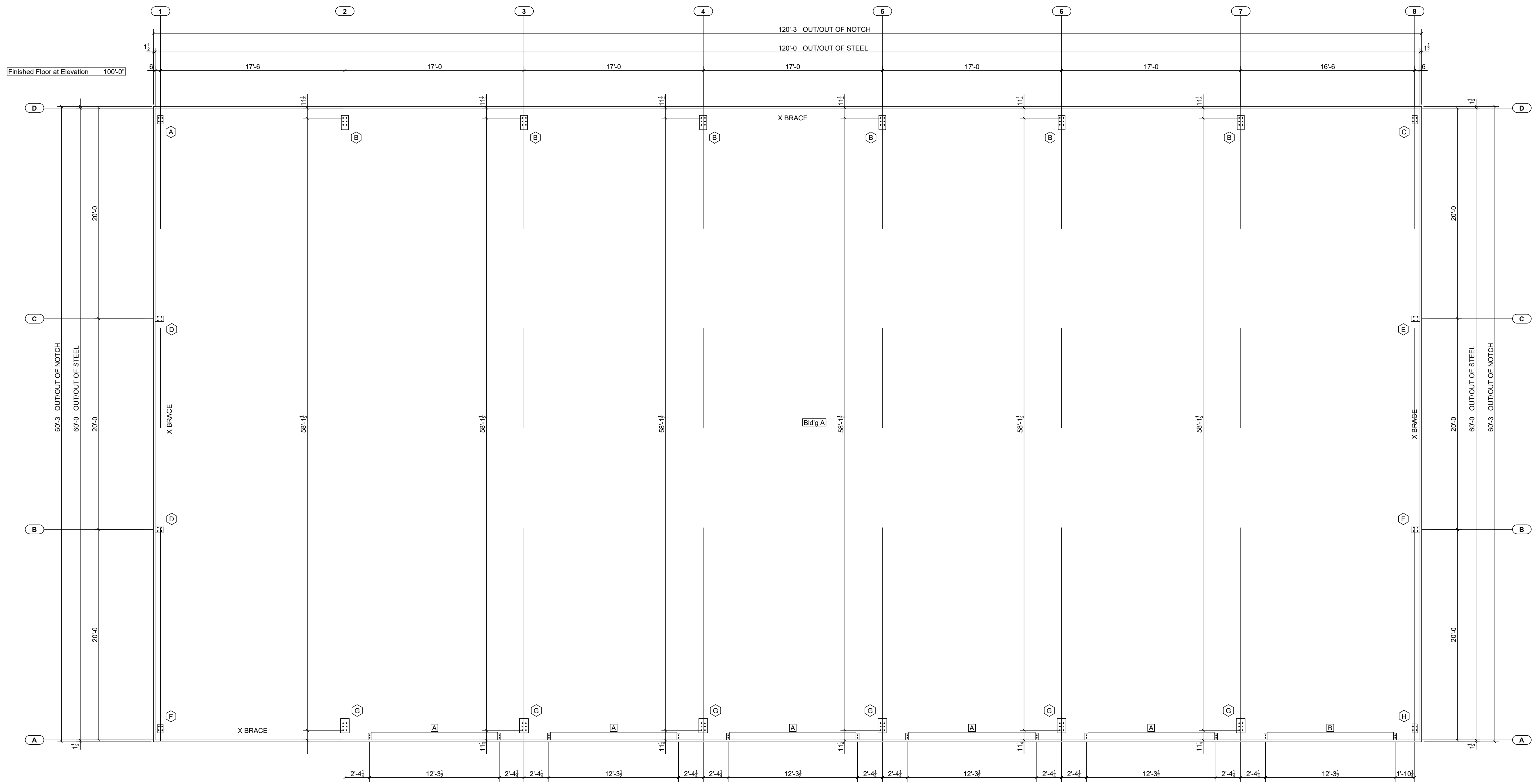
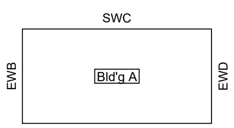


Anchor Rod Setting Plan



Key Plan

FRAMED OPENING SCHEDULE			
MARK	DESCRIPTION	DETAIL	QUAN.
A	12'-0" X 14'-0" FRAMED OPENING	J	3
A	12'-0" X 14'-0" FRAMED OPENING	K	3
B	12'-0" X 14'-0" FRAMED OPENING	J	1

Anchor Rod Drawings

1) This drawing is for anchor rod placement only and is not foundation design.
2) Foundation must be square and level with all anchor rods true in size, location, and projection.
3) Projection shown must be held to keep threads clear of finished concrete.
4) This structural design data includes magnitude and location of design loads and support conditions, material properties, and type and size of major structural members necessary to show compliance with the Order Documents at the time of this issue. Any change to building loads or dimensions may change structural member sizes and locations shown. This structural design data will be superseded and voided by any future mailing.
5) Anchor rod size as noted on the drawings has been determined by shear and tension at the bottom of the base plate. The length of the anchor rod and method of load transfer to the foundation are to be determined by the foundation engineer. Anchor rods are not provided by the metal building manufacturer.
6) Anchor rods are ASTM F1554 Gr. 36 material unless noted otherwise.
7) 3000 psi concrete compressive strength (f'c) is assumed for the purpose of column base plate design unless otherwise noted.

Revision	Date	Description	By	Ck'd

TORO STEEL BUILDINGS

1405 DENISON STREET, MARKHAM, ONTARIO L3R 5V2
TEL: (877) 870-8676 FAX: (877) 474-4445

Customer:
TORO STEEL BUILDINGS LTD DBA
TORO ST 1405 DENISON ST
MARKHAM,CN L3R-5V2

Project Name & Location:
JOY MIDDLETON
1800 8TH STREET EAST
OWEN SOUND,CN N4K 6M9

Drawing Status:
☐ Preliminary (Not For Construction)
☐ For Approval (Not For Construction)
☐ For Construction Permit
☒ For Erector Installation

Scale: NOT TO SCALE
Drawn by: KVM 07/12/2024
Checked by: DC 07/12/2024
Project Engineer: JDM
Job Number: 19-B-68083
Sheet Number: F1 of 3

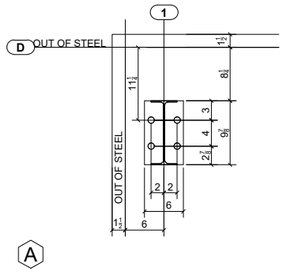
The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

S. HOSSEINZADEH, P.ENG
ONTARIO P.ENG 100541411

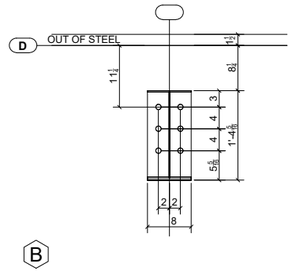
This item has been electronically signed and sealed by S. Hosseinzadeh, P.ENG on the date and/or time stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified by a 3rd Party Certificate Authority on any electronic copy.

Jul 16, 2024

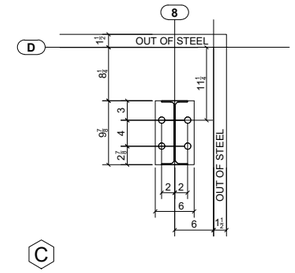
LICENSED PROFESSIONAL ENGINEER
S. HOSSEINZADEH
100541411
PROVINCE OF ONTARIO



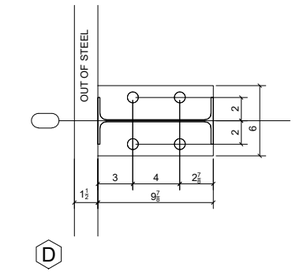
BASE PLATE SIZE = 6"W x 9 $\frac{1}{2}$"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 3"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"



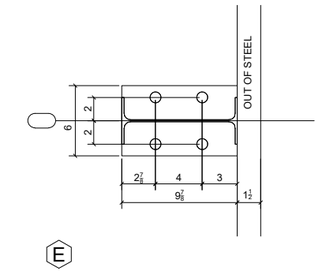
BASE PLATE SIZE = 8"W x 16 $\frac{3}{4}$"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 3"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"



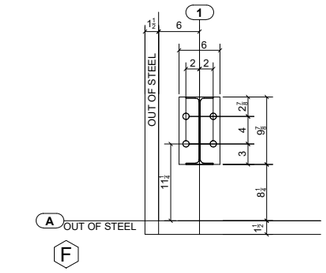
BASE PLATE SIZE = 6"W x 9 $\frac{1}{2}$"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 3"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"



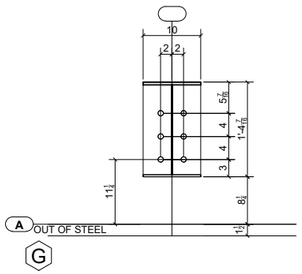
BASE PLATE SIZE = 6"W x 9 $\frac{1}{2}$"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 3"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"



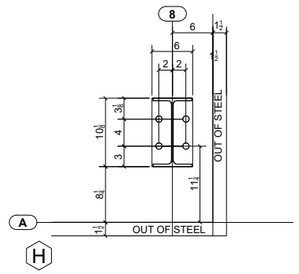
BASE PLATE SIZE = 6"W x 9 $\frac{1}{2}$"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 3"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"



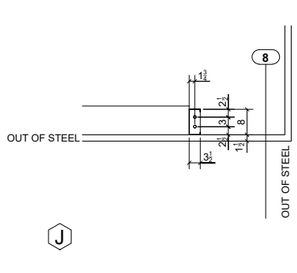
BASE PLATE SIZE = 6"W x 9 $\frac{1}{2}$"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 3"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"



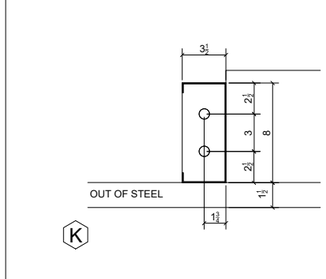
BASE PLATE SIZE = 10"W x 16 $\frac{1}{2}$"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 3"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"



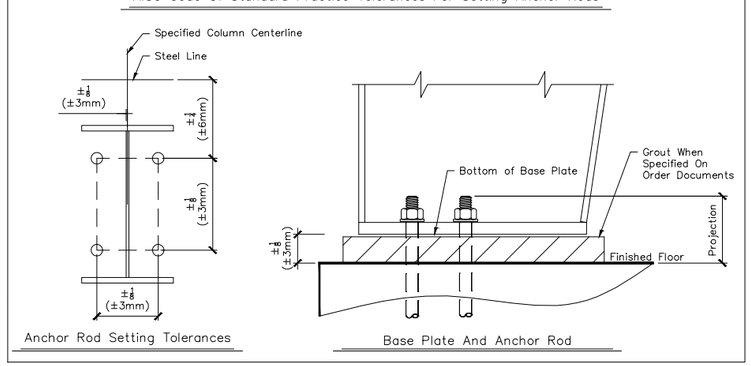
BASE PLATE SIZE = 6"W x 10 $\frac{1}{2}$"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 3"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"

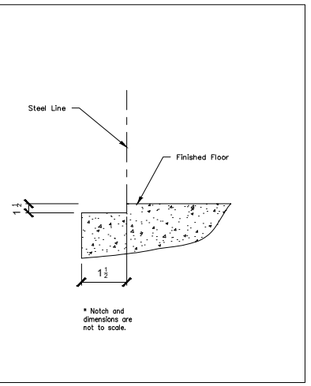


BASE PLATE SIZE = 3 $\frac{1}{2}$"W x 8"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 2"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"



BASE PLATE SIZE = 3 $\frac{1}{2}$"W x 8"L x $\frac{1}{2}$" THICK
ANCHOR ROD SIZE = $\frac{3}{4}$" DIA.
ANCHOR ROD PROJECTION = 2"
BOTTOM OF BASE PLATE ELEVATION = 100'-0"





Revision	Date	Description	By	Ck'd

TORO STEEL BUILDINGS
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Customer:
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Project Name & Location:
JOY MIDDLETON
JOY STREET EAST
OWEN SOUND,ON N4K 6M9

Drawing Status:
☐ Preliminary (Not For Construction)
☐ For Approval (Not For Construction)
☐ For Construction Permit
☒ For Erector Installation

Scale:	NOT TO SCALE
Drawn by:	KV 07/12/2024
Checked by:	DC 07/12/2024
Project Engineer:	JDM
Job Number:	19-B-68083
Sheet Number:	F2 of 3

The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

S. HOSSEINZADEH, P.ENG
ONTARIO P.ENG 100541411

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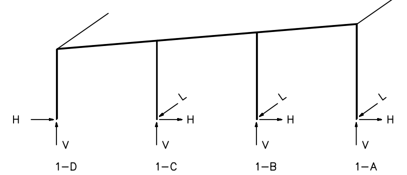
Jul 16, 2024

FRAME DESCRIPTION: Endwall EWB | USER NAME: Jose.Mar | JOB NAME: 68083A | DATE: 07/02/24 | FILE: REW3BLDG1 | PAGE: EW-1

PATH: R:\jobs\Active\Eng\19-B-68083\ver01-jose.martinezjimenez\BLDG-A\run0

SUPPORT REACTIONS FOR EACH LOAD GROUP
NOTE: All reactions are in kips and kip-ft.
TIME: 10:59:01

REACTION NOTATIONS



LOAD GROUP REACTION TABLE

COLUMN	1-D			1-C			1-B			1-A		
LOAD GROUP	H	V	L	H	V	L	H	V	L	H	V	L
D	0.0	0.5	0.	0.	0.9	0.0	0.	1.0	0.0	0.0	0.5	0.
C	0.0	0.3	0.	0.	0.8	0.0	0.	0.8	0.0	0.0	0.3	0.
L	0.1	1.7	0.	0.	4.1	0.0	0.	4.1	0.0	0.0	1.7	0.
S	0.1	4.6	0.	0.	11.3	−0.1	0.	11.3	−0.1	−0.1	4.6	0.
W+	−0.1	−2.2	0.	0.	−5.8	3.1	0.	−6.0	3.4	0.1	−6.2	3.4
W−	−0.1	−2.2	0.	0.	−5.8	−2.9	0.	−6.0	−3.2	0.1	1.1	0.
WR	−0.1	−2.2	0.	0.	−4.4	0.0	1.9	−7.5	0.0	0.1	−2.6	0.
WL	−0.1	−2.2	0.	−0.7	−6.3	0.0	0.	−5.5	0.0	0.1	−2.6	0.
E+	0.	0.	0.	0.	0.	0.0	0.	0.	0.0	0.	−4.4	4.0
E−	0.	0.	0.	0.	0.	0.0	0.	0.	0.0	0.	4.4	0.
ER	0.	0.	0.	0.	0.4	0.	0.6	−0.4	0.	0.	0.	0.
EL	0.	0.	0.	−0.6	−0.5	0.	0.	0.5	0.	0.	0.	0.

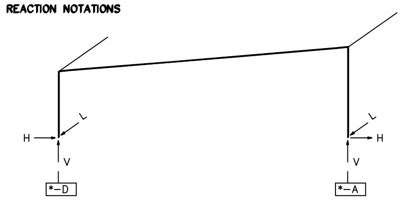
LOAD GROUP DESCRIPTION

D : Dead load
C : Collateral load
L : Live load
S : Uniform snow load
W+ : Wind load as an inward acting pressure
W− : Wind load as an outward acting suction
WR : Wind force from the right
WL : Wind force from the left
E+ : Seismic force acting inward
E− : Seismic force acting outward
ER : Seismic force from right
EL : Seismic force from left

FRAME ID #27 | ss 60./14./17.5 20.89/10.02 | USER NAME: Jose.Martinezjim | JOB NAME: 68083A | DATE: 07/15/24 | PAGE: 27-2 | FILE: frames_2-7.fra

SUPPORT REACTIONS FOR EACH LOAD GROUP
*LOCATION: Gridlines: 2 3 4 5 6 7
NOTES: (1) All reactions are in kips and kip-ft.
(2) Primary wind load cases are not concurrent.
(3) X-bracing reactions (RBPULW and RBUPEQ) are combined withLWL and LEQ groups only.
TIME: 15:57:58

REACTION NOTATIONS



LOAD GROUP REACTION TABLE GRIDLINES * = 2 3 4 5 6 7

COLUMN	*-D			*-A		
LOAD GROUP	H	V	L	H	V	L
DL	1.7	2.7	−0.0	−1.7	3.1	−0.0
COLL	1.5	2.1	−0.0	−1.5	2.1	−0.0
PAR1	10.6	22.9	−0.0	−10.6	7.1	−0.0
PAR2	10.5	7.1	−0.0	−10.5	22.9	−0.0
SNOW	21.2	30.0	−0.0	−21.2	30.0	−0.0
LL	7.7	11.0	−0.0	−7.7	11.0	−0.0
RBUPEQ	0.2	−3.3	−4.0	−0.2	−4.4	−4.0
RBDWEQ	−0.1	3.3	−0.0	0.1	4.4	−0.0
EQ	−0.7	−0.3	−0.0	−0.5	0.3	−0.0
WL1	−5.6	−6.4	−0.0	3.3	−5.9	−0.0
WL2	−6.9	−9.3	−0.0	4.6	−8.8	−0.0
WL3	−3.6	−2.1	−0.0	1.4	−1.7	−0.0
WL4	−0.4	−2.7	−0.0	4.4	−4.0	−0.0
WL5	−1.7	−5.5	−0.0	5.7	−6.8	−0.0
WL6	1.6	1.6	−0.0	2.5	0.3	−0.0
LWL1	−3.1	−6.1	−0.0	3.5	−6.2	−0.0
RBUPLW	0.1	−2.4	−3.0	−0.1	−3.7	−3.4
LWL2	−4.4	−9.0	−0.0	4.8	−9.1	−0.0
LWL3	−1.2	−1.8	−0.0	1.6	−2.0	−0.0
LWL4	−1.4	−3.4	−0.0	1.3	−3.3	−0.0

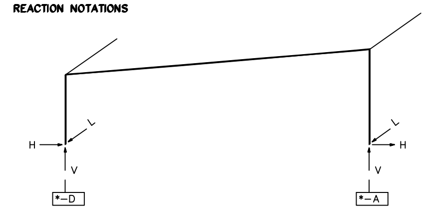
LOAD GROUP DESCRIPTION

DL : Roof Dead Load
COLL : Roof Collateral Load
PAR1 : Partial Load [PARxx]
PAR2 : Partial Load [PARxx]
SNOW : Roof Snow Load
LL : Roof Live Load
RBUPEQ : Upward Acting Rod Brace Load from Long. Seismic
RBDWEQ : Downward Acting Rod Brace Load from Long. Seismic
EQ : Lateral Seismic Load [parallel to plane of frame]
WL1 : Wind from Left to Right without CpiCgi
WL2 : Wind from Left to Right with CpiCgi
WL3 : Wind from Left to Right with −CpiCgi
WL4 : Wind from Right to Left without CpiCgi
WL5 : Wind from Right to Left with CpiCgi
WL6 : Wind from Right to Left with −CpiCgi
LWL1 : Wind from Back to Front without CpiCgi
RBUPLW : Upward Acting Rod Brace Load from Long. Wind
LWL2 : Wind from Back to Front with CpiCgi
LWL3 : Wind from Back to Front with −CpiCgi
LWL4 : Wind from Front to Back without CpiCgi

FRAME ID #27 | ss 60./14./17.5 20.89/10.02 | USER NAME: Jose.Martinezjim | JOB NAME: 68083A | DATE: 07/15/24 | PAGE: 27-3 | FILE: frames_2-7.fra

SUPPORT REACTIONS FOR EACH LOAD GROUP
*LOCATION: Gridlines: 2 3 4 5 6 7
NOTES: (1) All reactions are in kips and kip-ft.
(2) Primary wind load cases are not concurrent.
(3) X-bracing reactions (RBPULW and RBUPEQ) are combined withLWL and LEQ groups only.
TIME: 15:57:58

REACTION NOTATIONS



LOAD GROUP REACTION TABLE GRIDLINES * = 2 3 4 5 6 7

COLUMN	*-D			*-A		
LOAD GROUP	H	V	L	H	V	L
LWL5	−2.7	−6.3	−0.0	2.6	−6.1	−0.0
LWL6	0.5	0.9	−0.0	−0.7	1.0	−0.0
RBDWLW	−0.1	2.4	−0.0	0.1	3.7	−0.0

LOAD GROUP DESCRIPTION

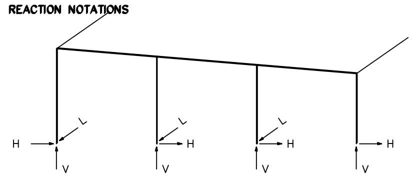
LWL5 : Wind from Front to Back with CpiCgi
LWL6 : Wind from Front to Back with −CpiCgi
RBDWLW : Downward Acting Rod Brace Load from Long. Wind

FRAME DESCRIPTION: Endwall EWD | USER NAME: Jose.Mar | JOB NAME: 68083A | DATE: 07/02/24 | FILE: REW4BLDG1 | PAGE: EW-2

PATH: R:\jobs\Active\Eng\19-B-68083\ver01-jose.martinezjimenez\BLDG-A\run0

SUPPORT REACTIONS FOR EACH LOAD GROUP
NOTE: All reactions are in kips and kip-ft.
TIME: 10:59:01

REACTION NOTATIONS



LOAD GROUP REACTION TABLE

COLUMN	8-A			8-B			8-C			8-D		
LOAD GROUP	H	V	L	H	V	L	H	V	L	H	V	L
D	0.0	0.6	0.	0.	0.9	0.0	0.	0.9	0.0	0.0	0.5	0.
C	0.0	0.3	0.	0.	0.7	0.0	0.	0.7	0.0	0.0	0.3	0.
L	0.0	1.6	0.	0.	3.9	0.0	0.	3.9	0.0	0.0	1.6	0.
S	0.1	4.3	0.	0.	10.7	−0.1	0.	10.7	−0.1	−0.1	4.3	0.
W+	−0.1	−2.4	1.8	0.	−5.7	3.4	0.	−5.5	3.1	0.1	−2.1	0.
W−	−0.1	−2.4	−1.7	0.	−5.7	−3.2	0.	−5.5	−2.9	0.1	−2.1	0.
WR	−0.1	−2.4	0.	0.	−5.2	0.0	0.6	−6.0	0.0	0.1	−2.1	0.
WL	−0.1	−2.4	0.	−1.8	−7.1	0.0	0.	−4.2	0.0	0.1	−2.1	0.
E+	0.	0.	0.0	0.	0.	0.0	0.	0.	0.0	0.	0.	0.
E−	0.	0.	0.0	0.	0.	0.0	0.	0.	0.0	0.	0.	0.
ER	0.	0.	0.	0.	0.4	0.	0.5	−0.4	0.	0.	0.	0.
EL	0.	0.	0.	−0.5	−0.4	0.	0.	0.4	0.	0.	0.	0.

LOAD GROUP DESCRIPTION

D : Dead load
C : Collateral load
L : Live load
S : Uniform snow load
W+ : Wind load as an inward acting pressure
W− : Wind load as an outward acting suction
WR : Wind force from the right
WL : Wind force from the left
E+ : Seismic force acting inward
E− : Seismic force acting outward
ER : Seismic force from right
EL : Seismic force from left

NOTES

1) THE REACTIONS PROVIDED ARE BASED ON THE ORDER DOCUMENTS AT THE TIME OF MAILING. ANY CHANGES TO BUILDING LOADS OR DIMENSIONS MAY CHANGE THE REACTIONS. THE REACTIONS WILL BE SUPERSEDED AND VOIDED BY ANY FUTURE MAILING.

2) THE REACTIONS PROVIDED HAVE BEEN CREATED WITH THE FOLLOWING LAYOUT (UNLESS NOTED OTHERWISE).

a) A REACTION TABLE IS PROVIDED WITH THE REACTIONS FOR EACH LOAD GROUP.

b) RIGID FRAMES – TRANSVERSE AND LONGITUDINAL

(1) FOR CANADA BUILDING CODE (NBCC), INDIVIDUAL TRANSVERSE SEISMIC LOADS FOR MOMENT FRAMES (EQ) ARE NOT MULTIPLIED BY FORCE REDUCTION FACTOR, R_d, WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_E F_a S_a(0.2)\}$ IS GREATER THAN 0.45.

(2) FOR CANADA BUILDING CODE (NBCC), WHEN PORTAL FRAMES ARE PRESENT IN THE SIDEWALL, INDIVIDUAL LONGITUDINAL SEISMIC LOADS (LEQ) ARE NOT MULTIPLIED BY FORCE REDUCTION FACTOR, R_d, WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_E F_a S_a(0.2)\}$ IS GREATER THAN 0.45.

c) ENDWALLS – SEISMIC BASE SHEAR FROM WALL MASS

(1) FOR CANADA BUILDING CODE (NBCC), INDIVIDUAL LONGITUDINAL SEISMIC LOADS (E+ & E−), AND INDIVIDUAL TRANSVERSE SEISMIC LOADS (EL & ER) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_d, WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_E F_a S_a(0.2)\}$ IS GREATER THAN 0.45.

d) X-BRACING – REACTIONS TO COLUMNS FROM WALL BRACING

(1) X- BRACING REACTIONS ARE INCLUDED IN VALUES SHOWN IN THE REACTION TABLES.

(2) FOR CANADA BUILDING CODE (NBCC), WHEN X-BRACING IS PRESENT IN THE SIDEWALL, INDIVIDUAL LONGITUDINAL SEISMIC LOADS (RBUPEQ & RBDWEQ) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_d, WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_E F_a S_a(0.2)\}$ IS GREATER THAN 0.45.

(3) FOR CANADA BUILDING CODE (NBCC), WHEN X-BRACING IS PRESENT IN THE ENDWALL, INDIVIDUAL TRANSVERSE SEISMIC LOADS (EL & ER) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_d, WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_E F_a S_a(0.2)\}$ IS GREATER THAN 0.45.

(4) FOR CANADA BUILDING CODE (NBCC), WHEN X-BRACING IS PRESENT AT THE ENDWALL CORNER COLUMNS, INDIVIDUAL LONGITUDINAL SEISMIC LOADS (E+ & E−) ARE MULTIPLIED BY FORCE REDUCTION FACTOR, R_d, WHEN SPECIFIED SHORT-PERIOD SPECTRAL ACCELERATION RATIO $\{I_E F_a S_a(0.2)\}$ IS GREATER THAN 0.45.

e) THE METAL BUILDING MANUFACTURER IS RESPONSIBLE ONLY FOR THE PORTION OF THE ANCHOR ROD DESIGN PERTAINING TO THE TRANSFER OF FORCES BETWEEN THE BASE PLATE BEARING AND THE ANCHOR ROD'S SHEAR AND TENSION. THE METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR THE ANCHOR ROD EMBEDMENT FOR TRANSFER OF FORCES TO THE FOUNDATION. THE METAL BUILDING MANUFACTURER DOES NOT DESIGN AND IS NOT RESPONSIBLE FOR THE DESIGN, MATERIAL, AND CONSTRUCTION OF THE FOUNDATION EMBEDMENTS. THE END USE CUSTOMER SHALL ASSURE THAT ADEQUATE PROVISIONS ARE MADE TO THE FOUNDATION DESIGN FOR LOADS IMPOSED BY COLUMN REACTIONS OF THE BUILDING, OTHER IMPOSED LOADS, AND BEARING CAPACITY OF THE SOIL AND OTHER CONDITIONS OF THE BUILDING SITE. IT IS RECOMMENDED THAT THE ANCHORAGE AND FOUNDATION OF THE BUILDING BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER COMPETENT IN THE DESIGN OF SUCH STRUCTURES.

i) (REF. APPENDIX A3 OF THE MBMA METAL BUILDING SYSTEMS MANUAL)

f) ANCHOR RODS ARE ASTM F1554 GR. 36 MATERIAL UNLESS NOTED OTHERWISE ON THE ANCHOR ROD LAYOUT DRAWING.

3) REACTIONS ARE PROVIDED AS UN-FACTORED FOR EACH LOAD GROUP APPLIED TO THE COLUMN – WITH THE EXCEPTION OF THE R_d SEISMIC FACTOR. REFER TO THE ENDWALLS AND X-BRACING NOTES ABOVE.

a) THE FACTORS APPLIED TO LOAD GROUPS FOR THE STEEL COLUMN DESIGN MAY BE DIFFERENT THAN THE FACTORS USED IN THE FOUNDATION DESIGN. THE FOUNDATION ENGINEER SHALL APPLY THE APPROPRIATE LOAD FACTORS AND COMBINE THE REACTIONS IN ACCORDANCE WITH THE BUILDING CODE AND DESIGN SPECIFICATIONS FOR PROPER FOUNDATION DESIGN.

THE MANUFACTURER DOES NOT PROVIDE "MAXIMUM" LOAD COMBINATION REACTIONS. HOWEVER, THE INDIVIDUAL LOAD REACTIONS PROVIDED MAY BE USED BY THE FOUNDATION ENGINEER TO DETERMINE THE APPLICABLE LOAD COMBINATIONS FOR HIS/HER DESIGN PROCEDURES AND ALLOW FOR AN ECONOMICAL FOUNDATION DESIGN.

Revision	Date	Description	By	Ck'd

TORO STEEL BUILDINGS
1405 DENISON STREET, MARKHAM, ONTARIO L3R 5V2
TEL: (877) 870-8676 FAX: (877) 474-4445

Customer: TORO STEEL BUILDINGS LTD DBA TORO ST 1405 DENISON ST MARKHAM,CN L3R-5V2

Project Name & Location: JOY MIDDLETON 1800 8TH STREET EAST OWEN SOUND,CN N4K 6M9

Drawing Status: ☐ Preliminary (Not For Construction) ☐ For Approval (Not For Construction) ☐ For Construction Permit ☒ For Erector Installation

Scale: NOT TO SCALE
Drawn by: 07/12/2024
Checked by: DC 07/12/2024
Project Engineer: JDM
Job Number: 19-B-68083
Sheet Number: F3 of 3

The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

S. HOSSEINZADEH, P.ENG
ONTARIO P.ENG 100541411

This item has been electronically signed and sealed by S. Hosseinzadeh, P.ENG on the date and/or time stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified by a 3rd Party Certificate Authority on any electronic copy.

Jul 16, 2024