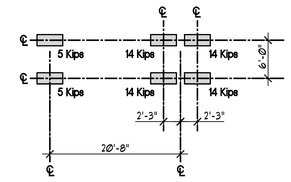
GENERAL STRUCTURAL NOTES:

LOADING SCHEDULE:

BRIDGE DECK LOADS:

DEAD	55 PSF (DECKING/BEAMS/MISC')
DEAD	10 PSF SUPERIMPOSED DL
LIVE	250 PSF (EQUIVALENT HEAVY LOADING)
LIVE	10,000 LB'S (FRONT AXLE - CEMENT TRUCK) 56,000 LB'S (REAR AXLE - CEMENT TRUCK)



WIND LOAD: (115 MPH(ULTIMATE) 90 MPH(NOMINAL), EXPOSURE C)

WIND	20 PSF (MAIN LATERAL SYSTEM)

GENERAL NOTES:

1. ALL ELEVATIONS REFER TO TOP OF THE GROUND FLOOR SLAB-ON-GRADE AT ELEVATION 100'-0". REFER TO ARCHITECTURAL DRAWINGS FOR DATUM ELEVATION. (CIVIL FFE = +111.18')
2. ALL WORK SHALL CONFORM TO THE 2006 EDITION OF THE INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS.
3. SHOP DRAWINGS PREPARED BY THE SUBCONTRACTORS, SUPPLIERS, ETC., SHALL BE REVIEWED BY THE ARCHITECT AND ENGINEER FOR CONFORMANCE WITH THE DESIGN CONCEPT ONLY.
4. THE CONTRACTOR SHALL INSPECT THE SITE AND SHALL VERIFY ALL DATA PERTAINING TO THE EXISTING CONDITIONS AND TO THEIR RELATION TO THE NEW WORK. REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
5. THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHOULD BE STUDIED BEFORE PROCEEDING WITH THE WORK.
6. NO WORK SHALL BE PERFORMED PRIOR TO SHOP DRAWING REVIEW.
7. FOR DETAILS AND DIMENSIONS NOT SHOWN, REFER TO THE ARCHITECTURAL DRAWINGS.
8. UNLESS NOTED OTHERWISE, ALL DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS ELSEWHERE.
9. COORDINATION OF SIZES AND LOCATIONS OF OPENINGS FOR PIPES, DUCTS, ETC., SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NO PIPES OR SLEEVES FOR MECHANICAL OR OTHER TRADES SHALL PASS THROUGH STRUCTURAL MEMBERS WITHOUT THE ARCHITECT'S/STRUCTURAL ENGINEERS APPROVAL.
10. THE CONTRACTOR SHALL GIVE DUE CONSIDERATION TO ALL SAFETY RULES DICTATED BY CODE AND GOOD PRACTICE. TEMPORARY BRACING SHALL BE PROVIDED, WHERE NECESSARY, TO INSURE THE STABILITY AND SAFETY OF THE STRUCTURE DURING ERECTION AND CONSTRUCTION. DESIGN AND CONSTRUCTION OF ALL TEMPORARY BRACING, SCAFFOLDING, SHORING, ETC. SHALL BE RESPONSIBILITY OF THE RESPECTIVE TRADE CONTRACTORS.

MISCELLANEOUS NOTES:

1. THE CONTRACTOR SHALL FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE DRAWINGS.
2. ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY AT ANY SIMILAR SITUATION ELSEWHERE ON THE JOB EXCEPT WHERE A DIFFERENT DETAIL OR SECTION IS SHOWN.
3. THE STRUCTURE SHALL BE ADEQUATELY BRACED AND SHORED BY THE CONTRACTOR DURING ERECTION TO SAFELY RESIST ALL WIND AND ERECTION LOADS. STRUCTURAL MEMBERS ARE DESIGNED FOR FINAL "IN-PLACE" LOADS ONLY.
4. THE ANCHOR BOLTS FOR MECH AND ELEC EQUIPMENT ARE FURNISHED AND LOCATED BY THE RESPECTIVE CONTRACTORS AND SET BY THE GENERAL CONTRACTOR EXCEPT WHERE THE OTHER CONTRACTORS FURNISH THEIR OWN CONCRETE PADS.
5. ALL PIPE SLEEVES ARE FURNISHED BY AND LOCATED BY THE SITE MECHANICAL AND ELECTRICAL CONTRACTORS AND BE SET BY THE GENERAL CONTRACTOR.
6. THE GENERAL CONTRACTOR SHALL VERIFY ALL OPENING SIZES, PAD SIZES, AND LOCATIONS WITH RESPECTIVE CONTRACTORS. ALL CORE DRILLING SHALL BE DONE BY THE MECHANICAL AND ELECTRICAL CONTRACTORS FOR THEIR OWN WORK UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR. NO REINFORCING SHALL BE CUT. VERIFY LOCATION OF REINFORCING BEFORE CORE DRILLING. THERE SHALL NOT BE ANY CORE DRILLING THROUGH BEAMS OR COLUMNS. CORE HOLES THROUGH SLABS SHALL BE PIPE ϕ + PIPE INSULATION + 1" + 1" (6" ϕ MAX.).

CONCRETE NOTES:

1. CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE" (ACI 301).
2. NO WORK SHALL BEGIN WITHOUT CONTRACTOR, A/E REVIEW OF SHOP DRAWINGS AND MIX DESIGN.
3. MATERIAL PROPERTIES
   ALL NORMAL WEIGHT CONCRETE (145 pcf) SHALL HAVE THE FOLLOWING MATERIAL PROPERTIES AND SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH AS FOLLOWS:

	F'c PSI @ 28 DAYS	MAX. W/C RATIO	MAX. SLUMP INCHES	TOTAL AIR CONTENT
CONCRETE FTG'S	3,000	0.50	4-6	N.A.
CONCRETE WALLS	4,000	0.50	4-6	N.A.
CONCRETE PIERS	4,000	0.55	5-7	3%
INTER'R CONC. SLAB	4,000	0.45	4	3%
EXTR'R CONC. SLAB	4,500	0.45	4	7%
ALL OTHER N.S. GROUT	4,000	0.45	4	5%
	8,000		8	N.A.

   *PRIOR TO ADDING SUPERPLASTICIZER

   CALCIUM CHLORIDE AND/OR ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE ALLOWED IN CONCRETE.

   ALL CONCRETE SUBJECT TO EXTERIOR EXPOSURE SHALL BE AIR ENTRAINED 6% TO 8% MIN.
4. ALL CONCRETE SHALL BE CURED PROPERLY PRIOR TO THE REMOVAL OF FORMS.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL WALL REINFORCEMENT. DEFORMED BAR ANCHORS ASTM A496, Fy = 70 ksi. HEADED ANCHOR STUDS ASTM A108.
6. PROVIDE HORIZONTAL CONSTRUCTION JOINTS IN EXPOSED CONCRETE
7. UNLESS NOTED OTHERWISE, PROVIDE LAP SPLICES OF AT LEAST 48 BAR DIAMETERS FOR ALL REINFORCEMENT. ADDITIONAL LAP SPLICES REQUIRED FOR CONSTRUCTION SHALL BE 48 BAR DIAM.
8. UNLESS NOTED OTHERWISE, PROVIDE THE FOLLOWING MINIMUM CLEAR CONCRETE COVER FOR REINFORCING BARS AS SHOWN

   CONCRETE EXPOSED TO EARTH OR WEATHER:

SURFACES NOT FORMED	3"
BOTTOM OF FOOTINGS	3"
SURFACES FORMED	2"
ALL OTHER SURFACES	2"

   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:

SLABS (BOTTOM)	¾"
SLABS (TOP)	1"
WALLS (INTERIOR SURFACE)	1"
ALL OTHER SURFACES	1½"

9. CONC. REINF. SHOP DRAWINGS SHALL INCLUDE PLANS SHOWING ALL ACCESSORY BARS, ETC., FOR SUPPORT OF TOP AND BOTTOM REINFORCING. SPACE CHAIRS AT 4'-0" MAXIMUM: SUPPORT BARS MUST BE MINIMUM #5.
10. CONCRETE REINF. SHALL BE PLACED ACCORDING TO THE CRSI MANUAL "RECOMMENDED FOR PLACING REINF. BARS". PROVIDE ADEQUATE BOLSTERS, HI-CHAIRS SUPPORT BARS, ETC. TO MAINTAIN SPECIFIED CLEARANCES FOR THE ENTIRE LENGTH OF ALL REINFORCING BARS. PROVIDE CONTINUOUS #4 SPACER BARS IN WALLS AND SLABS TO SUPPORT DOWELS.
11. ALL FIELD BENDING OF REINFORCING SHALL BE DONE COLD. HEATING OF BARS IN THE FIELD IS NOT PERMITTED.
12. NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK UNLESS COATED TO PREVENT ALUMINUM/CONCRETE REACTION. MAXIMUM O.D. OF EMBEDDED CONDUIT SHALL BE NO LARGER THAN ONE-THIRD OF THE SLAB THICKNESS.

FOUNDATION NOTES:

1. FOOTINGS SHALL BEAR ON UNDISTURBED SOIL WHEREVER POSSIBLE. DESIGN SOIL BEARING PRESSURE IS 2,000 PSF
2. FOOTINGS SHALL BEAR AT THE ELEVATIONS SHOWN. IF OVER-EXCAVATION OCCURS, OR THE EXISTING SITE IS BELOW THE INDICATED BEARING ELEVATIONS, PLACE AND COMPACT ENGINEERED FILL SOILS ENGINEER AND DETAIL 11/S2.0.
3. SOILS DATA IS TAKEN FROM A SOIL INVESTIGATION REPORT BY SMC, LLC (NO. 256686) AND DATED MARCH 9, 2021
4. THE SOILS AND FOUNDATION ENGINEERING REPORT IS FOR INFO. PURPOSES ONLY AND SHALL NOT BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. FURTHERMORE, NO WARRANTY IS MADE BY THE ARCHITECT OR ENGINEER WITH REGARD TO THE COMPLETENESS AND ACCURACY OF THE SUBSURFACE INVESTIGATION DATA, SOIL TEST DATA, OR STATEMENTS AND INTERPRETATIONS GIVEN IN THE REPORT.
5. A MINIMUM FROST COVER OF 4'-0" SHALL BE MAINTAINED FOR ALL EXTERIOR FOOTINGS.
6. FILL AND/OR BACKFILL SHALL BE COMPACTED TO THE FOLLOWING MINIMUM PERCENTAGES OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557:

   FILL UNDER FOOTINGS 95%
   FILL UNDER BUILDING SLAB-ON-GRADE 95%

   AVOID COMPACTING COHESIVE SOILS AT MOISTURE CONTENTS ON THE WET SIDE OF OPTIMUM.
7. NO FOOTINGS SHALL BE PLACED ONTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, OR ICE
8. A VAPOR BARRIER SHALL BE PROVIDED UNDER ALL INTERIOR SLABS-ON-GRADE PER SPECIFICATIONS.

TIMBER NOTES

1. ALL TIMBER CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" (NDS) OF THE NATIONAL FOREST PRODUCTS ASSOCIATION.
2. ALL TIMBER BEAMS/JOISTS AND BEARING PLATES SHALL BE NO. 2 SPRUCE- PINE FIR (SPF #2) OR NO2 DOUGLAS FIR, SURFACED DRY.

   ** MINIMUM DESIGN VALUES FOR SPRUCE- PINE FIR (SPF #2):

   BENDING STRESS (Fb) = 875 PSI
   TENSION // GRAIN (Ft) = 450 PSI
   HORIZT'L SHEAR (Fv) = 135 PSI
   COMPR. // GRAIN (Fc) = 1150 PSI
   COMPR. ⊥ GRAIN (Fc) = 425 PSI
   MODULUS ELASTCITY (E) = 1,400000 PSI

   ALL LUMBER EXPOSED TO WEATHER INCLUDING BEAMS/JOISTS SHALL BE DOUGLAS FIR-LARCH (DFL #2) OR BETTER.

   ** MINIMUM DESIGN VALUES FOR DOUGLAS FIR-LARCH (DFL #2):

   BENDING STRESS (Fb) = 900 PSI
   TENSION // GRAIN (Ft) = 575 PSI
   HORIZT'L SHEAR (Fv) = 180 PSI
   COMPR. // GRAIN (Fc) = 1350 PSI
   COMPR. ⊥ GRAIN (Fc) = 625 PSI
   MODULUS ELASTCITY (E) = 1,600000 PSI

8. FASTENERS:
   ROOF: USE 8d NAILS @ 6" o.c. AT SUPPORTED EDGES, 12" o.c. AT INTERMEDIATES, AND 4" o.c. AT ALL DIAPHRAGM EDGES.
   FLOOR: USE 8d ANNULAR SCREWS @ 6" o.c. AT SUPPORTED EDGES AND AT 12" o.c. AT INTERMEDIATES, AND 4" o.c. AT ALL DIAPHRAGM EDGES. COORD. REMAINING SHEATHING REQTS W/ ARCHITECTURAL DRAWINGS.
   WALL: USE 8d ANNULAR SCREWS @ 4" o.c. AT SUPPORTED EDGES AND AT 12" o.c. AT INTERMEDIATES, AND 4" o.c. AT ALL DIAPHRAGM EDGES. COORD. REMAINING SHEATHING REQUIREMENTS WITH ARCHITECTURAL DRAWINGS.
9. ALL LUMBER EXPOSED TO WEATHER, INCLUDING DIMENSIONAL AND MANUFACTURED, SHALL BE PRESSURE-TREATED.

STRUCTURAL STEEL NOTES:

1. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36, Fy = 36 KSI UNLESS NOTED OTHERWISE. STRUCTURAL TUBING SHALL CONFORM TO ASTM A-500 GRADE B, Fy = 46 KSI. STRUCTURAL PIPE SHALL CONFORM TO ASTM A-53, TYPE E OR S. WIDE FLANGE SECTIONS SHALL CONFORM TO ASTM A-992, Fy = 50 KSI.
2. STRUCTURAL STEEL DETAILS, FABRICATION, AND ERECTION SHALL CONFORM TO THE NINTH EDITION OF THE AISC "MANUAL OF STEEL CONSTRUCTION" UNLESS OTHERWISE SHOWN OR NOTED.
3. WELDING ELECTRODES SHALL CONFORM TO ASTM 233 CLASS E70 SERIES. AWS D1.1-91
4. BOLTS SHALL BE 3/4" DIAMETER, ASTM A-325 N UNLESS OTHERWISE REQ'D.
5. SHOP CONNECTIONS MAY BE WELDED UNLESS OTHERWISE INDICATED. WELDS SHALL BE DESIGNED TO BE FULLY EQUIVALENT IN STRENGTH TO STANDARD BOLTED CONNECTIONS.
6. UNLESS OTHERWISE NOTED, ALL WELDS SHALL BE CONTINUOUS ¼" FILLET WELDS MINIMUM OR UNLESS OTHERWISE REQ'D.
7. BURNING OF HOLES AND CUTS IN STRUCTURAL STEEL IN THE FIELD SHALL NOT BE PERMITTED, EXCEPT BY WRITTEN PERMISSION FROM THE ARCHITECT OR STRUCTURAL ENGINEER.
8. ERECT STRUCTURAL STEEL IN ACCORDANCE WITH AISC INCLUDING SUPPLEMENTS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES, INCLUDING , BUT NOT LIMITED TO, TEMPERATURE DIFFERENTIALS, ERECTION TOLERANCES, AND WITH RESPECT TO STRUCTURAL STEEL FRAMING INTO REINFORCED CONCRETE WALLS BEAMS OR COLUMNS.
10. ALL ADDITIONAL STEEL REQUIRED BY THE CONTRACTOR FOR ERECTION PURPOSES AND SITE ACCESS OF STOCKPILED MATERIAL SHALL BE PROVIDED AT NO COST TO THE OWNER. ALL SUCH ADDITIONAL STEEL SHALL BE REMOVED BY THE CONTRACTOR UNLESS APPROVED BY THE OWNER IN WRITING.
11. AFTER ERECTION, CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED SOIL, AND MUD IN ACCORDANCE WITH DIVISION 1 GENERAL REQUIREMENTS OF THE PROJECT SPECIFICATIONS OF THIS PROJECT. ERECTION TOLERANCES SHALL COMPLY WITH AISC.

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NEW BRIDGE
STRUCTURE
FOR
LOT #30

EQUESTRIAN WOODS
UNIT #2
LEMONT, IL

SEAL:

No.	Description	Date
-	ISSUED FOR REVIEW	11/02/2021

GENERAL STRUCTURAL LOADS & NOTES

Project number	211479.00
Date	11/02/2021
Drawn by	AMW
Checked by	DER
	S0.0
Scale	As indicated