STRUCTURAL NOTES

THE STRUCTURAL NOTES DEFINE GENERAL DESIGN AND MATERIAL REQUIREMENTS AND ARE INTENDED TO SUPPLEMENT, BUT NOT REPLACE, THE PROJECT SPECIFICATIONS

DESIGN CRITERIA

1. Building Code: 2012 International Building Code and ASCE 7-10
   (except Chapter 14 and Appendix 11A of ASCE 7-10)

   1.1 Building Risk Category: II

2. Design Loads

   2.1 Uniform Floor Live Loads (reduced per Building Code, UNO)

   General Areas 150 psf

   2.2 Roof Loads

   2.2.1 Uniform Roof Live Load 20 psf (reduced per Bldg. Code)
   Concentrated Roof Live Load 300 lbs

   2.2.2 Snow Loads: Ground Snow, Pg = 10 psf

   2.3 Wind Loads
   Basic Wind Speed V(ult)= 115 mph; V(asd)= 89 mph
   Wind Exposure C
   Internal Pressure Coefficient, GCpi = +/-0.18 (Enclosed Building)

   2.3.1 Exterior Wall Component and Cladding Pressures (psf)
   Note: Positive Pressures act Toward the Surface; Negative Away.
   Values based on Ultimate Wind Speed, for ASD multiply by 0.6.
   Values based on kd= 0.85.

Effective Wind Area (sq.ft.)	Typical	Corners
10	+28.8/-31.3	+36.3/-48.6
20	+27.5/-30.0	+34.7/-45.4
50	+25.8/-28.3	+32.5/-41.0
100	+24.5/-27.0	+30.9/-37.8

   Corner Zone Width, a=4 ft

   2.3.2 Roof Component and Cladding Pressures (psf)
   Note: Positive Pressures act Toward the Surface; Negative Away.
   Values based on Ultimate Wind Speed, for ASD multiply by 0.6.
   Values based on Kd= 0.85.

Effective Wind Area (sq.ft.)	Typical	Edge	Corners
10	+16.6/-26.4	+16.6/-58.1	+16.6/-94.8
20	+15.1/-25.6	+15.1/-58.1	+15.1/-90.4
50	+13.2/-24.7	+13.2/-58.1	+13.2/-74.3
>100	+11.7/-23.9	+11.7/-58.1	+11.7/-65.5

   Edge/Corner Zone Width, a=4 ft

   2.4 Earthquake Loads
   Seismic Importance Factor, I = 1.00
   Mapped Spectral Response Accelerations, Ss and S1 = 0.259 and 0.119
   Site Class: C
   Spectral Response Coefficients, Sds and Sd1 = 0.207 and 0.134
   Seismic Design Category: C
   Basic Seismic-Force-Resisting System: Ordinary Reinforced Masonry Shear Walls
   Seismic Response Coefficient, Cs = 0.104
   Response Modification Factor, R = 2.0
   Analysis Procedure: Equivalent Lateral Force Procedure

3. Horizontal structural members (beams, etc.) will deflect under dead and live loads. Construction connected to horizontal structural members will have to accommodate this deflection. The following table provides upper estimates of the deflection that should occur:

	Live	Dead + Live Load
Roof Members	L/360 or 1"	L/240

   where L = member span (for cantilevers, L = twice the cantilever length

5. No explicit provisions have been made for future building expansion.

GENERAL

1. Reference to standards or specifications of technical societies, organizations, or associations means the standard or specification referenced by the governing Building Code shown on the Drawings, unless specifically noted otherwise.

2. Material, workmanship, and design shall conform to the referenced Building Code.

3. For dimensions not shown in the Structural Drawings, see the Architectural Drawings.

4. Contractor responsibilities include, but are not limited to, the following:

   4.1 Coordinate the Structural Documents with the Architectural, Mechanical, Electrical, Plumbing, and Civil Documents. Architect/Structural Engineer shall be notified of any discrepancy or omission prior to installation of associated work.

   4.2 Coordinate Structural Documents with Architectural and MPE Documents. Refer to Architectural and MPE Documents for additional miscellaneous structural elements that may not appear in the Structural Documents.

   4.3 The structure is stable only in its completed form. Temporary supports required for stability during all intermediate stages of construction shall be designed, furnished, and installed by the Contractor.

   4.4 Contractor has sole responsibility for jobsite safety and complying with all health and safety precautions as required by any regulatory agency. In performing construction observation visits to the jobsite, the Structural Engineer will have no control over, nor responsibility for, the Contractor's means, methods, sequences, techniques, or Procedures in performing the work.

   4.5 Contractor is responsible for locating concrete reinforcement prior to installation of post-installed anchors, through bolts, or other post-installed items in concrete.

5. Contractor shall field verify all existing conditions, elevations, and site conditions prior to construction and fabrication. Contractor shall immediately notify Structural Engineer of any existing conditions that are in conflict with the Structural Documents.

SUBMITTALS

1. Shop Drawings and Submittals

   1.1 Reproduction of Structural Drawings for shop drawings is not permitted.

   1.2 Electronic drawing files will not be provided to the Contractor.

   1.3 Review of shop drawings will be for conformance with the Construction Documents regarding arrangement and sizes of members and the Contractor's interpretation of the design loads, if applicable, and Construction Document details. Such review shall not relieve the Contractor of the full responsibility to comply with the Construction Documents.

2. Submittals

   2.1 The Structural Quality Assurance Plan and Specifications identify the required submittals. Prior to (or with) the first submittal, Contractor shall submit a list of all required submittals for Engineer's review.

3. Deferred Submittals

   3.1 Deferred Submittals include those portions of the project that are furnished by the Contractor and designed by someone other than the Engineer of Record and are submitted at the time of the application. Deferred Submittals shall be submitted to the Building Official prior to fabrication and installation.

   3.2 Submittal documents for Deferred Submittals:

   3.2.1 Shall be included in the Contractor's scope of services and shall be sealed by an Engineer licensed in the project state. Design of Deferred Submittals shall be in accordance with the governing Building Code indicated above.

3.3 The following shall be considered Deferred Submittals:
Shop-Fabricated Wood Trusses

FOUNDATION

1. Geotechnical Report: prepared by Goodwyn Mills Cawood, LLC.
   GMC Project No. GNAS230014, Dated May 25, 2023

   Supplemental Geotechnical Exploration by Goodwyn Mills Cawood, LLC
   GMC Project No. GNAS230076, Dated December 5, 2023

   1.1 It is recommended that the Contractor become familiar with the subsurface conditions that will be encountered and obtain a copy of the geotechnical report and any supplemental reports. The report(s) may be included as a reference document within the construction documents. Otherwise the Contractor should contact the Owner to obtain a copy of the report(s).

2. Building Pad Preparation

   2.1 Strip vegetation and topsoil.

   2.2 Proofroll building areas with a minimum of two complete coverages of a loaded dump-truck or scraper in each of two perpendicular directions. Replace soft areas with compacted structural fill.

   2.3 Undercut the existing old fill materials within the building area as directed by the geotechnical engineer and replace with compacted structural fill.

3. Soil Bearing Capacity: Isolated Footings 2500 psf
   Continuous Footings 2500 psf

REINFORCEMENT

1. Reinforcing Bars: ASTM A615, Grade 60

   1.1 Reinforcing bars are not to be welded.

2. Reinforcement Placement (UNO)

   2.1 Concrete Reinforcement Cover

Below Grade:	Unformed	3"	clear
	Formed	2"	clear
Slabs		3/4"	clear

   2.2 Masonry reinforcing steel: Place in the center of CMU cells, unless otherwise noted in Drawings.

3. Reinforcement Splices

   3.1 Reinforcement marked "Continuous" can be spliced at locations determined by Contractor. All other reinforcement shall be spliced only at locations shown or noted, unless approved in writing by Structural Engineer.

   3.2 Splice Lengths (UNO)
   Concrete Reinforcement: Class B Tension Lap
   Masonry Reinforcement: See CMU Lap Splice Tables in Drawings

CAST-IN-PLACE CONCRETE

1. Concrete Properties

   1.1 Normal Weight Structural Concrete

	28-Day, f'c (min)	w/cm Ratio (max.)	Entrained Air
Footings (Isolated/Continuous)	3,000 psi	----	None Required
Slabs-on-Ground	3,500 psi	0.48	None Required
All Other Structural Concrete	5,000 psi	0.40	5.0 +/- 1.5%

   Note: All concrete shall be assigned the exposure classes F0, S0, W0, and C0.

2. Construction Joint Locations: No horizontal construction joints are permitted except as shown on the Structural Drawings. Obtain written consent for additional joints.

3. Pipes or ducts shall not exceed one-third the slab or wall thickness unless specifically detailed. See mechanical and electrical drawings for location of sleeves, accessories, etc.

   3.1 Conduit shall not be placed within the slab-on-ground. Conduit shall be

STRUCTURAL NOTES CONTINUED ON S0.02

STRUCTURAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
ALT.	ALTERNATE
ARCH.	ARCHITECT/ARCHITECTURE
BFF	BELOW FINISHED FLOOR
BLDG	BUILDING
BRG	BEARING
B or BOT.	BOTTOM
B/xxx	BOTTOM OF SOMETHING
CJ	CONTRACTION/CONSTRUCTION JOINT
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS/CONTINUED
COORD.	COORDINATE
DBL	DOUBLE
DIA.	DIAMETER
DL	DEAD LOAD
DP	DRILLED PIER
DWG, DWGS	DRAWING(S)
EA.	EACH
EE	EACH END
EF	EACH FACE
EW	EACH WAY
EJ	EXPANSION JOINT
EL.	ELEVATION
EQ.	EQUAL
ELEV.	ELEVATOR
EMBED.	EMBEDMENT/EMBEDDED
EOS	EDGE OF SLAB
EQUIP.	EQUIPMENT
EXIST.	EXISTING
EXP.	EXPANSION
EXT.	EXTERIOR
F/xxx	FACE OF SOMETHING
FD	FIELD DETERMINED
FDN	FOUNDATION
FIN.	FINISHED
FLG	FLANGE
FLR	FLOOR
FS	FAR SIDE
FT	FEET
FTG	FOOTING
FV	FIELD VERIFY
GA.	GAGE
GALV.	GALVANIZED
HDD	HEADED
HORIZ.	HORIZONTAL
INFO.	INFORMATION
INT.	INTERIOR
JT	JOINT
JST	JOIST
K	KIPS
KSI	KIPS PER SQUARE INCH
KSF	KIPS PER SQUARE FOOT
LBS or #	POUNDS
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLO	LONG LEG OUT
LLV	LONG LEG VERTICAL
MPE	MECHANICAL, PLUMBING AND ELECTRICAL
MFR	MANUFACTURER
MATL	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
MISC.	MISCELLANEOUS
No. or #	NUMBER
NS	NEAR SIDE
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
OPP.	OPPOSITE
PART.	PARTIAL, OR PARTITION
PL	PLATE
PH	PENTHOUSE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R	REACTION
RAD.	RADIUS
RD	ROOF DRAIN
REINF.	REINFORCING/REINFORCEMENT
REQD	REQUIRED
REV.	REVISION/REVISED
RTU	ROOF TOP UNIT
SDS	SELF-DRILLING SCREWS
SECT.	SECTION
SIM.	SIMILAR
SPECS	SPECIFICATIONS
SQ.	SQUARE
STD	STANDARD
STIFF.	STIFFENER
STL.	STEEL
SYM.	SYMMETRICAL
T	TOP
T/xxx	TOP OF SOMETHING
THK	THICK
TYP.	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
w/	WITH
w/o	WITHOUT
WP	WORK POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCEMENT

STRUCTURAL INDEX

GMC

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STRUCTURAL NOTES

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