

GENERAL NOTES:

1. MATERIALS	ASTM DESCRIPTION
STRUCTURAL STEEL PLATE	A529 / A572 / A1011
HOT ROLLED MILL SHAPES	A36 / A529 / A500
HHS ROUND	A500
HHS RECTANGULAR	A500
COLD FORM SHAPES	A653 / A1011
ROOF AND WALL SHEETING	A653 / A792
BOLTS	A307 / A325 / A490
CABLE	A475
RODS	A529 / A572

2. STRUCTURAL PRIMER NOTE:

SHOP COAT PRIMER IS INTENDED TO PROTECT THE STEEL FRAMING FOR A SHORT PERIOD OF TIME. STORAGE IN EXTREME COLD TEMPERATURES OR WINTER SNOW CONDITIONS, INCLUDING TRANSPORTATION ON SALTED OR CHEMICALLY TREATED ROADS WILL ADVERSELY AFFECT THE DURABILITY AND LONGEVITY OF THE PRIMER. THE COAT OF SHOP PRIMER DOES NOT PROVIDE THE UNIFORMITY OF APPEARANCE, OR THE DURABILITY AND CORROSION RESISTANCE OF A FIELD APPLIED FINISH COAT OF PAINT OVER A SHOP PRIMER. MINOR ABRASIONS TO THE SHOP COAT PRIMER CAUSED BY HANDLING, LOADING, SHIPPING, UNLOADING AND ERECTION ARE UNAVOIDABLE AND ARE NOT THE RESPONSIBILITY OF THE METAL BUILDING MANUFACTURER. METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR THE DETERIORATION OF THE PRIMER OR CORROSION THAT MAY RESULT FROM ATMOSPHERIC AND ENVIRONMENTAL CONDITIONS NOR THE COMPATIBILITY OF THE PRIMER TO ANY FIELD APPLIED COATING.

3. BUILDING ERECTION NOTES:

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. TEMPORARY SUPPORTS SUCH AS GUYS, BRACES, FALSEWORK, CRIBBING OR OTHER ELEMENTS FOR ERECTION ARE TO BE DETERMINED, FURNISHED AND INSTALLED BY THE ERECTOR. THESE SUPPORTS MUST SECURE THE STEEL FRAMING, OR PARTLY ASSEMBLED STEEL FRAMING, AGAINST LOADS COMPARABLE IN INTENSITY TO THOSE FOR WHICH THE STRUCTURE WAS DESIGNED IN ADDITION TO LOADS RESULTING FROM THE ERECTION OPERATION. SECONDARY WALL AND ROOF FRAMING (PURLINS, GIRTS AND/OR JOIST) ARE NOT DESIGNED TO FUNCTION AS A WORKING PLATFORM OR TO PROVIDE AS AN ANCHORAGE POINT FOR A FALL ARREST /SAFETY TIE OFF.

4. SPECIAL INSPECTION:

SPECIAL INSPECTIONS AND TESTING THAT MAY BE REQUIRED BY GOVERNMENTAL OR OTHER AUTHORITY DURING CONSTRUCTION AND/OR STEEL FABRICATION (COLLECTIVELY, "INSPECTIONS") ARE NOT THE RESPONSIBILITY OF THE PEMB MANUFACTURER, AND TO THE EXTENT REQUIRED IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE. IN THE EVENT INSPECTIONS ARE REQUIRED, THE OWNER AND/OR THE OWNER'S REPRESENTATIVE SHALL EMPLOY A THIRD PARTY QUALITY ASSURANCE TESTING AGENCY APPROVED BY THE RELEVANT AUTHORITY. IF SUCH REQUIREMENTS ARE NOT SPECIFICALLY INCLUDED IN THE PEMB MANUFACTURER'S SALES DOCUMENTS, NO INSPECTIONS BY THE PEMB MANUFACTURER OR AT THE PEMB MANUFACTURER'S FACILITY SHALL BE MADE. THE PEMB MANUFACTURER'S FACILITIES ARE ACCREDITED BY IAS AC472.

5. 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-PRE-TENSIONED"), UNLESS REQUIRED OTHERWISE BY LOCAL JURISDICTION OR CONTRACT REQUIREMENTS:

- A) ALL A490 BOLTS SHALL BE "FULLY-PRE-TENSIONED".
- B) ALL A325 BOLTS IN PRIMARY FRAMING (RIGID FRAMES AND BRACING) MAY BE "SNUG-TIGHT", EXCEPT AS FOLLOWS: "FULLY-PRE-TENSION" 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-PRE-TENSIONED", EXCEPT FOR SECONDARY MEMBERS (PURLINS, GIRTS, OPENING FRAMING, ETC.) AND FLANGE BRACES.

SECONDARY MEMBERS (PURLINS, GIRTS, OPENING FRAMING, ETC.) AND FLANGE BRACE CONNECTIONS MAY ALWAYS BE "SNUG-TIGHT", UNLESS INDICATED OTHERWISE IN THESE DRAWINGS.

6. 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) ALL NUCOR BUILDING GROUP FACILITIES ARE IAS AC-472 ACCREDITED FOR DESIGN AND FABRICATION OF METAL BUILDING SYSTEMS. FOR PROJECTS IN CANADA, DESIGN AND FABRICATION ARE DONE ONLY IN FACILITIES THAT ARE ALSO CAN/CSA A660 AND W47.1 CERTIFIED.
- 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.
- 7) COLUMN BASE PLATES ARE DESIGNED NOT TO EXCEED THE ALLOWABLE BEARING STRESS OF CONCRETE THAT HAS A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.

BUILDING INFORMATION

PRIMER COLORS

PRIMARY PRIMER COLOR: GRAY SECONDARY PRIMER COLOR: GRAY

ROOF SHEETING

TYPE: SS3 GAUGE: 24 FINISH: Galvalume Plus CLIP TYPE: Tall
 THERMAL BLOCKS: Yes EPS FOAM SPACER: No ROOF LINE TRIM, PAINTED: Dark Bronze PVDF
 YES NO DOWNSPOUTS PAINTED: Dark Bronze PVDF GUTTERS PAINTED: Dark Bronze PVDF
 YES NO INSULATION 6 INCH (NOT BY MBS)
 YES NO PIPE JACKS, SIZE: _____ QUANTITY: _____
 YES NO RIDGE VENTS, 10'-0" LONG X 9" THROAT. QUANTITY: _____
 YES NO ROOF FRAMED OPENINGS, SEE ROOF FRAMING PLAN FOR SIZES
 YES NO COMPOSITE SS3 DECK, TYPE: N/A GAUGE: _____ FINISH: _____

WALL SHEETING

TYPE: APW GAUGE: 26 FINISH: Desert Sand PVDF
 CORNER TRIM, PAINTED: Dark Bronze PVDF BASE TRIM, PAINTED: Desert Sand PVDF
 YES NO WALKDOORS, QUANTITY: 3 3070PA, PAINTED: PW
 YES NO WINDOWS, QUANTITY: _____ PAINTED: _____
 YES NO INSULATION 6 INCH (NOT BY MBS)

WALL FRAMED OPENINGS

YES NO FRAMED OPENING TRIM, PAINTED: Dark Bronze PVDF
 SIZES: FSW: (4) 16 W x 16 H
 BSW: none
 LEW: (2) 5 W x 5 , window sill at 13.5 (1) 16 W x 16 H
 REW: (2) 5 W x 5 , window sill at 13.5 (1) 16 W x 16 H

BUILDING OPTIONS

YES NO LINER PANELS
 FRAMED OPENING TRIM, PAINTED: Polar White SP
 WALL: TYPE: RPL GAUGE: 26 FINISH: Polar White SP WALL TRIM, PAINTED: Polar White SP
 CEILING: TYPE: _____ GAUGE: _____ FINISH: _____
 YES NO TRANSLUCENT PANELS
 WALL: _____
 ROOF: _____
 INSULATED PANELS? YES NO
 YES NO EAVE EXTENSION
 PROJ: 2 ft by 100 ft TYPE: RPS GAUGE: 26 FINISH: Dark Bronze PVDF SOFFIT TRIM AT BUILDING LINE PAINTED: Dark Bronze PVDF
 YES NO RAKE EXTENSION
 PROJ: 2 ft by 80.277 ftTYPE: RPS GAUGE: 26 FINISH: Dark Bronze PVDF SOFFIT TRIM AT BUILDING LINE PAINTED: Dark Bronze PVDF
 YES NO CANOPY
 AT EAVE LINE BELOW EAVE PROJECTION: _____ CLEAR UNDER CANOPY BEAM: _____
 ROOF PANEL: TYPE: _____ GAUGE, FINISH: _____ CAP TRIM PAINTED: _____
 SOFFIT PANEL: TYPE: _____ GAUGE, FINISH: _____ SOFFIT TRIM AT BUILDING LINE PAINTED: _____
 YES NO PARTITION WALLS
 WALL PANEL: TYPE: _____ GAUGE, FINISH: _____ TRIM PAINTED: _____
 YES NO WAINSCOT
 WALL PANEL: TYPE: _____ GAUGE, FINISH: _____
 BASE TRIM PAINTED: _____ JAMB TRIM PAINTED: _____ TRANSITION TRIM PAINTED: _____
 YES NO FASCIA
 PROJ: _____ TOP OF FASCIA HEIGHT: _____
 FACE PANEL, TYPE: _____ GAUGE, FINISH: _____ CAP TRIM PAINTED: _____
 BACK PANEL, TYPE: _____ GAUGE, FINISH: _____ BASE TRIM PAINTED: _____
 CLOSED SYSTEM, CLEAR UNDER SOFFIT TRIM: _____
 SOFFIT PANEL, TYPE: _____ GAUGE, FINISH: _____ SOFFIT TRIM AT BUILDING LINE PAINTED: _____
 OPEN SYSTEM, (NO SOFFIT PANEL PROVIDED) CLEAR UNDER SOFFIT TRIM: _____
 YES NO PARAPET
 STRUCTURAL PARAPET NON-STRUCTURAL PARAPET TOP OF PARAPET HEIGHT: _____
 BACK PANEL, TYPE: _____ GAUGE, FINISH: _____
 YES NO CRANES (SEE CRANE PLAN FOR ADDITIONAL INFORMATION)
 YES NO MEZZANINE (SEE MEZZANINE PLAN FOR ADDITIONAL INFORMATION)

THE DRAWINGS AND THE METAL BUILDING THEY REPRESENT ARE THE PRODUCT OF THE METAL BUILDING MANUFACTURER. THE REGISTERED PROFESSIONAL ENGINEER'S SEAL PERTAINS ONLY TO THE REQUIREMENTS LISTED HEREIN FOR THE MATERIALS DESIGNED AND SUPPLIED BY THE METAL BUILDING MANUFACTURER. THE REGISTERED PROFESSIONAL ENGINEER WHOSE SEAL APPEARS ON THESE DRAWINGS IS EMPLOYED OR ENGAGED BY THE METAL BUILDING MANUFACTURER AND DOES NOT SERVE AS OR REPRESENT THE PROJECT ENGINEER OF RECORD AND SHALL NOT BE CONSTRUED AS SUCH.

7. GLOSSARY OF ABBREVIATIONS:

- | | | | |
|--|---------------------------------------|-------------------------------------|--------------------------------------|
| APL = A-PANEL FOR THE LINER | H.S.B. = HIGH STRENGTH BOLTS | N.S. = NEAR SIDE | RRS = REVERSE R-PANEL FOR THE SOFFIT |
| APS = A-PANEL FOR THE SOFFIT | HT. = HEIGHT | O.A.L. = OVERALL LENGTH | RRW = REVERSE R-PANEL FOR THE WALL |
| APW = A-PANEL FOR THE WALL | LLV = LONG LEG VERTICAL | O.C. = ON CENTER | SL = STEEL LINE |
| A.R. = ANCHOR RODS | LSN = LOC SEAM NON-SWAGED ROOF PANELS | PL = PLATE | SLV = SHORT LEG VERTICAL |
| BS = BOTH SIDES | LSS = LOC SEAM SWAGED ROOF PANELS | REQ'D = REQUIRED | SIM = SIMILAR |
| B.U. = BUILT-UP | MAX = MAXIMUM | REV. = REVISION | SS2 = STANDING SEAM II ROOF PANEL |
| CFR = CONCEALED FASTENED ROOF PANEL | M.B. = MACHINE BOLTS | RPL = R-PANEL FOR THE LINER | SS3 = STANDING SEAM 360 ROOF PANEL |
| DIA = DIAMETER | MBS = METAL BUILDING SUPPLIER | RPR = R-PANEL FOR THE ROOF | TBD = TO BE DETERMINED |
| FLG = FLANGE | MIN = MINIMUM | RPS = R-PANEL FOR THE SOFFIT | TYP = TYPICAL |
| F.S = FAR SIDE | N/A = NOT APPLICABLE | RPW = R-PANEL FOR THE WALL | U.N.O. = UNLESS NOTED OTHERWISE |
| GA. = GAUGE | NIC = NOT IN CONTRACT | RRL = REVERSE R-PANEL FOR THE LINER | |
| ?? = PART MARK TO BE DETERMINED AND WILL BE UPDATED ON CONSTRUCTION DRAWINGS | | | |



BUILDING LOADS

DESIGN CODE: Ohio (OBC 2017)
 ROOF LIVE LOAD: 20.00 PSF RISK CATEGORY: II - STANDARD BUILDINGS
 LIVE LOAD REDUCIBLE Yes
 GROUND SNOW LOAD: 20.0 PSF SNOW EXP. FACTOR, Ce: 1.00
 SNOW IMPORTANCE FACTOR, Is: 1.00
 WIND: 115 / 89 MPH
 (Vult) / (Vasd)
 C & C PRESSURES (PSF): 28 / -37
 EXPOSURE: C
 UL 90 NO
 R-PaneRoof-Const. No.161 ; R-Panel Roof w/ Translucent Panel-Const. No.167
 SS3 Roof-Const. No.552 ; SS3 Roof w/ Translucent Panel-Const. No.590 ;
 Composite CFR Roof-Const. No.552A ; LS9 Roof-Const. No.332 .
 SEISMIC INFORMATION Ss: 0.132 S1: 0.060
 Design Sds/Sd1: 0.141 / 0.096 Site Class: D
 Seismic Imp. Factor: 1.00 Seismic Design Category: B
Analysis Procedure: Equivalent Lateral Force Method
Basic SFERS: Not Detailed for Seismic

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 POUNDS (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 SNOW LOAD, 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.

BUILDING	
ROOF DEAD (PSF):	3.50
ROOF SNOW Pm (PSF):	20.00
PRI. COL. (PSF):	6.00
WIND ENCLOSURE:	Enclosed
SEC. COL. (PSF):	6.00
GCpi:	±0.18
SNOW Ct:	1.00
SEISMIC R:	3.00
SNOW Cs:	1.00
SEISMIC Cs:	0.047
ROOF SNOW Ps (PSF):	14.00
BASE SHEAR (KIPS):	5.1

DRAWING INDEX

COVERSHEET	C1, C2
ANCHOR BOLT DRAWINGS	F1, F2
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STRUCTURAL/SHEETING DRAWINGS	
DETAILS	

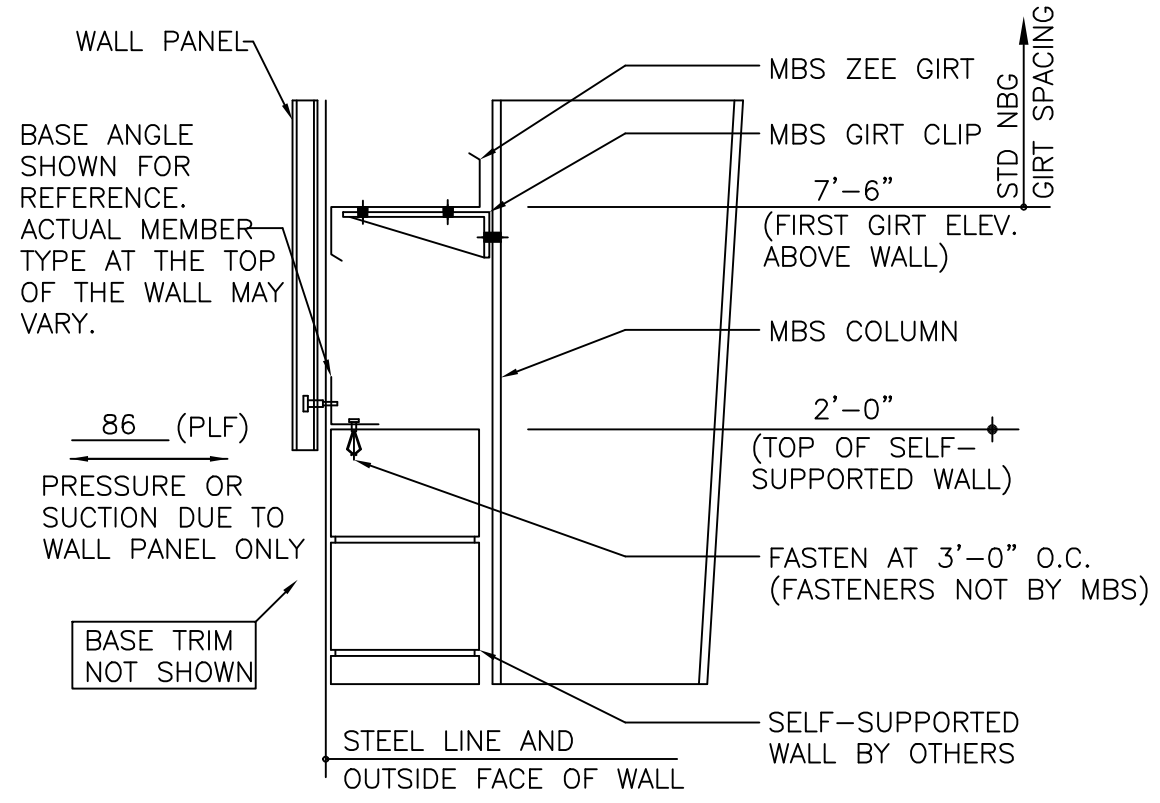
DATE	PE	ENG	CHK	DWN	ISSUE
05/14/24	WG	CTT	DUG	MBS	ANCHOR ROD PLAN

KIRBY BUILDING SYSTEMS
 124 KIRBY DRIVE
 PORTLAND, TN 37148
 PHONE: (615) 325-4165
ANUCOR COMPANY

PROJECT NAME: **MARION COUNTY WWTP GARAGE**
 PROJECT ADDRESS: **MARION, OH 43302**
 OWNER NAME: **STEVENS CONSTRUCTION CO INC**
 PROJECT ADDRESS: **MARION, OH 43302**
 JOB NUMBER: **K24G0187A**
 SHEET TITLE: **COVERSHEET**
 SHEET NUMBER: **C1 OF 2**

HAROLD WAYNE GREGORY
 586-72
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF OHIO
 05/14/2024

THE METAL BUILDING MANUFACTURER'S WALL PANELS ABOVE THE TOP OF THE MASONRY/CONCRETE WALLS MUST BE ATTACHED TO THE WALLS WITH A SPACING AS SHOWN. THE MASONRY/CONCRETE WALLS, AS WELL AS THE FASTENERS ATTACHING THE METAL BUILDING MANUFACTURER'S WALL PANELS TO THE MASONRY/CONCRETE WALLS ARE DESIGNED AND PROVIDED BY OTHERS (NOT BY THE METAL BUILDING MANUFACTURER). THE MASONRY/CONCRETE WALL IS SELF-SUPPORTING, AND MUST BE DESIGNED TO SUPPORT THE LOADS AS SHOWN.



MBS WALL PANEL LOADS
SELF-SUPPORTED WALL BY OTHERS

CONSTRUCTION (BY OTHERS) IS INDEPENDENT
WITH NO STRUCTURAL ATTACHMENT TO KBS STRUCTURE

ISSUE	DWN	CHK	ENG	PE	DATE
ANCHOR ROD PLAN	MBS	DUG	CTT	WG	05/14/24

KIRBY BUILDING SYSTEMS
A **ANUDOR** Company

124 KIRBY DRIVE
PORTLAND, TN 37148
PHONE: (615) 325-4165

PROJECT NAME: MARION COUNTY WWTP GARAGE
MARION, OH 43302

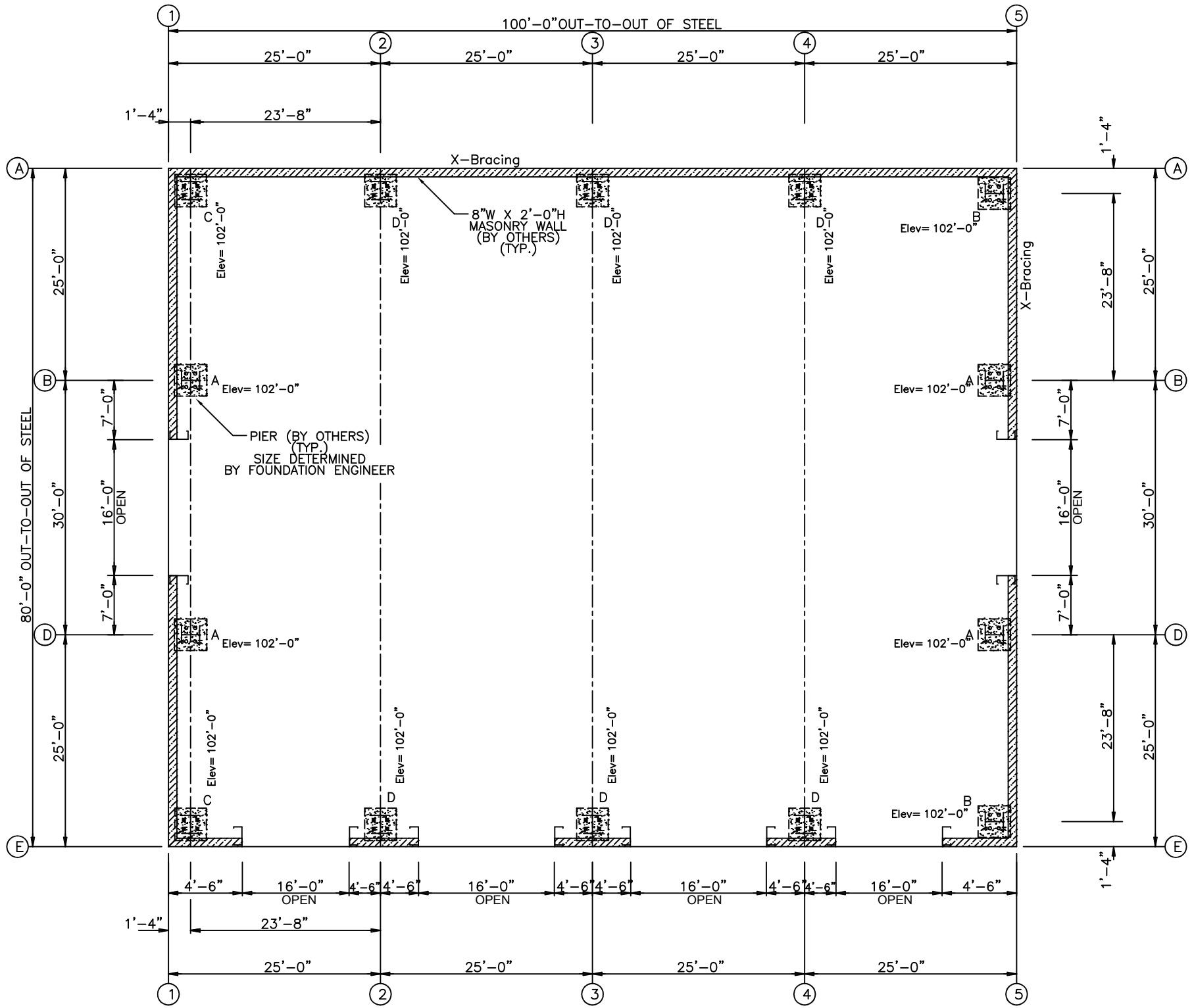
OWNER NAME: STEVENS CONSTRUCTION CO INC
MARION, OH 43302

JOB NUMBER: K24G0187A
SHEET TITLE: ENGINEER NOTES



DATE	PE	ENG	CHK	DWG	CTT	WG
05/14/24						

ANCHOR BOLT SUMMARY					
Qty	Locate	Dia (in)	Type	Proj (in)	
24	Endwall	3/4"	F1554	3.00	
32	Frame	1"	F1554	3.00	



ANCHOR BOLT PLAN
NOTE: All Base Plates @ 100'-0" (U.N.)

○ Dia= 3/4"
■ Dia=1"

ANCHOR BOLT PLAN

GENERAL NOTES

1. THE SPECIFIED ANCHOR ROD DIAMETER ASSUMES F1554 GRADE 36 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. METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR PROJECT FOUNDATION DESIGN. THE FOUNDATION DESIGN IS THE RESPONSIBILITY OF A REGISTERED PROFESSIONAL ENGINEER, FAMILIAR WITH LOCAL SITE CONDITIONS.
3. ANCHOR RODS, NUTS, FLAT WASHERS FOR ANCHOR RODS, EXPANSION BOLTS, AND CONCRETE/MASONRY EMBEDMENT PLATES ARE NOT BY METAL BUILDING MANUFACTURER.
4. THE ANCHOR ROD LOCATIONS PROVIDED BY METAL BUILDING MANUFACTURER SATISFY PERTINENT REQUIREMENTS FOR THE DESIGN OF THE MATERIALS SUPPLIED BY THE METAL BUILDING MANUFACTURER. IT IS THE RESPONSIBILITY OF THE FOUNDATION ENGINEER TO MAKE CERTAIN THAT SUFFICIENT EDGE DISTANCE IS PROVIDED FOR ALL ANCHOR RODS IN THE DETAILS OF THE FOUNDATION DESIGN.
5. DRAWINGS ARE NOT TO SCALE. SEE DETAILS FOR COLUMN ORIENTATION.
6. THE ANCHOR ROD PLAN INDICATES WHERE THE ANCHOR RODS ARE TO BE PLACED AS WELL AS THE FOOTPRINT OF THE METAL BUILDING. IT IS ESSENTIAL THAT THESE ANCHOR ROD PATTERNS BE FOLLOWED. IF THESE SETTINGS DIFFER FROM THE ARCHITECTURAL FOUNDATION PLANS, THE METAL BUILDING MANUFACTURER MUST BE CONTACTED IMMEDIATELY - BEFORE CONCRETE IS PLACED.
7. "SINGLE" CEE COLUMNS SHALL BE ORIENTED WITH THE "TOES" TOWARD THE LOW EAVE UNLESS NOTED OTHERWISE.
8. ALL DIMENSIONS ARE OUT TO OUT OF STEEL. IF CONCRETE NOTCH IS REQUIRED THEN THE REQUIRED DIMENSION SHOULD BE ADDED TO OBTAIN THE OUT TO OUT OF CONCRETE DIMENSIONS.
9. FINISHED FLOOR ELEVATION = 100'-0" BOTTOM OF BASE PLATE = 100'-0" UNLESS NOTED OTHERWISE.

KIRBY BUILDING SYSTEMS
124 KIRBY DRIVE
PORTLAND, TN 37148
PHONE: (615) 325-4165

A UNICOR Company

PROJECT NAME: MARION COUNTY WWTP GARAGE
MARION, OH 43302

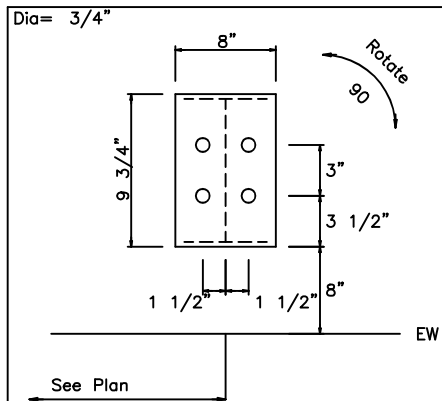
OWNER NAME: STEVENS CONSTRUCTION CO INC
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JOB NUMBER: K24G0187A

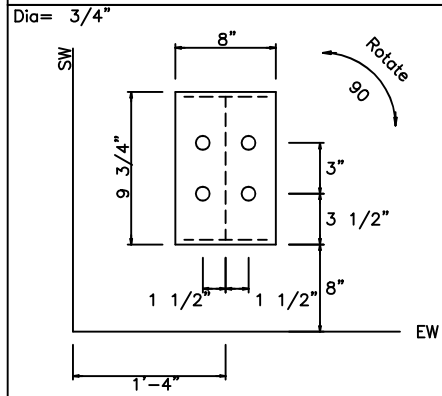
SHEET TITLE: ANCHOR ROD PLAN

STATE OF OHIO
HAROLD WAYNE GREGORY
58672
05/14/2024
PROFESSIONAL ENGINEER

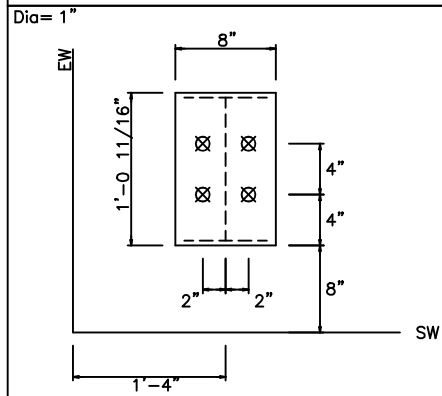
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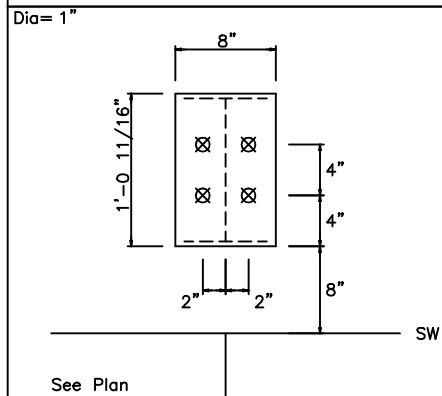
DETAIL A Base EL. 102'-0"



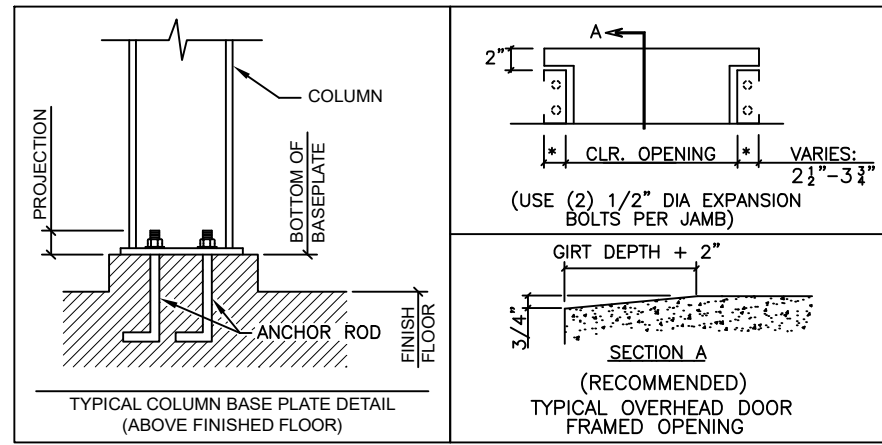
DETAIL B Base EL. 102'-0"



DETAIL C Base EL. 102'-0"



DETAIL D Base EL. 102'-0"



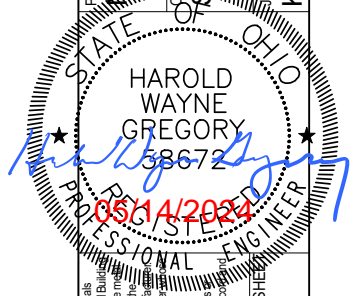
FOUNDATION DESIGN NOTES:

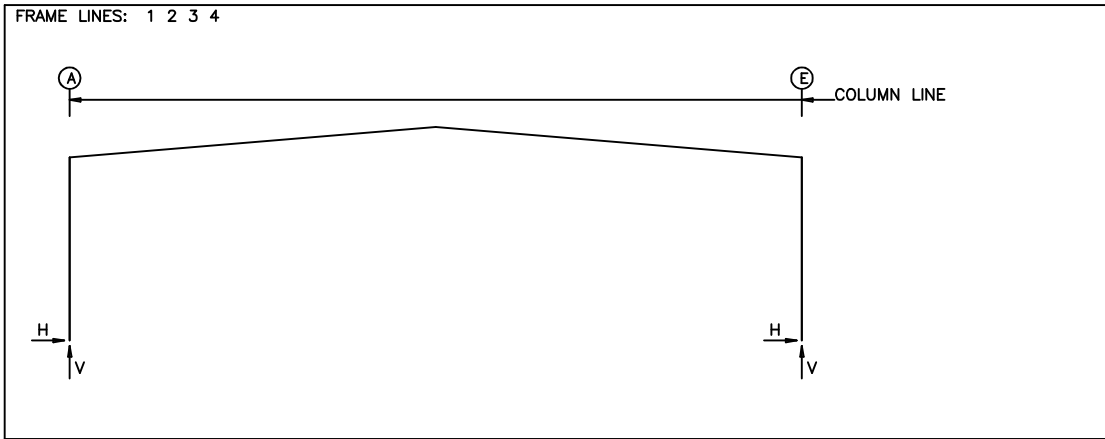
1. THE ORIENTATION OF THE ANCHOR BOLT DETAILS SHOWN ON THIS PAGE MAY NOT COINCIDE WITH THE ACTUAL COLUMN ORIENTATION SHOWN ON THE ANCHOR BOLT DRAWING. PLEASE REFERENCE THE SIDEWALL (SW) AND ENDWALL (EW) STEEL LINES SHOWN ON THE ANCHOR BOLT DETAILS WITH THE ANCHOR BOLT PLAN DURING LAYOUT OF COLUMN AND ANCHOR BOLT LOCATIONS.
2. COLUMN BASE PLATES MAY HAVE MORE HOLES THAN ARE REQUIRED DUE TO PRODUCTION LIMITATIONS. PLEASE FOLLOW ANCHOR BOLT DETAILS FOR QUANTITY OF ANCHOR BOLTS REQUIRED. EXTRA BASE PLATE HOLES DO NOT NEED INFILLED PER THE MBS DESIGN SPECIFICATIONS.

ISSUE	CONSTRUCTION	ANCHOR	ROD	PLAN	DWN	CHK	ENG	CTT	WG	PE	DATE
											05/14/24

KIRBY BUILDING SYSTEMS
 A **NUCOR** Company
 124 KIRBY DRIVE
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 PHONE: (615) 325-4165

PROJECT NAME: MARION COUNTY WWTP GARAGE
 MARION, OH 43302
 OWNER NAME: STEVENS CONSTRUCTION CO INC
 MARION, OH 43302
 JOB NUMBER: K24G0187A
 SHEET TITLE: COLUMN BASE DETAILS





RIGID FRAME: ANCHOR BOLTS & BASE PLATES

Frm Line	Col Line	Anc. Bolt Qty	Anc. Bolt Dia	Base Plate Width	Base Plate Length	Base Plate Thick	Elev. (in)
1	A	4	1.000	8.000	12.69	0.625	24.0
1	E	4	1.000	8.000	12.69	0.625	24.0

RIGID FRAME: ANCHOR BOLTS & BASE PLATES

Frm Line	Col Line	Anc. Bolt Qty	Anc. Bolt Dia	Base Plate Width	Base Plate Length	Base Plate Thick	Elev. (in)
2*	A	4	1.000	8.000	12.69	0.625	24.0
2*	E	4	1.000	8.000	12.69	0.625	24.0

2* Frame lines: 2 3 4

ENDWALL COLUMN: BASIC COLUMN REACTIONS (k)

Frm Line	Col Line	Dead Vert	Wind Press Horz	Wind Suct Horz	Seis Long Vert
1	B	0.3	-5.6	6.2	0.0
1	D	0.3	-5.6	6.2	0.0

Frm Line	Col Line	Dead Vert	Collat Vert	Live Vert	Snow Vert	Wind Left1 Vert	Wind Right1 Vert	Wind Left2 Vert	Wind Right2 Vert	Wind Press Horz	Wind Suct Horz	Wind Long1 Vert	Wind Long2 Vert
5	E	1.1	0.9	3.3	2.6	-6.3	-3.4	-4.8	-1.8	-2.5	2.9	-5.2	-3.0
5	D	2.5	2.9	8.0	6.7	-14.6	-8.8	-10.2	-4.5	-6.0	6.6	-14.4	-8.9
5	B	2.5	2.9	8.0	6.7	-9.1	-14.5	-4.8	-10.2	-6.0	6.6	-8.8	-14.4
5	A	1.1	0.9	3.3	2.6	-3.1	-6.4	-1.5	-4.8	-2.5	2.9	-3.0	-5.2

Frm Line	Col Line	Seis Left Vert	Seis Right Vert	Seis Long Vert	-MIN_SNOW- Horz	-E2UNB_SL_L- Vert	-E2UNB_SL_R- Vert	-E2PAT_LL_1- Horz	-E2PAT_LL_2- Vert
5	E	0.0	0.0	0.0	0.0	3.8	0.0	2.6	0.0
5	D	0.0	0.0	0.0	0.0	9.6	0.0	8.8	0.0
5	B	-0.1	0.0	0.0	0.0	9.6	0.0	3.0	0.0
5	A	0.1	0.0	0.0	0.0	3.8	0.0	0.6	0.0

Frm Line	Col Line	E2PAT_LL_3- Horz	E2PAT_LL_4- Vert
5	E	0.0	2.5
5	D	0.0	8.6
5	B	0.0	4.0
5	A	0.0	-0.4

BUILDING BRACING REACTIONS

Wall Loc	Col Line	± Reactions (k.)	Panel Shear (lb/ft)	Note		
Line	Line	Wind Horz	Seismic Vert	Wind	Seis	
L_SW	1	4.8	6.3	1.3	1.7	(h)
F_SW	E	2.3	1.3	1.7		(b)
R_SW	5	2.7	0.9	0.7		
B_SW	A	3.2	2.7	1.7		

(b) Wind bent in bay, base above finish floor
(h) Rigid frame at endwall

Reactions for seismic represent shear force, Eh
Reaction values shown are unfactored

RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	Dead Horz	Dead Vert	Collateral Horz	Collateral Vert	Live Horz	Live Vert	Snow Horz	Snow Vert	Wind_Left1 Horz	Wind_Left1 Vert	Wind_Right1 Horz	Wind_Right1 Vert
1	A	3.8	6.0	4.8	6.3	9.4	13.6	11.0	15.4	-24.1	-32.9	-13.3	-21.7
1	E	-3.8	6.0	-4.8	6.3	-9.4	13.7	-11.0	15.4	13.3	-21.7	24.1	-32.9

Frame Line	Column Line	Wind_Left2 Horz	Wind_Left2 Vert	Wind_Right2 Horz	Wind_Right2 Vert	Wind_Long1 Horz	Wind_Long1 Vert	Wind_Long2 Horz	Wind_Long2 Vert	Seismic_Left Horz	Seismic_Left Vert	Seismic_Right Horz	Seismic_Right Vert
1	A	-18.9	-23.1	-8.1	-11.9	-14.9	-29.2	-16.1	-22.5	-0.7	-0.3	0.7	0.3
1	E	8.1	-11.9	18.9	-23.1	16.1	-22.5	14.9	-29.2	-0.7	0.3	0.7	-0.3

Frame Line	Column Line	MIN_SNOW Horz	MIN_SNOW Vert	F1UNB_SL_L Horz	F1UNB_SL_L Vert	F1UNB_SL_R Horz	F1UNB_SL_R Vert
1	A	15.8	22.1	9.7	16.0	9.7	8.9
1	E	-15.8	22.1	-9.7	16.0	-9.7	8.9

Frame Line	Column Line	Dead Horz	Dead Vert	Collateral Horz	Collateral Vert	Live Horz	Live Vert	Snow Horz	Snow Vert	Wind_Left1 Horz	Wind_Left1 Vert	Wind_Right1 Horz	Wind_Right1 Vert
2*	A	3.8	6.0	4.8	6.3	9.4	13.6	11.0	15.4	-17.6	-24.3	-9.6	-16.7
2*	E	-3.8	6.0	-4.8	6.3	-9.4	13.7	-11.0	15.4	9.6	-16.7	17.6	-24.3

Frame Line	Column Line	Wind_Left2 Horz	Wind_Left2 Vert	Wind_Right2 Horz	Wind_Right2 Vert	Wind_Long1 Horz	Wind_Long1 Vert	Wind_Long2 Horz	Wind_Long2 Vert	Seismic_Left Horz	Seismic_Left Vert	Seismic_Right Horz	Seismic_Right Vert
2*	A	-12.5	-14.5	-4.4	-6.9	-10.4	-21.4	-11.1	-17.2	-0.6	-0.3	0.6	0.3
2*	E	4.4	-6.9	12.5	-14.5	11.1	-17.2	10.4	-21.4	-0.6	0.3	0.6	-0.3

Frame Line	Column Line	MIN_SNOW Horz	MIN_SNOW Vert	F2UNB_SL_L Horz	F2UNB_SL_L Vert	F2UNB_SL_R Horz	F2UNB_SL_R Vert
2*	A	15.8	22.1	9.7	16.0	9.7	8.9
2*	E	-15.8	22.1	-9.7	16.0	-9.7	8.9

ENDWALL COLUMN: ANCHOR BOLTS & BASE PLATES

Frm Line	Col Line	Anc. Bolt Qty	Anc. Bolt Dia	Base Plate Width	Base Plate Length	Base Plate Thick	Elev. (in)
1	B	4	0.750	8.000	9.750	0.375	24.0
1	D	4	0.750	8.000	9.750	0.375	24.0
5	E	4	0.750	8.000	9.750	0.375	24.0
5	D	4	0.750	8.000	9.750	0.375	24.0
5	B	4	0.750	8.000	9.750	0.375	24.0
5	A	4	0.750	8.000	9.750	0.375	24.0

GENERAL NOTES

- ALL LOADING CONDITIONS ARE EXAMINED. THE MAXIMUM AND MINIMUM HORIZONTAL (H) AND VERTICAL (V) REACTIONS AND THE CORRESPONDING VERTICAL (V) OR HORIZONTAL (H) REACTIONS ARE REPORTED.
- REACTIONS ARE PROVIDED BY LOAD CASE IN ORDER TO AID THE FOUNDATION ENGINEER IN DETERMINING THE APPROPRIATE LOAD FACTORS AND COMBINATIONS TO BE USED WITH EITHER WORKING STRESS OR ULTIMATE STRENGTH DESIGN METHODS. WIND LOAD CASES ARE GIVEN FOR EACH PRIMARY WIND DIRECTION.
- FOR ASCE7-10 AND LATER BASED BUILDING CODES, THE UNFACTORED LOAD CASE REACTIONS DUE TO WIND ARE GENERATED USING THE ULTIMATE DESIGN WIND SPEED (v_{ult}).
- POSITIVE (+) REACTIONS ARE AS SHOWN ABOVE. FOUNDATION LOADS ARE IN OPPOSITE DIRECTIONS.
- BRACING REACTIONS ARE IN THE PLANE OF THE BRACE WITH THE HORIZONTAL REACTION (H) ACTING AWAY FROM THE BRACED BAY AND THE VERTICAL REACTION (V) ACTING DOWNWARD.

***** RIGID FRAME LOAD CASE ABBREVIATIONS: *****
 Wind_L1/Wind_R1: LATERAL WIND FROM THE LEFT/RIGHT, CASE 1
 Wind_L2/Wind_R2: LATERAL WIND FROM THE LEFT/RIGHT, CASE 2
 Wind_Ln1/Wind_Ln2: LONGITUDINAL WIND, CASE 1/2
 Seismic_L/Seismic_R: LATERAL SEISMIC LOAD FROM LEFT/RIGHT
 LWIND#_L#/LWIND#_R#: LONGITUDINAL WIND EDGE ZONES
 F#UNB_SL_L/F#UNB_SL_R: UNBALANCED ROOF SNOW WITH WIND FROM LEFT/RIGHT
 F#PAT_LL_#/F#PAT_SL_#: PARTIAL LIVE/SNOW LOADING FOR CONTINUOUS BEAM SYSTEMS

***** ENDWALL COLUMN LOAD CASE ABBREVIATIONS: *****
 Collat: COLLATERAL LOAD
 Rafter Wind_L/Rafter Wind_R: LATERAL WIND FROM THE LEFT/RIGHT
 Brace Wind_L/Brace Wind_R: LATERAL WIND FROM THE LEFT/RIGHT
 Wind_P/Wind_S: LONGITUDINAL WIND PRESSURE/SUCTION ON COLUMNS
 Wind_Ln: LONGITUDINAL WIND SUCTION ON ROOF
 Seis_L/Seis_R: LATERAL SEISMIC LOAD FROM LEFT/RIGHT
 E#UNB_SL_L/E#UNB_SL_R: UNBALANCED ROOF SNOW WITH WIND FROM LEFT/RIGHT
 E#PAT_LL_#/E#PAT_SL_#: PARTIAL LIVE/SNOW LOADING FOR CONTINUOUS BEAM SYSTEMS

DATE	PE	ENG	CHK	DWN	CONSTRUCTION ANCHOR ROD PLAN
05/14/24	WG	CTT	DUG	MBS	

KIRBY BUILDING SYSTEMS
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 PORTLAND, TN 37148
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A UNICOR Company

PROJECT NAME: MARION COUNTY WWTP GARAGE
 ADDRESS: MARION, OH 43302
 OWNER NAME: STEVENS CONSTRUCTION CO INC
 ADDRESS: MARION, OH 43302
 SHEET NUMBER: K24G0187A
 SHEET TITLE: COLUMN BASE REACTIONS

STATE OF OHIO
 HAROLD WAYNE GREGORY
 58672
 05/14/2024
 PROFESSIONAL ENGINEER