STRUCTURAL GENERAL NOTES:

DESIGN AND LOADING
1. THE STRUCTURAL DESIGN OF THIS BUILDING WAS BASED ON THE DESIGN CRITERIA:
   A. BUILDING CODE: 2012 INTERNATIONAL BUILDING CODE
   B. FLOOR:
      LIVE LOAD: 125 PSF
   C. ROOF:
      LIVE LOAD: 20 PSF
      DEAD LOAD: 20 PSF
   D. SNOW:
      GROUND LOAD: 20 PSF
      FLAT ROOF LOAD: 20 PSF
      SNOW EXPOSURE FACTOR, CE: 1.0
      IMPORTANCE FACTOR, I: 1.0
      THERMAL COEFFICIENT, CT: 1.0
   E. WIND:
      BASIC WIND SPEED: 115 MPH (3-SECOND GUST ULTIMATE)
      IMPORTANCE FACTOR: 1.00
      BUILDING OCCUPANCY CATEGORY: II
      WIND EXPOSURE: C
      PRESSURES PER ASCE7
   F. SEISMIC:
      OCCUPANCY CATEGORY: II
      IMPORTANCE FACTOR: 1.00
      SITE CLASS: D
      SS = 0.111G, S1= 0.063G
      SDS = 0.118, SD1 = 0.101
      DESIGN CATEGORY: B
      PLYWOOD SHEAR WALLS (R = 6.5)
      OSCBF (R = 3.25)
      Cs1: 0.018 Cs2: 0.036
      DESIGN BASE SHEAR = SEE CALCULATIONS
      ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
   G. FLOOD LOAD: N/A
   H. SPECIAL LOADS: N/A

FOUNDATION NOTES
1. THE FOUNDATION DESIGN OF THIS BUILDING WAS BASED ON THE FOLLOWING CRITERIA:

   A. MINIMUM ALLOWABLE SOIL BEARING CAPACITY = 2000 PSF.
   B. RECOMMENDED BY OLSSON, INC - IN THEIR REPORT #019-1175 DATED 5-22-19. ANY FILL REQUIRED BELOW SLABS ON GRADE OR FOOTINGS SHALL BE COMPACTED AS REQUIRED BY THE SOILS REPORT NOTED IN ITEM #2.

2. ALL EXTERIOR FOOTINGS SHALL EXTEND BELOW THE MAXIMUM ANTICIPATED DEPTH OF FROST.

3. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OR ENGINEER OF RECORD IMMEDIATELY IN THE EVENT THAT THE SOILS CONDITIONS ENCOUNTERED VARY FROM THOSE SHOWN ON THE BORING LOGS.

4. ALL FOUNDATION EXCAVATIONS SHALL BE INSPECTED BY A SOILS TESTING LABORATORY PRIOR TO PLACEMENT OF CONCRETE.

CONCRETE AND REINFORCING
1. ALL CONCRETE SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318) AND WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301) LATEST EDITIONS.

2. ALL NORMAL WEIGHT CONCRETE (145 PCF) SHALL OBTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI (3500 PSI FOR SLABS).

3. ALL CONCRETE SUBJECT TO EXTERIOR EXPOSURE SHALL BE AIR ENTRAINED AS RECOMMENDED BY ACI 318.

4. TEST CYLINDERS SHALL BE MADE AND TESTED AS OUTLINED IN CHAPTER 16 OF ACI-301.

5. REINFORCING BARS SHALL BE DEFORMED BARS OF NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. ALL REINFORCING AND ACCESSORIES SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI STANDARD 315 AND 315R.

6. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCEMENT AT POSITIONS SHOWN ON THE PLANS AND DETAILS. PLASTIC COATED ACCESSORIES SHALL BE USED IN ALL EXPOSED CONCRETE WORK.

7. THE GENERAL CONTRACTOR SHALL CHECK WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND THE SUB-CONTRACTORS FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, INSERTS, SLAB DEPRESSIONS AND OTHER ITEMS RELATED TO THE CONCRETE WORK AND SHALL ASSUME RESPONSIBILITY FOR THEIR PROPER LOCATION.

STRUCTURAL STEEL
1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC360 "SPECIFICATION FOR STRUCTURAL STEEL". SEISMIC DESIGN OF STRUCTURAL STEEL STRUCTURES SHALL CONFORM TO AISC 341.
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

   A. ANCHOR RODS F1554, GRADE 36
   B. HIGH STRENGTH STRUCTURAL BOLTS A325-N U.N.O.
   C. STRUCTURAL SHAPES (W) A992
   D. STRUCTURAL SHAPES (M, S, C, MC, PLATES) A36
   E. STRUCTURAL SHAPES (HP) A572
   F. STRUCTURAL TUBING (HSS) A500 GRADE B
   G. STRUCTURAL ANGLES A36

3. ALL WELDING ELECTRODES SHALL BE E70-XX. ALL SHOP AND FIELD WELDING SHALL BE MADE IN ACCORDANCE WITH A.W.S. D1.1 "CODE FOR WELDING IN BUILDING CONSTRUCTION" AND SHALL BE MADE BY CERTIFIED WELDERS.

LAMINATED VENEER LUMBER (LVL)
1. ALL BEAMS SHALL BE MANUFACTURED WITH LAMINATED VENEER LUMBER AND WATERPROOF ADHESIVES.

2. SIZE, MANUFACTURER & SERIES OF ALL LVL MEMBERS SHALL BE AS SHOWN ON DRAWINGS.

3. ANY SUBSTITUTIONS MUST BE APPROVED IN WRITING BY ENGINEER OR ARCHITECT OF RECORD.

4. PROVIDE 3" MINIMUM BEARING OR AS SPECIFIED ON PLANS. REFER TO PLANS FOR FASTENING OF MULTIPLE PIECE BEAMS.

OPEN WEB WOOD JOISTS
1. OPEN WEB WOOD JOISTS SHALL BE MANUFACTURED WITH MACHINE STRESS RATED TOP AND BOTTOM CHORDS. WEBS SHALL BE TUBULAR STEEL MEMBERS PER MANUFACTURERS' SPECIFICATIONS.

2. SIZE, MANUFACTURER & SERIES OF ALL OPEN WEB JOISTS SHALL BE AS SHOWN ON DRAWINGS. ANY SUBSTITUTIONS MUST BE APPROVED IN WRITING BY ENGINEER OR ARCHITECT OF RECORD.

3. PROVIDE 3 1/2" MINIMUM BEARING OR AS SPECIFIED ON PLANS. SHIM AS REQUIRED TO PROVIDE FULL BEARING AND LEVEL SUPPORT.

4. DO NOT CUT TOP OR BOTTOM CHORDS.

5. ALL HANGERS AND FRAMING CONNECTORS SHOWN ARE MANUFACTURED BY SIMPSON STRONG TIE. ANY SUBSTITUTIONS MUST BE APPROVED IN WRITING BY ENGINEER OR ARCHITECT OF RECORD.

6. REFER TO PLANS FOR WEB STIFFENER AND CONCENTRATED LOAD REQUIREMENTS.

7. REFER TO MANUFACTURERS' INSTALLATION GUIDE FOR JOIST BRACING DURING ERECTION. REFER TO MANUFACTURERS' INSTALLATION GUIDE FOR JOIST BRIDGING REQUIREMENTS.

SAWN LUMBER
1. ALL GRADES OF LUMBER INDICATED ON STRUCTURAL DRAWINGS SHALL BE RATED BY THE SOUTHERN PINE INSPECTION BUREAU (SPIB), OR THE WESTERN WOOD PRODUCTS ASSOCIATION (WWPA). LUMBER GRADES SHALL BE AS FOLLOWS, WITH A MAXIMUM MOISTURE CONTENT OF 19%:

   A. SOUTHERN PINE NO. 1.
   B. DOUGLAS FIR-LARCH NO. 1.
   C. HEM-FIR NORTH NO. 1

2. BOLT HEADS AND NUTS BEARING ON WOOD SHALL BE PROVIDED WITH STANDARD CUT WASHERS. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.

3. MINIMUM NAILED CONNECTIONS FOR WOOD FRAMING MEMBERS SHALL BE IN ACCORDANCE WITH THE LOCAL BUILDING CODE OR TABLE 2304.9.1 OF THE INTERNATIONAL BUILDING CODE IF NO OTHER CRITERIA IS GIVEN.

4. CONNECTORS SHOWN ON THE DETAILS ARE MANUFACTURED BY SIMPSON. WRITTEN APPROVAL BY ENGINEER REQUIRED FOR SUBSTITUTIONS.

ROOF & WALL SHEATHING
1. ALL SHEATHING SHALL CONFORM TO AMERICAN PLYWOOD ASSOCIATION (APA) DESIGN SPECIFICATIONS, LATEST EDITION. SHEATHING SHALL BE CONTINUOUS OVER THREE ADJACENT SPANS MINIMUM.

2. WALL SHEATHING SHALL BE 15/32" (1/2" NOMINAL) APA RATED SHEATHING, EXPOSURE 1, 32/16. ALL WALL SHEATHING SHALL BE FASTENED TO SUPPORTING MEMBERS W/ 8d COMMON NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATED SUPPORTS, U.N.O.

3. ROOF SHEATHING SHALL BE 23/32" (3/4" NOMINAL) APA RATED SHEATHING, EXPOSURE 1, 48/24. ALL ROOF SHEATHING SHALL BE FASTENED TO SUPPORTING MEMBERS W/10d COMMON NAILS @ 6" O.C. AT PANEL EDGES, AND 12" O.C. AT INTERMEDIATE SUPPORTS. U.N.O.

LIGHT GAGE METAL FRAMING
1. 16 GA. AND HEAVIER STUDS SHALL HAVE A MINIMUM YIELD STRESS OF 50,000 PSI. 18 GA. AND LIGHTER STUDS AND TRACKS SHALL HAVE A MINIMUM YIELD STRESS OF 33,000 PSI.

2. STUDS AND TRACKS SHALL BE 18 GA. MINIMUM U.N.O. THEY SHALL BE MANUFACTURED BY DIETRICH INDUSTRIES, INC. OR APPROVED EQUAL.

3. PROVIDE DOUBLE STUDS FOR FULL HEIGHT OF WALL EACH SIDE OF ALL OPENINGS UNLESS OTHERWISE NOTED. WELD STUDS TO EACH OTHER WITH 1 1/2" LONG 1/8" FILLET WELDS AT 12" O.C. EACH SIDE. PROVIDE STUD TRACK AT EACH HEAD AND SILL.

4. REFER TO PLANS AND DETAILS FOR CONNECTION OF STUD WALLS TO FOUNDATION, FLOOR OR ROOF.

SHOP DRAWINGS
1. SHOP DRAWING SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY.

2. SHOP DRAWINGS SHALL BE REVIEWED BY CONTRACTOR TO VERIFY THAT SUBMITTAL IS COMPLETE PRIOR TO SUBMITTING TO ARCHITECT/ENGINEER.

3. DRAWINGS CREATED BY THE ENGINEER OF RECORD CANNOT BE REPRODUCED AND/OR USED AS A SHOP DRAWING SUBMITTAL. SHOP DRAWING SUBMITTALS SHALL INCLUDE THE FOLLOWING:
   A. CONCRETE MIX DESIGN
   B. FOUNDATION REINFORCING BARS
   C. STRUCTURAL STEEL
   D. OPEN WEB JOISTS AND CALCULATIONS
   E. ROOF SHEATHING
   F. TRELLIS SYSTEM & CALCULATIONS
   G. LAMINATED VENEER LUMBER (LVL)
   H. SAWN LUMBER AND CONNECTORS

SPECIAL INSPECTIONS
1. SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 1705 OF IBC AND THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER SECTION 1705. THE FOLLOWING AREAS OF WORK REQUIRE SPECIAL INSPECTIONS IN ACCORDANCE WITH THE LISTED 2012 INTERNATIONAL BUILDING CODE SECTIONS/LOCATIONS:

   A. SOILS - SECTION 1705.6 PER TABLE 1705.6
   B. CONCRETE - SECTION 1705.3 PER TABLE 1705.3
   C. STEEL - SECTION 1705.2 (SEE AISC 360.10)

MISCELLANEOUS
1. ALL DIMENSIONS ON STRUCTURAL DRAWINGS TO BE CHECKED AGAINST ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS BY THE GENERAL CONTRACTOR AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT IMMEDIATELY.

2. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY, UNRELIEVED BY REVIEW OF SHOP DRAWINGS OR PERIODIC OBSERVATION OF CONSTRUCTION, FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, FOR FABRICATION PROCESSES AND CONSTRUCTION TECHNIQUES, AND FOR SAFE CONDITIONS ON THE JOB SITE.

3. DO NOT SCALE THE DRAWINGS.

CONCRETE BLOCK JOINT REINFORCEMENT:
ALL CONCRETE BLOCK WALLS TO RECEIVE THE FOLLOWING JOINT REINFORCEMENT: LADDER TYPE JOINT REINFORCING WITH SIDE AND CROSS RODS WITH WIRE SIZE (W2.8 OR 3/16"ø) SPACED 16" O.C. VERTICALLY. (HOHMANN & BARNARD 220 "SUPER HEAVY DUTY" OR EQUAL) SIMILAR FOR CONCRETE BRICK PRODUCTS.

1 / S4.0 CONCRETE BLOCK JOINT REINFORCEMENT

VENEER TIE REQUIREMENTS:
1. USE THE FOLLOWING:
   VENEER TIES W/ WIRE SIZE (W2.8 OR 3/16"ø) SPACED 16" O.C. VERTICALLY AND 32" HORIZONTALLY. ADDITIONAL TIES ALONG ALL OPENINGS GREATER THAN 16" ARE REQUIRED TO BE LOCATED WITHIN 12" OF OPENING AND SPACED 36" O.C. MAX. AROUND OPENING PERIMETER. (HOHMANN & BARNARD VBT-VEE-BYNA TIE WITH DW10-HS ANCHOR PLATE OR EQUAL).

2 / S4.0 VENEER TIE REQUIREMENTS

BY	DESCRIPTION	DATE	REV
.	PERMIT	1/23/20	.
.	USRO REVIEW SET	1/13/20	.

PREPARED BY:
VOIGT & ASSOCIATES, INC.
STRUCTURAL ENGINEERING SERVICES
4635 NICOLS RD.
EAGAN, MINNESOTA 55122
PHONE (651) 686-7727
FAX (651) 686-0444

W. VOIGT LICENSED PROFESSIONAL ENGINEER KANSAS 1/23/20

PREPARED FOR: McDonald's USA, LLC

DRAWN BY	CRB
STD ISSUE DATE	2019_11
REVIEWED BY	AWM
DATE ISSUED	1/23/20

TITLE: 2019 STANDARD BUILDING - BB20
4597F10-WOOD/WOOD
DESCRIPTION
WOOD BEARING WALLS W/FIBER CEMENT SIDING & CI
WOOD ROOF TRUSS FRAMING
FIBER CEMENT PANEL/BATTEN/ALPOLIC PANEL/BRICK EXT. FINISH
SITE ID: 015-0071
SITE ADDRESS: 605 SOUTH 7TH STREET, KANSAS CITY, KS
V# M20-001

SHEET NO. S4.0
015-0071.00.0
STRUCTURAL NOTES