4236 Highway 30 West
P.O. Box 213
Annville, KY. 40402

DATE: May 3, 2021

FROM: EMR, llc.

RE: PETLAND @

460 NW Chipman Road

Lee's Summit, MO. 64063

To Whom It May Concern:

The weight for the proposed roof top units to be installed over this space is 600 pounds each with corner weights at an average of 150 pounds.

If you have any questions concerning this letter please feel to give me a call at your convenience, (606) 364-2886
Sincerely

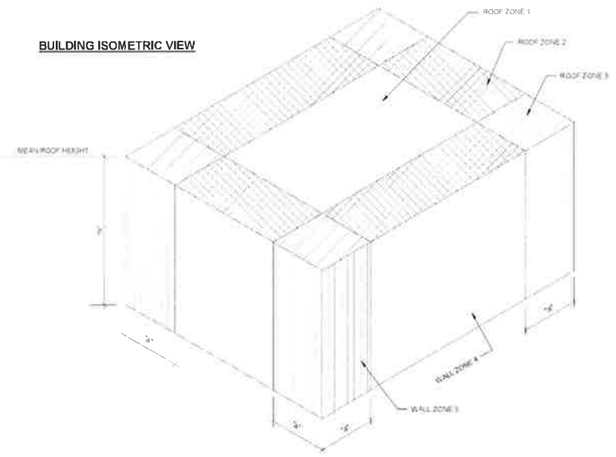
EEM

Eric Engell

COMPONENT AND CLADDING WIND PRESSURE DIAGRAM NOTES:

1. REFER TO GENERAL NOTES FOR WIND LOAD DESIGN CRITERIA
2. POSITIVE LOADS ACT IN A PERPENDICULAR DIRECTION TOWARDS THE SURFACE. NEGATIVE LOADS ACT IN PERPENDICULAR DIRECTION AWAY FROM THE SURFACE
3. WIND LOADS CALCULATED ARE BASED ON THE PROVISIONS OF ASCE 7. VALUES SHOWN ARE DETERMINED ASSUMING AN ENCLOSED BUILDING WITH AN INTERNAL PRESSURE COEFFICIENT = +/- 0.18 AND A Kd FACTOR = 0.85. LOADS SHOWN ARE FROM UNFACTORED BASIC LOAD CASE
4. LINEAR INTERPOLATION IS PERMITTED FOR TRIBUTARY AREAS BETWEEN VALUES GIVEN
5. 'a' SHALL BE THE LESSER OF 10 PERCENT OF THE LEAST HORIZONTAL DIMENSION OR 0.4x h BUT NOT LESS THAN 4 PERCENT OF THE LEAST HORIZONTAL DIMENSION OR 3 FT.
6. FIGURES SHOWN ARE ILLUSTRATIVE ONLY AND ARE NOT INTENDED TO DEPICT THE ACTUAL STRUCTURE DIMENSIONS
7. ALL DESIGNERS USING THIS WIND LOAD DIAGRAM MUST INDEPENDENTLY VERIFY THE DESIGN PRESSURES BASED ON THE APPLICABLE BUILDING CODE
8. ROOF PRESSURES ARE FOR FLAT ROOF ONLY. WIND LOADS FOR THE DESIGN OF SLOPED ROOFS (WITH ANGLES GREATER THAN 10 DEGREES) SHALL BE OBTAINED USING THE PROVISIONS OF ASCE 7-10
9. PARAPETS SHALL BE DESIGNED FOR COMPONENTS AND CLADDING LOADS PER ASCE 7 SECTION 6.5.12.4.4. IF A PARAPET 2-0" OR HIGHER OCCURS AROUND THE PERIMETER OF THE ROOF, ZONE 3 MAY BE TREATED AS ZONE 2 FOR ROOF PRESSURE AND SUCTION

BUILDING ISOMETRIC VIEW



FLAT ROOF (SLOPE LESS THAN 3 DEGREES)
BUILDING COMPONENT AND CLADDING
DESIGN WIND PRESSURES (+) AND SUCTION (-) (PSF)

EFFECTIVE AREA (SQ. FT.)	10		20		50		100		200		500		1000	
ZONE 1	-26.4	11.6	-27.3	10.4	-26.1	9.4	-28.0	9.2	-30.1	9.2	-30.1	9.2	-30.1	9.2
ZONE 2	-47.7	11.6	-42.9	10.4	-35.7	9.4	-30.8	9.2	-30.9	9.2	-30.9	9.2	-30.9	9.2
ZONE 3	-71.6	11.6	**-59.8**	10.4	-42.9	9.4	-30.8	9.2	-30.8	9.2	-30.8	9.2	-30.9	9.2
ZONE 4	-38.4	+26.0	-27.2	+25.1	**-26.0**	**+23.9**	**-24.4**	+21.7	-23.9	+20.7	-23.9	+20.7	-23.9	+20.7
ZONE 5	-34.7	+26.0	-32.5	+25.1	-29.8	+23.9	-27.3	**+21.7**	**-25.1**	**+20.7**	**-25.1**	+20.7	-25.1	+20.7

SLOPED ROOF (SLOPE GREATER THAN 3 DEGREES) BUILDING COMPONENT AND CLADDING
DESIGN WIND PRESSURES (+) AND SUCTION (-) (PSF)

EFFECTIVE AREA (SQ. FT.)	10		20		50		100		200		500		1000	
ZONE 1	-28.4	+26.0	-27.2	**+24.8**	-24.8	+24.1	-23.6	+23.6	-23.6	+23.6	-23.6	+23.6	-23.6	+23.6
ZONE 2	-33.3	+26.0	-32.0	+24.8	**-29.6**	+24.1	-28.4	+23.6	**-28.4**	+23.6	-28.4	**+23.5**	-28.4	+23.6
ZONE 3	-33.3	**+26.0**	-32.0	**+24.8**	-29.6	**+24.1**	-28.4	+23.6	-28.4	+23.6	**-28.4**	**+23.5**	-28.4	+23.6
ZONE 4	-25.6	**+23.4**	-24.5	+22.6	**-23.4**	**+20.6**	-22.0	**+19.5**	**-21.5**	**+18.7**	**-21.5**	+18.7	**-21.5**	+18.7
ZONE 5	-31.2	**+23.4**	-29.3	+22.6	-26.9	+20.6	-24.8	**+19.5**	**-22.6**	**+18.7**	**-22.5**	+18.7	-22.6	+18.7

1 BUILDING COMPONENTS & CLADDING WIND LOADS DIAGRAM

SLAGGIE ARCHITECTS

Kansas City, Missouri • Omaha, Nebraska
888-754-1958
slaggie.com

9-25-19

Summit Orchards Lot 4B
Retail Development

Client Name

NW Chipman Rd & NW Ward Rd
Lee's Summit, MO 64086

Revisions:

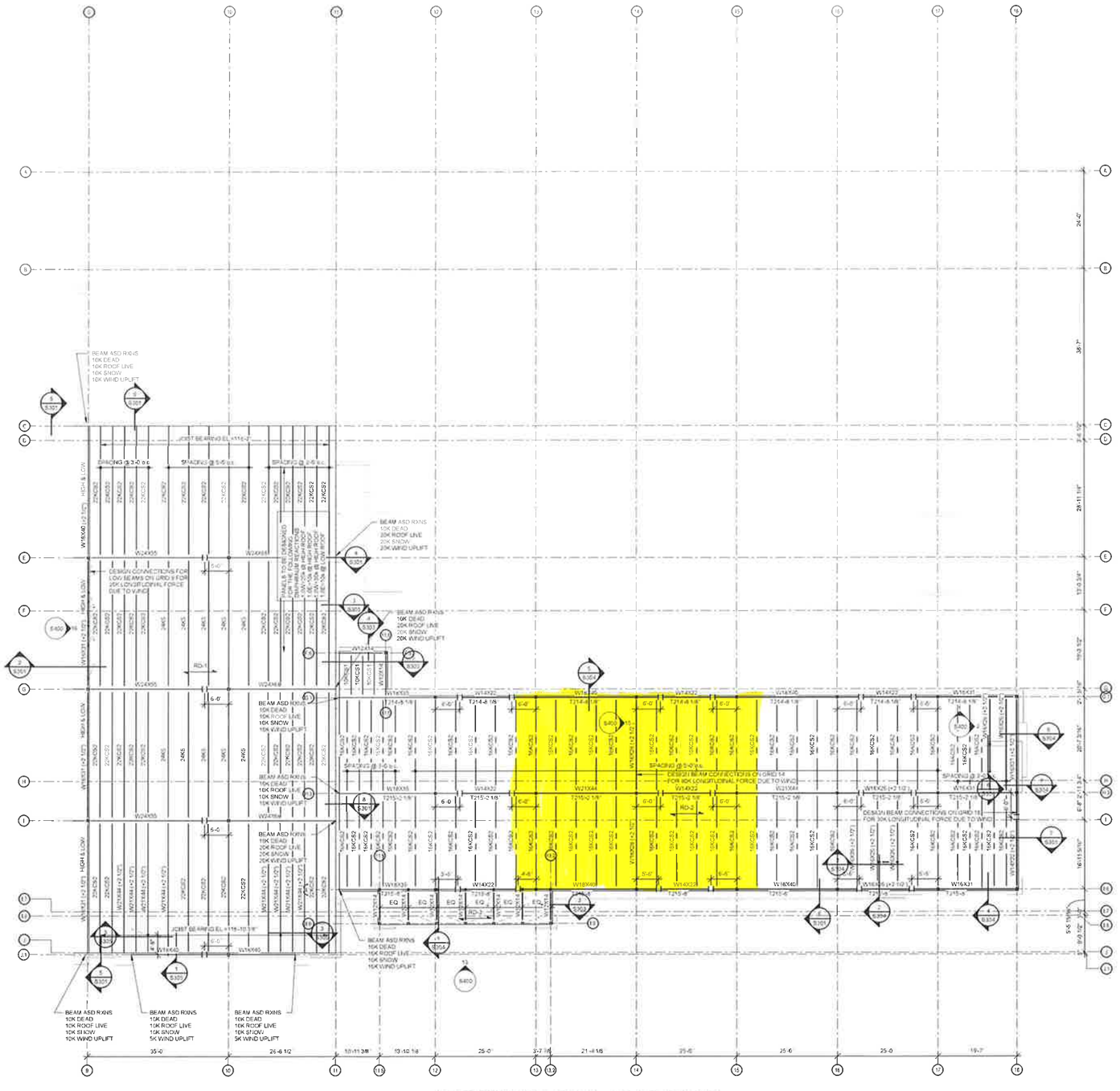
Project # 19SS02/01

Construction Documents

25 September 2019

BUILDING DESIGN LOADS

S003



1 ROOF FRAMING PLAN - AREAS 'C' & 'D'
3/32" = 1'-0"

SLAGGIE
ARCHITECTS
SLAGGIE ARCHITECTS, INC. © 2019
Kansas City, Missouri • Omaha, Nebraska
816-756-1958
slaggie.com

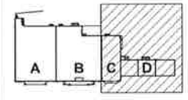
9-25-19

Summit Orchards Lot 4B

Retail Development

Client Name

NW Chipman Rd & NW Ward Rd
Lee's Summit, MO 64086



KEY PLAN
NOT TO SCALE

	Revisions

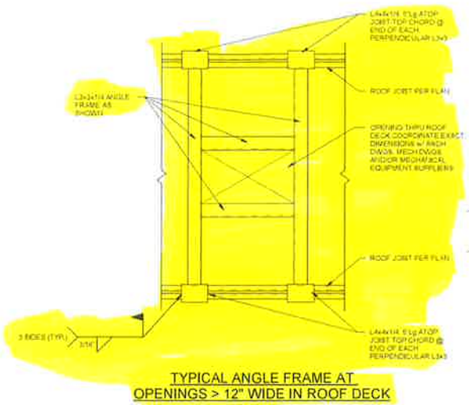
Project # 1609201

Construction Documents

25 September 2019

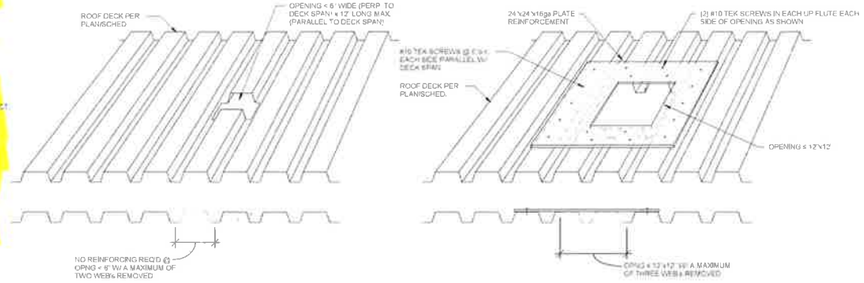
ROOF FRAMING PLAN - AREAS 'C' & 'D'

S106



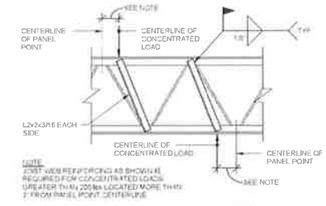
TYPICAL ANGLE FRAME AT OPENINGS > 12" WIDE IN ROOF DECK

1 DETAIL 1" = 1'-0"



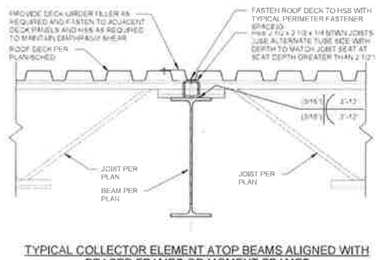
TYPICAL DECK REINFORCING AT SMALL OPENINGS IN ROOF DECK

1A DETAIL 1 1/2" = 1'-0"



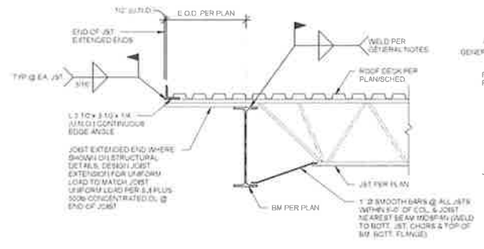
TYPICAL JOIST REINFORCING DETAIL

2 SECTION 3/4" = 1'-0"



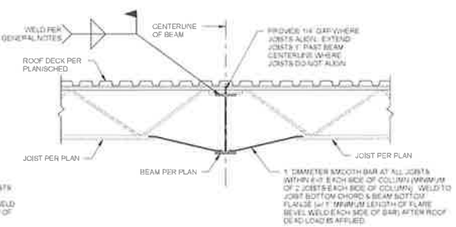
TYPICAL COLLECTOR ELEMENT ATOP BEAMS ALIGNED WITH BRACED FRAMES OR MOMENT FRAMES

3 SECTION 1 1/2" = 1'-0"



TYPICAL JOIST BEARING AT EXTERIOR BEAM

4 SECTION 3/4" = 1'-0"



TYPICAL JOIST BEARING AT INTERIOR BEAM

5 SECTION 3/4" = 1'-0"

SLAGGIE ARCHITECTS

Summit Orchards Lots 4B

Retail Development

Client Name

NW Chipman Rd & NW Ward Rd
Lee's Summit, MO 64086

Revisions:

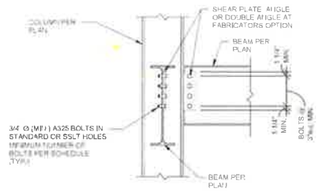
Project # 180902-01

Construction Documents

25 September 2019

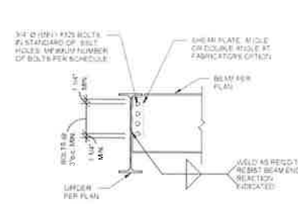
ROOF FRAMING SECTIONS

S320



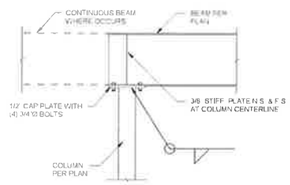
TYPICAL BEAM TO COLUMN SHEAR CONNECTION

1 DETAIL
3/4" = 1'-0"



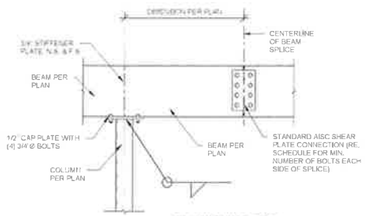
TYPICAL BEAM TO GIRDER CONNECTION

2 DETAIL
3/4" = 1'-0"



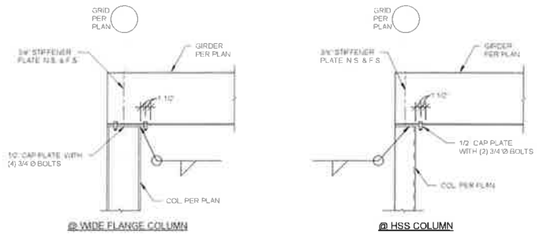
TYPICAL BEAM TO COLUMN CONNECTION

3 DETAIL
3/4" = 1'-0"



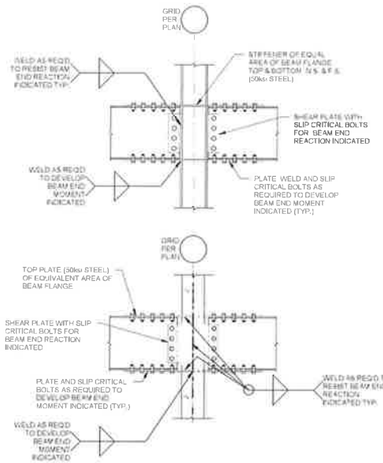
TYPICAL BEAM SPLICE

4 DETAIL
3/4" = 1'-0"



TYPICAL ROOF BEAM TO COLUMN CONNECTION AT EXTERIOR WALL

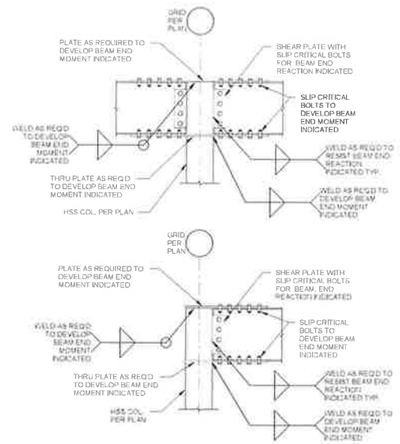
5 SECTION
3/4" = 1'-0"



TYP. BEAM TO WIDE FLANGE COL. MOMENT CONNECTIONS

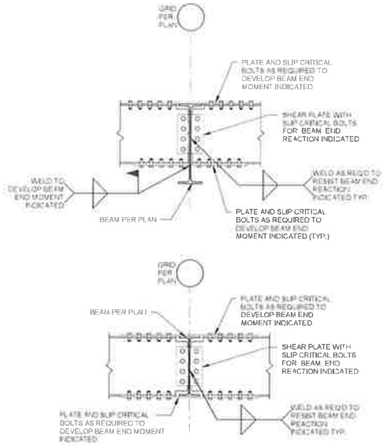
NOTE: FLANGE PLATES MAY BE FULL PENETRATION WELDED TO COLUMN AT CONTRACTORS OPTION

6 SECTION
3/4" = 1'-0"



TYPICAL BEAM TO HSS COLUMN MOMENT CONNECTIONS

7 SECTION
3/4" = 1'-0"



TYP. BEAM TO BEAM MOMENT CONNECTIONS

8 SECTION
3/4" = 1'-0"

Beam Connection Design Forces	
Member Size	End Reaction (LRFD)
W16x31	15.00 kip
W12x14	18.04 kip
W14x22	25.21 kip
W16x26	31.40 kip
W16x31	34.99 kip
W18x35	42.49 kip
W18x40	45.11 kip
W21x44	57.96 kip
W21x50	63.24 kip
W21x62	67.20 kip
W24x55	74.58 kip
W24x62	78.69 kip
W24x76	94.13 kip
W24x84	90.62 kip
W30x90	115.93 kip

SHEAR CONNECTION MINIMUM ROWS OF BOLTS SCHEDULE	
BEAM SIZE	MINIMUM ROWS OF BOLTS
W8 C8	2
W10 C10	2
W12 C12	2
W14	3
W16, C15	3
W18	4
W21	5
W24	5
W27	6
W30	7
W33	8
W36	8

SCHEDULE NOTES
1. ALL BOLTS SHALL BE 3/4" Ø ASTM A325 MINIMUM
2. ALL BOLTS SHALL BE SPACED AT 3 o.c MINIMUM
3. ALL BOLTS SHALL HAVE HEAVY HEX NUTS
4. ALL BOLTS SHALL BE FULLY PRE-TENSIONED.
5. CLIP ANGLES MAY BE SHOP WELDED TO BEAM WEB PER AISC.
6. FOR BEAMS WITH AXIAL LOADS PER DRAWINGS, BOLTS AND CONNECTIONS SHALL BE SLIP-CRITICAL PER AISC GUIDELINES, EXCREASE NUMBER OF BOLTS AND/OR PROVIDE EXTENDED SHEAR PLATE CONNECTION w/ AN ADDITIONAL COLUMN OF BOLTS TO ACCOMODATE COMBINED FORCES
7. PROVIDE ASTM A490 BOLTS IF REQUIRED TO MEET END REACTION LOAD REQUIREMENTS

STEEL CONNECTION NOTES:
1. CONNECTIONS SHOWN IN THESE DETAILS ARE MINIMUM REQUIREMENTS.
2. FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGNING AND DETAILING OF EACH CONNECTION FOR LOADS SHOWN ON THE DRAWINGS IN ACCORDANCE WITH THE SPECIFICATIONS AND THE STRUCTURAL GENERAL NOTES
3. SUGGESTED CONNECTION DETAILS ARE SHOWN
4. FABRICATOR MAY OPT TO USE OTHER AISC APPROVED CONNECTIONS IN LIEU OF THESE SHOWN HEREIN
5. CONNECTION DETAILING SHALL COMPLY WITH THE STANDARD DETAILS SHOWN IN THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION
6. BOLT SPACING AND EDGE DISTANCES SHALL BE ADJUSTED PER AISC MANUAL FOR BOLTS LARGER THAN 3/4" DIAMETER.

SLAGGIE ARCHITECTS
SLAGGIE ARCHITECTS, INC © 2019
Kansas City, Missouri • Omaha, Nebraska
888-754-1958
slaggie.com

9-25-19

Summit Orchards Lot 4B
Retail Development
Client Name
NW Chipman Rd & NW Ward Rd
Lee's Summit, MO 64086

Revisions

Project # 180902-01

Construction Documents
25 September 2019

FRAMING SECTIONS
S300