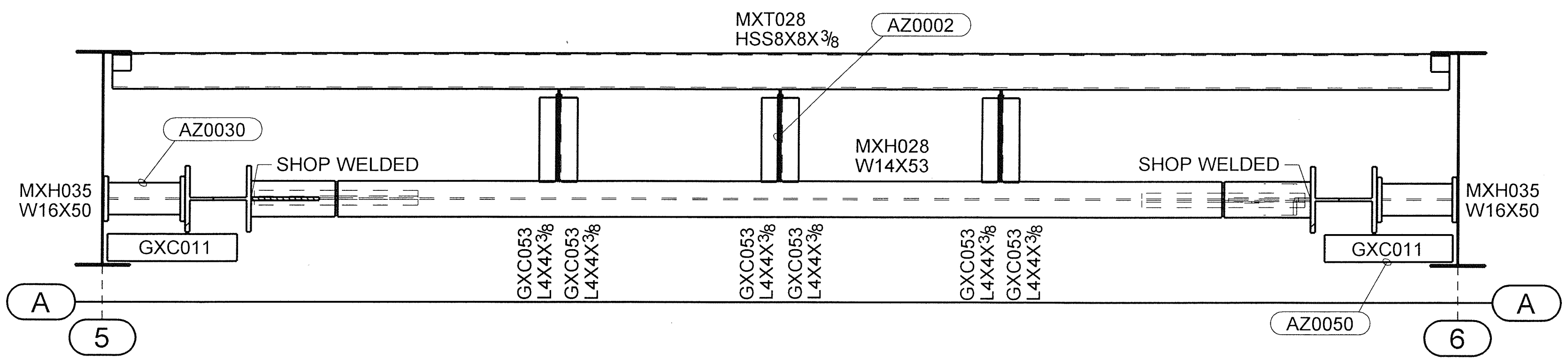
SHEET
P16 OF 18



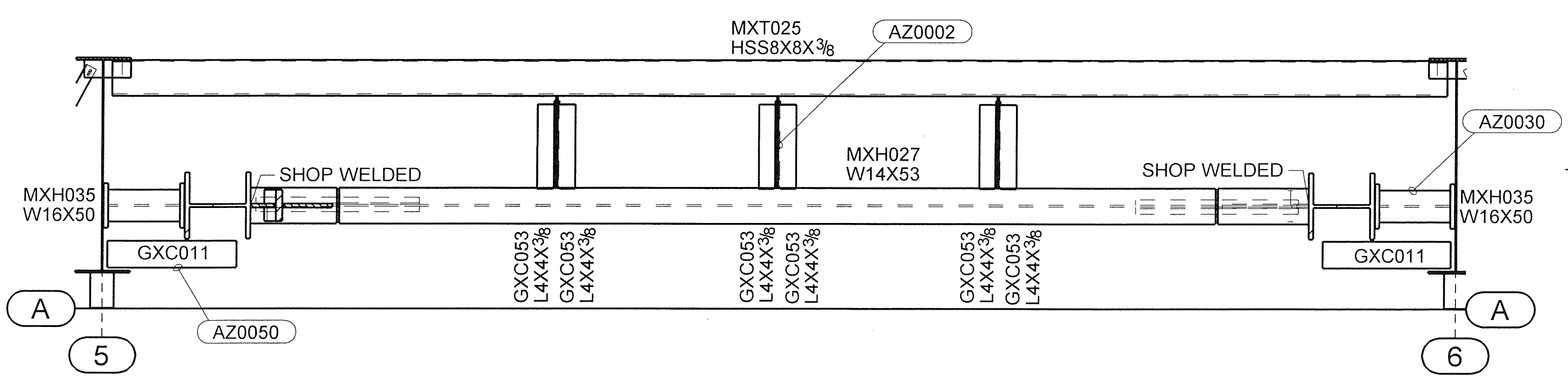
SECTION A - A



SECTION B - B



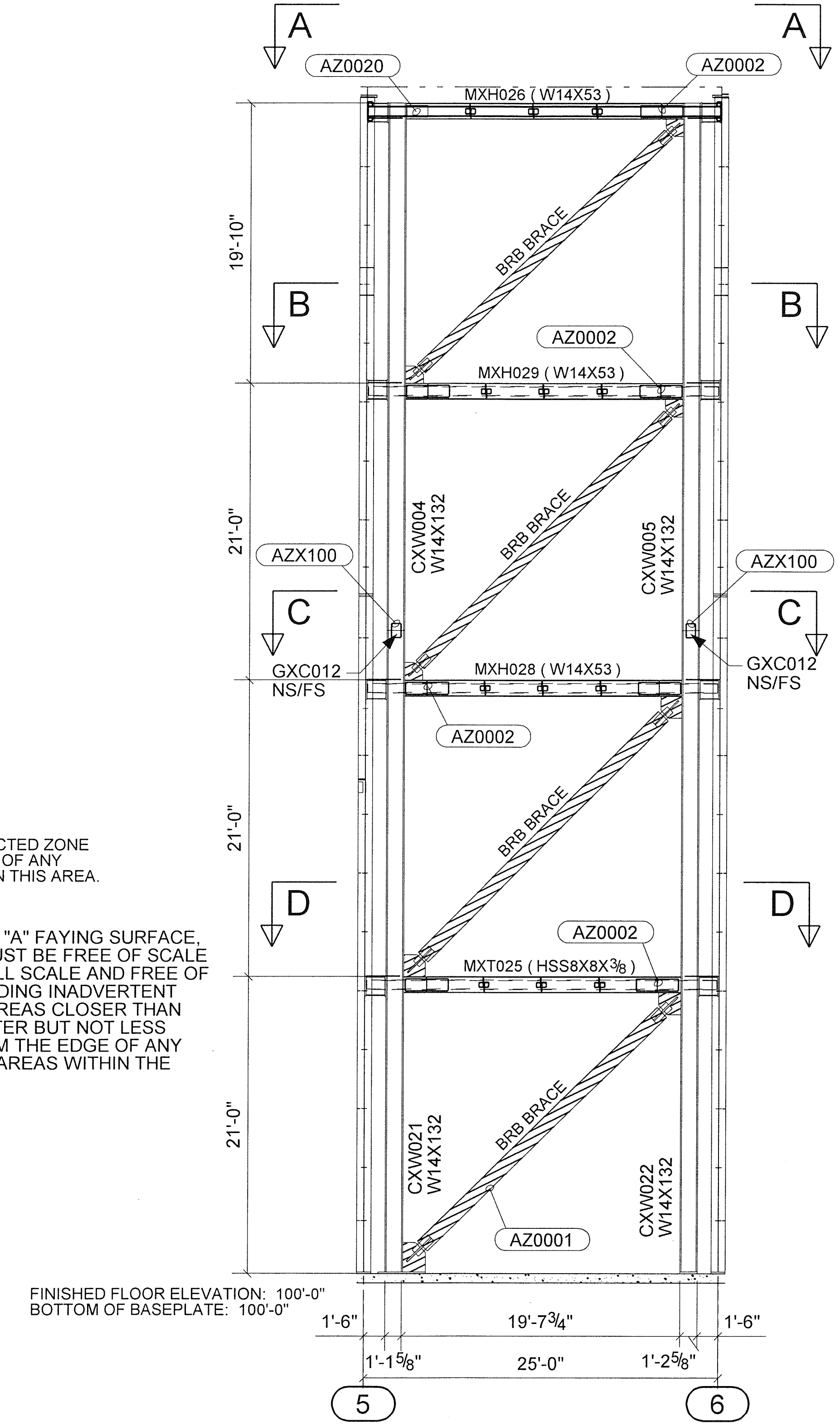
SECTION C - C



SECTION D - D

INDICATES PROTECTED ZONE NO CONNECTIONS OF ANY KIND PERMITTED IN THIS AREA.

INDICATES CLASS "A" FAYING SURFACE, THE SURFACE MUST BE FREE OF SCALE EXCEPT TIGHT MILL SCALE AND FREE OF COATINGS, INCLUDING INADVERTENT OVERSPRAY, IN AREAS CLOSER THAN ONE BOLT DIAMETER BUT NOT LESS THAN 1 INCH FROM THE EDGE OF ANY HOLE AND IN ALL AREAS WITHIN THE BOLT PATTERN.



Notes:

For column and rafter mark numbers, see Mark Number Plan.

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ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME
Port of Toledo
Toledo, OR

CUSTOMER NAME
JH KELLY LLC
Longview, WA

JOB NUMBER
U18H0248A

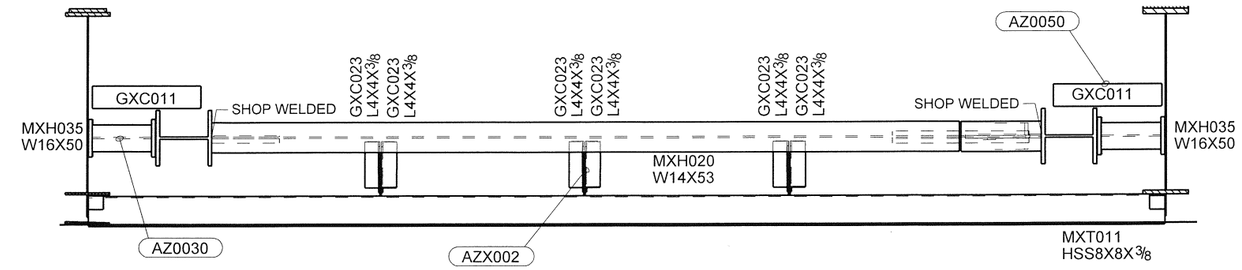
SHEET TITLE
BRB Cross Section At Line A

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
JUL 09 2018
EXPIRATION DATE: 12-31-2018

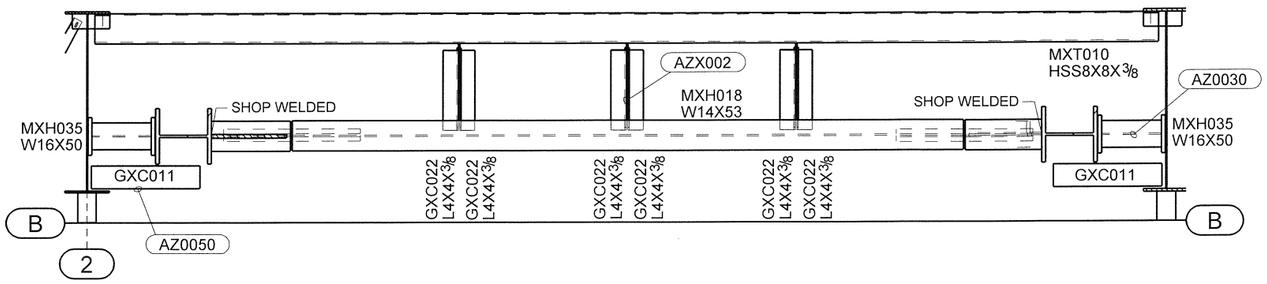
07/06/2018 06:06:07pm

This seal pertains only to the materials designed and supplied by Nucor Building Systems, a division of Nucor Corporation. The drawings and the metal building which they represent are the product of Nucor Building Systems. The registered professional engineer whose seal appears on these drawings is employed by Nucor Building Systems and does not serve as or represent the project engineer of record and shall not be construed as such.

SHEET
P17 OF 18



SECTION A - A



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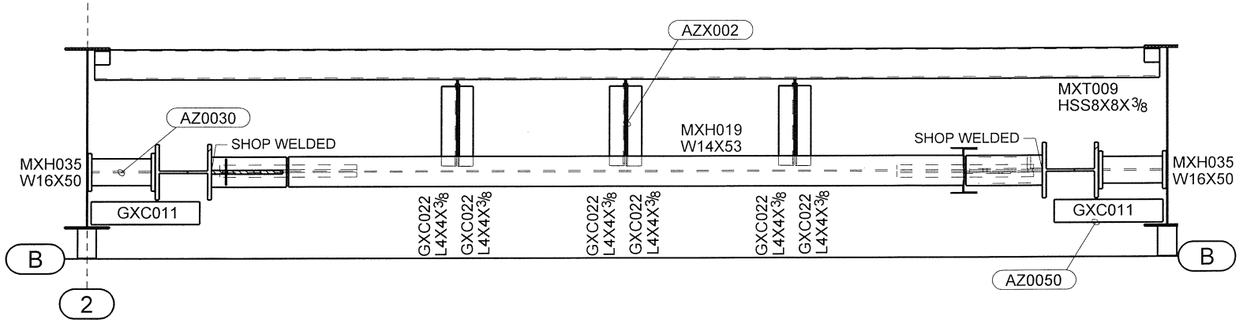
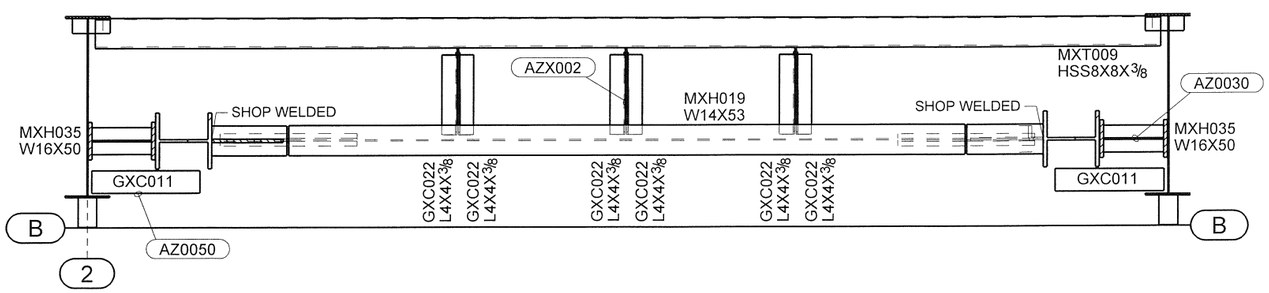


SECTION C - C



SECTION D - D

INDICATES PROTECTED ZONE
NO CONNECTIONS OF ANY
KIND PERMITTED IN THIS AREA.

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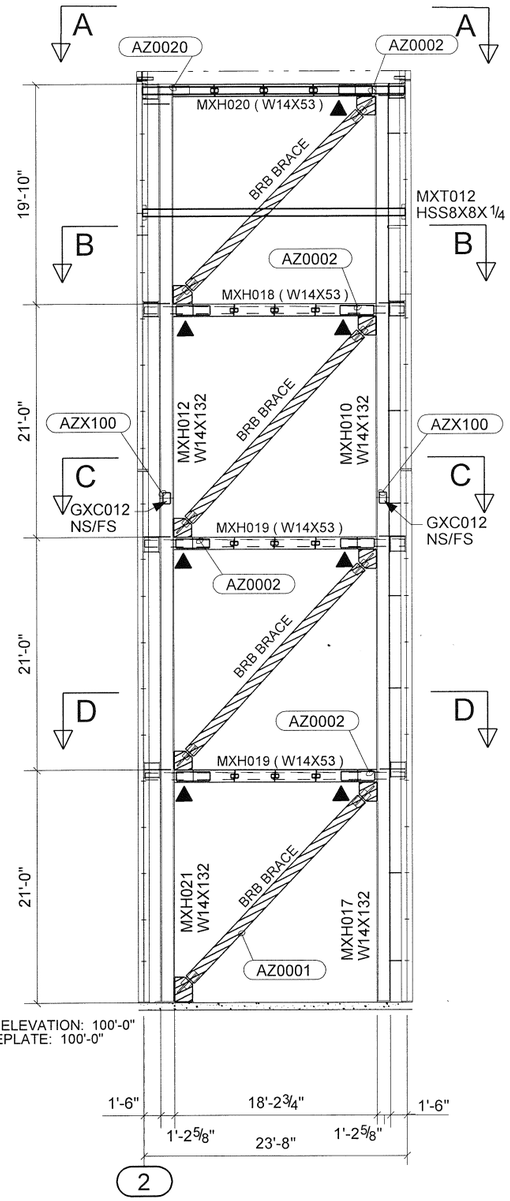

Notes:

For column and rafter mark numbers, see Mark Number Plan.

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ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

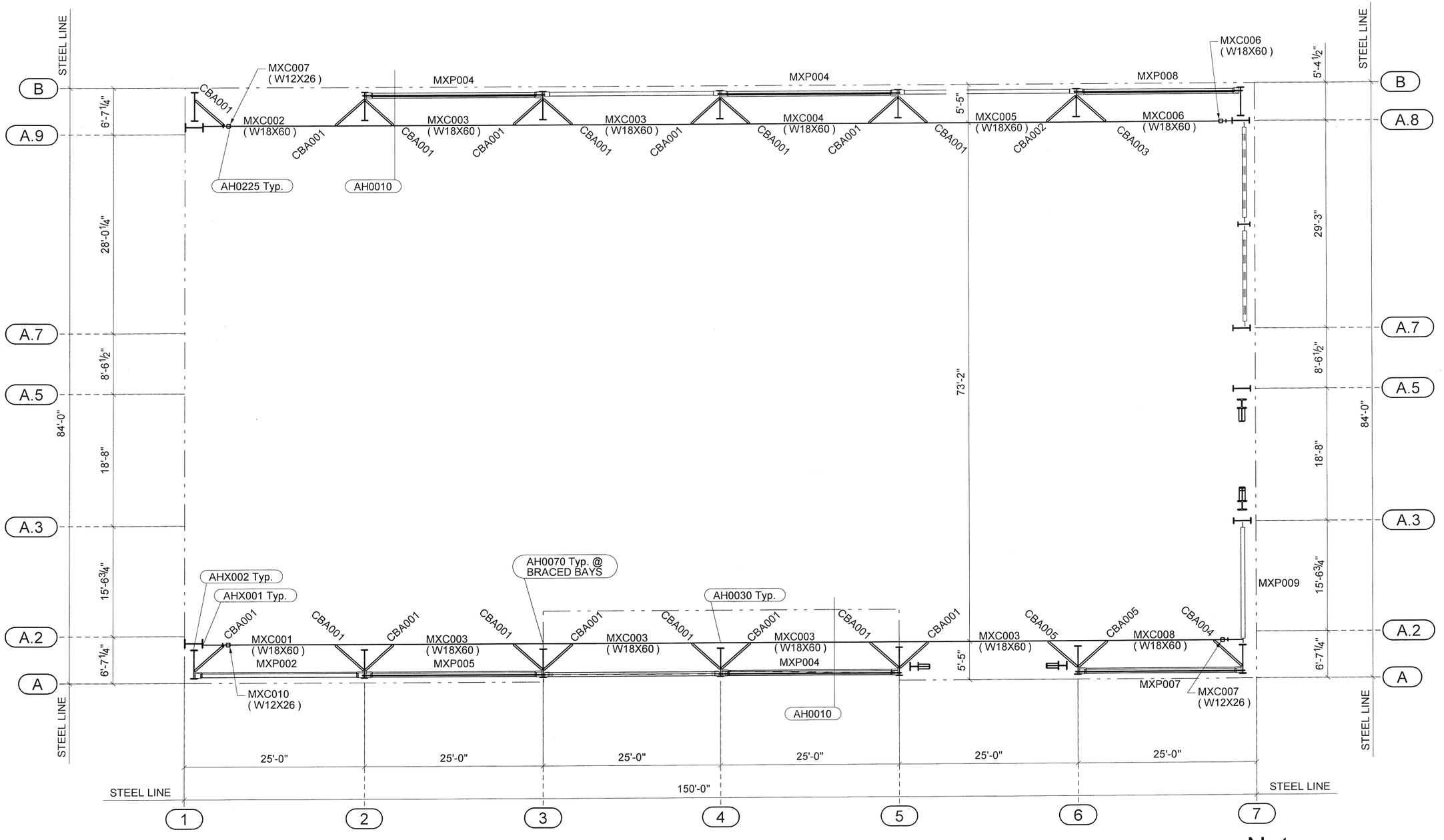
PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: BRB Cross Section At Line B

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:10pm

SHEET P18 OF 18

Part Sizes	
CBA	L3X3X¼ ANGLE



Notes:

See crane details for crane information and details.

The CBA_ angle braces must be installed on the frame columns and attached to the crane system at the time of building erection. The building relies on the crane system for stability. Without the crane system and the CBA_ angle braces installed, the building is unstable. This applies only to crane systems supplied with this building and does not apply to future crane systems.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR

CUSTOMER NAME: JH KELLY LLC Longview, WA

JOB NUMBER: U18H0248A

SHEET TITLE: Crane Plan

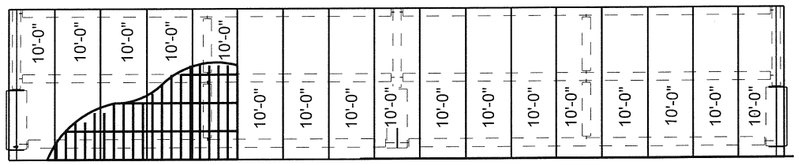
JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH

EXPIRATION DATE: 12-31-2018

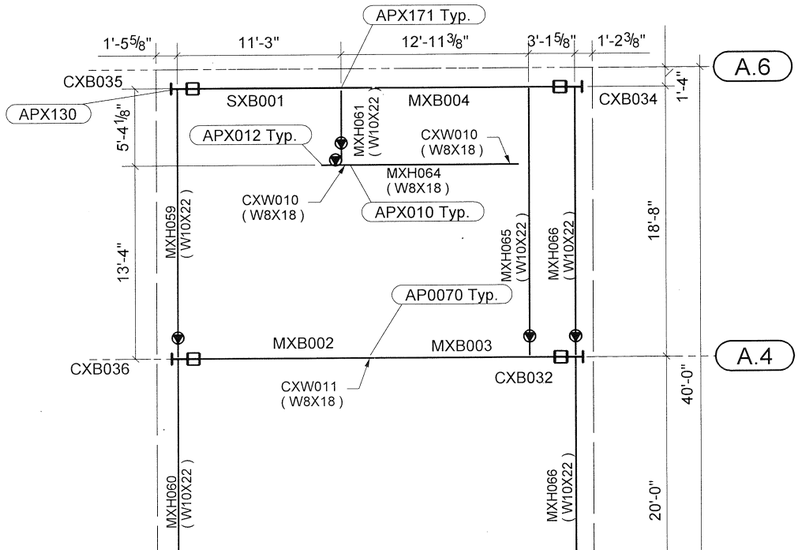
07/09/2018 10:34:45am

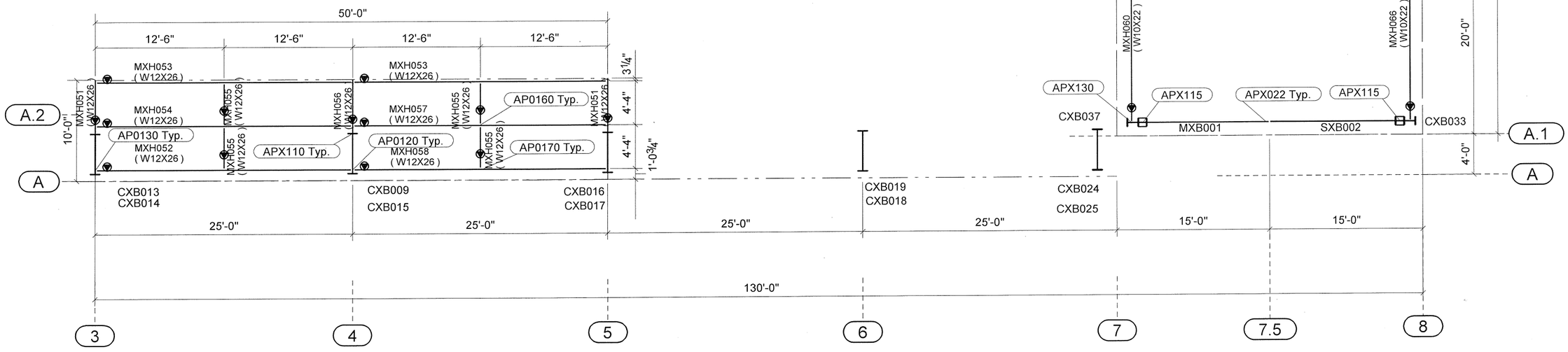
SHEET: CR1 OF 1



19w4 1" x 1/8" GALVANIZED GRATING

GRATING DETAIL VIEW





Material Schedule			
Mark#	Web Depth	Flange	Web
MXB001	8.250	6" x 0.375	0.250
MXB002	7.750	6" x 0.625	0.250
MXB003	7.750	6" x 0.625	0.250
MXB004	7.750	6" x 0.625	0.250
SXB001	7.750	6" x 0.625	0.250
SXB002	8.250	6" x 0.375	0.250

Notes:

- indicates tagged end of beam or rafter.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

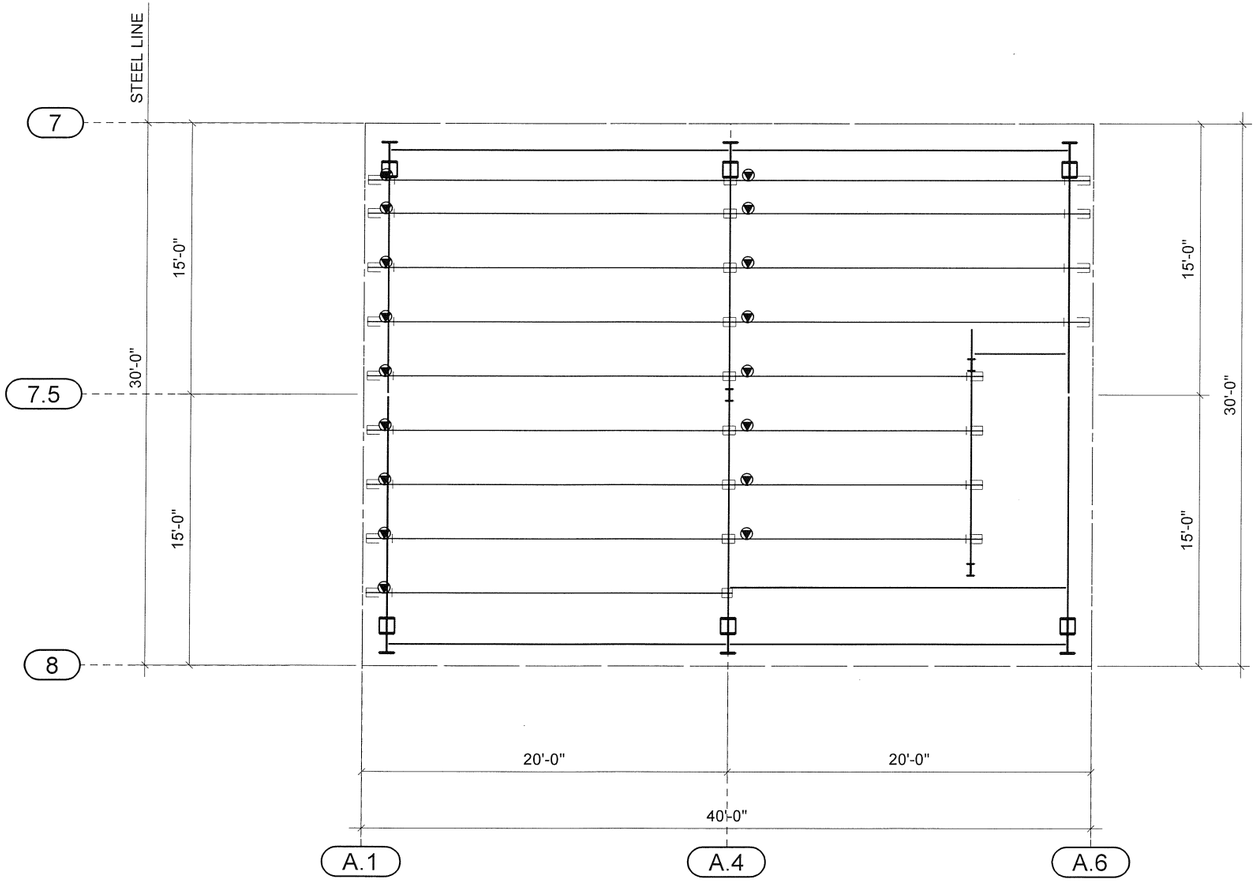
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Mezzanine Beam Plan

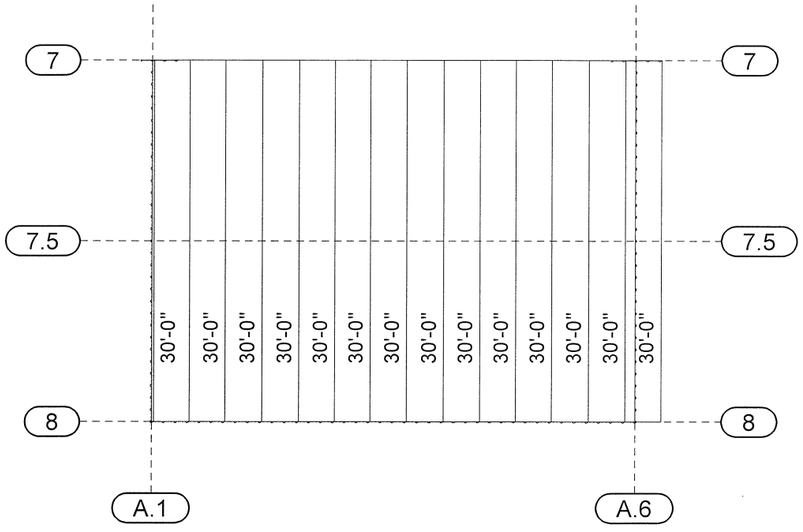
JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/09/2018 10:34:48am

SHEET: M1 OF 2



MEZZANINE JOIST PLAN



MEZZANINE DECK PLAN

Notes:

See mezzanine details for joist and deck handling notes.

See mezzanine details for mezzanine specifications.

▼ indicates tagged end of joists.

ISSUE	BY	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

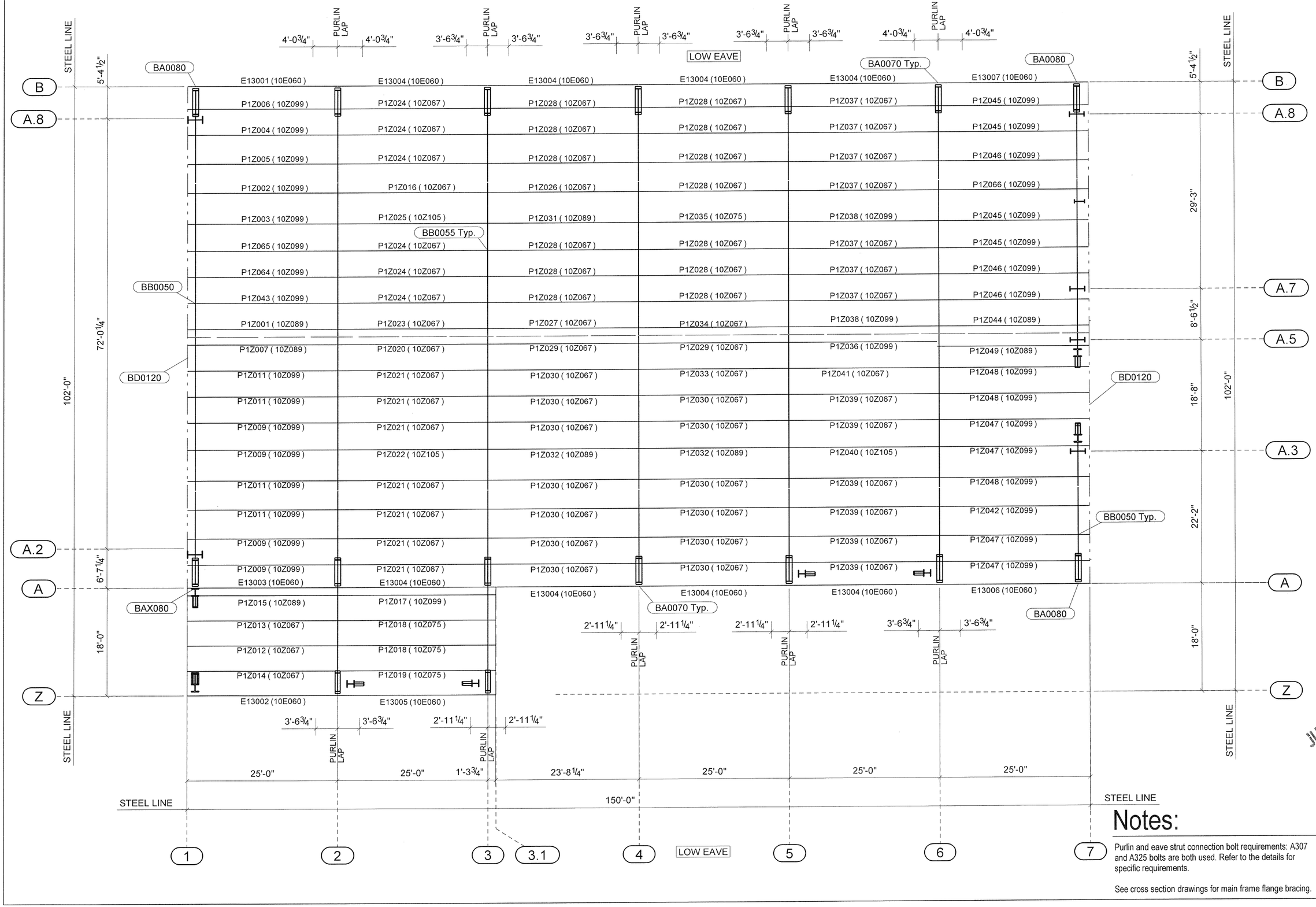
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: H KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Mezzanine Joist Plan

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/09/2018 10:34:51am

SHEET M2 OF 2



Notes:

Purlin and eave strut connection bolt requirements: A307 and A325 bolts are both used. Refer to the details for specific requirements.

See cross section drawings for main frame flange bracing.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

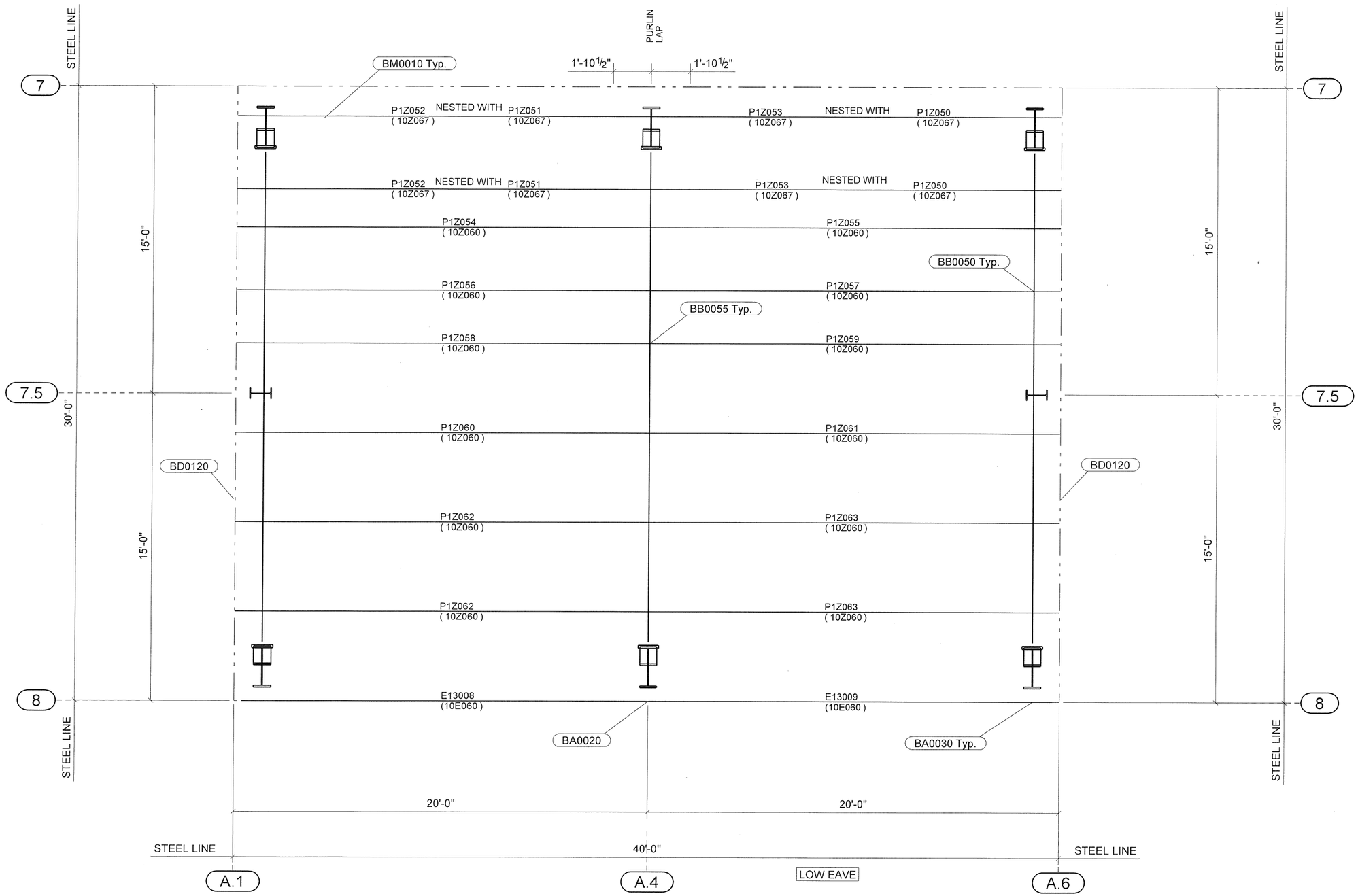
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Roof Framing Plan

JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:21 pm

SHEET R1 OF 3



Notes:

Purlin and eave strut connection bolt requirements: A307 and A325 bolts are both used. Refer to the details for specific requirements.

See cross section drawings for main frame flange bracing.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

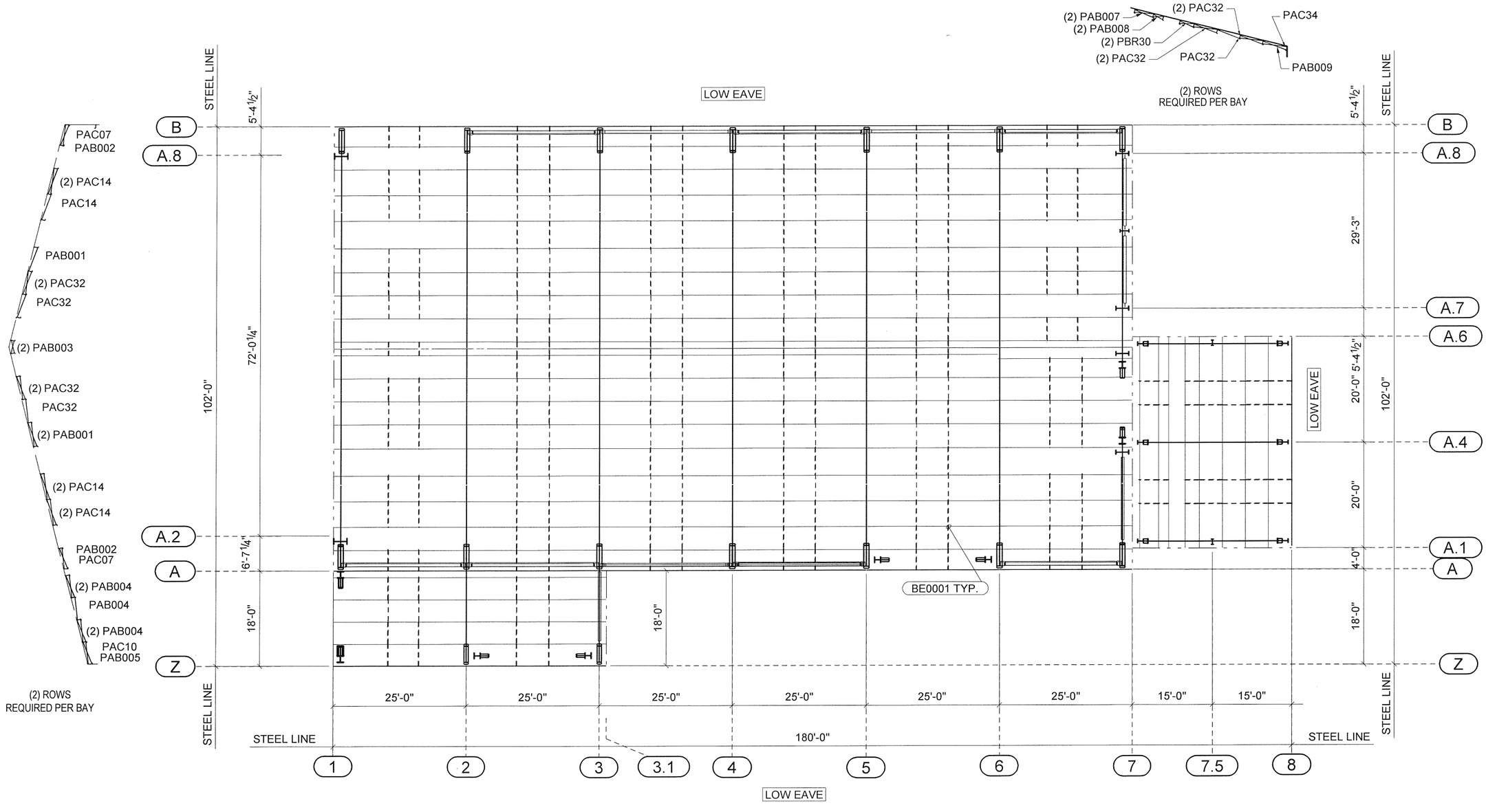
NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo, Toledo, OR
CUSTOMER NAME: JH KELLY LLC, Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Roof Framing Plan REW Lean-to

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/09/2018 06:06:24pm

SHEET R2 OF 3



Notes:

PAB__/PAC__ indicates purlin bracing. See roof framing details section BE0001 for more info.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

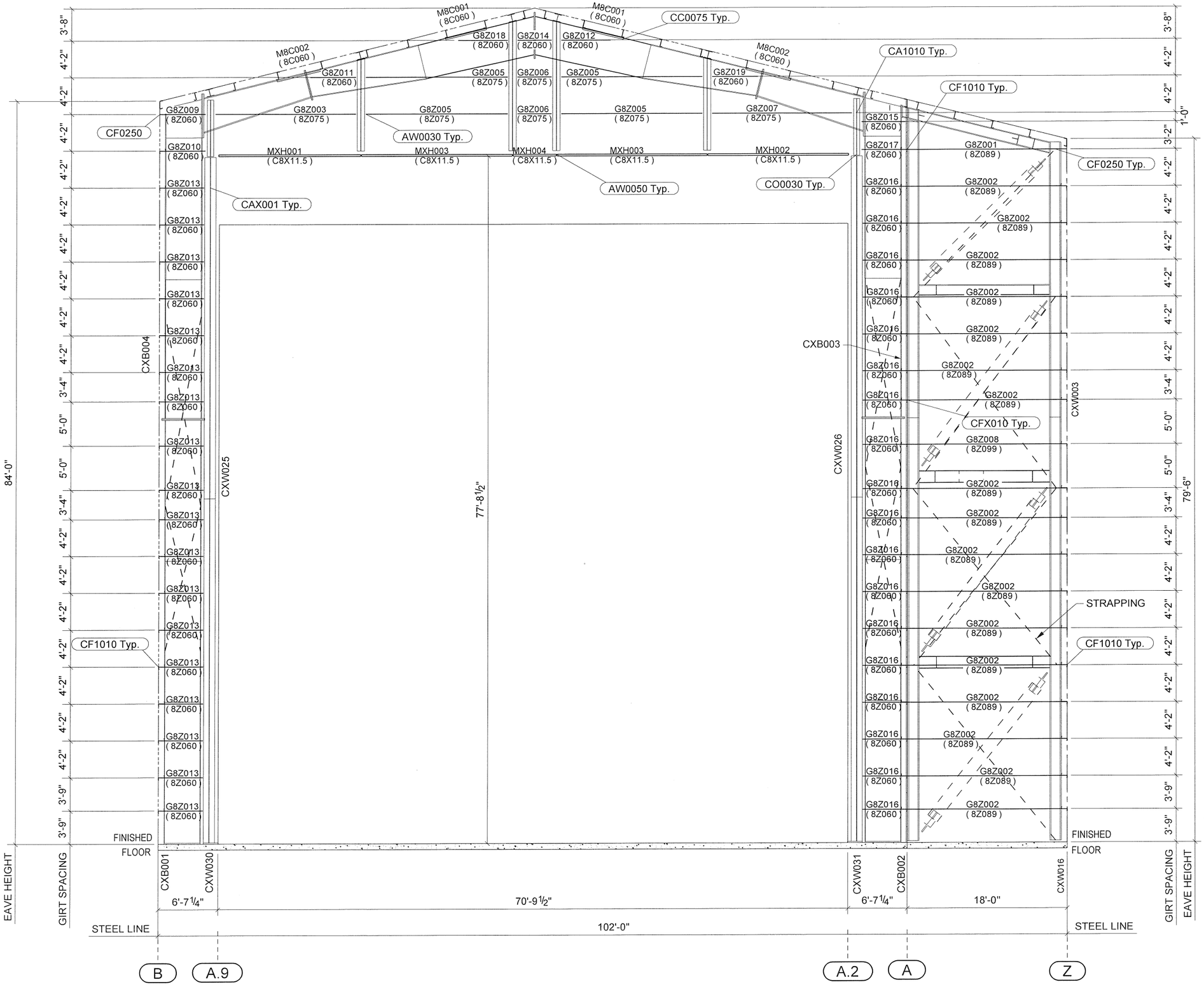
PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Purlin Bracing Plan

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

JUL 09 2018

07/09/2018 10:34:53am

SHEET R3 OF 3



Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo
Toledo, OR

CUSTOMER NAME: JH KELLY LLC
Longview, WA

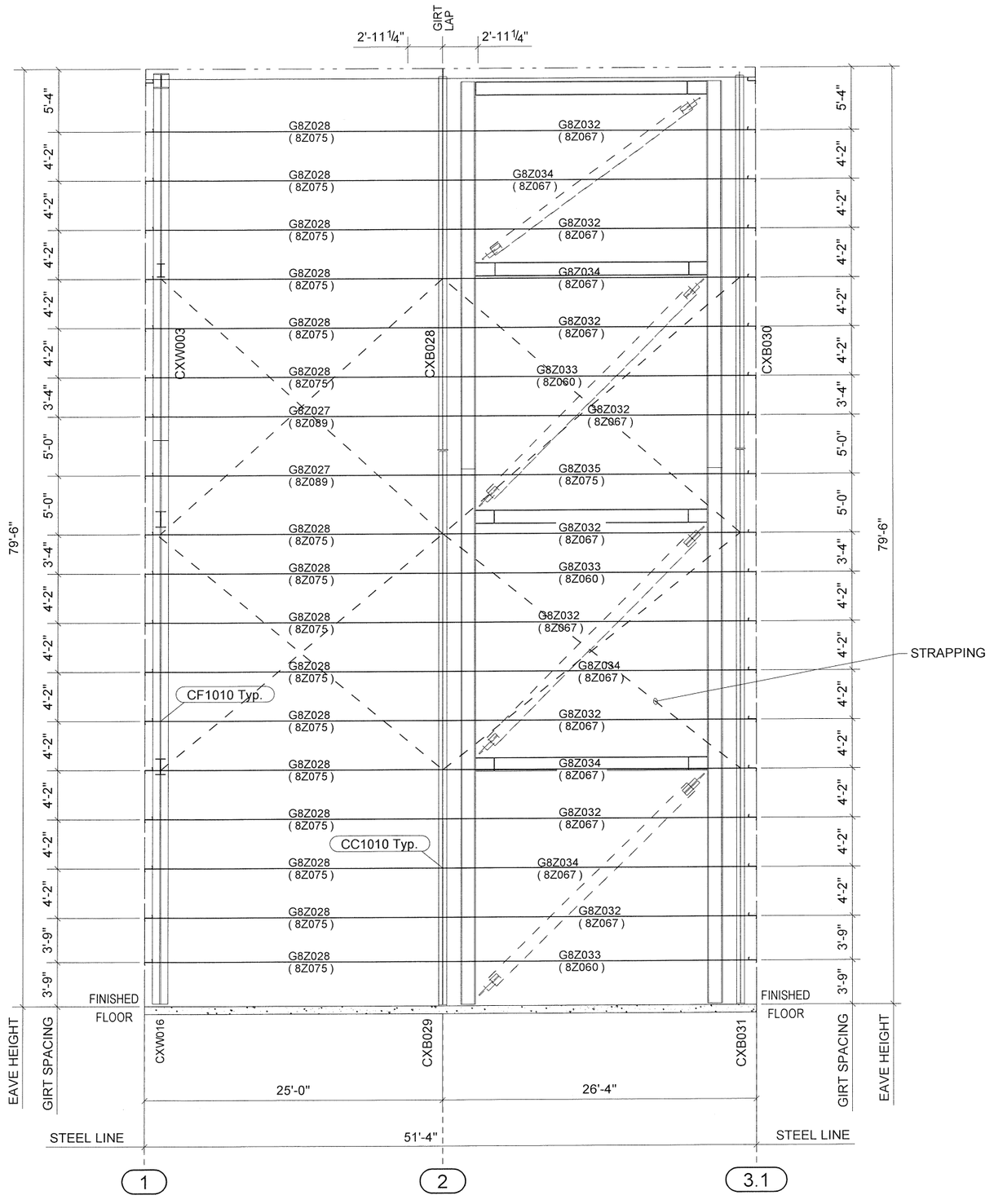
JOB NUMBER: U18H0248A

SHEET TITLE: Wall Framing Elevation at Line 1

JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET: W1 OF 10

07/09/2018 10:34:57am



Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo
Toledo, OR

CUSTOMER NAME: JH KELLY LLC
Longview, WA

JOB NUMBER: U18H0248A

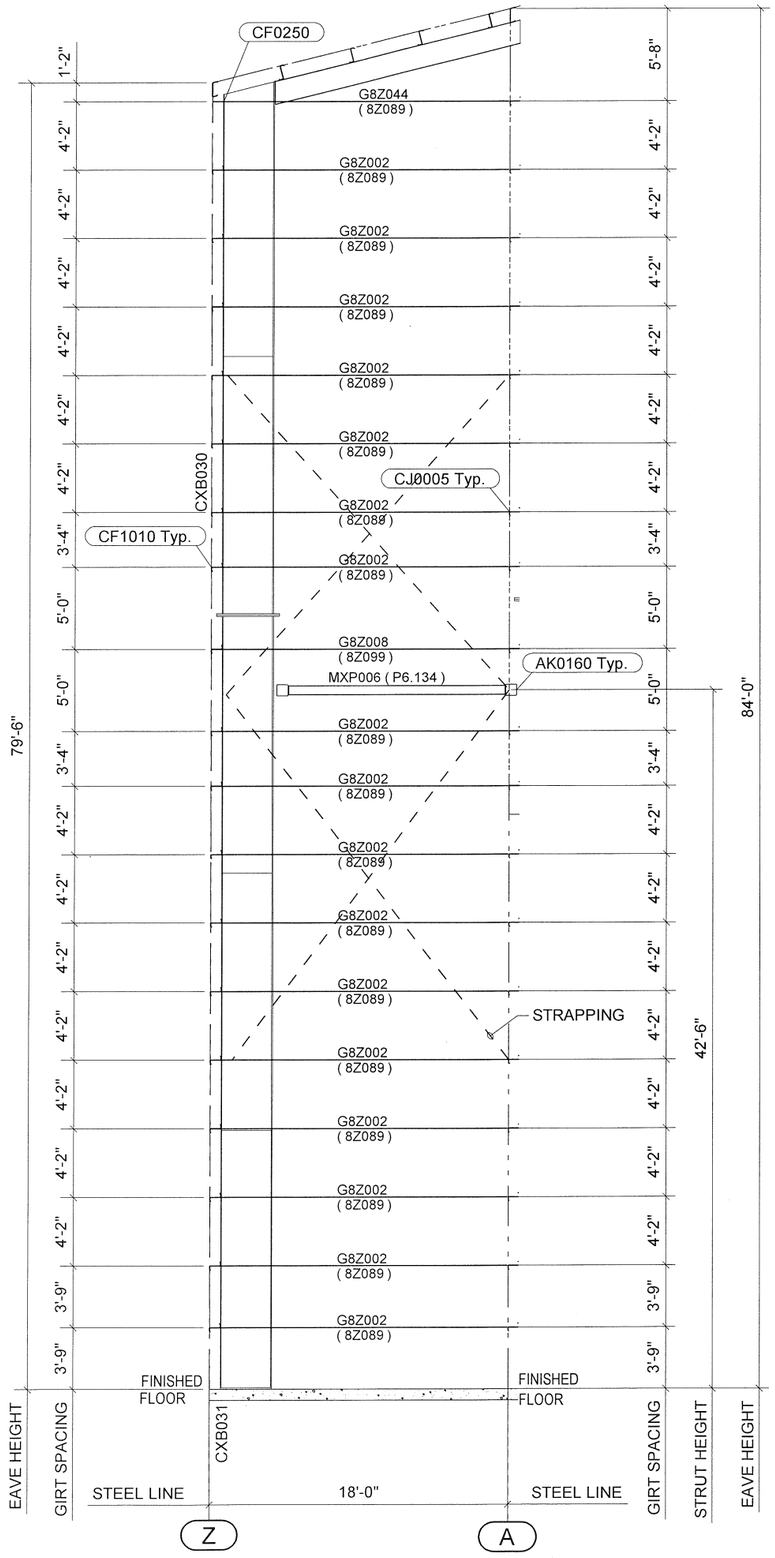
SHEET TITLE: Wall Framing Elevation at Line Z

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:32pm

SHEET W2 OF 10



Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME
Port of Toledo
Toledo, OR

CUSTOMER NAME
JH KELLY LLC
Longview, WA

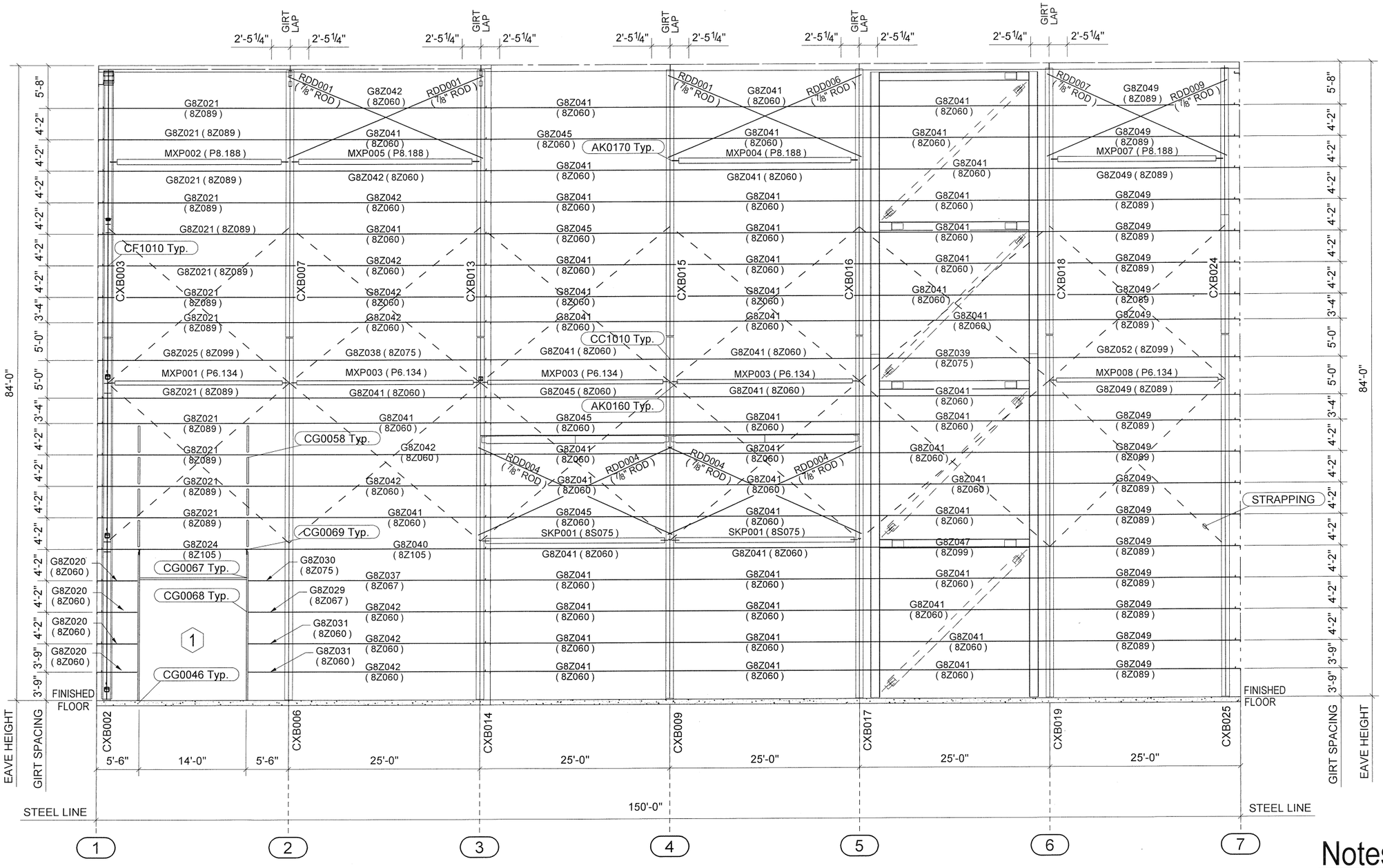
JOB NUMBER
U18H0248A

SHEET TITLE
Wall Framing Elevation at Line 3.1

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:34pm

SHEET
W3 OF 10



Framed Opening Schedule

ID	Qty	W X H	Header	Jambs Left/Right	Jamb Exts Left/Right
1	1	14'-0" X 16'-0	H8C001 (8C060)	MXH011 (C8X11.5)	J8C001 (8C060)

Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

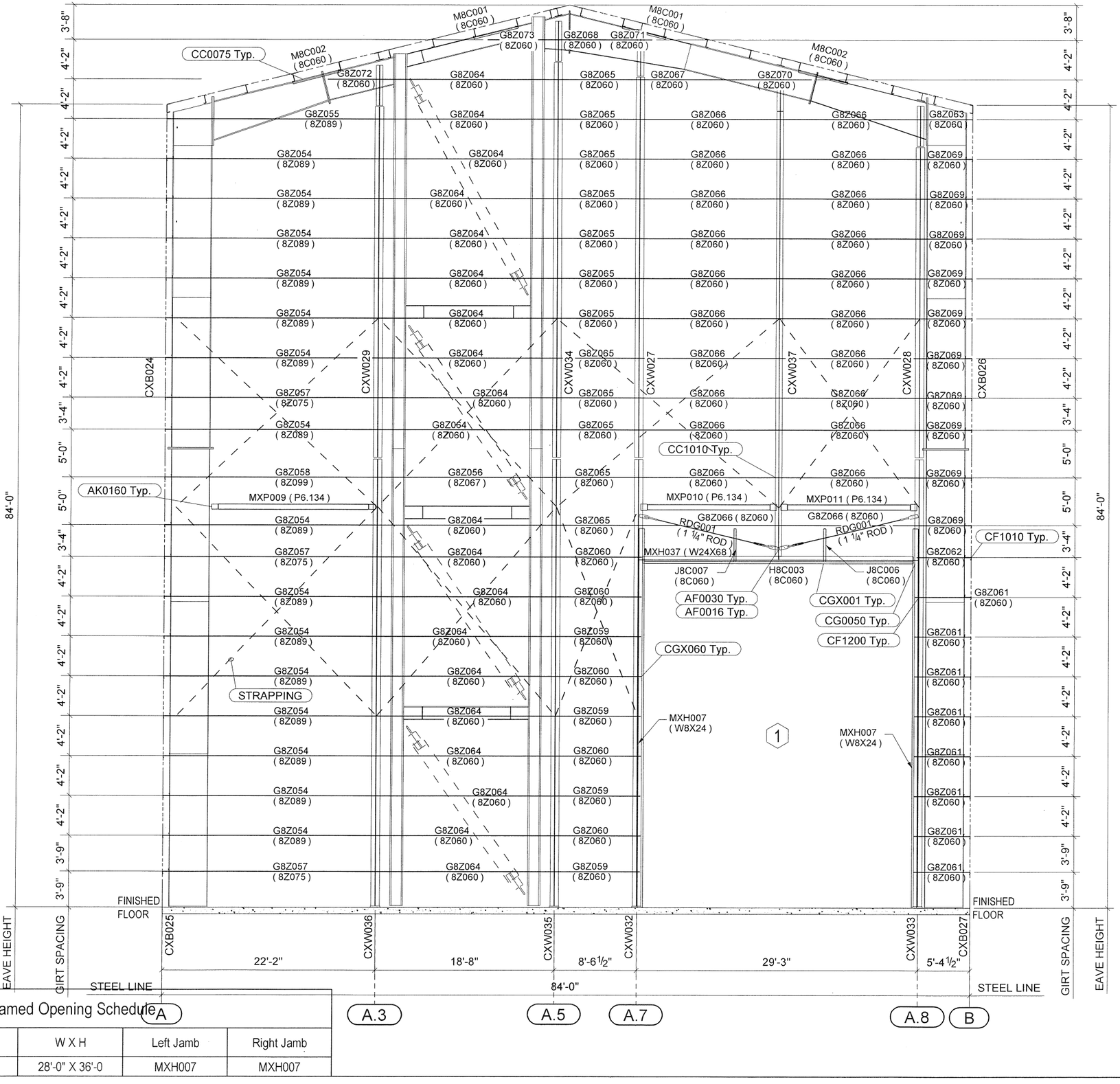
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Wall Framing Elevation at Line A

REGISTERED PROFESSIONAL ENGINEER 90648PE OREGON SEP. 8, 2015 GRANT J. ROTH
JUL 09 2018
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:39pm

SHEET W4 OF 10



Framed Opening Schedule

ID	Qty	W X H	Left Jamb	Right Jamb
1	1	28'-0" X 36'-0	MXH007	MXH007

Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

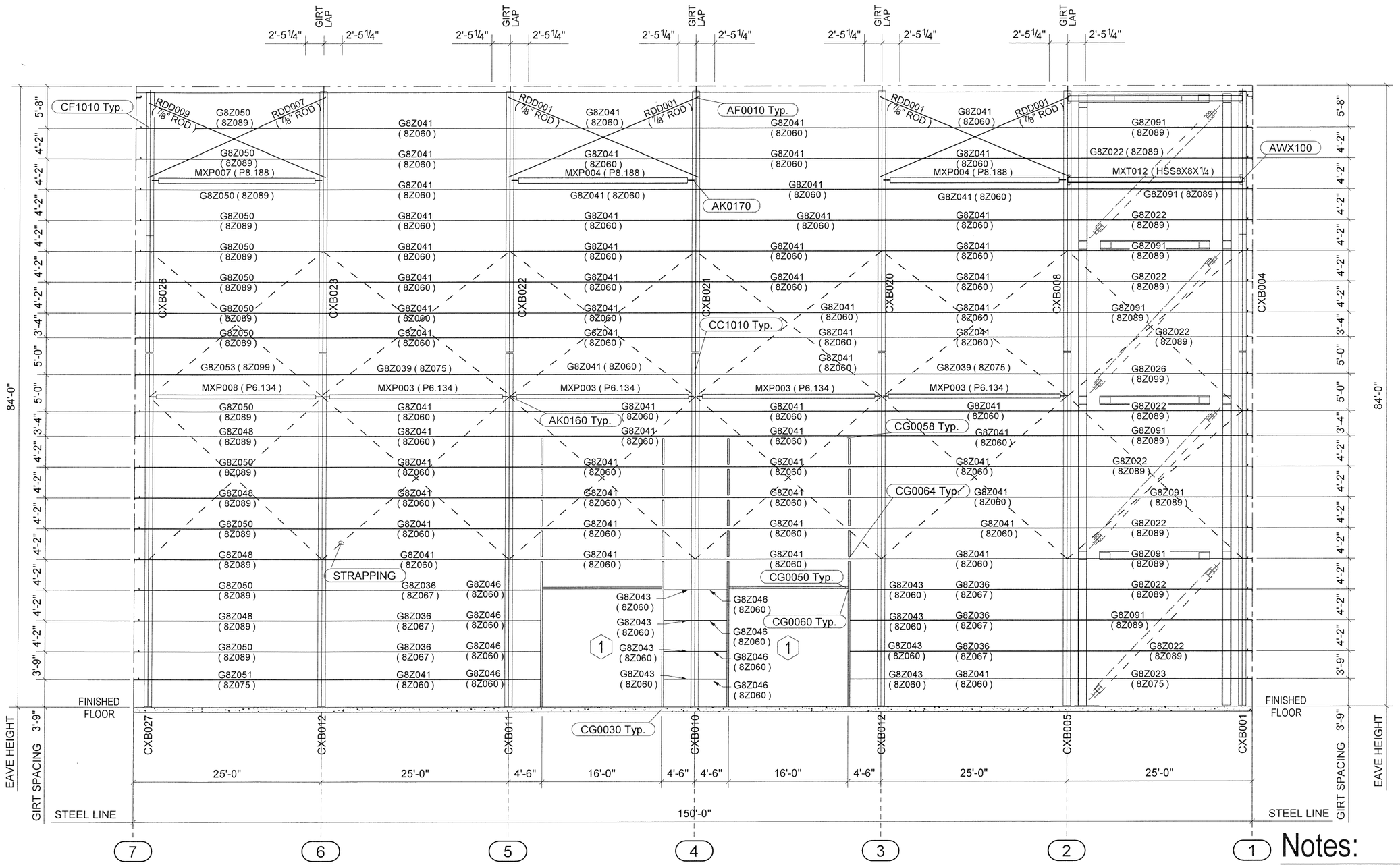
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Wall Framing Elevation at Line 7 Main

REGISTERED PROFESSIONAL ENGINEER 90648PE OREGON SEP 8, 2015 GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:40pm

SHEET W5 OF 10



Framed Opening Schedule

ID	Qty	W X H	Header	Jambs Left/Right	Jamb Exts Left/Right
1	2	16'-0" X 16'-0	H8C002 (8C060)	J8C004 (8C060)	J8C001 (8C060)

Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

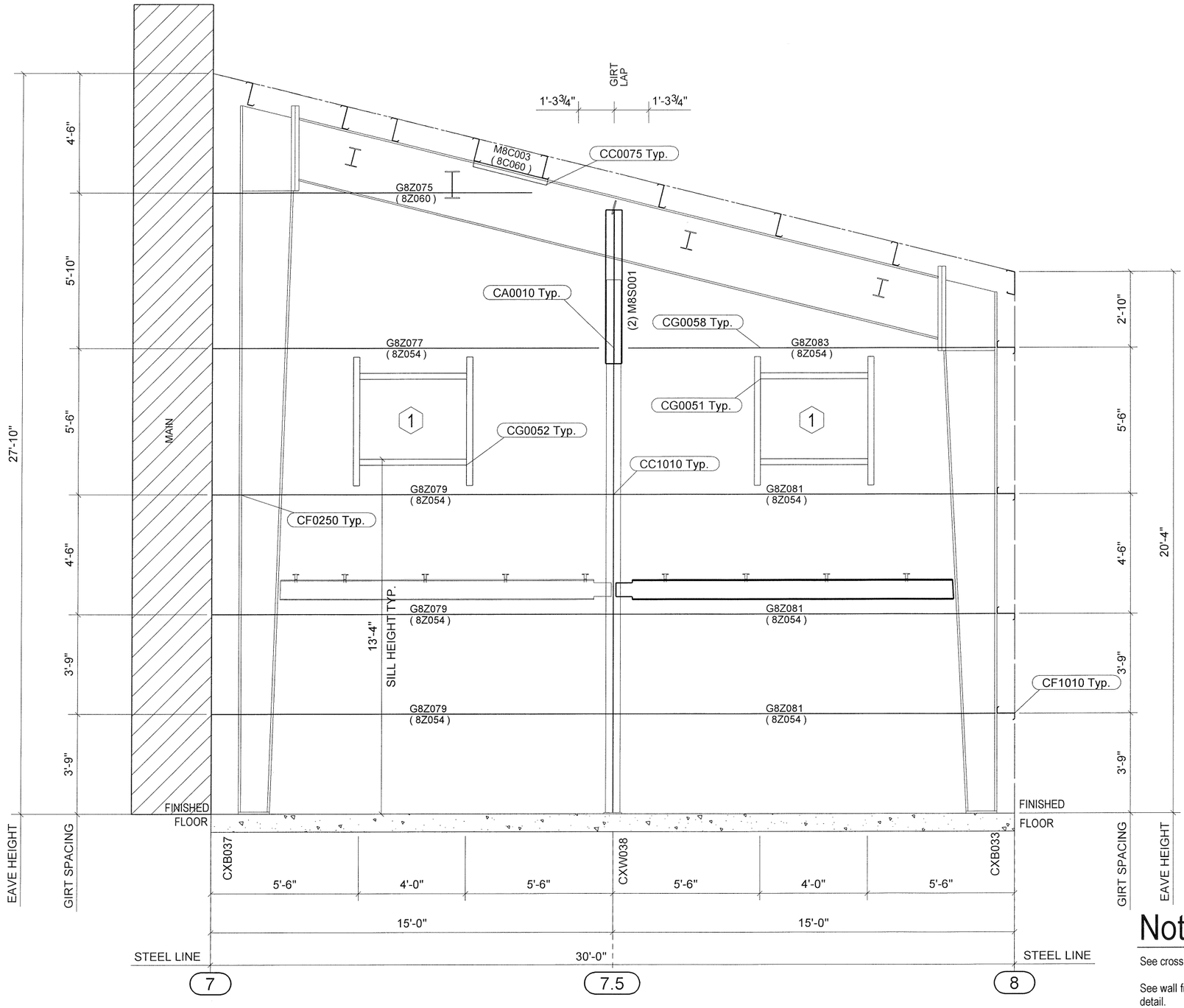
PROJECT NAME: Port of Toledo
Toledo, OR
CUSTOMER NAME: JH KELLY LLC
Longview, WA
JOB NUMBER: U18H0248A

SHEET TITLE: Wall Framing Elevation at Line B

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:43pm

SHEET W6 OF 10



Framed Opening Schedule

ID	Qty	W X H	Header	Sill	Jambs Left/Right
1	2	4'-0" X 3'-0	H8C004 (8C060)	H8C004 (8C060)	J8C009 (8C060)

Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

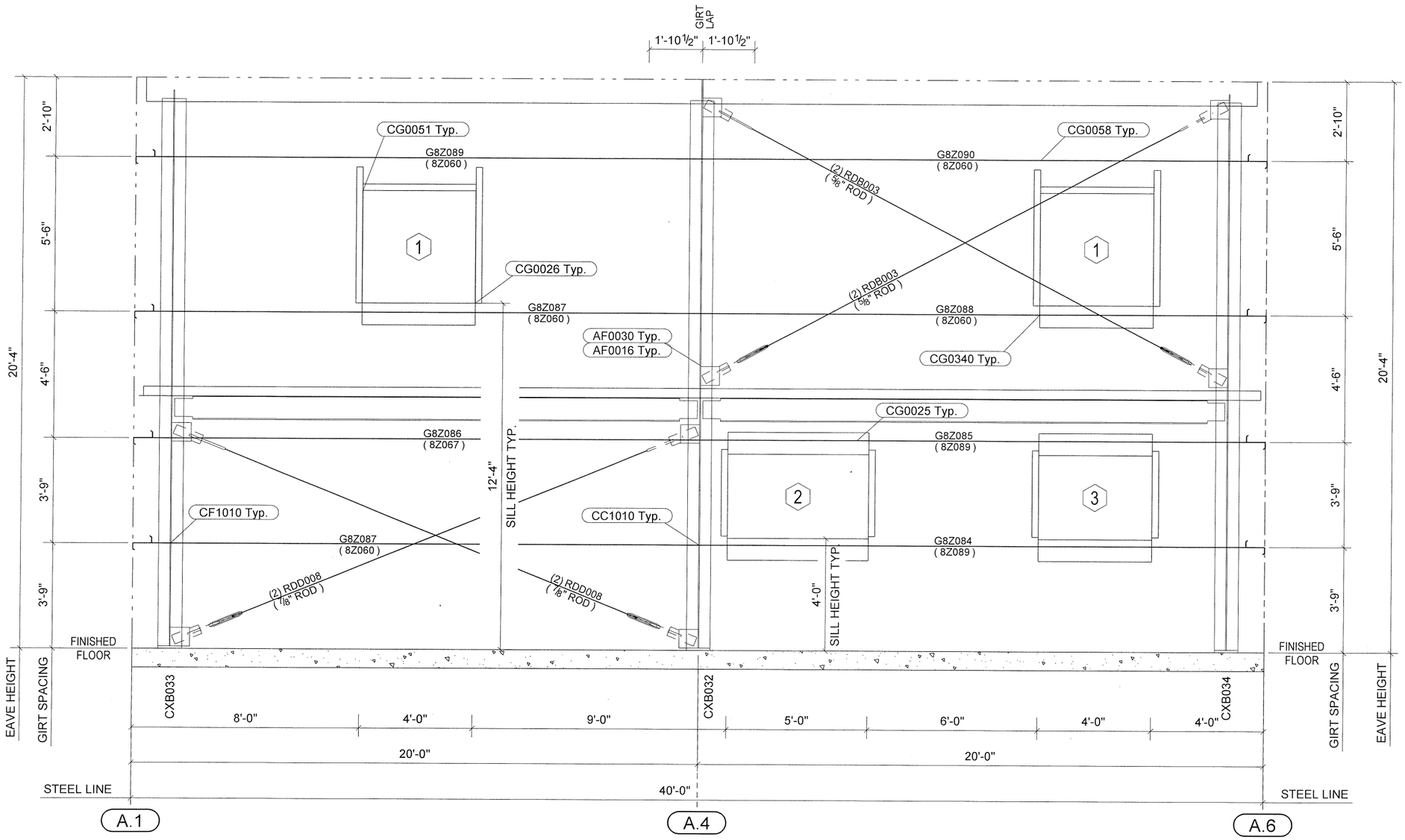
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Wall Framing Elevation at Line A.1

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:46pm

SHEET W7 OF 10



Framed Opening Schedule

ID	Qty	W X H	Header	Sill	Jambs Left/Right
1	2	4'-0" X 4'-0	H8C004 (8C060)	HW8002 (WRAP)	J8C009 (8C060)
2	1	5'-0" X 3'-0	HW8001 (WRAP)	HW8001 (WRAP)	J8C010 (8C060)
3	1	4'-0" X 3'-0	HW8002 (WRAP)	HW8002 (WRAP)	J8C010 (8C060)

Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

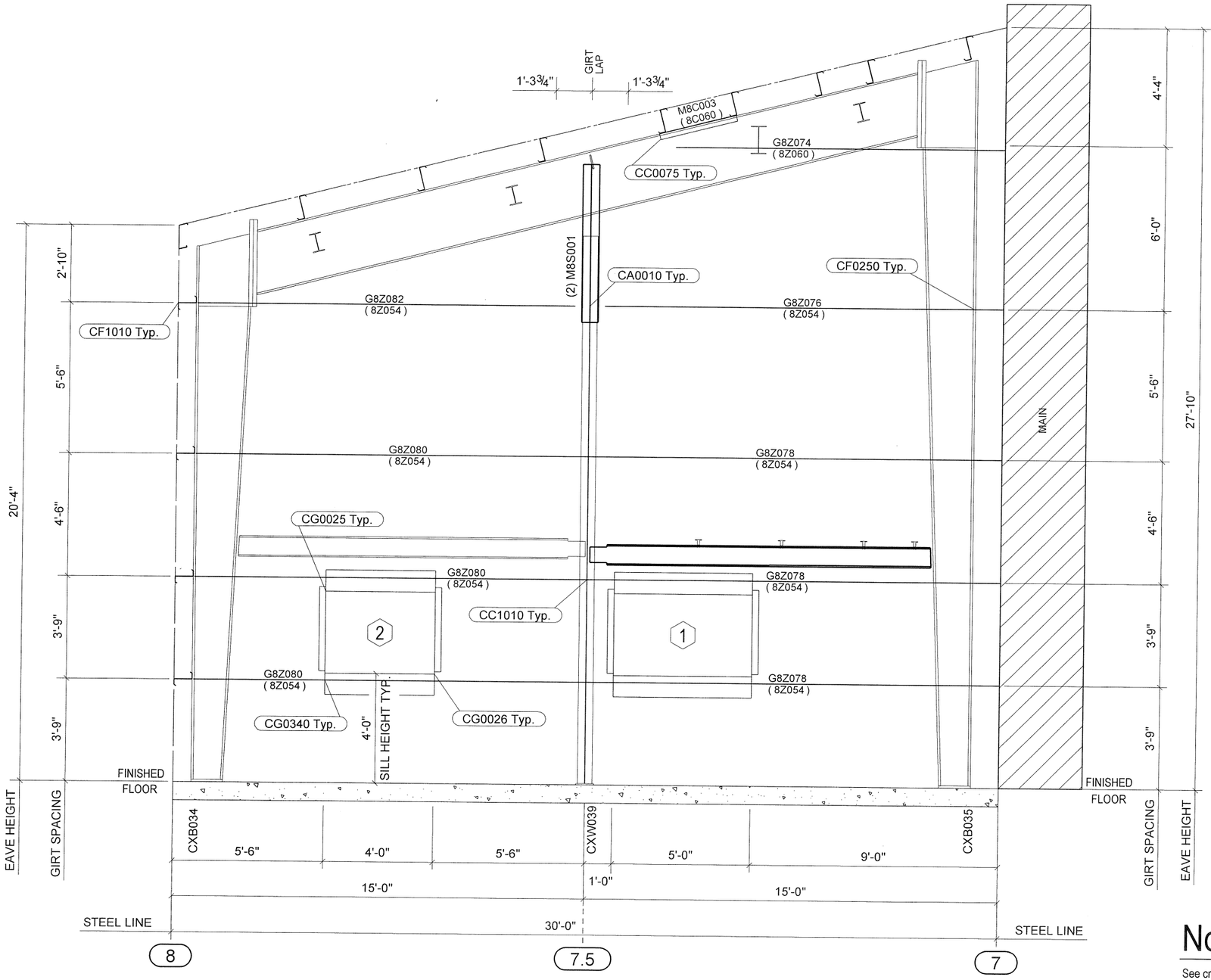
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Wall Framing Elevation at Line 8

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:48pm
These drawings were prepared by the materials designer and supplied by Nucor Building Systems as a division of Nucor Corporation. The drawings and the metal building which they represent are the product of Nucor Building Systems. The registered professional engineer whose seal appears on these drawings is employed by Nucor Building Systems and does not serve as a consulting engineer. Any use of these drawings for construction purposes requires the review by the engineer of record and shall not be construed as such.

SHEET
W8 OF 10



Framed Opening Schedule

ID	Qty	W X H	Header	Sill	Jambs Left/Right
1	1	5'-0" X 3'-0	HW8001 (WRAP)	HW8001 (WRAP)	J8C010 (8C060)
2	1	4'-0" X 3'-0	HW8002 (WRAP)	HW8002 (WRAP)	J8C010 (8C060)

Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Wall Framing Elevation at Line A.6

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
JUL 09 2018
EXPIRATION DATE: 12-31-2018

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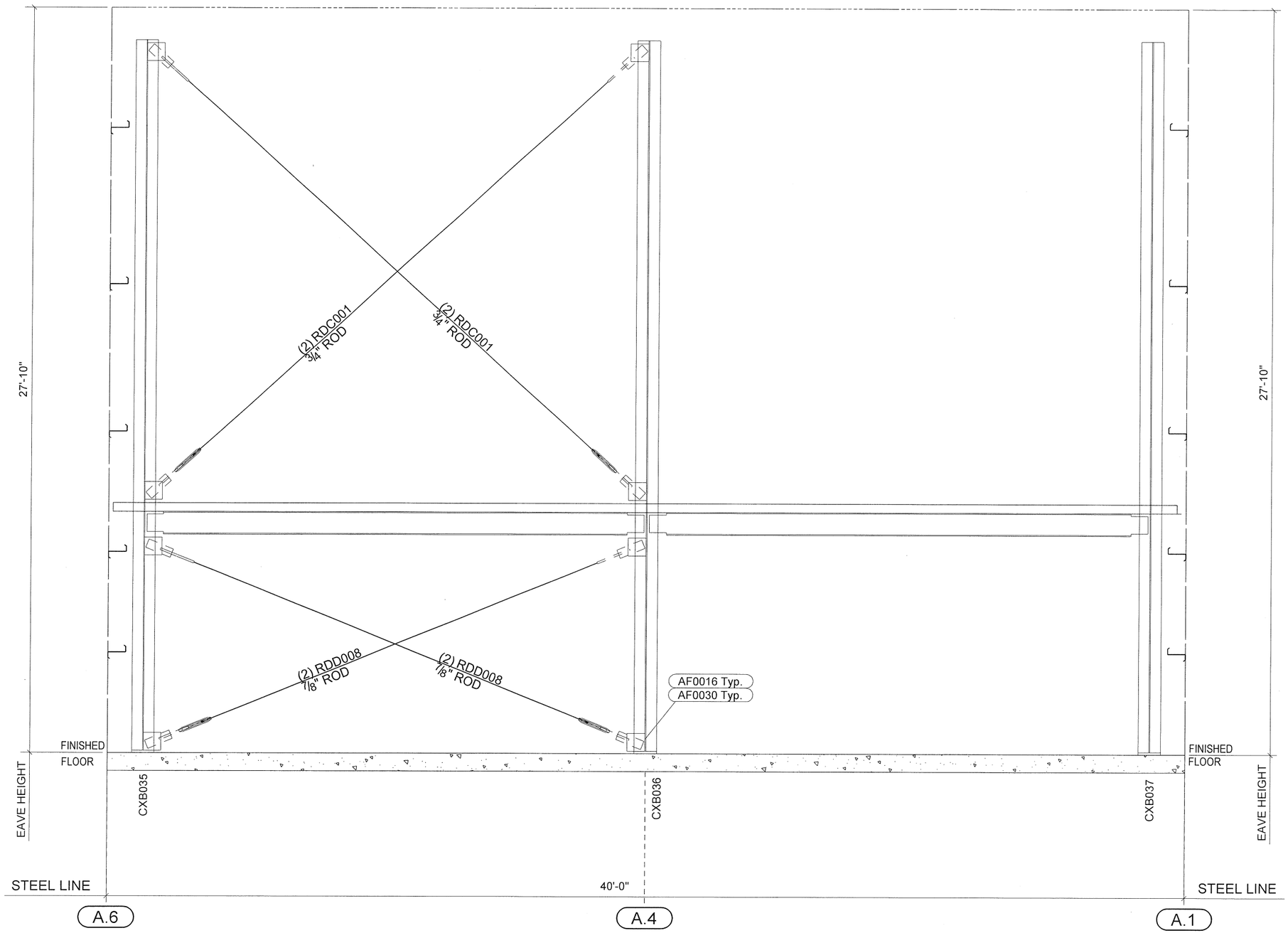
SHEET
W9 OF 10



Notes:

See cross section drawings for main frame flange bracing.

See wall framing details for standard girt orientation detail.

RD___ indicates rod bracing. See primary details for rod brace assembly.

At flush or inset girt condition, field slot girt webs, to allow passage of cable/rod bracing. See primary details for guidelines.

Cut and drill girts as necessary for field located framed openings.

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Wall Framing Elevation at Line 7 REW Lean-to

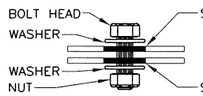
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018
JUL 09 2018

07/06/2018 06:06:52pm

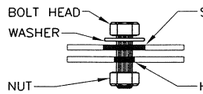
SHEET W10 OF 10

TYPICAL WASHER REQUIREMENTS ERECTOR NOTE

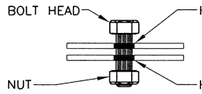
(UNLESS NOTED OTHERWISE ON DRAWINGS)



SLOT TO SLOT CONNECTIONS
WASHERS ARE REQUIRED ON BOTH SIDES OF MATERIAL IF SLOTS ARE USED ON BOTH SIDES. (SEE DETAIL AT RIGHT FOR LAPPED ZEE MEMBERS)



SLOT TO HOLE CONNECTIONS
ONE WASHER REQUIRED ON SLOTTED SIDE ONLY.

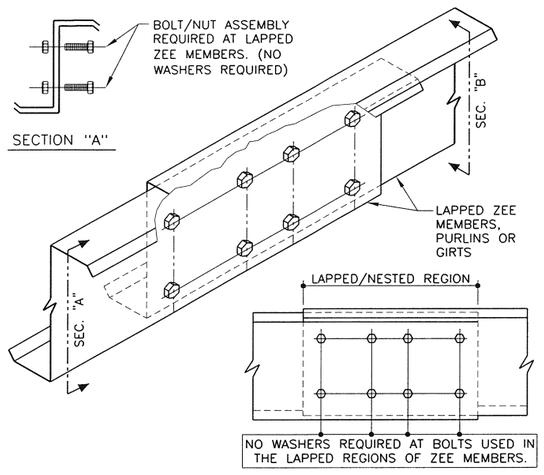


HOLE TO HOLE CONNECTIONS
NO WASHERS ARE REQUIRED WHEN SLOTS ARE NOT USED.

WASHER PART NUMBERS

H0200 – 1/2" FLAT WASHER	H0240 – 1" FLAT WASHER
H0210 – 5/8" FLAT WASHER	H0250 – 1 1/8" FLAT WASHER
H0220 – 3/4" FLAT WASHER	H0260 – 1 1/4" FLAT WASHER
H0230 – 7/8" FLAT WASHER	

A00010



SECTION "B"

TYPICAL FIELD WELD REQUIREMENTS ERECTOR NOTE:

(UNLESS NOTED OTHERWISE ON DRAWINGS)

ALL FIELD WELDING MUST BE PERFORMED BY AWS/CWB CERTIFIED WELDERS WHO ARE QUALIFIED FOR THE WELDING PROCESSES AND POSITIONS INDICATED. ALL WORK MUST BE COMPLETED AND INSPECTED IN ACCORDANCE WITH THE APPLICABLE AWS/CWB SPECIFICATIONS. WELD ELECTRODES USED FOR THE SMAW (OR STICK) WELD PROCESS MUST BE 70 KSI/483 MPa MATERIAL AND LOW HYDROGEN CONTENT.

GALVANIZED STEEL FIELD WELDING RECOMMENDATIONS

PREPARATION OF WELD AREA

AWS D-19.0, WELDING ZINC COATED STEEL, CALLS FOR WELDS TO BE MADE ON STEEL THAT IS FREE OF ZINC IN THE AREA TO BE WELDED. FOR GALVANIZED STRUCTURAL COMPONENTS, THE ZINC COATING SHOULD BE REMOVED AT LEAST ONE TO FOUR INCHES (2.5-10 CM) FROM EITHER SIDE OF THE INTENDED WELD ZONE AND ON BOTH SIDES OF THE WORKPIECE. GRINDING BACK THE ZINC COATING IS THE PREFERRED AND MOST COMMON METHOD; BURNING THE ZINC AWAY OR PUSHING BACK THE MOLTEN ZINC FROM THE WELD AREA ALSO ARE EFFECTIVE.

TOUCH-UP OF WELD AREA

WELDING ON GALVANIZED SURFACES DESTROYS THE ZINC COATING ON AND AROUND THE WELD AREA. RESTORATION OF THE AREA WILL BE PERFORMED IN ACCORDANCE WITH ASTM A 780, STANDARD PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT-DIP GALVANIZED COATINGS, WHICH SPECIFIES THE USE OF PAINTS CONTAINING ZINC DUST, ZINC-BASED SOLDERS OR SPRAYED ZINC. ALL TOUCHUP AND REPAIR METHODS ARE CAPABLE OF BUILDING A PROTECTIVE LAYER TO THE THICKNESS REQUIRED BY ASTM A 780.

SAFETY & HEALTH

WHEN WELDING DIRECTLY ON GALVANIZED STEEL IS UNAVOIDABLE, OSHA PERMISSIBLE EXPOSURE LIMITS (PELS) MAY BE EXCEEDED AND EVERY PRECAUTION, INCLUDING HIGH-VELOCITY CIRCULATING FANS WITH FILTERS, AIR RESPIRATORS AND FUME-EXTRACTION SYSTEMS SUGGESTED BY AWS, SHOULD BE EMPLOYED. FUMES FROM WELDING GALVANIZED STEEL CAN CONTAIN ZINC, IRON AND LEAD. FUME COMPOSITION TYPICALLY DEPENDS ON THE COMPOSITION OF MATERIALS USED, AS WELL AS THE HEAT APPLIED BY THE PARTICULAR WELDING PROCESS. IN ANY EVENT, GOOD VENTILATION MINIMIZES THE AMOUNT OF EXPOSURE TO FUMES.

PRIOR TO WELDING ON ANY METAL, CONSULT ANSI/ASC Z-49.1, SAFETY IN WELDING, CUTTING AND ALLIED PROCESSES, WHICH CONTAINS INFORMATION ON THE PROTECTION OF PERSONNEL AND THE GENERAL AREA, VENTILATION AND FIRE PREVENTION.

A00020

INFORMATION COURTESY OF AMERICAN GALVANIZERS ASSOCIATION

STANDARD ANGLE SCHEDULE

MAE0_	EAVE ANGLE GALVANIZED 4"x5"x120"	MAL02	LINER EAVE ANGLE 2:12 GALVANIZED 3"x3"x120"
MAF0_	SCULP. EAVE ANGLE GALVANIZED 5"x8"x120"	MAL05	LINER EAVE ANGLE 4:12 GALVANIZED 3"x3"x120"
MAG01	GIRT ANGLE GALVANIZED 1"x2-1/2"x12"	MAL07	LINER EAVE ANGLE 1:12 GALVANIZED 3"x3"x120"
MAG02	GIRT ANGLE GALVANIZED 1"x2-1/2"x24"	MAL12	LINER EAVE ANGLE 2:12 GALVANIZED 3"x7-3/4"x120"
MAG03	GIRT ANGLE GALVANIZED 1"x2-1/2"x30"	MAP01	RAKE PARAPET ANGLE GALVANIZED 2"x12"x120"
MAG10	GIRT ANGLE GALVANIZED 1"x2-1/2"x120"	MAP02	RAKE PARAPET ANGLE GALVANIZED 6"x6"x120"
MAH0_	EAVE STRUT ANGLE GALVANIZED 1"x2-1/2"x12"	MAR01	RAKE ANGLE GALVANIZED 3"x5"x240"
MAL01	LINER LOW EAVE ANGLE GALVANIZED 6"x7-3/4"x120"	MAR02	CFR RAKE/ BASE ANGLE GALVANIZED 2"x3"x242"

A00030

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo
Toledo, OR

CUSTOMER NAME: JH KELLY LLC
Longview, WA

JOB NUMBER: U18H0248A

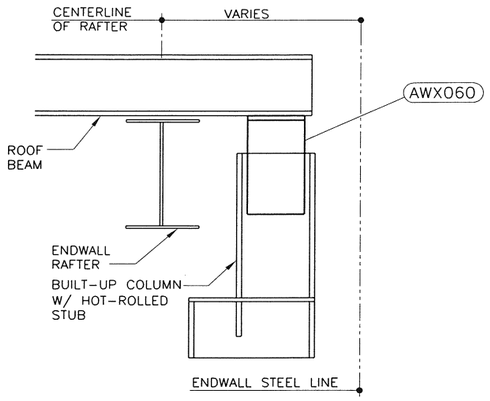
SHEET TITLE: General Details

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP 8, 2015
GRANT J. ROTH

EXPIRATION DATE: 12-31-2018

SHEET D1 OF 16

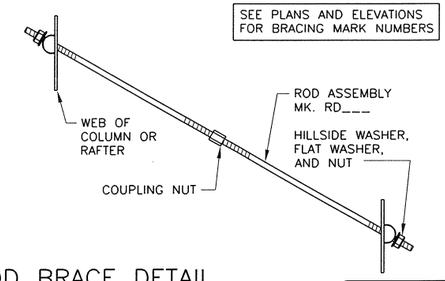


ENDWALL COLUMN TO EXPANDABLE ENDWALL RAFTER CONNECTION

AD0121

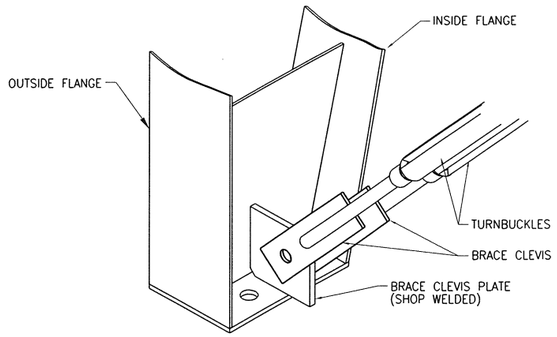
ROD DIAMETER	MARK NUMBER	HILLSIDE WASHERS	FLAT WASHERS	A307/A325 NUTS	COUPLING NUTS
5/8" ø	RDB__	(2) H0930	(2) H0210	(2) H0310	H0810
3/4" ø	RDC__	(2) H0930	(2) H0220	(2) H0320	H0820
7/8" ø	RDD__	(2) H0930	(2) H0230	(2) H0325	H0830
1" ø	RDE__	(2) H0960	(2) H0240	(2) H0330	H0840
1 1/8" ø	RDF__	(2) H0960	(2) H0250	(2) H0450	H0850
1 1/4" ø	RDG__	(2) H0960	(2) H0260	(2) H0340	H0860

SEE PLANS AND ELEVATIONS FOR BRACING MARK NUMBERS



ROD BRACE DETAIL
(WEB TO WEB)

AF0010



ERECTOR NOTE
FOR DOUBLE ROD BRACING, THE BRACE CLEVIS(S) MUST BE ATTACHED ON BOTH SIDES OF THE 1" SPECIAL PLATE. TOED OPPOSITE ONE ANOTHER, AS SHOWN.

DOUBLE ROD BRACING DETAIL

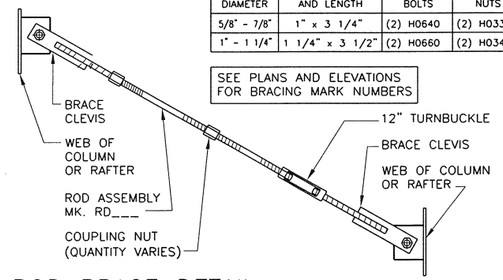
AF0016

ROD DIAMETERS	MARK NUMBERS	TURNBUCKLES	COUPLING NUTS	BRACE CLEVIS (AT TURNBUCKLE)	BRACE CLEVIS (AT COUPLING NUT)
5/8"	RDB___	(1) H0710	H0810	(1) BCS02	(1) BCS07
3/4"	RDC___	(1) H0720	H0820	(1) BCS03	(1) BCS08
7/8"	RDD___	(1) H0730	H0830	(1) BCS04	(1) BCS09
1"	RDE___	(1) H0740	H0840	(1) BCS05	(1) BCL06
1 1/8"	RDF___	(1) H0750	H0850	(1) BCL01	(1) BCL03
1 1/4"	RDG___	(1) H0760	H0860	(1) BCL02	(1) BCL04

BRACE CLEVIS BOLT AND NUT PART NUMBERS

ROD DIAMETER	BOLT DIAMETER AND LENGTH	A325 BOLTS	A325 NUTS
5/8" - 7/8"	1" x 3 1/4"	(2) H0640	(2) H0330
1" - 1 1/4"	1 1/4" x 3 1/2"	(2) H0660	(2) H0340

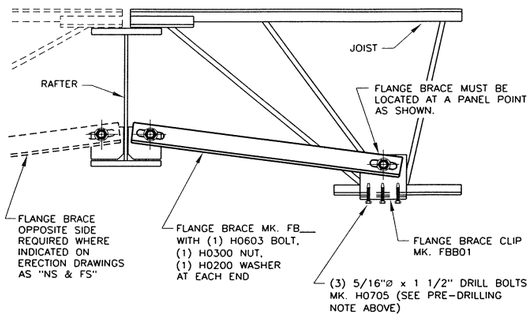
SEE PLANS AND ELEVATIONS FOR BRACING MARK NUMBERS



ROD BRACE DETAIL
(CLEVIS TO CLEVIS)

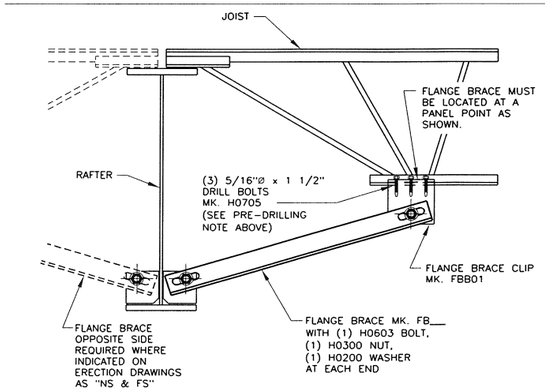
AF0030

ERECTOR NOTES: ORIENT FLANGE BRACE CLIP AS REQUIRED FOR BEST FIT UP OF FLANGE BRACE.
DRILL BOLTS SHOULD BE PUT IN AT 1000-1500 RPM'S WITH MODERATE PRESSURE APPLIED.
PRE-DRILLING USING 1/4" DIA. HOLES WILL BE REQUIRED IF MATERIAL THICKNESS IS GREATER THAN 1/4".



JOIST DEPTH GREATER THAN RAFTER DEPTH

ALL FLANGE BRACE CONNECTIONS REQUIRE 1/2" x 2" A325 BOLTS UNLESS NOTED OTHERWISE



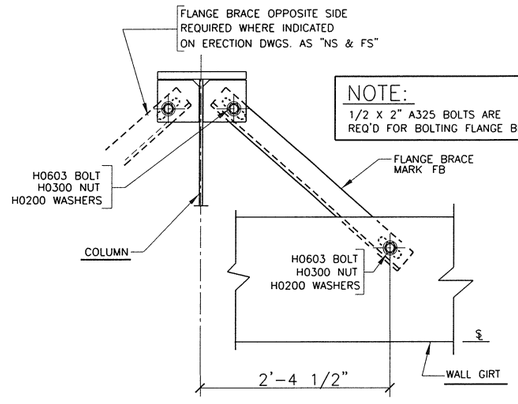
RAFTER DEPTH GREATER THAN JOIST DEPTH

ALL FLANGE BRACE CONNECTIONS REQUIRE 1/2" x 2" A325 BOLTS UNLESS NOTED OTHERWISE

ALL BOLTED FLANGE BRACE DETAIL FOR JOIST TO RAFTER CONNECTION

SEE PLANS AND ELEVATIONS FOR FLANGE BRACE PART MARKS

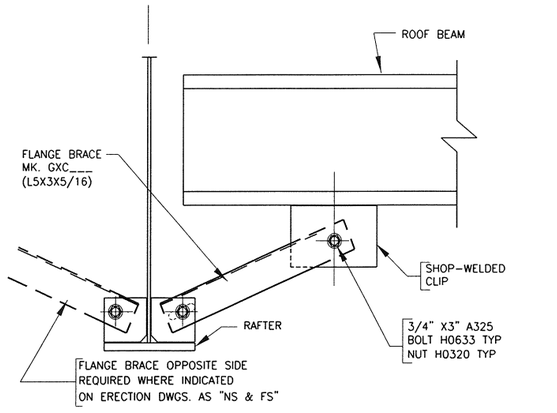
AG0026(K)



TYP FLANGE BRACE @ BU COL & GIRT

NOTE: SEE PLANS AND ELEVATIONS FOR FLANGE BRACE PART MARKS

AG0030



FLANGE BRACE TO BEAM

AGX070

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

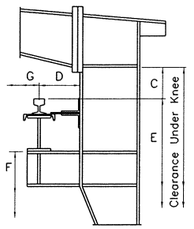
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Primary Details

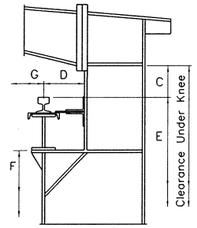
JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

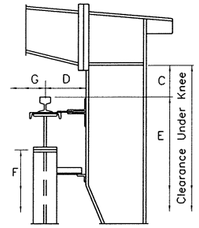
SHEET D2 OF 16



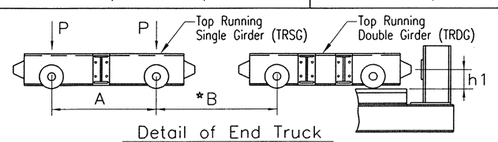
☒ Crane Supported By Frame Columns
(50 KIPS Max.)



☐ Crane Supported By Frame Columns
(100 KIPS Max.)



☐ Crane Supported By Separate Column
(Over 100 KIPS)



Detail of End Truck
*For Multiple Cranes Only

MATERIALS PROVIDED BY NUCOR BUILDING SYSTEMS

Y	N	
☐	☒	Design For Crane Loads Only
☒	☐	Brackets or Auxiliary Columns
☒	☐	Runway Beam or Runway Beam & Channel
☒	☐	Crane Rail & Method of Attachment
☒	☐	Crane Stops

Crane I.D. (A, B, C...) A, B

Information Provided/Confirmed By Customer

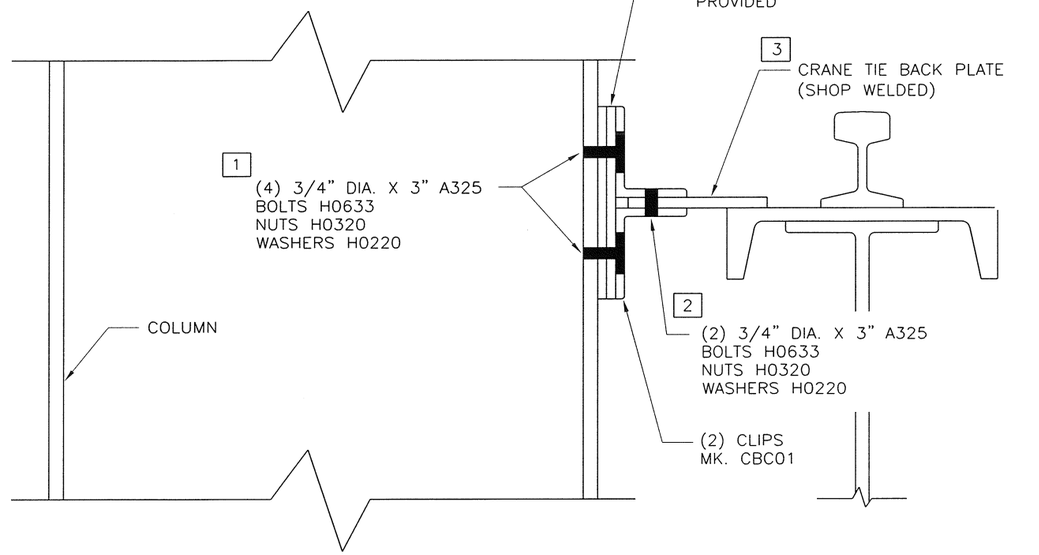
	Quantity of Cranes:	2		h1 Top of Rail to Center of Stop:	4" ft.-in.
	Crane Type (TRSG/TRDG):	TRDG		Length of Runway:	150'-0" ft.
	Rated Capacity:	5	tons	No. of Wheels Per Endtruck:	2
	CMAA Service Duty Class:	C		Adjacent Crane ID:	
	Operation Control Type:	RADIO		Crane Rail Size (ASCE):	40 lbs/yd
	Hoist and Trolley Weight:	1559#	lbs.	A Wheel Spacing:	10'-4" ft.-in.
	Bridge Weight:	9911#	lbs.	B Center to Center of Adj. Crane Wheels:	1'-7" ft.-in.
P	Max. Wheel Load w/o Impact:	8866#	lbs.	C Minimum Clear Dist from Top of Rail:	3'-6" ft.-in.
	Bumper Type:	*		D Minimum Side Clear Distance:	5" ft.-in.
	Bumper Stroke:	*	in.	E Top of Rail to Finished Floor:	73'-0" ft.-in.
	Bridge Travel Speed:	*	fpm	F Top of Bracket to Finished Floor:	71'-2 1/4" ft.-in.
	Crane End Stop Force:	4272#	lbs.	G Center To Center of Rail:	73'-2" ft.-in.

NOTES: * NOT TO EXCEED CRANE STOP FORCE

CRANE IMPACT FACTORS PER ASCE 7: VERTICAL 1.25, LATERAL 1.20, LONGITUDINAL 1.1

TOP RUNNING CRANE DESIGN INFORMATION DETAIL

FIELD NOTE:
THE NUMBER OF SHIM PLATES REQUIRED PER CONNECTION TO COLUMN MAY VARY FROM : 0 TO 4, (DO NOT EXCEED (4) PLATES)
MAXIMUM SHIM SPACE IS 5/8"



1 BOLTS MUST BE FULLY TIGHTENED.

2 BOLTS TO BE HAND TIGHTENED ONLY. THREADS MUST BE DISTORTED TO PREVENT BOLTS FROM LOOSENING.

3 FIELD SLOTTING OF LATERAL TIE BACK PLATE OR ANGLES IS NOT PERMITTED. FIELD MODIFICATION OF THIS CONNECTION WILL ADVERSELY AFFECT THE STRUCTURAL PERFORMANCE AND INTEGRITY OF THE CRANE RUNWAY SYSTEM.

CRANE TIE BACK CONNECTION

RUNWAY BEAM TO COLUMN CONNECTION

AH0008

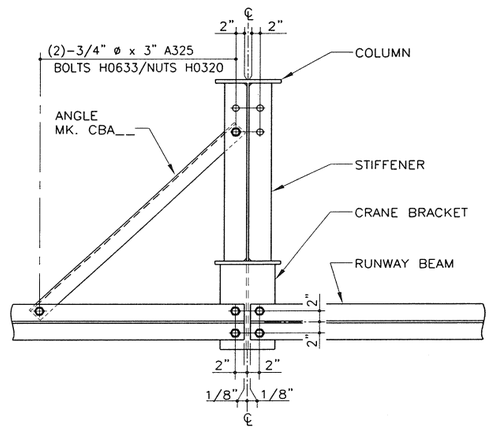
CRANE SYSTEM GENERAL NOTES

1) COORDINATION OF OTHER TRADES: SUPPORTS AND BRACING FOR THE CRANE SYSTEM SHALL BE PROVIDED AND ARE REQUIRED AS SHOWN IN THE SECTIONS AND AS NOTED IN THESE GENERAL NOTES. NECESSARY CLEARANCE DIMENSIONS FOR PROPER ELEVATIONS RELATIVE TO THE CRANE SYSTEMS HAVE BEEN SHOWN. THE BUYER SHALL BE RESPONSIBLE FOR COORDINATING THESE DIMENSIONAL REQUIREMENTS WITH OTHER TRADES ASSOCIATED WITH THE BUILDING SYSTEM.

2) FOR TOP RUNNING CRANE SYSTEMS, CRANE RAIL SPLICES MUST BE ARRANGED SO THAT JOINTS ON OPPOSITE RUNWAY BEAMS FOR THE CRANE AISLE ARE STAGGERED WITH RESPECT TO THE WHEEL BASE OF THE CRANE. REFER TO CMAA OR AISC GUIDELINES FOR FURTHER INSTALLATION REQUIREMENTS.

3) PERIODIC MAINTENANCE IS REQUIRED. DUE TO THE NATURE OF THE CRANE SYSTEM, MAINTENANCE INCLUDING BUT NOT LIMITED TO, TIGHTENING OF BOLTS AND NUTS MUST BE DONE AS REQUIRED BY BUILDER OR THE BUILDING OWNER TO ENSURE THAT THE CRANE SYSTEM REMAINS IN SAFE, OPERATING CONDITION. REFER TO CMAA OR AISC GUIDELINES FOR PERIODIC MAINTENANCE REQUIREMENTS.

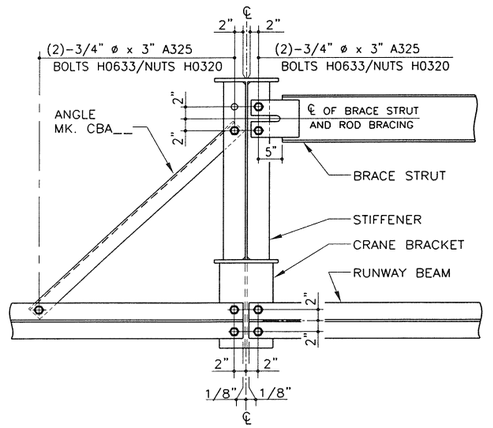
4) SEE RAIL TO RUNWAY BEAM CONNECTION DETAILS FOR HOOK BOLT OR SLIDING CLAMP REQUIREMENTS.



TOP RUNNING BRIDGE CRANE DETAIL

RUNWAY BEAM TO COLUMN BRACING (TYPICAL UNLESS NOTED OTHERWISE)

AH0030



TOP RUNNING BRIDGE CRANE DETAIL

RUNWAY BEAM TO COLUMN BRACING (TYPICAL AT BRACED BAY)

AH0070

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

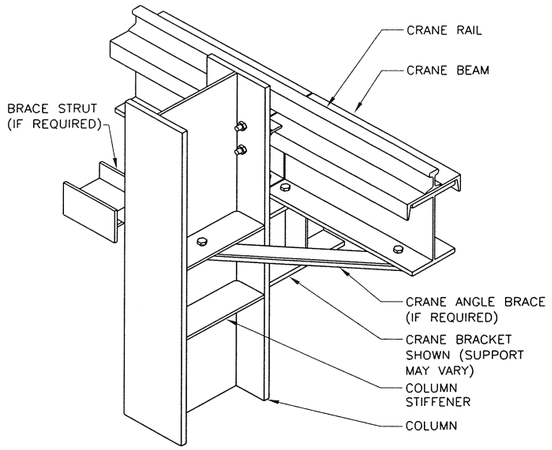
ISSUE	OWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

PROJECT NAME: Port of Toledo
Toledo, OR
CUSTOMER NAME: JH KELLY LLC
Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Primary Details

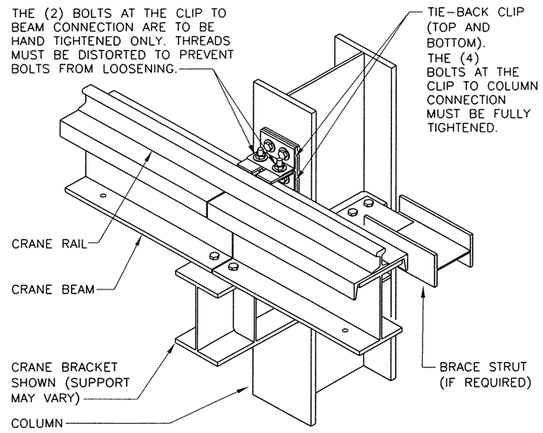
JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:06:59pm

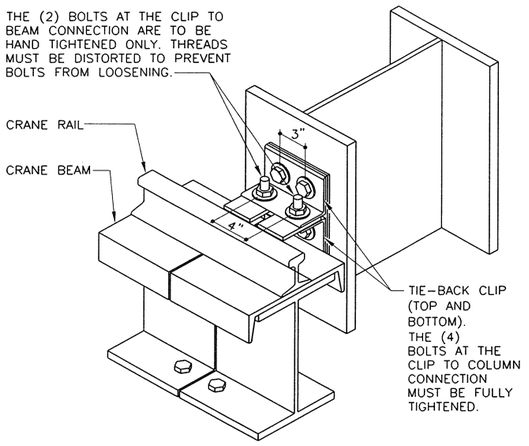
SHEET D3 OF 16



VIEW A



VIEW B



VIEW C

GENERAL NOTES

THE INTENTION OF THIS DETAIL IS TO MORE COMPLETELY SHOW THE FINISHED ASSEMBLY OF CRANE BEAM TO COLUMN CONNECTIONS. REFER TO THE CRANE PLAN AND/OR STRUCTURAL ELEVATIONS FOR LOCATIONS OF ANGLE BRACING AND BRACE STRUTS, AS WELL AS PART NUMBERS.

VIEW A SHOWS THE ANGLE BRACE CONNECTION FROM THE COLUMN STIFFENER TO THE CRANE BEAM.

VIEW B SHOWS THE TIE-BACK CLIP CONNECTION FROM THE CRANE BEAM TO THE COLUMN.

VIEW C IS AN ENGLARGED VIEW OF THE TIE-BACK CLIP CONNECTION.

SEE THE RAIL TO RUNWAY BEAM CONNECTION DETAILS (EITHER HOOK BOLT OR FLOATING CLAMP DETAIL) FOR ADDITIONAL CONNECTION REQUIREMENTS.

SEE THE ADDITIONAL CRANE DETAILS, PLANS, OR FRAME CROSS SECTIONS FOR MATERIAL SIZES, CRITICAL DIMENSIONS, AND LOAD INFORMATION.

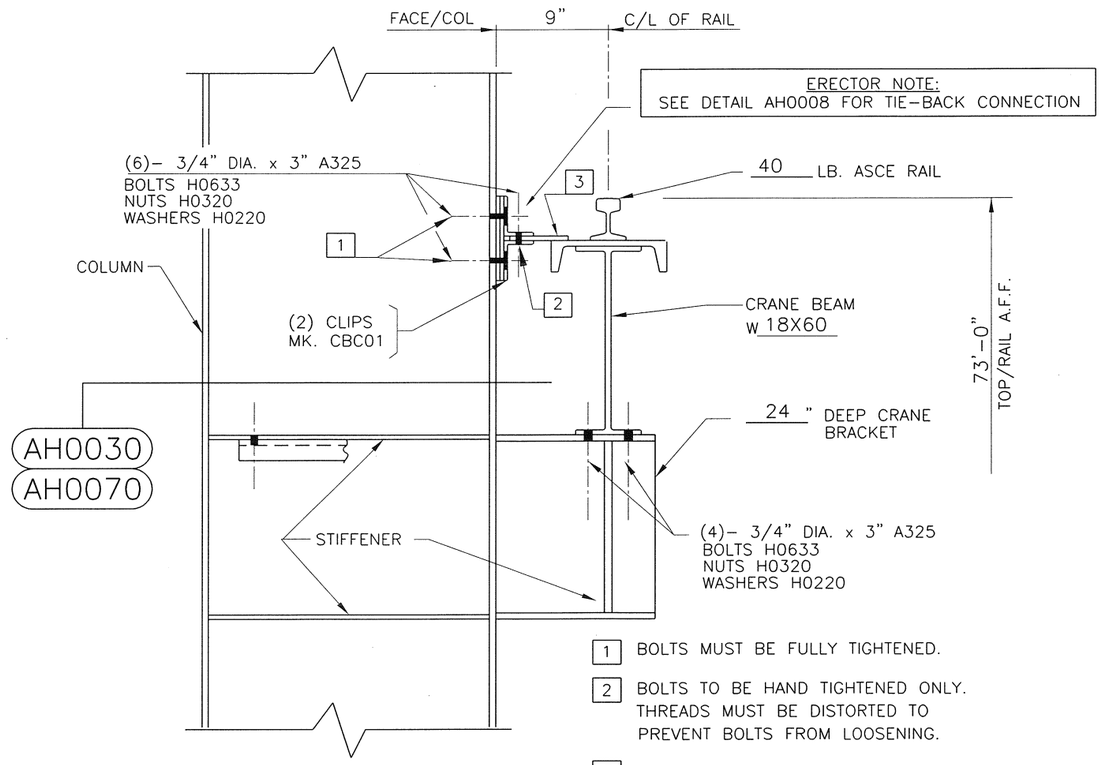
IMPORTANT NOTE: FIELD SLOTTING OF LATERAL TIE BACK PLATE OR ANGLES IS NOT PERMITTED. FIELD MODIFICATION OF THIS CONNECTION WILL ADVERSELY AFFECT THE STRUCTURAL PERFORMANCE AND INTEGRITY OF THE CRANE RUNWAY SYSTEM.

CRANE BEAM SYSTEM IS SHOWN WITH RUNWAY BEAM & CHANNEL, CONCEPTUAL ONLY. ACTUAL CRANE BEAM SYSTEM WILL BE RUNWAY BEAM OR RUNWAY BEAM & CHANNEL

TOP-RUNNING BRIDGE CRANE ASSEMBLY DETAILS

(RUNWAY BEAM CONNECTION, SUPPORT VARIES, BRACKET SHOWN)

AH0009



NOTE: SEE RAIL TO RUNWAY BEAM CONNECTION DETAILS (EITHER HOOK BOLT OR FLOATING CLAMP DETAIL) FOR ADDITIONAL CONNECTION REQUIREMENTS.

1 BOLTS MUST BE FULLY TIGHTENED.

2 BOLTS TO BE HAND TIGHTENED ONLY. THREADS MUST BE DISTORTED TO PREVENT BOLTS FROM LOOSENING.

3 FIELD SLOTTING OF LATERAL TIE BACK PLATE OR ANGLES IS NOT PERMITTED. FIELD MODIFICATION OF THIS CONNECTION WILL ADVERSELY AFFECT THE STRUCTURAL PERFORMANCE AND INTEGRITY OF THE CRANE RUNWAY SYSTEM.

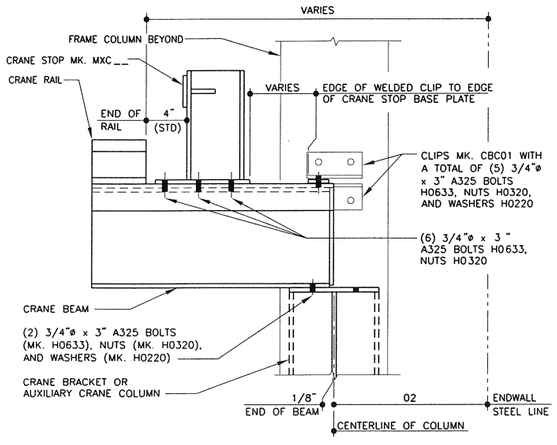
TOP RUNNING BRIDGE CRANE DETAIL

RUNWAY BEAM TO BRACKET CONNECTION

AH0010

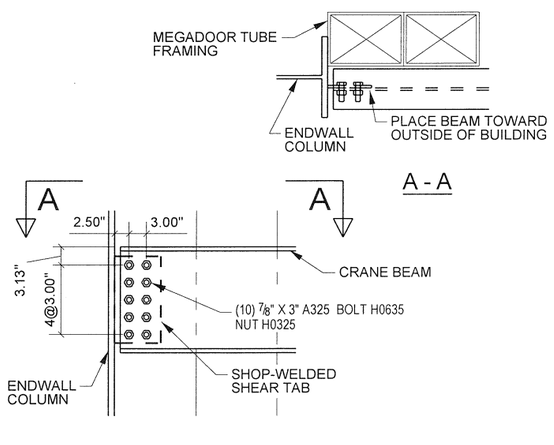
ERECTOR NOTE:

THE CBA__ ANGLE BRACES MUST BE INSTALLED ON THE FRAME COLUMNS AND ATTACHED TO THE CRANE SYSTEM AT THE TIME OF BUILDING ERECTION. THE BUILDING RELIES ON THE CRANE SYSTEM FOR STABILITY. WITHOUT THE CRANE SYSTEM AND THE CBA__ ANGLE BRACES INSTALLED, THE BUILDING IS UNSTABLE. THIS APPLIES ONLY TO CRANE SYSTEMS SUPPLIED WITH THIS BUILDING AND DOES NOT APPLY TO FUTURE CRANE SYSTEMS.



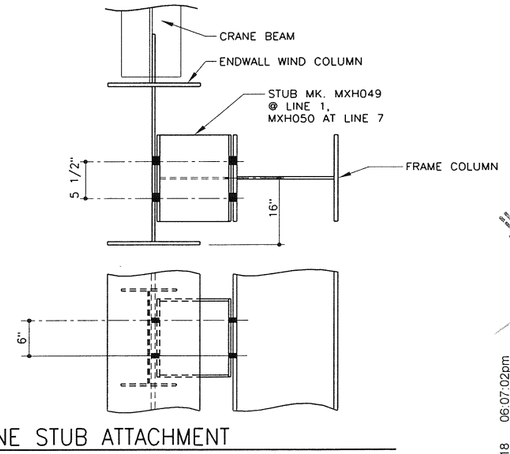
TOP RUNNING CRANE STOP

AH0225



CRANE BEAM TO ENDWALL COLUMN

AHX001



CRANE STUB ATTACHMENT

USE (4) 1 1/4" x 4 1/4" A325 BOLTS (MK. H0664) AND NUTS (MK. H0340)

AHX002

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

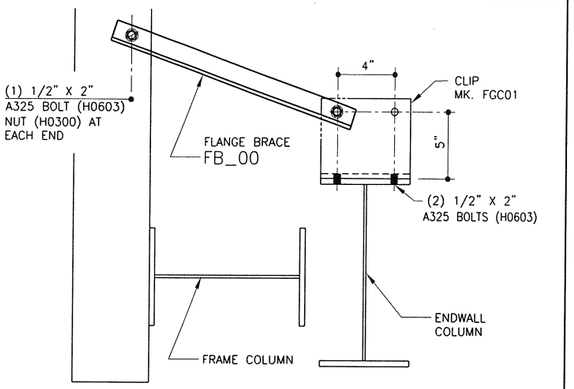
PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Primary Details

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET D4 OF 16

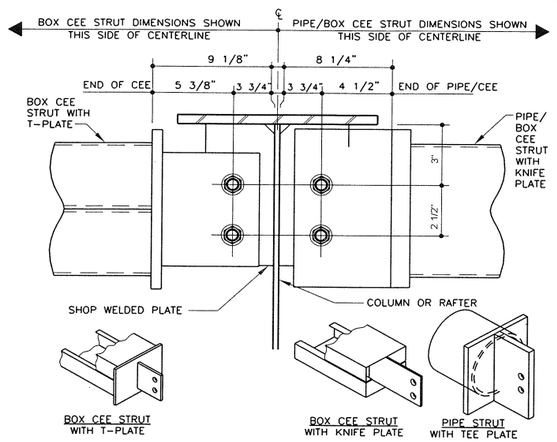
07/06/2018 06:07:02pm



ALTERNATE FLANGE BRACE CONNECTION AT FRAME COLUMN AND PORTAL COLUMN

(REFER TO CROSS SECTIONS & ELEVATIONS FOR PART NUMBERS)

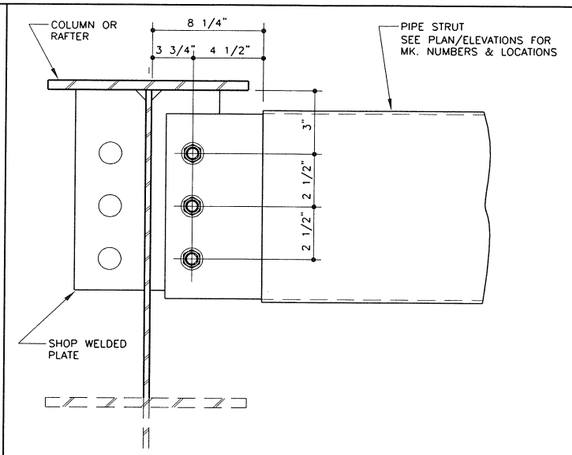
AJX055



STRUT DETAIL

6" PIPE STRUT OR BOX CEE STRUT AT 8" (MIN.) COLUMN OR RAFTER
NOTE: USE (2) 1" X 3 1/4" A325 BOLTS H0640/NUTS H0330
SEE PLANS & ELEVATIONS FOR MARK NUMBERS AND LOCATIONS

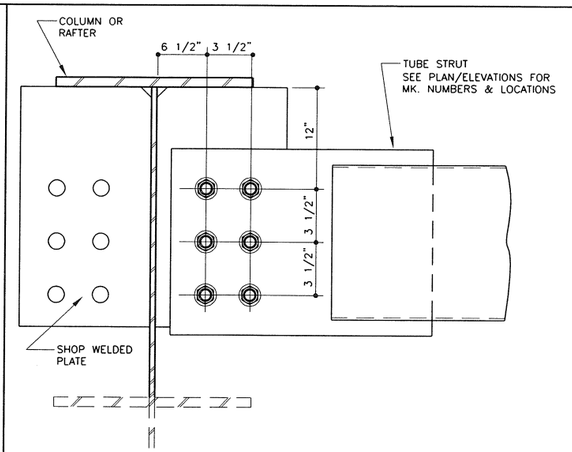
AK0160



PIPE STRUT DETAIL

8" PIPE STRUT AT 10" (MIN.) COLUMN OR RAFTER
NOTE: USE (3) 1" X 3 1/4" A325 BOLTS H0640/NUTS H0330

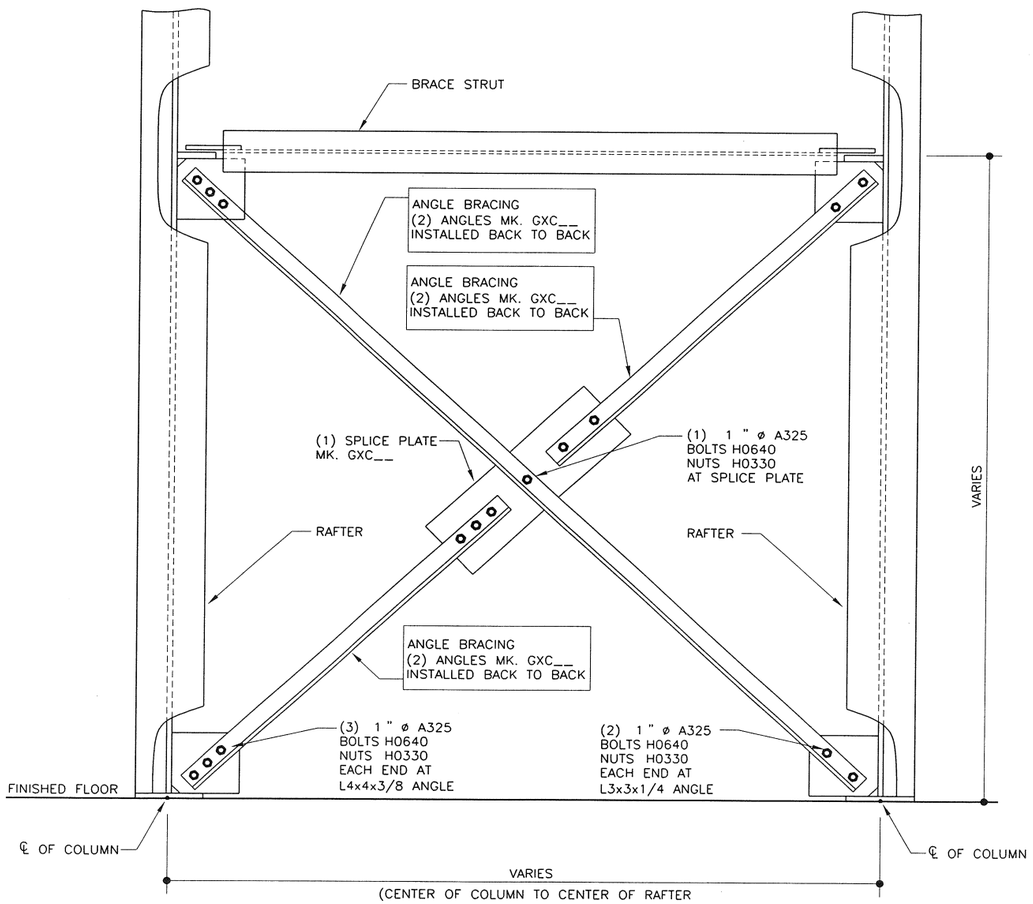
AK0170



TUBE STRUT DETAIL

8" OR 6" TUBE STRUT AT RAFTER
NOTE: USE (6) 1" X 3 1/4" A325 BOLTS H0640/NUTS H0330

AKX170



DOUBLE ANGLE BRACE DETAIL

SEE ELEVATIONS FOR ANGLE MARK NUMBERS IF NOT SHOWN IN DETAIL

AL0020

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME
Port of Toledo
Toledo, OR

CUSTOMER NAME
JH KELLY LLC
Longview, WA

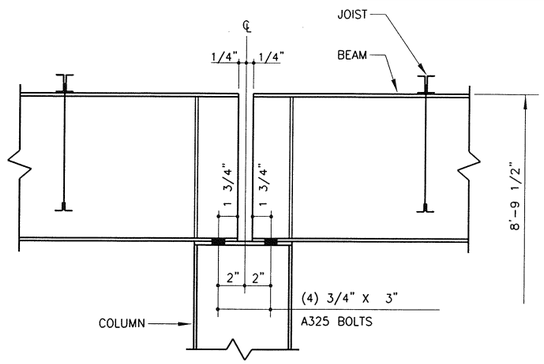
JOB NUMBER
U18H0248A

SHEET TITLE
Primary Details

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:07:05pm

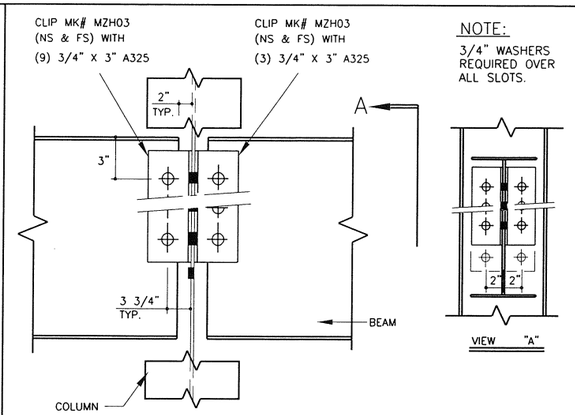
SHEET
D5 OF 16



BEAM CONNECTION DETAIL

MEZZ. BEAM TO INTERIOR " I " SHAPE COLUMN

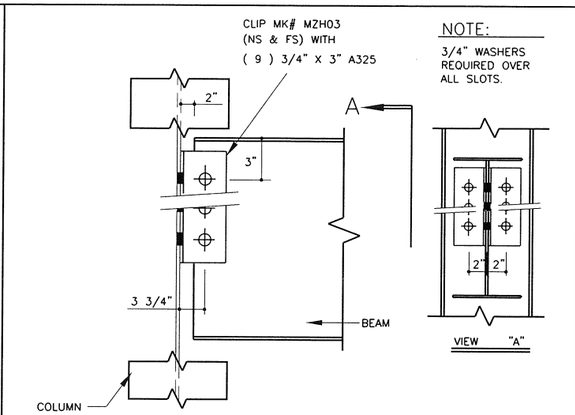
AP0070



BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF FULL HEIGHT COLUMN

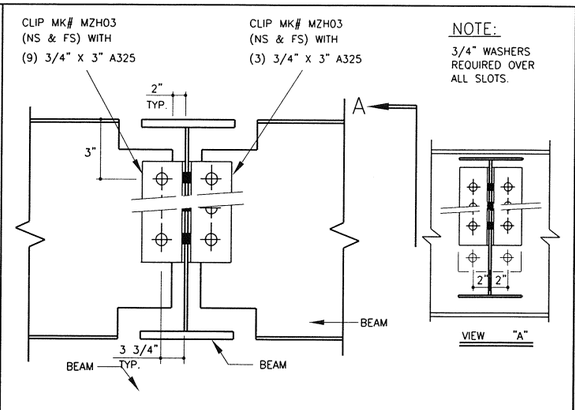
AP0120



BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF FULL HEIGHT COLUMN

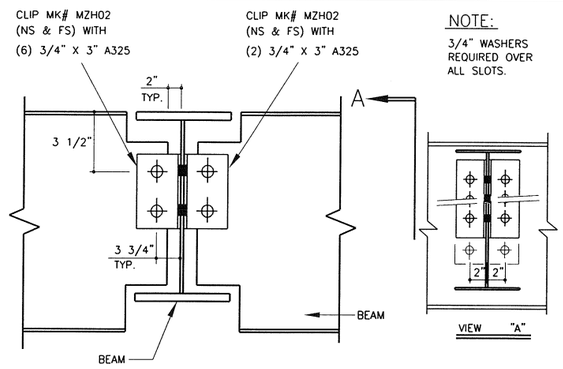
AP0130



BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF BEAM AT SAME ELEVATION

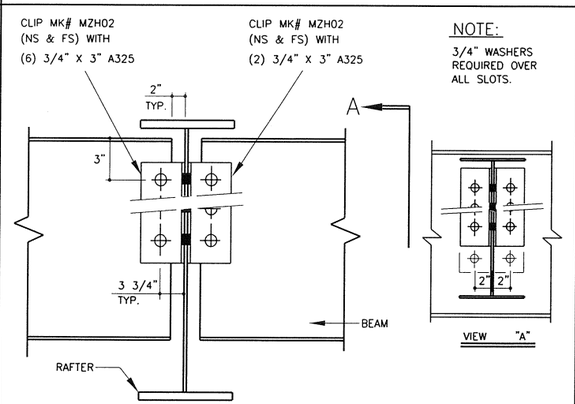
AP0160



BEAM CONNECTION DETAIL

HANGAR BEAM TO WEB OF BEAM AT SAME ELEVATION

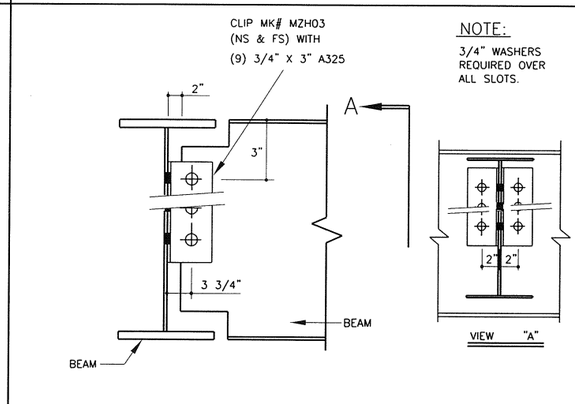
AP0161



BEAM CONNECTION DETAIL

ROOF BEAM TO WEB OF RAFTER

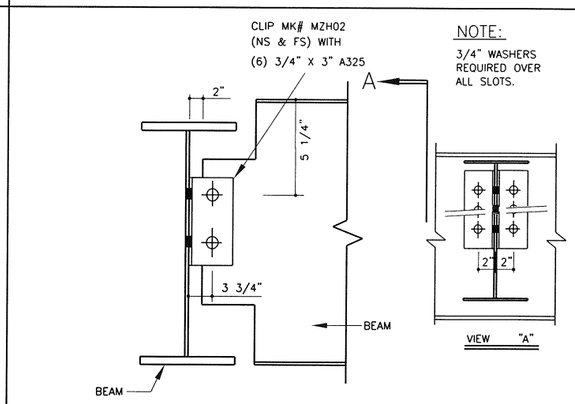
AP0162



BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF BEAM AT SAME ELEVATION

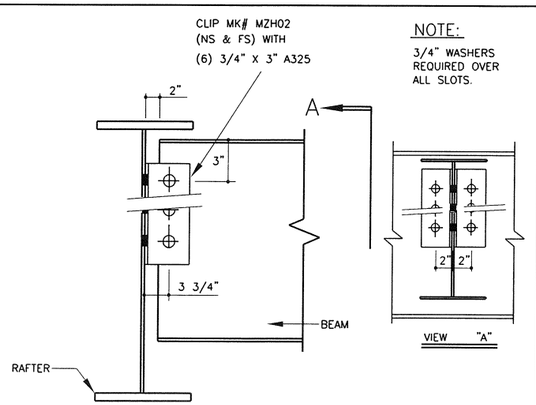
AP0170



BEAM CONNECTION DETAIL

HANGAR BEAM TO WEB OF BEAM AT SAME ELEVATION

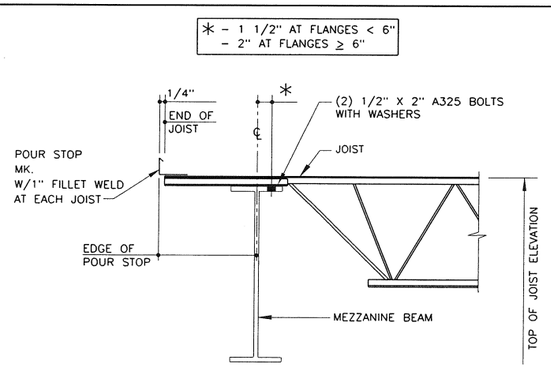
AP0171



BEAM CONNECTION DETAIL

ROOF BEAM TO WEB OF RAFTER

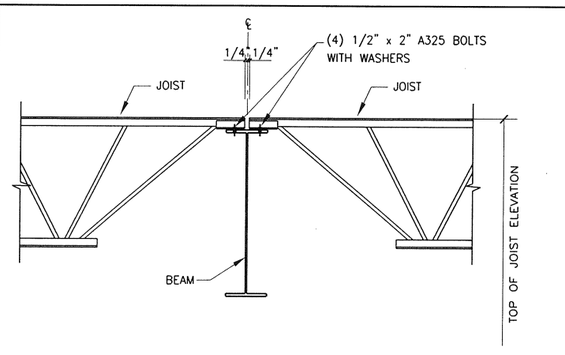
AP0172



JOIST CONNECTION DETAIL

BOLTED JOIST CONNECTION TO BEAM FLANGE
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

AP0245



JOIST CONNECTION DETAIL

BOLTED JOIST CONNECTION TO MEZZ. BEAM
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

AP0320

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME
Port of Toledo
Toledo, OR

CUSTOMER NAME
JH KELLY LLC
Longview, WA

JOB NUMBER
U18H0248A

SHEET TITLE
Primary Details

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP 8, 2015
GRANT J. ROTH

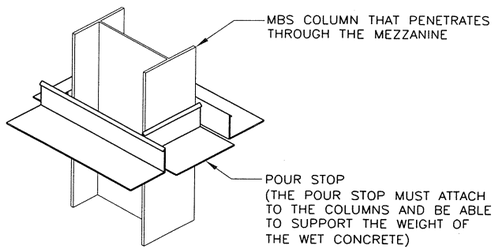
EXPIRATION DATE: 12-31-2018

07/06/2018 06:07:08pm

SHEET
D6 OF 16

ERECTOR NOTE:
THIS DETAIL IS INTENDED TO SHOW YOU THAT POUR STOP MATERIAL HAS BEEN PROVIDED TO BE USED AROUND THE PERIMETER OF ANY MBS COLUMNS THAT PENETRATE THROUGH THE MEZZANINE.

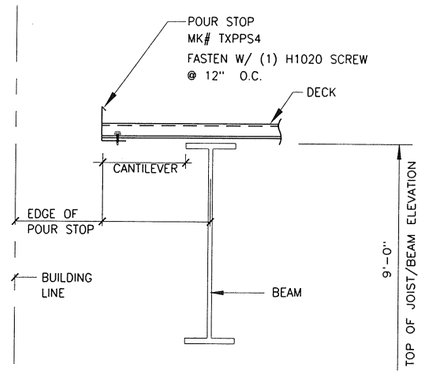
BECAUSE CONDITIONS VARY GREATLY, AN ATTACHMENT METHOD IS NOT SHOWN. THE ATTACHMENT IS NOT DESIGNED OR PROVIDED BY MBS.



POUR STOP DETAIL AT FULL HEIGHT COLUMN

REFER TO THE MEZZANINE DETAILS ON THESE DRAWINGS FOR THE POUR STOP MARK NUMBER(S).

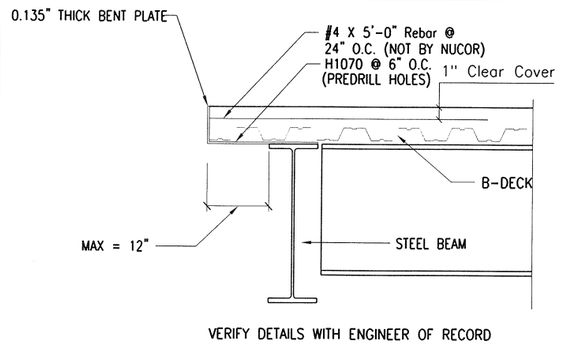
AP0325



POUR STOP DETAIL

POUR STOP TO BEAM FLANGE AT BUILDING LINE

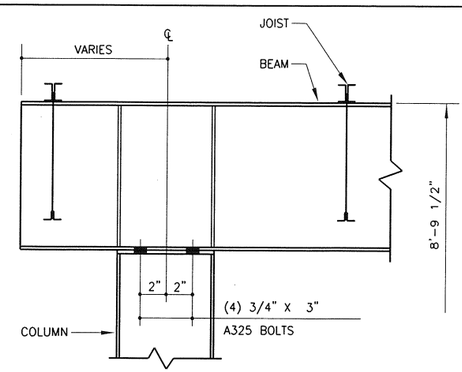
AP0340



VERIFY DETAILS WITH ENGINEER OF RECORD

POUR STOP DETAIL

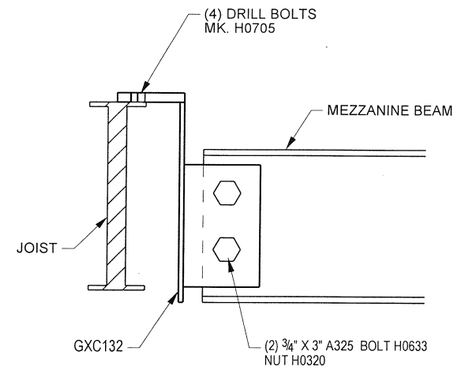
APU506



BEAM CONNECTION DETAIL

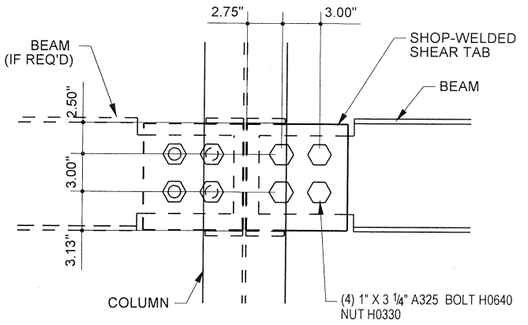
MEZZ. BEAM END CONDITION WITH " I " SHAPE COLUMN

APX010



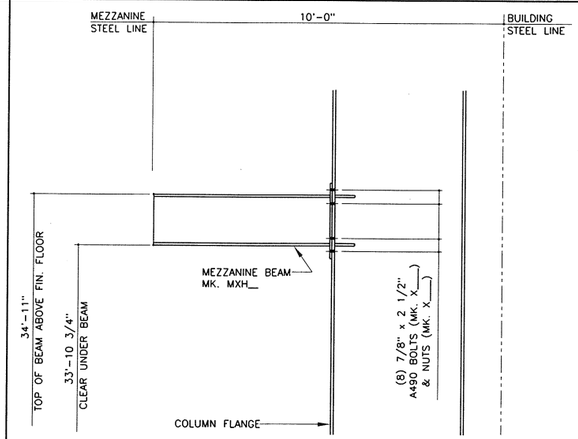
BEAM TO JOIST DETAIL

APX012



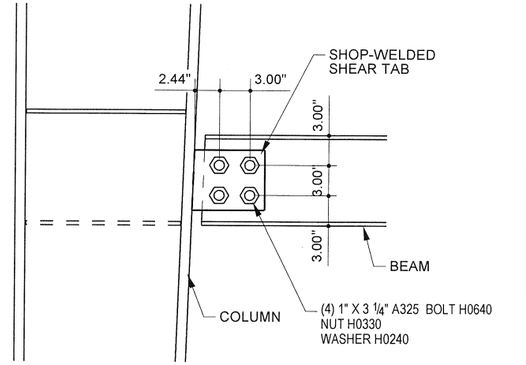
MEZZANINE BEAM TO COLUMN

APX022



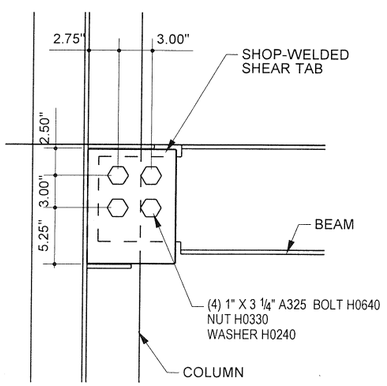
MEZZANINE BEAM TO COLUMN

APX110



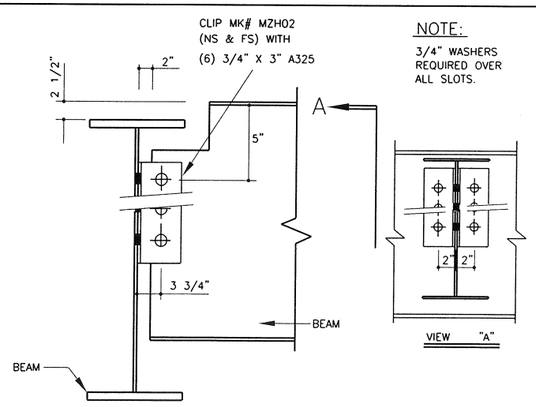
MEZZANINE BEAM TO COL FLANGE

APX115



MEZZANINE BEAM TO COL WEB

APX130



BEAM CONNECTION DETAIL

MEZZ. BEAM TO WEB OF BEAM AT DIFF. ELEVATION

APX171

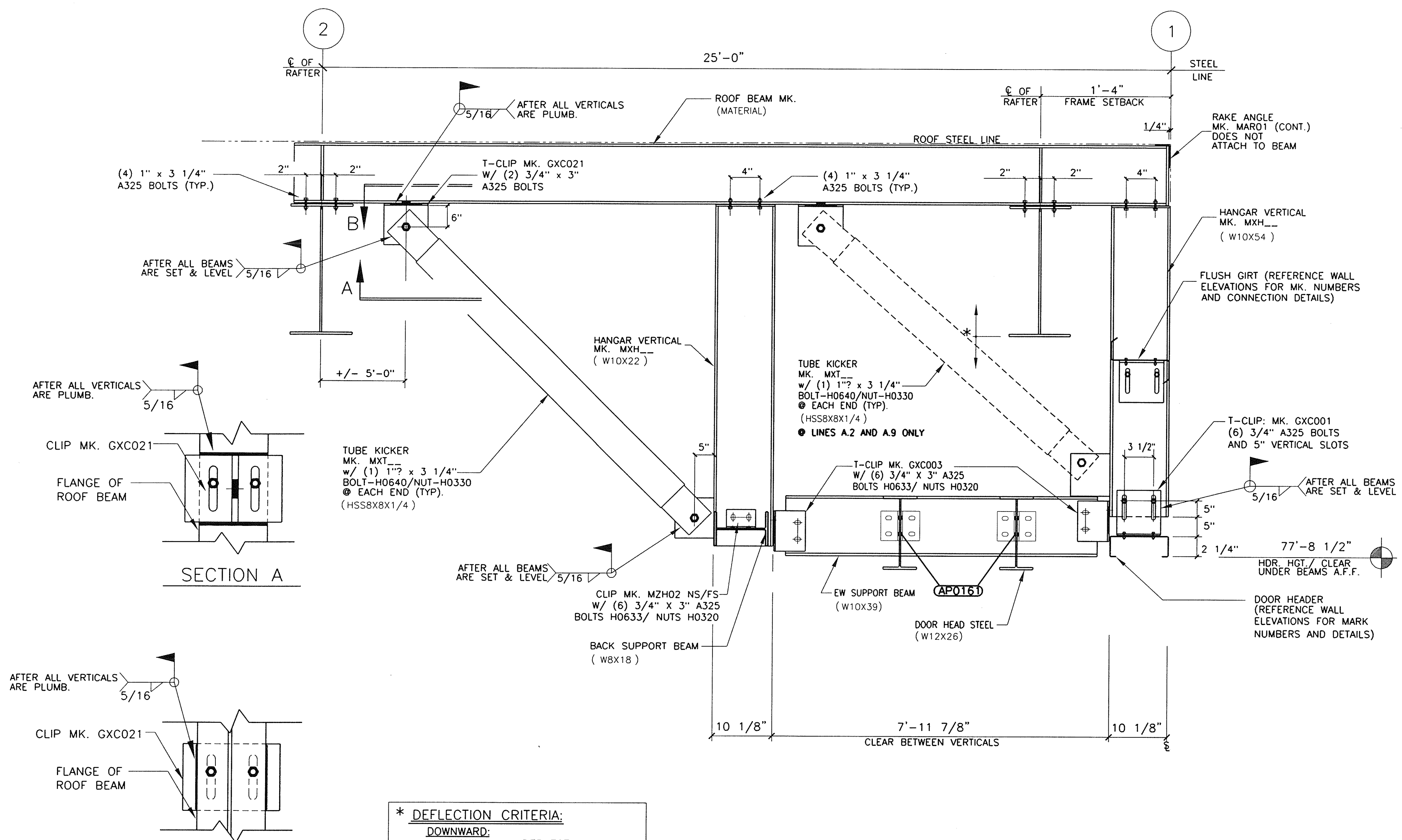
ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Primary Details

JUL 09 2018
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET D7 OF 16



SECTION B

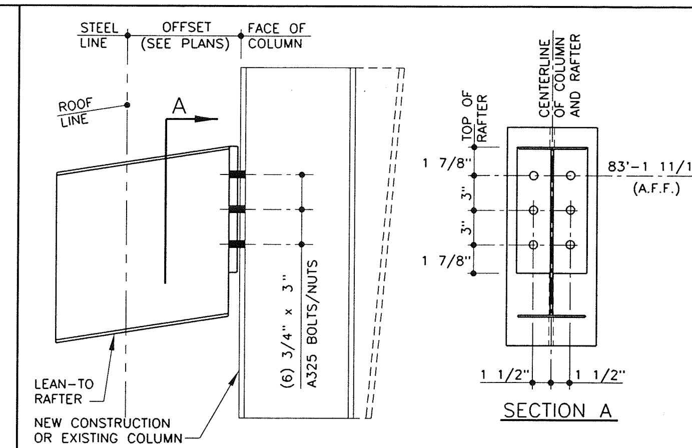
* DEFLECTION CRITERIA:
DOWNWARD:
-MAXIMUM UNDER TOTAL DESIGN LOAD = 0.75"

NOTE: ALL DEAD LOAD MUST BE APPLIED TO THE FRAME BEFORE FINAL LEVELING OF THE DOOR HEADER.

HANGAR FRAMING @ VERTICAL STUB

PARTIAL DEPTH VERTICAL STUBS w/ HEADER
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

AW0010



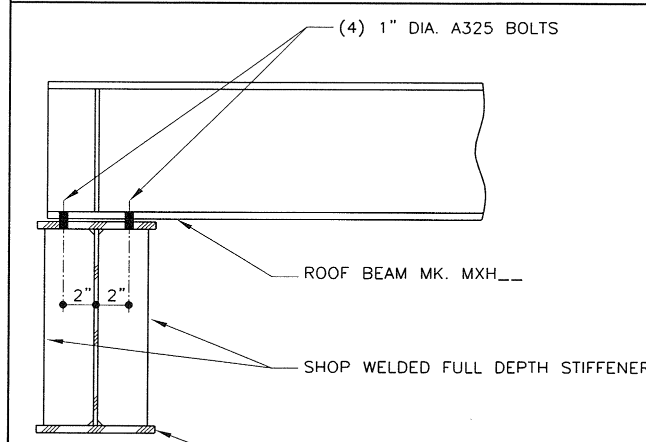
THE FULL HEIGHT COLUMN MAY BE STRAIGHT OR TAPERED. THIS DETAIL IS INTENDED TO SHOW THE CONNECTION OF THE LEAN-TO RAFTER ONLY.

AT AN EXISTING COLUMN CONDITION, FIELD DRILL THE CONNECTION HOLES 1/16" LARGER THAN THE BOLT DIAMETER

LEAN-TO RAFTER TO COLUMN

BELOW EAVE

AU0005

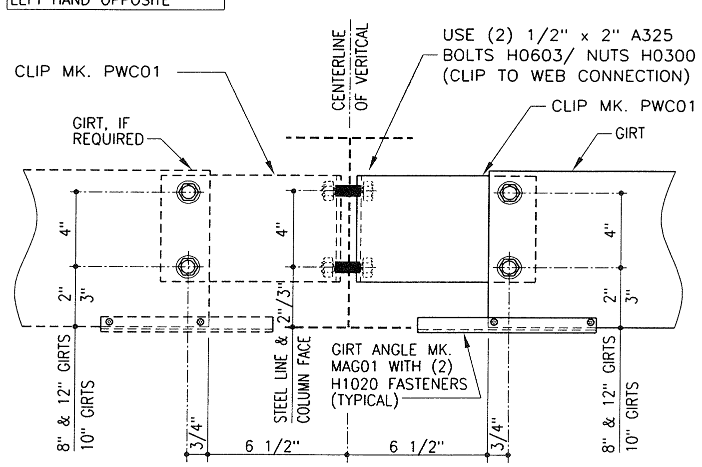


ROOF BEAM CONNECTION DETAIL

BEAM TO FRAME CONNECTION

AV0010

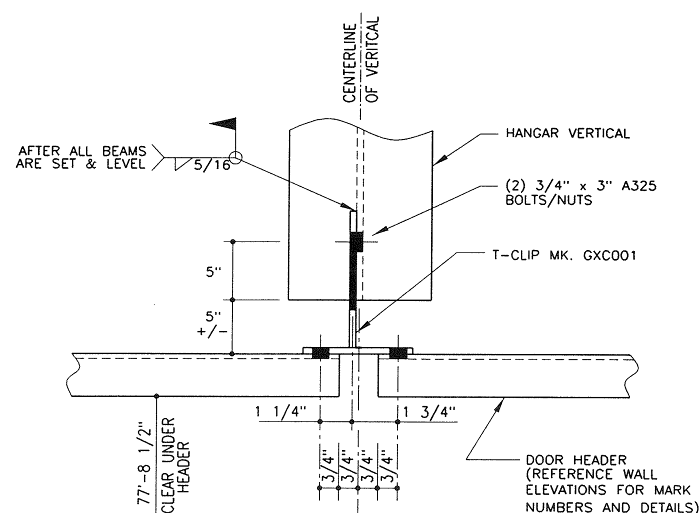
RIGHT HAND DETAIL SHOWN, LEFT HAND OPPOSITE



FLUSH GIRTS AT HANGAR VERTICAL

HANGAR ATTACHMENT AT HANGAR VERTICAL
NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

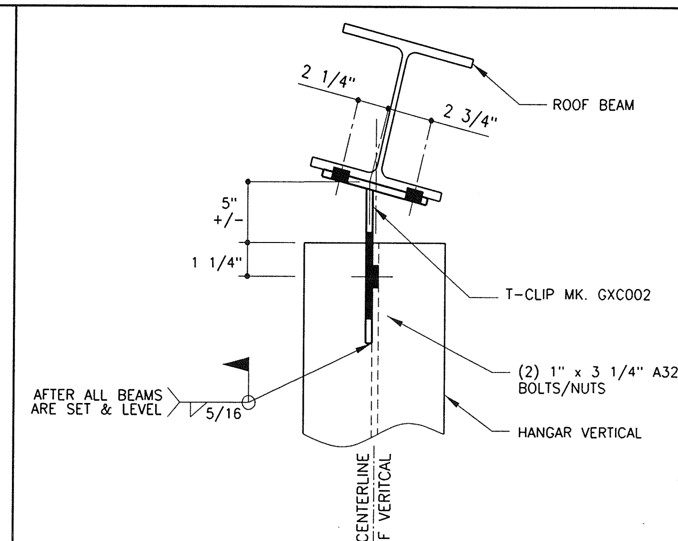
AW0030



HEADER ATTACHMENT AT VERTICAL

HEADER ATTACHMENT AT HANGAR VERTICAL
NOTE: USE (4) 1/2" x 2" A325 BOLTS H0603/NUTS H0300
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

AW0050



VERTICAL ATTACHMENT AT ROOF BEAM

HEADER ATTACHMENT AT HANGAR VERTICAL
NOTE: USE (4) 1" x 3 1/4" A325 BOLTS H0640/NUTS H0330
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

AWX060

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

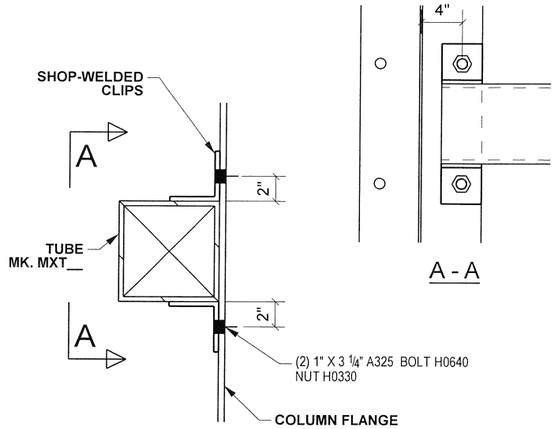
PROJECT NAME
Port of Toledo
Toledo, OR
CUSTOMER NAME
JH KELLY LLC
Longview, WA
JOB NUMBER
U18H0248A
SHEET TITLE
Primary Details

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/09/2018 10:34:59am

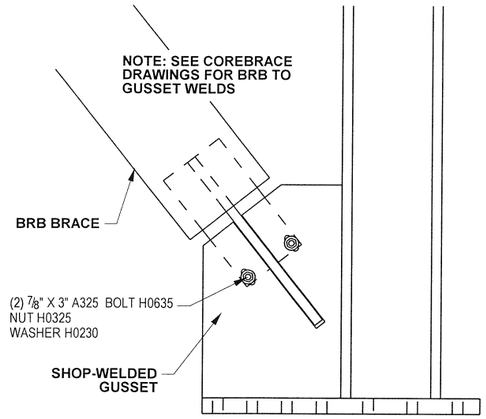
This seal pertains only to the materials designed and supplied by Nucor Building Systems, a division of Nucor Corporation. The drawings and the metal building which they represent are the product of Nucor Building Systems. The registered professional engineer whose seal appears on these drawings is employed by Nucor Building Systems and does not serve as or represent the project engineer of record and shall not be construed as such.

SHEET
D8 OF 16



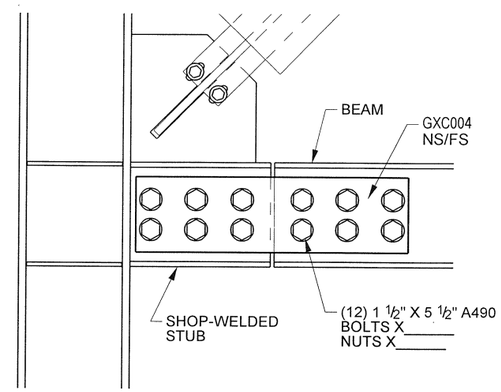
TUBE TO COLUMN DETAIL

AWX100



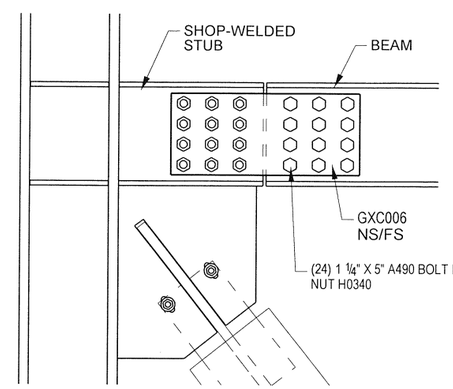
TYPICAL BRB TO GUSSET DETAIL

AZ0001



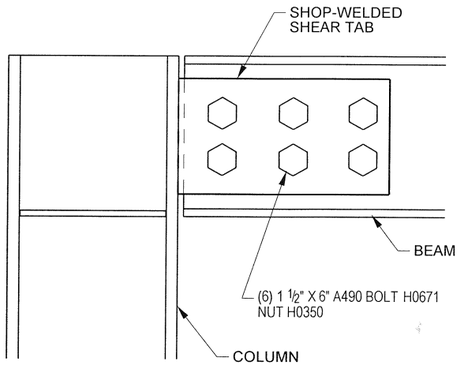
BEAM SPLICE-W14x53

AZ0002



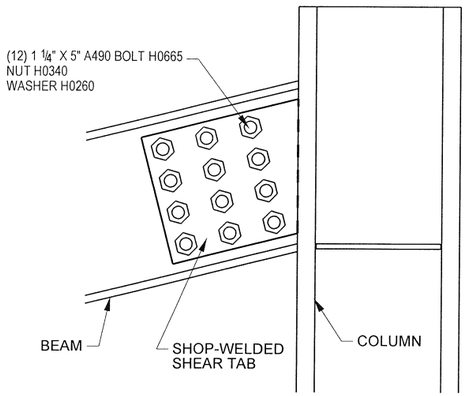
BEAM SPLICE - W16x77

AZ0003



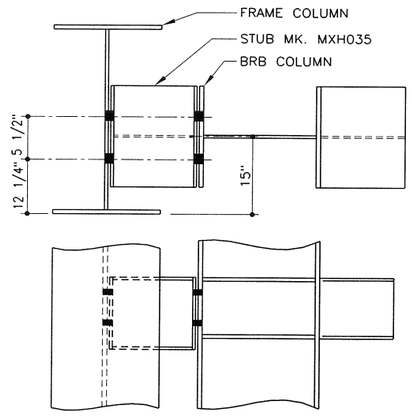
BRB BEAM TO COLUMN

AZ0020



BRB BEAM TO COLUMN

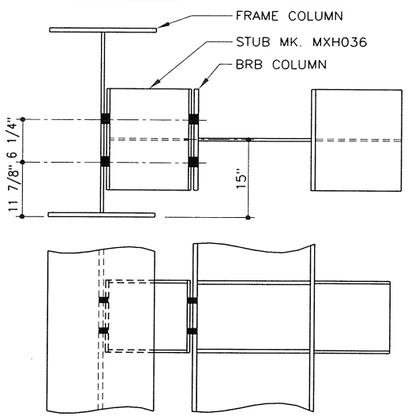
AZ0021



FRAME TO BRB COLUMN ATTACHMENT

USE (8) 1 1/4" x 4 1/4" A325
BOLTS (MK. H0664) AND NUTS (MK. H0340)

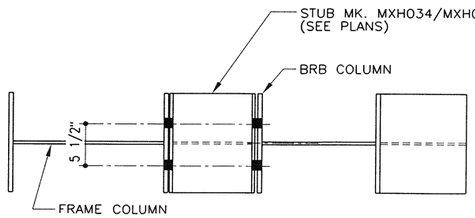
AZ0030



FRAME TO BRB COLUMN ATTACHMENT

USE (8) 1 1/2" x 6" A325
BOLTS (MK. H0670) AND NUTS (MK. H0350)

AZ0031



FRAME TO BRB COLUMN ATTACHMENT

USE (8) 1 1/4" x 4 1/4" A325
BOLTS (MK. H0664) AND NUTS (MK. H0340)

AZ0032

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo Toledo, OR

CUSTOMER NAME: JH KELLY LLC Longview, WA

JOB NUMBER: U18H0248A

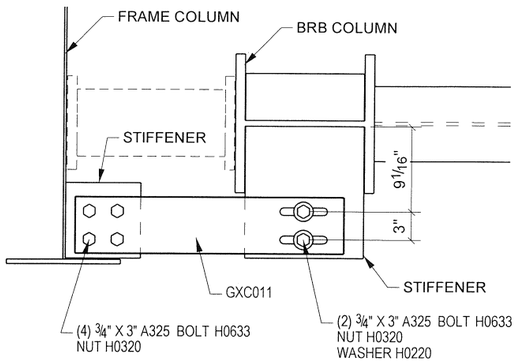
SHEET TITLE: Primary Details

JUL 09 2018

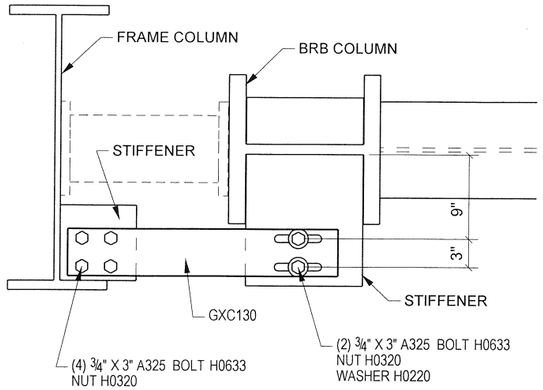
REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH

EXPIRATION DATE: 12-31-2018

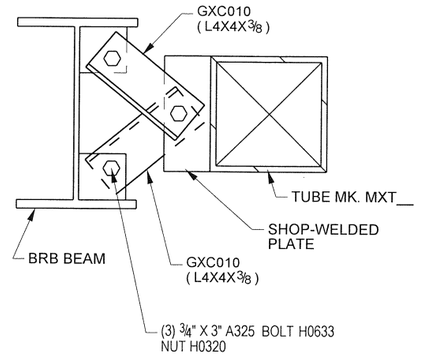
SHEET D9 OF 16



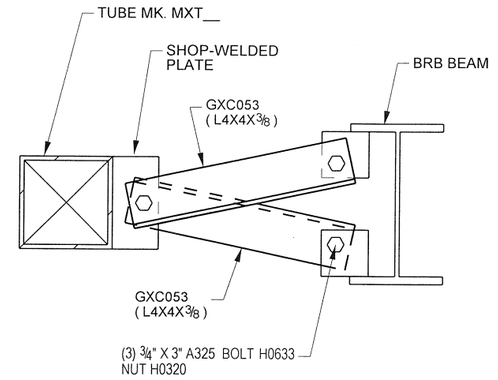
BRB COLUMN BRACE DETAIL **AZ0050**



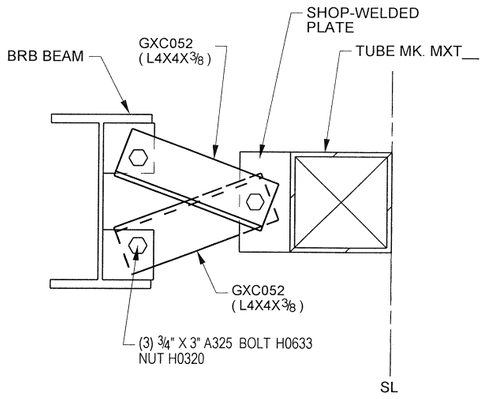
BRB COLUMN BRACE DETAIL **AZ0051**



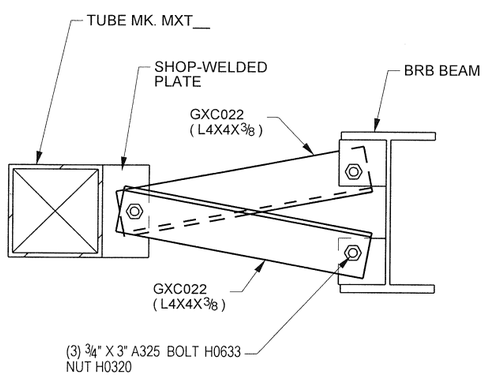
BRB BEAM FLANGE BRACE DETAIL **AZX001**



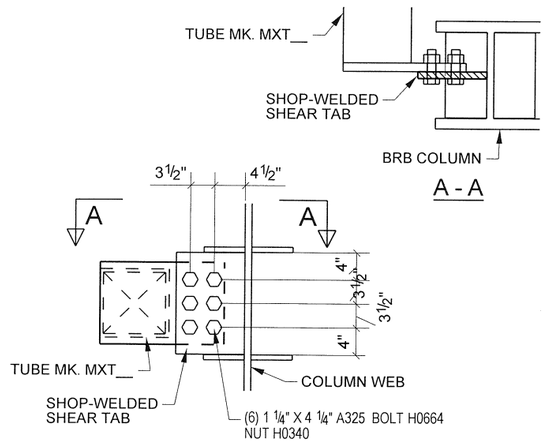
BRB BEAM FLANGE BRACE DETAIL **AZX002**



BRB BEAM FLANGE BRACE DETAIL **AZX003**



BRB BEAM FLANGE BRACE DETAIL **AZX004**



TUBE TO BRB COLUMN DETAIL **AZX006**

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo
Toledo, OR

CUSTOMER NAME: JH KELLY LLC
Longview, WA

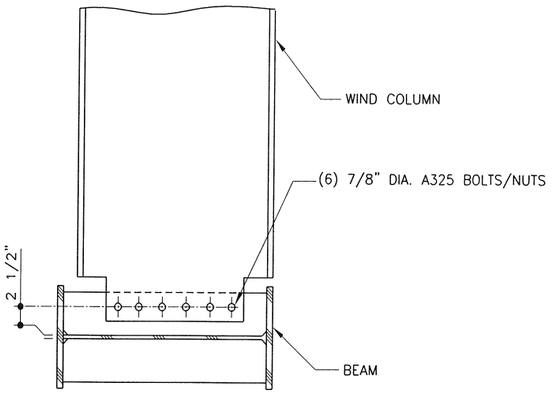
JOB NUMBER: U18H0248A

SHEET TITLE: Primary Details

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

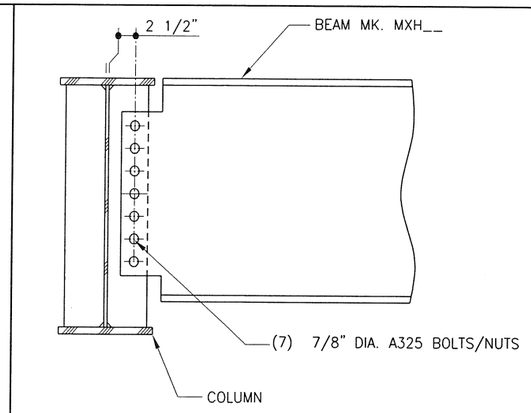
SHEET D10 OF 16



WIND COLUMN CONNECTION DETAIL

COLUMN TO BEAM CONNECTION

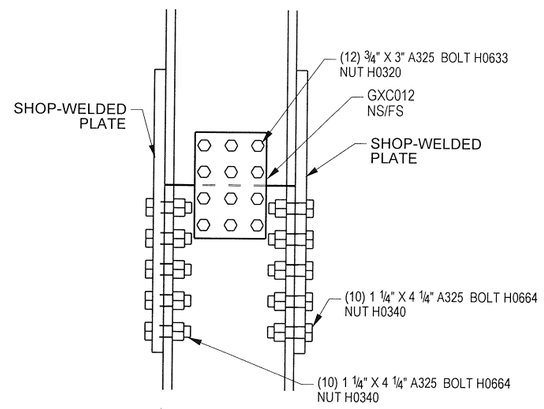
AZX016



BEAM CONNECTION DETAIL

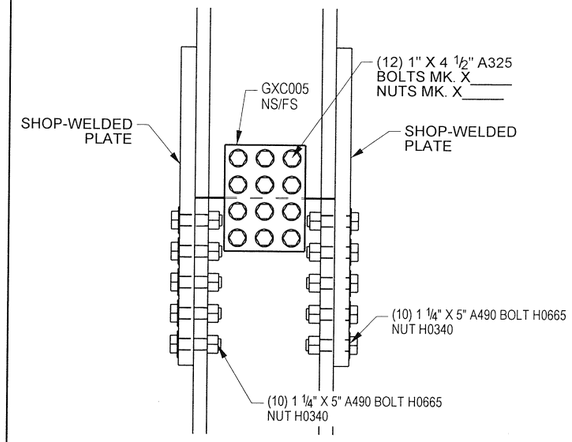
BEAM TO FRAME CONNECTION

AZX017



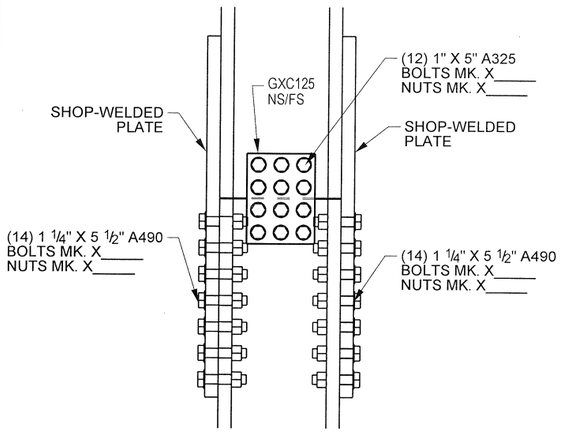
COLUMN SPLICE - W14x132

AZX100



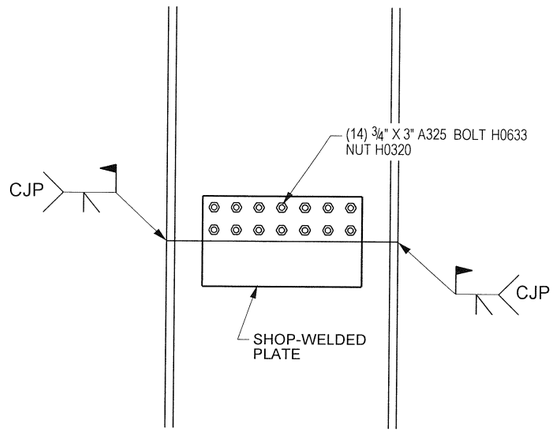
COLUMN SPLICE - W14x211

AZX101



COLUMN SPLICE - W14x233

AZX102



COLUMN SPLICE - W30x173

AZX103

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
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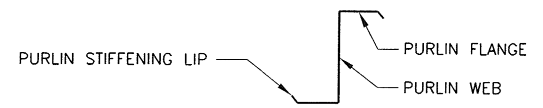
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH

EXPIRATION DATE: 12-31-2018

07/06/2018 06:07:21pm

SHEET D11 OF 16

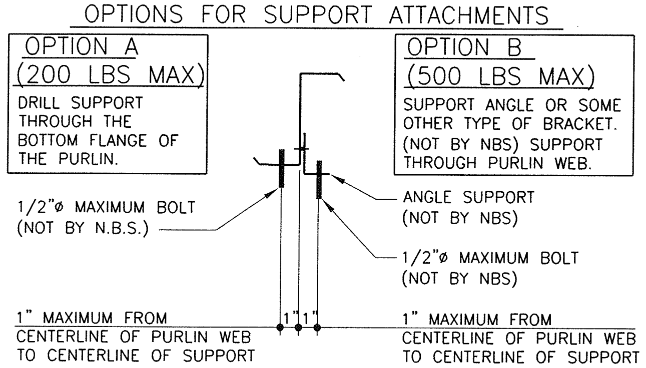
COLLATERAL DEAD LOADS, UNLESS OTHERWISE NOTED, ARE ASSUMED TO BE UNIFORMLY DISTRIBUTED. WHEN SUSPENDED SPRINKLER SYSTEMS, LIGHTING, HVAC EQUIPMENT, CEILINGS, ETC. ARE SUSPENDED FROM ROOF MEMBERS, CONSULT NUCOR ENGINEERING IF THESE CONCENTRATED LOADS EXCEED 500 POUNDS (USING THE WEB MOUNT DETAIL) OR 200 POUNDS (USING THE FLANGE MOUNT DETAIL), OR IF INDIVIDUAL MEMBERS ARE LOADED SIGNIFICANTLY MORE THAN OTHERS.

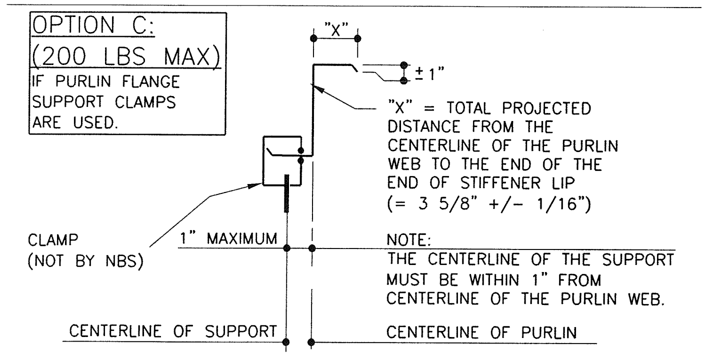


GENERAL RESTRICTION:

UNDER NO CIRCUMSTANCES CAN THE PURLIN STIFFENING LIP BE FIELD MODIFIED FROM THE FACTORY SUPPLIED CONDITION. ALSO DO NOT HANG ANYTHING FROM PURLIN STIFFENING LIP.

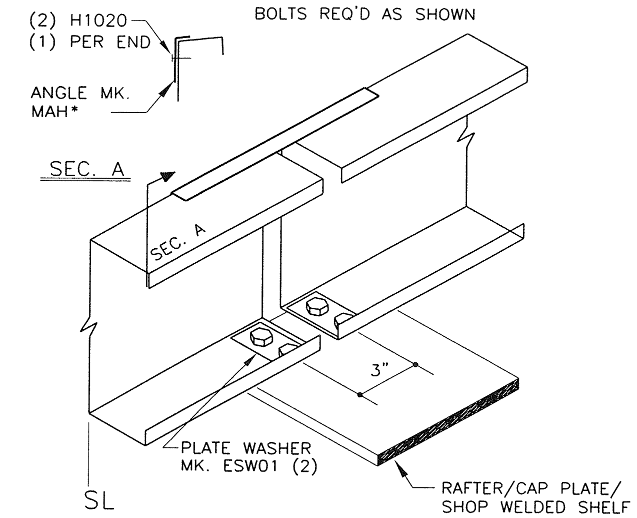
OPTIONS FOR SUPPORT ATTACHMENTS





B00010

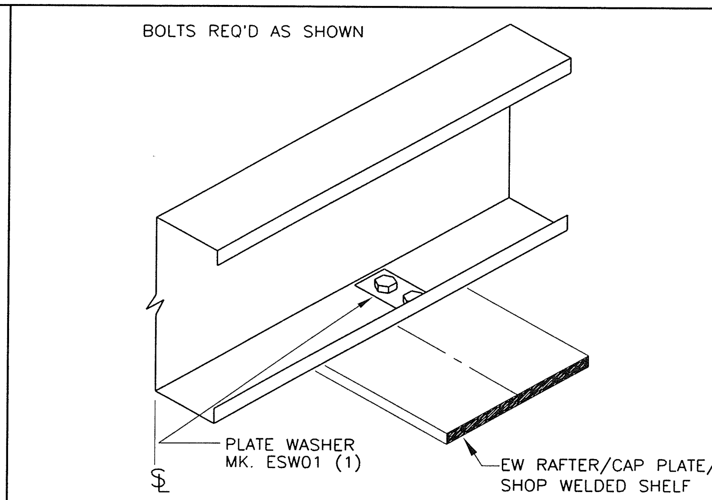
NBS PURLIN SUPPORT METHODS



EAVE STRUT

LOW EAVE BY-PASS SW GIRT CONDITION
USE (4) 1/2"x 2" A325 BOLT H0603/NUT H0300 U.N.O.

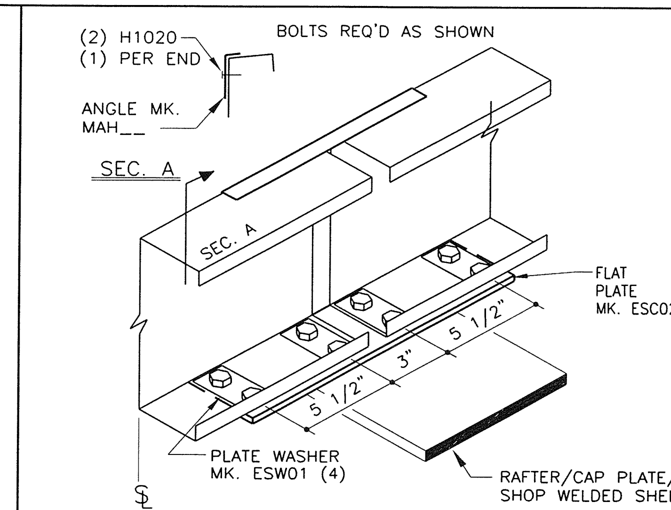
BA0020



EAVE STRUT

BYPASS SIDEWALL CONDITION
LOW EAVE BUILT-UP EW CONDITION
USE (2) 1/2" X 2" A325 BOLT H0603/NUT H0300 U.N.O.

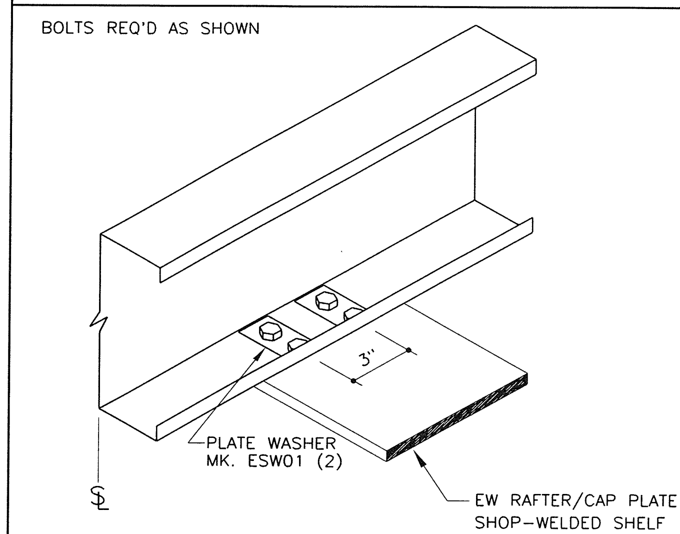
BA0030



EAVE STRUT

LOW EAVE BYPASS SW GIRT CONDITION
USE (8) 1/2" X 2" A325
BOLT H0603/NUT H0300 U.N.O.

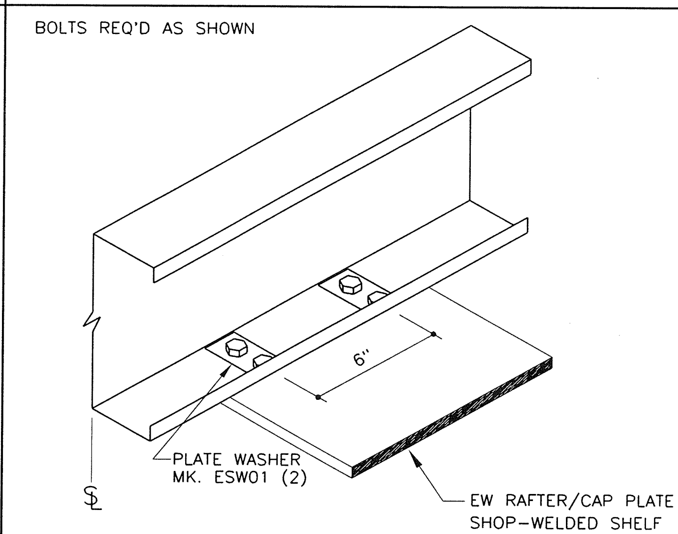
BA0070



EAVE STRUT

LOW EAVE BUILT-UP EW CONDITION
USE (4) 1/2" X 2" A325
BOLT H0603/NUT H0300 U.N.O.

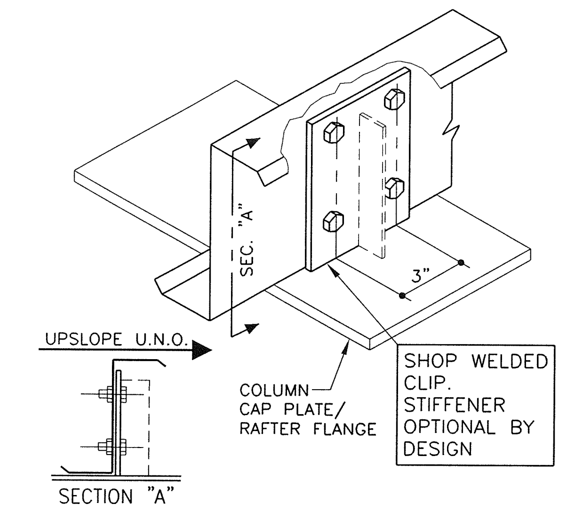
BA0080



EAVE STRUT

LOW EAVE BUILT-UP EW CONDITION
USE (4) 1/2" X 2" A325
BOLT H0603/NUT H0300 U.N.O.

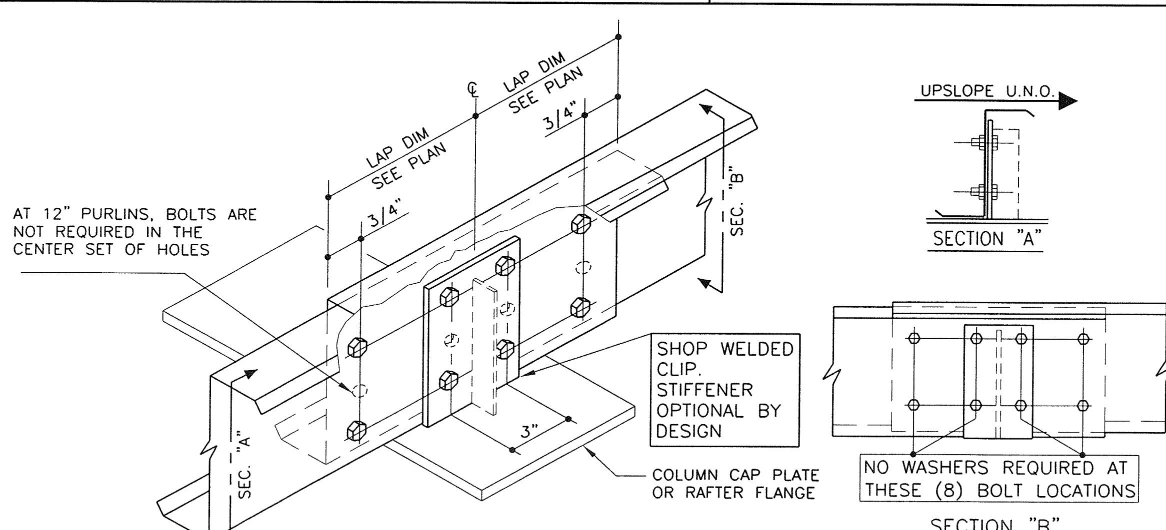
BAX080



WELDED CLIP @ END FRAME

USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400 U.N.O.
REFERENCE ERECTOR NOTE FOR TYP. WASHER REQUIREMENTS

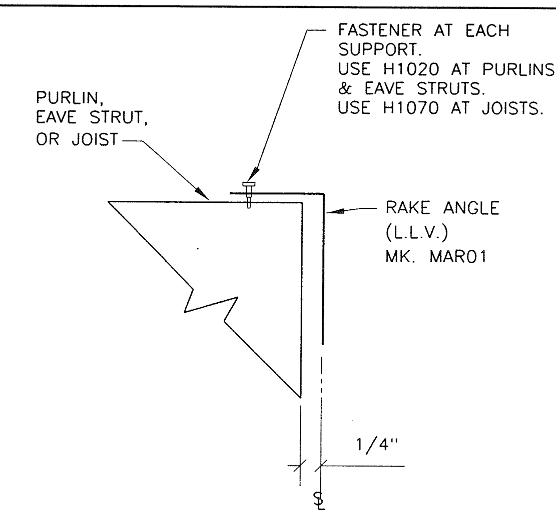
BB0050



WELDED CLIP @ INTERIOR FRAME

USE (8) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400 U.N.O.

BB0055



RAKE ANGLE ATTACHMENT

AT ENDWALL STEEL LINE

BD0120

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

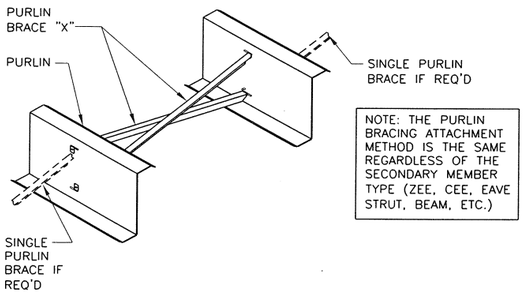
PROJECT NAME: Port of Toledo, Toledo, OR
CUSTOMER NAME: JH KELLY LLC, Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Roof Framing Details

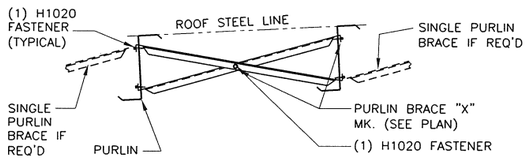
REGISTERED PROFESSIONAL ENGINEER 90648PE OREGON SEP 8, 2015 GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:07:23pm

This seal pertains only to the materials designed and supplied by Nucor Building Systems, a division of Nucor Corporation. The drawings and the metal building which they represent are the product of Nucor Building Systems. The registered professional engineer whose seal appears on these drawings is employed by Nucor Building Systems and does not serve as or represent the project engineer of record and shall not be construed as such.

SHEET D12 OF 16

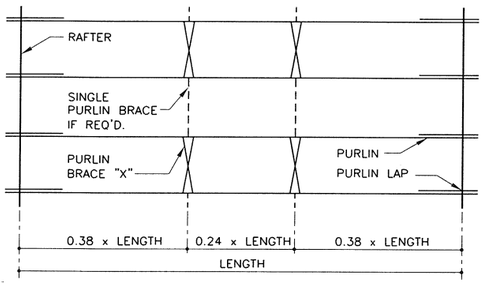




PLAN VIEW OF PURLIN BRACING LOCATIONS PER BAY

1) THERE ARE TYPICALLY (2) ROWS OF PURLIN BRACING REQUIRED REGARDLESS OF THE BAY LENGTH U.N.O.

2) THE PURLIN BRACING IS TYPICALLY SPACED AS SHOWN IN THE DETAIL BELOW U.N.O.



PURLIN BRACING ATTACHMENT METHODS

SEE ROOF FRAMING PLAN(S) FOR PURLIN BRACING MARK NUMBERS, QUANTITIES AND LOCATIONS

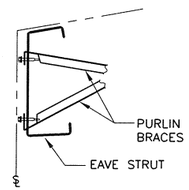
INSTALLATION INSTRUCTIONS

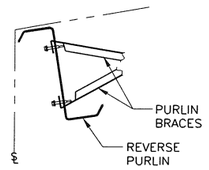
1) FOR SINGLE PURLIN BRACE, INSERT THE ANGLE INTO THE FACTORY PUNCHED SLOTS. BEND THE TABS AS SHOWN AND ATTACH WITH (1) H1020 FASTENER PER END.

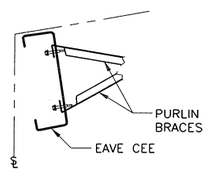
2) FOR PURLIN BRACE "X", INSERT THE ANGLES "BACK-TO-BACK" INTO THE FACTORY PUNCHED SLOTS. BEND THE TABS AS SHOWN AND ATTACH WITH (1) H1020 FASTENER PER END.

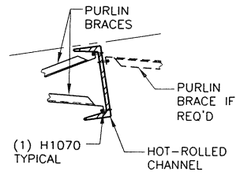
3) CONNECT THE PURLIN BRACE "X" AT THE INTERSECTION WITH (1) H1020 FASTENER.

4) SEE THE DETAILS AT RIGHT FOR ADDITIONAL INFORMATION WHEN ATTACHING TO ALTERNATE FRAMING MEMBERS.

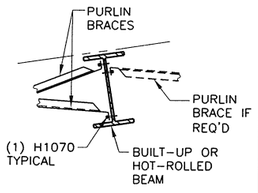


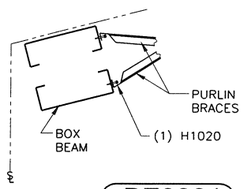




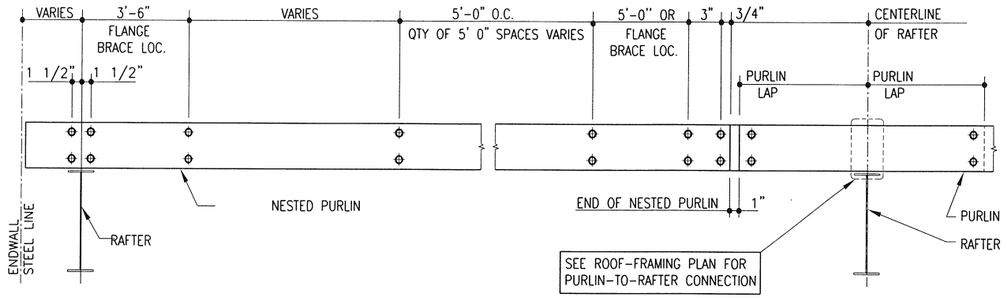


NOTE: THE CHANNEL MAY BE TOED UP OR DOWN.





BE0001



ENDBAY NESTED PURLIN-DOES NOT CONTINUE THROUGH LAP

BOLTS REQUIRED ONLY AS SHOWN, NOT AT ALL HOLES
USE 1/2"ø A307 BOLTS (MK. H0500) AND NUTS (MK. H0400) AT ALL BOLTED CONNECTIONS SHOWN

BM0010

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

NUCOR
BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME
Port of Toledo
Toledo, OR

CUSTOMER NAME
JH KELLY LLC
Longview, WA

JOB NUMBER
U18H0248A

SHEET TITLE
Roof Framing Details

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP. 8, 2015
GRANT J. ROTH

EXPIRATION DATE: 12-31-2018

SHEET
D13 OF 16

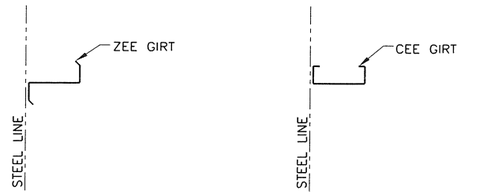
07/06/2018 06:07:27pm

ERECTOR NOTE:

UNLESS SPECIFICALLY NOTED OTHERWISE, STANDARD ZEE GIRT ORIENTATION IS TO HAVE THE GIRT TOED DOWN AT THE STEEL LINE AS SHOWN IN THE DETAIL BELOW.

UNLESS SPECIFICALLY NOTED OTHERWISE, STANDARD CEE GIRT ORIENTATION IS TO HAVE THE GIRT TOED UP AS SHOWN IN THE DETAIL BELOW. STANDARD CLIP ATTACHMENT IS BELOW THE GIRT, HOWEVER SOME DETAILS REQUIRE THAT THE CLIP BE ABOVE THE GIRT OR THAT THE GIRT BE TOED DOWN.

(REFER TO THE GIRT DETAILS FOR SPECIFIC CONNECTION REQUIREMENTS).



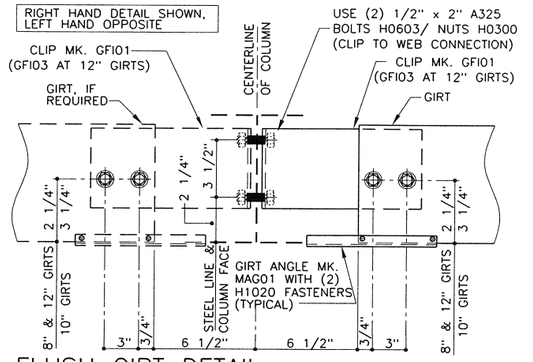
ZEE GIRT ORIENTATION

CEE GIRT ORIENTATION

STANDARD GIRT ORIENTATION DETAIL

SEE GIRT DETAILS FOR GIRT CONNECTIONS
(COLUMNS NOT SHOWN)

ERECTOR NOTE GIRT CLIPS ARE FACTORY PUNCHED TO BE USED WITH MULTIPLE GIRT DEPTHS. REFER TO THE STANDARD BOLT PLACEMENT DETAIL(S) FOR PROPER BOLT PLACEMENT.

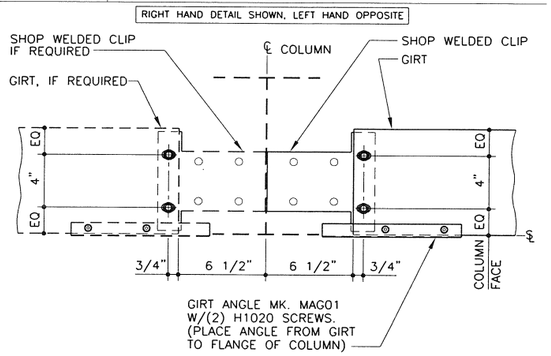


FLUSH GIRT DETAIL

FLUSH GIRTS AT INTERIOR BAY COLUMNS
NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CA0010

ERECTOR NOTE GIRT CLIPS ARE FACTORY PUNCHED TO BE USED WITH MULTIPLE GIRT DEPTHS. REFER TO THE STANDARD BOLT PLACEMENT DETAIL(S) FOR PROPER BOLT PLACEMENT.

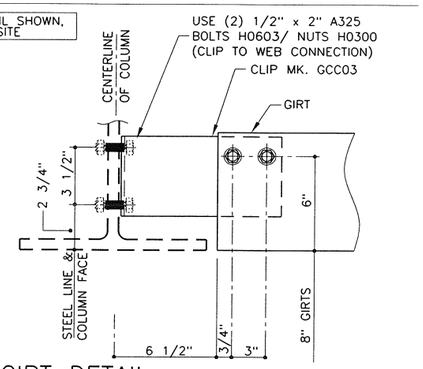


FLUSH GIRT DETAIL

FLUSH GIRTS AT INTERIOR BAY COLUMNS
NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CA1010

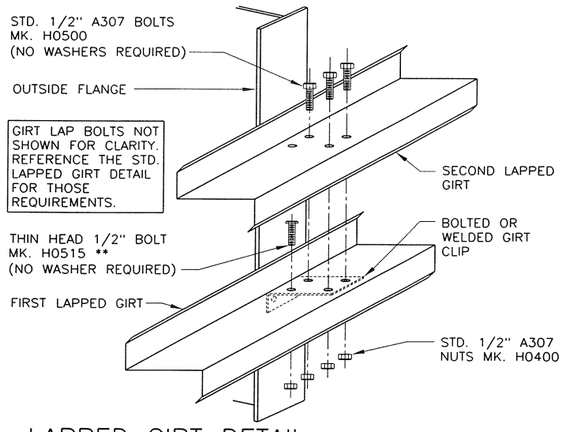
ERECTOR NOTE GIRT CLIPS ARE FACTORY PUNCHED TO BE USED WITH MULTIPLE GIRT DEPTHS. REFER TO THE STANDARD BOLT PLACEMENT DETAIL(S) FOR PROPER BOLT PLACEMENT.



FLUSH GIRT DETAIL

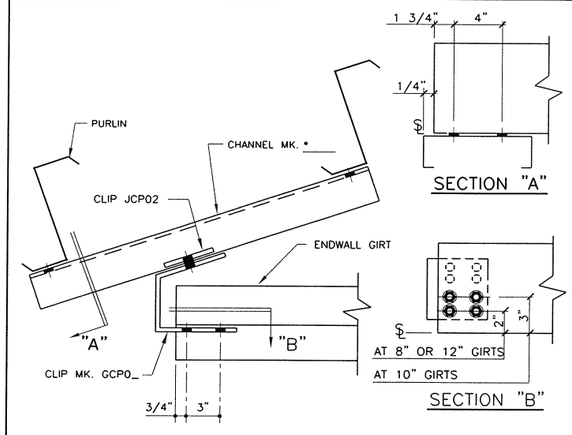
FLUSH GIRTS AT INTERIOR BAY COLUMNS
NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CAX001



LAPPED GIRT DETAIL

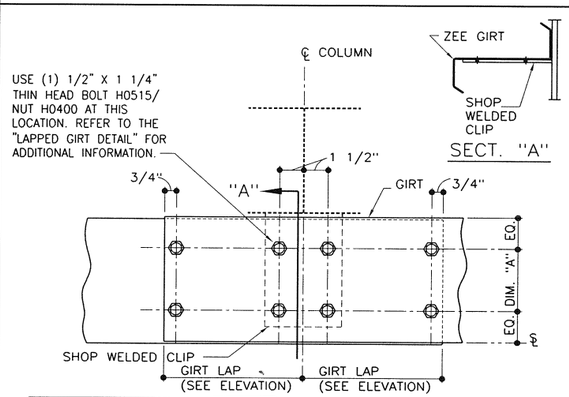
LAPPED GIRTS @ INTERIOR BAY COLUMNS
** THE THIN HEAD 1/2" A307 BOLT MUST BE INSTALLED INTO THE FIRST GIRT AND CLIP OF A LAPPED CONDITION. THE BOLT/NUT ASSEMBLY MUST BE WRENCH TIGHT PRIOR TO THE SECOND LAPPED GIRT BEING INSTALLED.



GIRT TO PURLIN CONN

BYPASS GIRT AT ENDWALL PURLIN
USE (8) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

CC0075

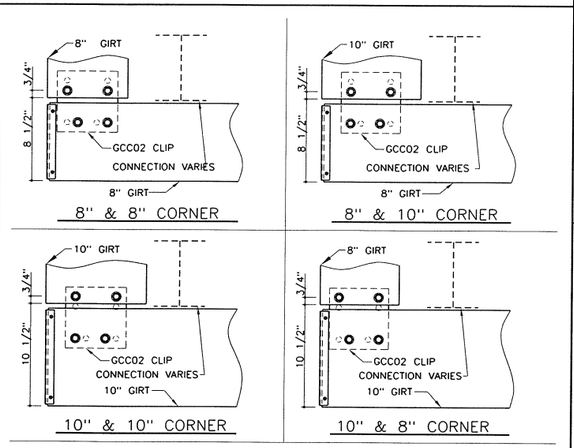


DIM. "A" = 4" AT 8" OR 12" GIRTS
= 8" AT 10" GIRTS

SW OR EW GIRT DETAIL

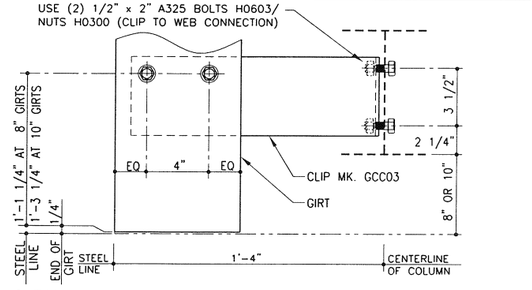
LAPPED BYPASS GIRTS AT INTERIOR BAY COLUMNS
NOTE: USE (7) 1/2"x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

CC1010



BYPASS GIRT BOLT PLACEMENT DETAIL

REFERENCE WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS
GIRT CLIPS ARE FACTORY PUNCHED TO BE USED WITH MULTIPLE GIRT DEPTHS. REFER TO THE DETAILS ABOVE TO DETERMINE WHICH HOLES ARE UTILIZED.

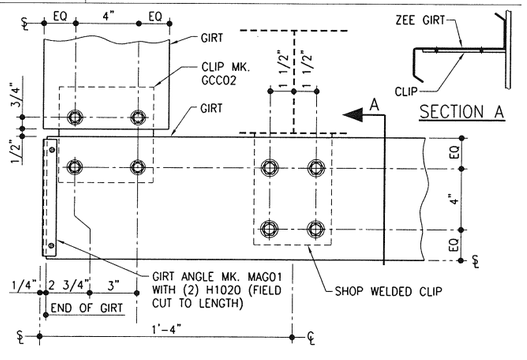


GIRT TERMINATION DETAIL

LEFT HAND DETAIL SHOWN, RIGHT HAND OPPOSITE
NOTE: USE (2) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CF0250

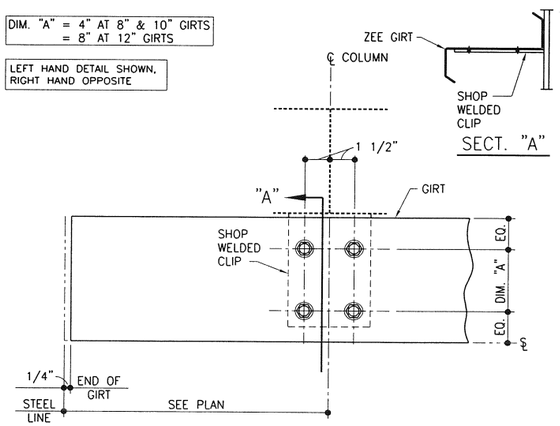
ERECTOR NOTE GIRT CLIPS ARE FACTORY PUNCHED TO BE USED WITH MULTIPLE GIRT DEPTHS. REFER TO THE STANDARD BOLT PLACEMENT DETAIL(S) FOR PROPER BOLT PLACEMENT.



BYPASS GIRT CORNER DETAIL

LEFT HAND DETAIL SHOWN, RIGHT HAND OPPOSITE
NOTE: USE (8) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CF1010



GIRT TERMINATION DETAIL

LEFT HAND DETAIL SHOWN, RIGHT HAND OPPOSITE
NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CF1200

ISSUE	DVWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

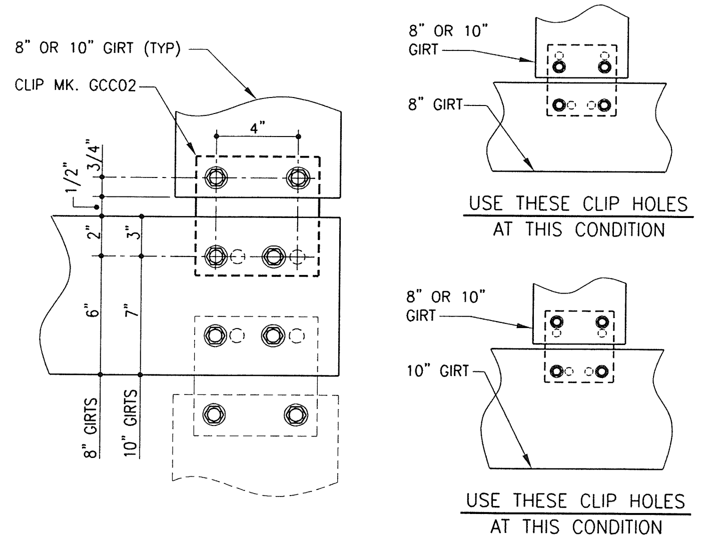
NUCOR BUILDING SYSTEMS GROUP
1050 North Watery Lane
Brigham City, UT 84302
Phone: (435) 919-3100
Fax: (435) 919-3101

PROJECT NAME: Port of Toledo, Toledo, OR
CUSTOMER NAME: JH KELLY LLC Longview, WA
JOB NUMBER: U18H0248A
SHEET TITLE: Wall Framing Details

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

SHEET D14 OF 16

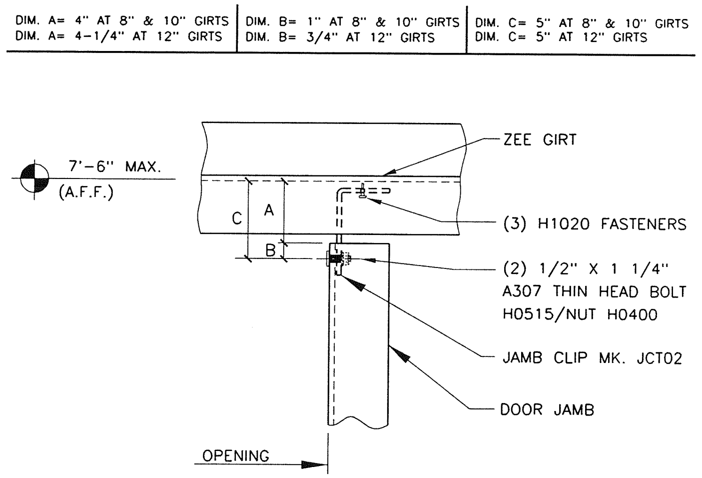


GIRT TO GIRT DETAIL

NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CFX010

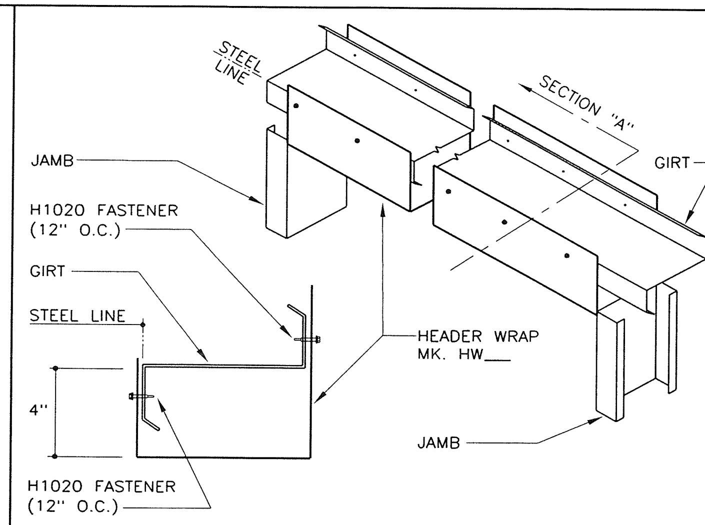
DIM. A= 4" AT 8" & 10" GIRTS | DIM. B= 1" AT 8" & 10" GIRTS | DIM. C= 5" AT 8" & 10" GIRTS
DIM. A= 4-1/4" AT 12" GIRTS | DIM. B= 3/4" AT 12" GIRTS | DIM. C= 5" AT 12" GIRTS



TYPICAL JAMB DETAIL

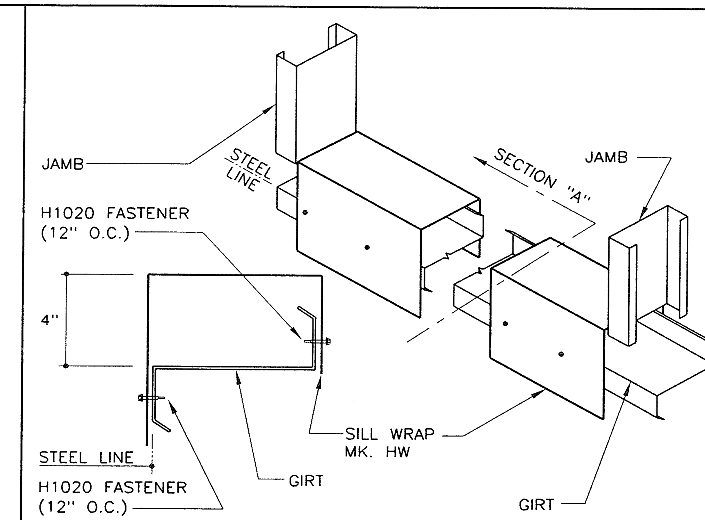
JAMB TO ZEE GIRT WITHOUT INTERMEDIATE GIRT
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CG0017



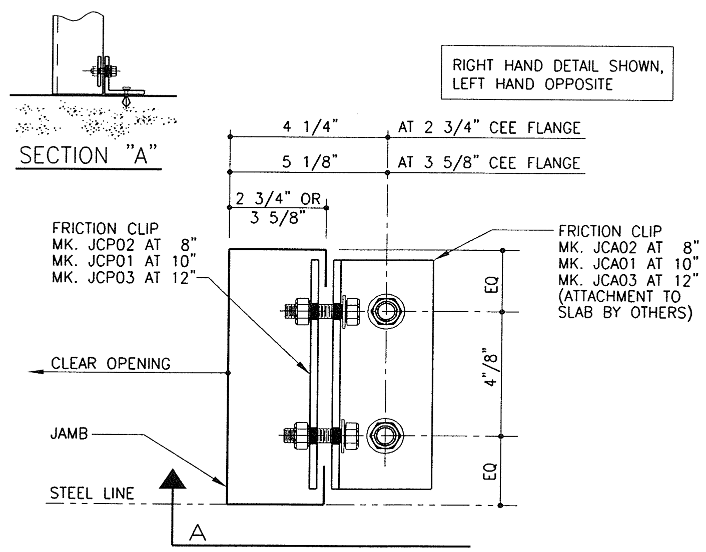
HEADER WRAP DETAIL

CG0025



SILL WRAP DETAIL

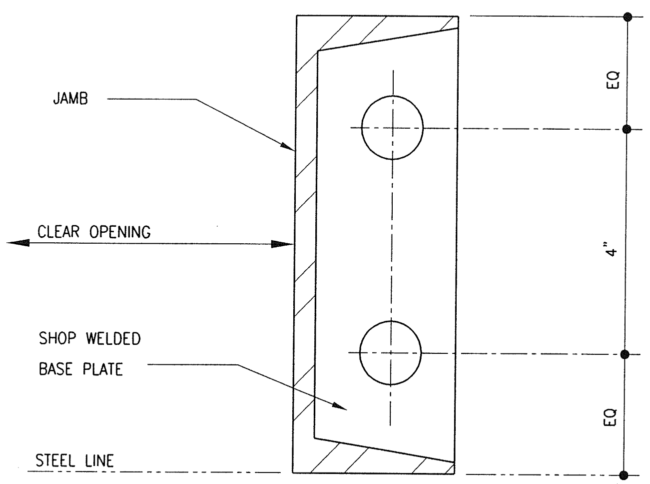
CG0026



JAMB TO FINISHED FLOOR CONNECTION

NOTE: USE (2) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

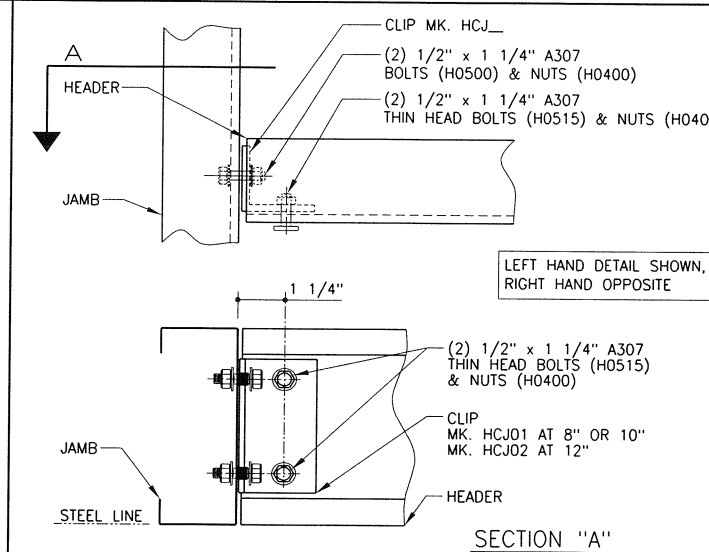
CG0030



HOT-ROLLED JAMB BASE CONNECTION

1/2" ø EXPANSION BOLTS (BY OTHERS)

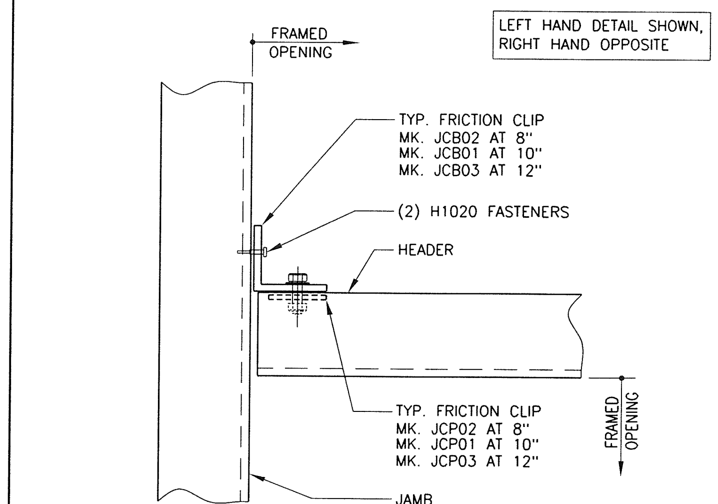
CG0046



HEADER TO JAMB CONNECTION

NOTE: USE (2) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

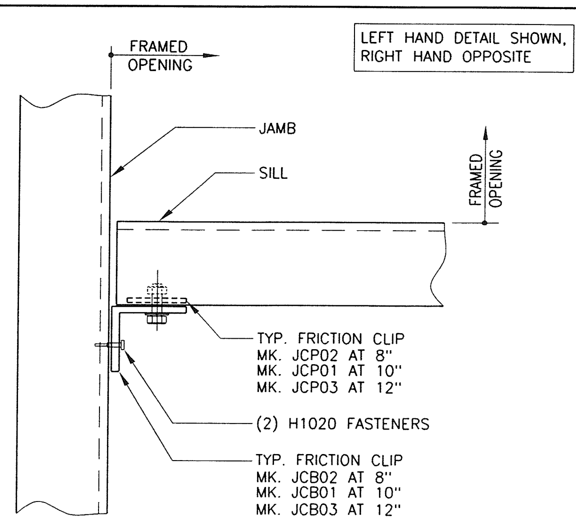
CG0050



HEADER TO JAMB CONNECTION

HEADER TO JAMB CONNECTION AT WINDOW/LOUVER/WALKDOOR
NOTE: USE (2) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

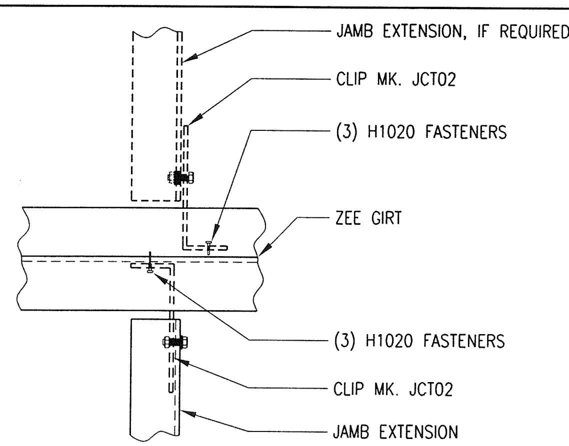
CG0051



SILL TO JAMB CONNECTION

SILL TO JAMB CONNECTION AT WINDOW/LOUVER
NOTE: USE (2) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CG0052



JAMB EXTENSION TO ZEE GIRT

ZEE GIRT CONNECTION
NOTE: USE (4) 1/2" x1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CG0058

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

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BUILDING SYSTEMS GROUP
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Phone: (435) 919-3100
Fax: (435) 919-3101

SHEET TITLE
Wall Framing Details

PROJECT NAME
Port of Toledo
Toledo, OR

CUSTOMER NAME
JH KELLY LLC
Longview, WA

JOB NUMBER
U18H0248A

JUL 09 2018

REGISTERED PROFESSIONAL ENGINEER
90648PE
OREGON
SEP 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:07:33pm

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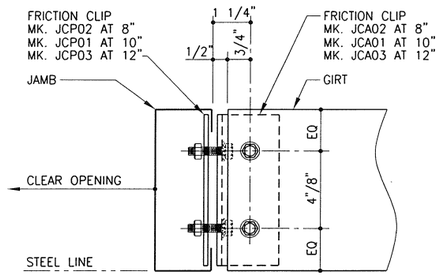
SHEET
D15 OF 16

NOTE:
INSTALL CLIPS ON JAMB BEFORE STANDING JAMB.
USE LEVEL TO ALIGN GIRTS ADJUST CLIP AS REQUIRED.



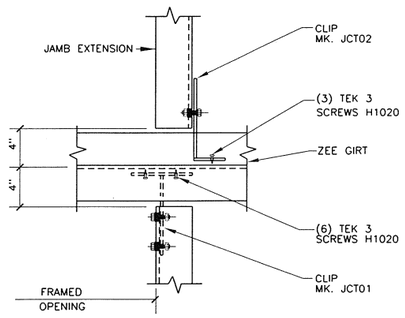
RIGHT HAND DETAIL SHOWN, LEFT HAND OPPOSITE

GIRT TO JAMB CONNECTION

NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CG0060

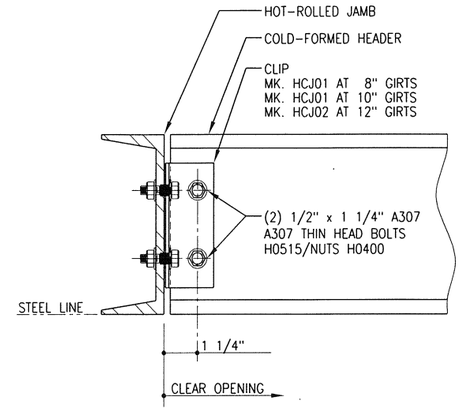
ERECTOR NOTE:
-IF THE T-CLIP IS LOCATED IN THE SAME LOCATION AS NESTED GIRT BOLTS, THE NESTED GIRT BOLTS CAN BE REMOVED.



JAMB WITH EXTENSION DETAIL

JAMB & EXTENSION TO ZEE GIRT CONNECTION
NOTE: USE (6) 1/2" X 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

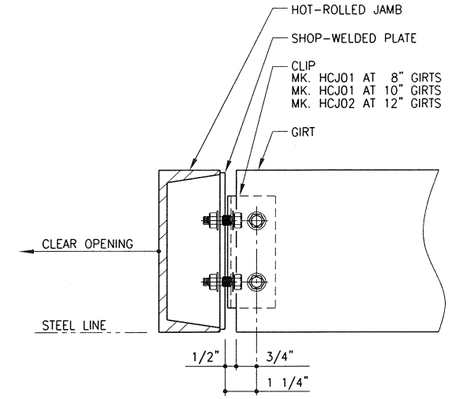
CG0064



COLD FORM HEADER TO HOT-ROLLED JAMB

USE (2) 1/2" x 1 1/4" A307 BOLTS H0500 / NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CG0067



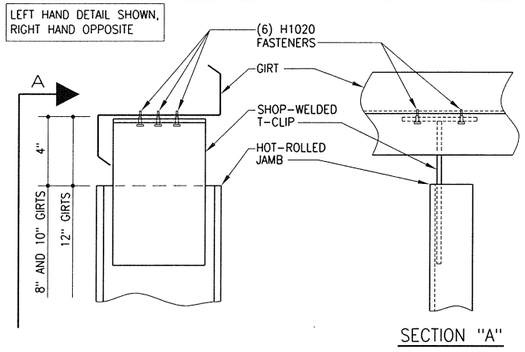
GIRT TO HOT-ROLLED JAMB

NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500 / NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CG0068

ERECTOR NOTE:
-PRE-DRILL HOLES AT NESTED ZEE GIRTS & DOUBLE CEE GIRTS IF REQUIRED.
-IF THE T-CLIP IS LOCATED IN THE SAME LOCATION AS NESTED GIRT BOLTS, THE NESTED GIRT BOLTS CAN BE REMOVED.

LEFT HAND DETAIL SHOWN, RIGHT HAND OPPOSITE

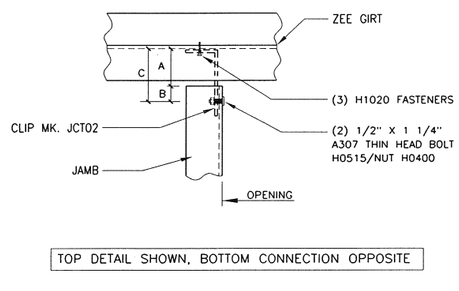


HOT-ROLLED JAMB TO ZEE GIRT

SHOP-WELDED CLIP CONNECTION

CG0069

DIM. A= 4" AT 8" & 10" GIRTS DIM. A= 4-1/4" AT 12" GIRTS	DIM. B= 1" AT 8" & 10" GIRTS DIM. B= 3/4" AT 12" GIRTS	DIM. C= 5" AT 8" & 10" GIRTS DIM. C= 5" AT 12" GIRTS

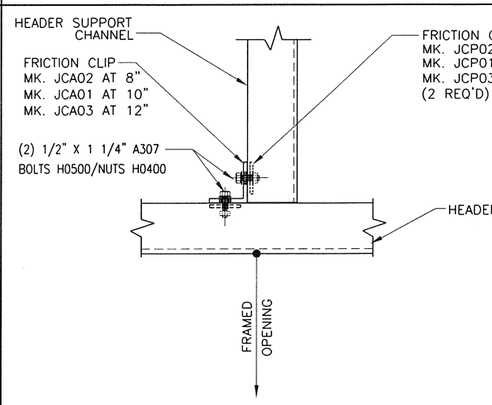


TOP DETAIL SHOWN, BOTTOM CONNECTION OPPOSITE

WINDOW/LOUVER JAMB TO ZEE GIRT

ZEE GIRT CONNECTION ABOVE THE 7'-6" GIRT
ELEVATION WITHOUT INTERMEDIATE GIRTS
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CG0340



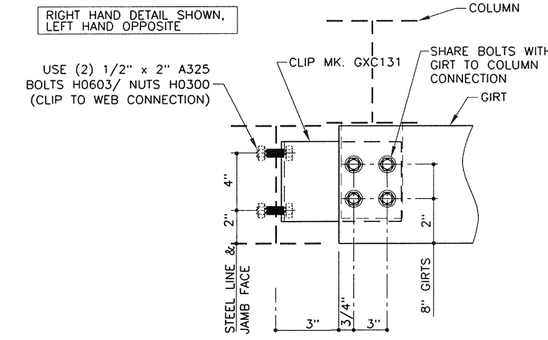
HEADER SUPPORT DETAIL

REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CGX001

ERECTOR NOTE: GIRT CLIPS ARE FACTORY PUNCHED TO BE USED WITH MULTIPLE GIRT DEPTHS. REFER TO THE STANDARD BOLT PLACEMENT DETAIL(S) FOR PROPER BOLT PLACEMENT.

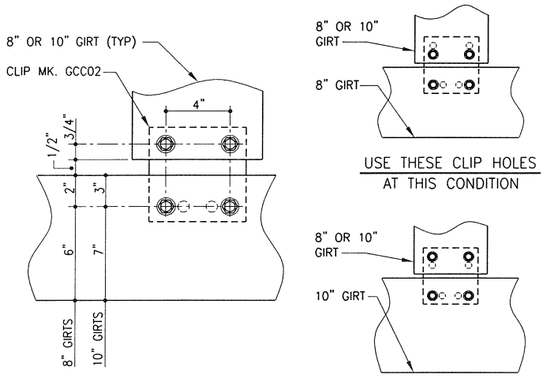
RIGHT HAND DETAIL SHOWN, LEFT HAND OPPOSITE



FLUSH GIRT DETAIL

FLUSH GIRTS AT INTERIOR BAY COLUMNS
NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

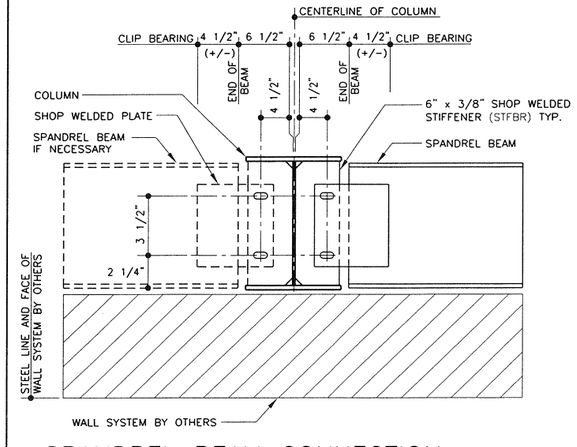
CGX060



GIRT TO GIRT DETAIL

NOTE: USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

CJ0005



SPANDREL BEAM CONNECTION

AT FRAME COLUMN
USE (4) 3/4" Ø x 3" A325 BOLTS AND NUTS
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

CO0030

ISSUE	DWN	CHK	ENG	PE	DATE
For Build Dept. Rev	LCE	CLP	CLE	GJR	7/9/2018

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PROJECT NAME: Port of Toledo
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JUL 09 2018
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SEP. 8, 2015
GRANT J. ROTH
EXPIRATION DATE: 12-31-2018

07/06/2018 06:07:36pm

SHEET
D16 OF 16