

GENERAL NOTES:

ALL CONSTRUCTION SHALL COMPLY WITH THE INTERNATIONAL BUILDING CODE 2018 AS AMENDED BY SCBC.

THE STRUCTURAL ENGINEERS OF RECORD ARE RESPONSIBLE FOR THE ADEQUACY OF THE STRUCTURAL DESIGN AS SHOWN IN THE CONTRACT DOCUMENTS WHICH DEPICT THE STRUCTURE IN ITS COMPLETED FORM. THE STRUCTURE IS DESIGNED TO BE CAPABLE OF WITHSTANDING CODE PRESCRIBED DESIGN FORCES AND FULLY STABLE WHEN THE STRUCTURE IS FULLY CONSTRUCTED (I.E. FULLY BUILT). IT IS SOLELY THE RESPONSIBILITY OF OTHERS TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AS WELL AS TO PROVIDE FOR THE SAFETY OF THE STRUCTURE AND ITS COMPONENTS PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF SHORING, SHEETING, TEMPORARY BRACING, GUYS, TIE DOWNS, OR DEWATERING WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THE COMPLETION OF THE PROJECT.

EXISTING STRUCTURE PRIOR TO WORK OR FABRICATION. ANY CONFLICTS OR DISCREPANCIES FOUND IN THE DRAWINGS OR SITE CONDITIONS SHALL BE PROMPTLY REPORTED TO THE ENGINEER.

STRUCTURAL DESIGN DATA:

DESIGN IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2018 AND SCBC SPECIFICATIONS.

Roof Loads:

1. Top Chord Dead Load:	15 psf
2. Top Chord Live Load:	20 psf
3. Bottom Chord Dead Load:	10 psf
4. Bottom Chord Live Load:	5 psf

LIVE LOADS:

FLOOR LOAD: 100 PSF UNIFORMLY DISTRIBUTED LIVE LOAD. NO LIVE LOAD REDUCTIONS ARE APPLIED.

ROOF LOAD: 20 PSF UNIFORMLY DISTRIBUTED LIVE LOAD

SNOW LOADS:

GROUND SNOW LOAD (ps):	10 PSF
SNOW LOAD IMPORTANCE FACTOR (I _s):	1.0
THERMAL FACTOR (C _t):	1.2

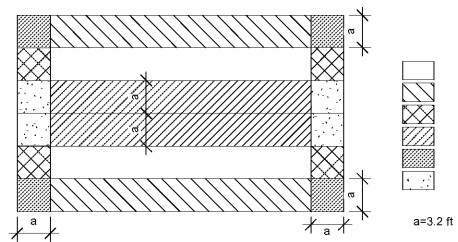
WIND DESIGN DATA:

ULTIMATE WIND SPEED (3-SECOND GUST):	114 MPH
WIND IMPORTANCE FACTOR (I _w):	1.0
RISK CATEGORY:	II
WIND EXPOSURE:	C
INTERNAL PRESSURE COEFFICIENT (GC _p):	0.18

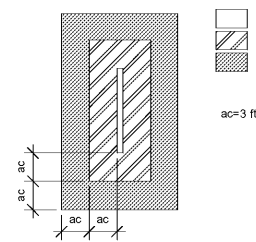
THE COMPONENTS & CLADDING (C&C) WIND PRESSURES SHOWN ASSUME A MEAN ROOF HEIGHT OF 15'-0" ABOVE FINISHED FLOOR ELEVATION. ALL COMPONENTS SHALL BE DESIGNED TO RESIST THE PROVIDED PRESSURES, WHICH SHALL BE CLEARLY DEFINED ON ALL SHOP DRAWINGS. REFER TO WIND ZONE DIAGRAM FOR ZONE LOCATIONS. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM SURFACES, RESPECTIVELY.

THE COMPONENTS & CLADDING WIND ZONE DIAGRAM IS GENERALIZED TO SHOW ALL POSSIBLE CONDITIONS. THE DIAGRAM SHAPE MAY NOT MATCH THE SPECIFIC LAYOUT FOR THIS PROJECT.

WIND PRESSURES SHOWN ARE STRENGTH/STRESS LEVEL.



WIND ZONE DIAGRAM MAIN



WIND ZONE DIAGRAM CANOPY

COMPONENTS & CLADDING WIND PRESSURES			
Zone	Effective Wind Area (sq ft)	Max. +VE Pressure (psf)	Max. -VE Pressure (psf)
1 - Roof Interior	10	26	-48
1 - Roof Interior	100	17	-24
1 - Roof Interior	≥ 500	17	-24
2e - Roof Edge	10	26	-48
2e - Roof Edge	100	17	-24
2e - Roof Edge	≥ 500	17	-24
2r - Roof Edge	10	26	-53
2r - Roof Edge	100	17	-34
2r - Roof Edge	≥ 500	17	-29
2r - Roof Edge	10	26	-48
2r - Roof Edge	100	17	-24
2r - Roof Edge	≥ 500	17	-29
3e - Roof Corner	10	26	-65
3e - Roof Corner	100	17	-40
3e - Roof Corner	≥ 500	17	-29
3r - Roof Corner	10	26	-53
3r - Roof Corner	100	17	-24
3r - Roof Corner	≥ 500	17	-29
4 - Wall Interior	10	26	-31
4 - Wall Interior	100	17	-27
4 - Wall Interior	≥ 500	17	-34
5 - Wall Edge	10	26	-30
5 - Wall Edge	100	17	-22
5 - Wall Edge	≥ 500	17	-24

COMPONENTS AND CLADDING CANOPY			
Zone	Effective Wind Area (sq ft)	Max +VE Pressure	Max -VE Pressure
1	10	34	-32
1	100	34	-32
1	≥225	34	-32
2	10	51	-48
2	100	34	-32
2	≥225	34	-32
3	10	51	-48
3	100	34	-32
3	≥225	34	-32

EARTHQUAKE DESIGN DATA:

SEISMIC IMPORTANCE FACTOR (I _s):	1.0
RISK CATEGORY:	
SITE CLASS:	
MAPPED SPECTRAL RESPONSE ACCELERATION S _s :	0.09
S ₁ :	0.09
SPECTRAL RESPONSE COEFFICIENTS:	
S _{m1} :	0.239
S _{m2} :	0.09
S _{m3} :	B
SEISMIC DESIGN CATEGORY:	
BASIC SEISMIC FORCE-RESISTING SYSTEMS:	ORDINARY REINFORCED MASONRY SHEAR WALLS
DESIGN BASE SHEAR (V):	57 KIPS
SEISMIC RESPONSE COEFFICIENT (C _s):	0.12
RESPONSE MODIFICATION FACTORS (R):	2
ANALYSIS PROCEDURE USED:	EQUIVALENT LATERAL FORCE PROCEDURE, LINEAR ELASTIC STATIC ANALYSIS

SHOP DRAWINGS:

THE CONTRACTOR SHALL REVIEW, STAMP WITH THEIR APPROVAL, DATE AND SIGN ALL SHOP DRAWINGS REQUIRED BY THE CONTRACT DRAWINGS PRIOR TO SUBMITTAL TO THE ENGINEER. AT THE TIME OF SUBMISSION, THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATION IN THE SHOP DRAWINGS FROM THE REQUIREMENTS OF THE CONTRACT DRAWINGS. AS A MINIMUM, SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING:

- STRUCTURAL STEEL
- CONCRETE REINFORCEMENT
- CONCRETE FORMWORK
- COLD-FORMED STEEL FRAMING
- STEEL DECKING

FOUNDATIONS:

FOOTINGS AND FOUNDATIONS HAVE BEEN DESIGNED FOR AN ALLOWABLE SOIL PRESSURE OF 3000 PSF.

EXCAVATE ANY ORGANIC MATERIALS, SILTS, CLAYS, DEBRIS OR OTHER UNSUITABLE MATERIALS OR LOOSE MATERIAL ENCOUNTERED UNDER SLAB AND FOOTING LOCATIONS. ALL FOOTING EXCAVATIONS SHALL BE NEAT, STRAIGHT, AND LEVEL IN THE PROPER ELEVATIONS TO RECEIVE THE CONCRETE AS SHOWN ON THESE DRAWINGS. PLACE FILL AS NEEDED TO ATTAIN THE PROPER ELEVATION AND GEOMETRY SHOWN ON THE PLANS. STRUCTURAL FILL SHALL COMPLY WITH ASTM D2487 SOIL CLASSIFICATION GROUPS GV, GP, GM, SM, SW, AND SP. THE MATERIAL SHALL BE FREE OF CLAY, ROCK, GRAVEL LARGER THAN 2 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION OR OTHER DELETERIOUS MATERIAL. FILL SHALL BE PLACED IN LAYERS NOT MORE THAN 4 INCHES IN LOOSE DEPTH. THE TOP 12 INCHES OF SUBGRADE AND EACH LAYER OF FILL MATERIAL SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D1557.

REINFORCING STEEL AND MESH SHALL BE ACCURATELY PLACED AND SUPPORTED TO MAINTAIN THEIR POSITION DURING CONCRETE PLACEMENT.

FOUNDATION RECOMMENDATIONS ARE BASED ON GEOTECHNICAL REPORT BY TERRACON, DATED AUGUST 21, 2020 (TERRACON PROJECT NUMBER 71205129). ALL RECOMMENDATIONS IN THAT REPORT SHALL BE FOLLOWED.

STRUCTURAL CONCRETE:

CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI 301. CONCRETE SHALL HAVE A MAXIMUM WATER-CEMENT RATIO OF 0.45.

SPECIFIED 28-DAY COMPRESSIVE STRENGTH (f _c):	
SLABS-ON-GRADE:	4000 PSI
FOOTINGS:	4000 PSI

CONCRETE SUPPLIED FOR SLAB ON GRADE AND FOUNDATION SHALL MEET THE REQUIREMENTS OF ACI 301-16, SECTION 4.2.2 FOR EXPOSURE CATEGORIES F2, S0, W1, C2.

A CONCRETE STRENGTH TEST SHALL BE THE AVERAGE OF THE STRENGTH OF AT LEAST TWO 6 INCH DIAMETER BY 12 INCH TALL CYLINDERS OR AT LEAST THREE 4 INCH DIAMETER BY 8 INCH TALL CYLINDERS MADE FROM THE SAME SAMPLE OF CONCRETE AND TESTED AT 28 DAYS.

RESULTS OF STRENGTH TESTS OF CYLINDERS CURED UNDER FIELD CONDITIONS SHALL BE PROVIDED. FIELD-CURED CYLINDERS SHALL BE CURED UNDER FIELD CONDITIONS IN ACCORDANCE WITH ASTM C31 AND SHALL BE MOLDED AT THE SAME TIME AND FROM THE SAME SAMPLES AS LABORATORY-CURED TEST SPECIMENS.

STRENGTH LEVEL OF AN INDIVIDUAL CLASS OF CONCRETE SHALL BE CONSIDERED SATISFACTORY IF BOTH OF THE FOLLOWING REQUIREMENTS ARE MET:

- A. EVERY ARITHMETIC AVERAGE OF ANY THREE CONSECUTIVE STRENGTH TESTS EQUALS OR EXCEEDS SPECIFIED f_c AND
- B. NO INDIVIDUAL STRENGTH TEST FALLS BELOW f_c BY MORE THAN 500 PSI WHEN f_c IS 5000 PSI OR LESS, OR BY MORE THAN 0.10x f_c WHEN f_c IS MORE THAN 5000 PSI.

CONTRACTOR SHALL SUBMIT A QUALITY CONTROL PLAN IN ACCORDANCE WITH ACI 301.

SELF-CONSOLIDATING CONCRETE IS ALLOWED.

PROVIDE CONTRACTION JOINTS IN ALL SLABS-ON-GRADE AT A MAXIMUM SPACING OF 15 FEET. PROVIDE ISOLATION JOINTS AT ALL COLUMNS AND WALLS.

INSTALL 3/4" CHAMFERS ON ALL EXPOSED CONCRETE CORNERS.

CURE CONCRETE USING PONDING, CONTINUOUS FOGGING, CONTINUOUS SPRINKLING, OR APPLICATION OF MATTER FABRIC KEPT CONTINUOUSLY WET. CURE CONCRETE FOR THE LESSER OF SEVEN (7) DAYS, OR PLACEMENT OR UNTIL THE CONCRETE HAS ATTAINED A STRENGTH EQUAL TO AT LEAST 75% OF f_c. FIELD CURED TEST SPECIMENS IN ACCORDANCE WITH ASTM C31 TESTED IN ACCORDANCE WITH ASTM C31.

INTERIOR CONCRETE SLABS ON GRADE SHALL BE TROWEL FINISHED. EXTERIOR CONCRETE SLABS OR FLATWORK SHALL BE BROOM FINISHED. FORMED SURFACES SHALL BE SURFACE FINISH (SF-2.0) IN ACCORDANCE WITH ACI 301-16, SECTION 5.3.3.3.b. PROVIDE A RUBBED FINISH ON ALL FORM SURFACES.

ALL CONCRETE FORMWORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301-16. SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS FOR FORMWORK IN ACCORDANCE WITH ACI 301-16, SECTION 2.1.2.2. SUBMIT MANUFACTURER'S DATA SHEET ON FORM TIES, EXPANSION JOINT MATERIAL, WATER STOP MATERIALS AND SPLICES IN ACCORDANCE WITH ACI 301-16, SECTION 2.1.2.2. FIELD CURED TEST SPECIMENS MUST MAINTAIN A STRENGTH EQUAL TO f_c PRIOR TO REMOVING FORMWORK THAT SUPPORTS CONSTRUCTION LOADS OR THE WEIGHT OF STRUCTURAL MEMBERS.

GROUT SHALL BE IN ACCORDANCE WITH ASTM C1107.

CONCRETE REINFORCEMENT:

ALL CONCRETE REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ACI 301 SECTION 3.

ALL REINFORCING STEEL BARS SHALL BE ASTM (A615).

MINIMUM FIELD LENGTH OF STEEL BARS (l_d) = 60 KSI

REINFORCING STEEL SHOULD BE DETAILED AND PROVIDED SUCH THAT THE NUMBER OF SPLICES ARE MINIMIZED. LAP SPLICES SHALL BE CLASS B SPLICES UNLESS OTHERWISE NOTED. WHERE SPLICING IS REQUIRED, THE FOLLOWING MINIMUM LAP LENGTH IN INCHES SHALL BE PROVIDED:

# OF BARS	CLASS B	
	CLASS A	CLASS B
#3 BARS	19	25
#4 BARS	25	33
#5 BARS	31	41
#6 BARS	37	49
#7 BARS	54	71
#8 BARS	62	81
#9 BARS	70	91
#10 BARS	79	102
#11 BARS	87	114
#14 OR LARGER BARS	NOT PERMITTED	

BENT BARS SHALL BE COLD BENT. HEAT-BENDING IS NOT PERMITTED.

BENDS SHALL BE "STANDARD HOOKS" IN ACCORDANCE WITH ACI 301 SECTION 3 UNLESS NOTED OTHERWISE.

FIELD WELDING OF REINFORCEMENT IS NOT PERMITTED UNLESS SPECIFICALLY NOTED OTHERWISE OR PERMITTED IN WRITING BY THE RESPONSIBLE ENGINEER OF THE DESIGN DRAWINGS.

WELDED WIRE MESH SHALL CONFORM TO THE REQUIREMENTS OF ASTM A185.

MECHANICAL ANCHORS (EXTERIOR):

MECHANICAL ANCHORS SHALL BE DEWALT POWER-STUD+ SD2 STAINLESS STEEL ANCHORS CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-2502 FOR THE MANUFACTURE AND INSTALLATION OF THE ANCHOR. INSTALL ALL ANCHORS WITH 3 1/4" EFFECTIVE EMBEDMENT UNLESS NOTED OTHERWISE. ALTERNATIVELY, HILTI KWIK BOLT TZ STAINLESS STEEL ANCHORS CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-1917 OR SIMPSON STRONG-BOLT 2 STAINLESS STEEL ANCHORS CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-3037 MAY BE SUBSTITUTED WITH THE SAME EMBEDMENT DEPTH.

SPECIAL INSPECTION IS REQUIRED AS SPECIFIED IN THE ICC-ES REPORT.

MECHANICAL ANCHORS (INTERIOR):

MECHANICAL ANCHORS SHALL BE DEWALT SCREW-BOLT+ SCREW ANCHORS CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-3889 FOR THE MANUFACTURE AND INSTALLATION OF THE ANCHOR. INSTALL ALL ANCHORS WITH 3 1/4" EFFECTIVE EMBEDMENT UNLESS NOTED OTHERWISE. ALTERNATIVELY, HILTI KWIK HUS-EZ SCREW ANCHORS CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-3027 OR SIMPSON STRONG-TIE TITEN HD SCREW ANCHORS CONFORMING TO THE REQUIREMENTS OF ICC-ES ESR-2713 MAY BE SUBSTITUTED WITH THE SAME EMBEDMENT DEPTH.

PROVIDE MECHANICALLY GALVANIZED MECHANICAL ANCHORS SUITABLE FOR INSTALLATION IN TREATED TIMBER.

THE STRENGTH OF THE EXISTING CONCRETE DOES NOT NEED TO BE EVALUATED AND IS NOT JUDGED TO BE ADEQUATE IN THE OPINION OF THE RESPONSIBLE ENGINEER.

SPECIAL INSPECTION IS REQUIRED AS SPECIFIED IN THE ICC-ES REPORT.

PREFABRICATED WOOD TRUSSES:

ROOF TRUSSES SHALL BE FACTORY-MANUFACTURED WOOD TRUSSES USING STEEL CONNECTOR PLATES. TRUSSES SHALL BE DESIGNED FOR THE LOADS SHOWN ON THE CONSTRUCTION DRAWINGS. TRUSS MANUFACTURERS SHALL PROVIDE DESIGN CALCULATIONS, SHOP DRAWINGS AND ERECTION DRAWINGS FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION. CONTRACTOR SHALL INSTALL ALL BLOCKING, LOAD TRANSFER ASSEMBLIES, HANGERS, ACCESSORIES, ETC. AS RECOMMENDED BY THE TRUSS MANUFACTURER, THE TRUSS PLATE INSTITUTE, OR THESE CONSTRUCTION DRAWINGS.

ROOF TRUSSES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER FOR DESIGN LOADS INDICATED ON THESE DRAWINGS. ALL CALCULATIONS AND SHOP DRAWINGS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE TRUSSES OR JOISTS ARE TO BE USED.

ALL TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING DEFLECTION CRITERIA:
TOTAL LOAD: L/240
LIVE LOAD: L/360

TRUSS DESIGNER SHALL BE RESPONSIBLE FOR ALL CONNECTIONS OF TRUSS SYSTEM TO SUPPORT STRUCTURE.



11301 Carmel Commons
Boulevard, Suite 300
Charlotte, NC 28226
704.525.6284
FAX: 704.525.0115



Lancaster County, South Carolina
Heath Springs Soccer Complex
Lancaster County Parks & Recreation Soccer Complexes
200 Boyd Falle Road
Heath Springs, SC 29058

Revisions:

Project No: 080703
Date: 10/09/2020

Sheet Name:
GENERAL NOTES

S-001