APPLICABLE CODES/STANDARDS:INTERNATIONAL BUILDING CODE - 2018ASCE 7-16 MIN DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE/SEI

STRUCTURAL DESIGN STANDARDS (DESIGN SHALL CONFORM TO THE CURRENT EDITION UNDER THE APPLICABLE

....ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY ...ACI 530/530.1 BLDG CODE REQUIREMENTS AND SPECS FOR MASONRY STRUCTURES (AND RELATED COMMENTARIES)

...ANSI/AISC 360-16 SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS ...AWS D1.1/D1.1M STRUCTURAL WELDING CODE-STEEL

DEFLECTION LIMITS						
MEMBERS	LIVE	SNOW or WIND	DEAD + LIVE or SNOW			
ROOF MEMBERS						
SUPPORTING GYPSUM BOARD CEILINGS	L/360	L/360	L/240			
SUPPORTING FLEXIBLE CEILINGS	L/360	L/360	L/240			
NOT SUPPORTING CEILING	L/240	L/240	L/180			
SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.)	L/600	L/600	L/600			
FLOOR MEMBERS						
SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.)	L/600	L/600	L/600			
SUPPORTING GYPSUM BOARD CEILINGS	L/540	N/A	L/360			
SUPPORTING FLEXIBLE MATERIALS	L/540	N/A	L/360			
LINTEL/HEADER/BEAM MEMBERS						
SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.)	L/600	L/600	L/600			
SUPPORTING FLEXIBLE MATERIALS (EIFS, SIDING, ETC.)	L/360	L/360	L/240			
EXTERIOR WALLS						
WITH RIGID FINISHES (BRICK, MASONRY, ETC.)	N/A	L/600	N/A			
WITH FLEXIBLE FINISHES (EIFS, SIDING, ETC.)	N/A	L/360	N/A			

BUILDING DESIGN LOADS/CRITERIA

DESIGN LIVE LOADS:FLOOR FRAMING (RETAIL, OFFICE, RESTAURANT, RECREATIONAL)FLOOR FRAMING (RESIDENTIAL AREAS) BALCONIES. HOWEVER FOR SLUMP LIMIT ...STAIRWAYS, EXITS ...BALCONIES ...PRIVATE GARAGES (PASSENGER VEHICLES ONLY) 15 psf TO USE A LIVE LOAD OF 75INTERIOR PARTITION WALLS (UNIFORMLY DISTRIBUTED WEIGHT)CORRIDORS FIRST FLOOR PSF. THIS CAN ACCOUNTCORRIDORS 2 nd 3rdFLOORS 60 psf FOR SNOW ACCUMULATION SLUMP LIMIT ...CORNICES AND/OR OVERLOAD CONDITIONS THAT CAN HAPPEN ON BALCONIES

SNOW LOADS & DESIGN DATA:DESIGN SNOW LOAD 42 psf (BALANCED SNOW LOAFLAT ROOF SNOW LOAD (Pf) = (0.7*Ce*Ct*Is*Pg)...SNOW EXPOSURE FACTOR (Ce) ...SNOW LOAD IMPORTANCE FACTOR (Is) ...ROOF THERMAL FACTOR (Ct) ...GROUND SNOW (Pg) ..SLOPED ROOF FACTOR (Cs) WIND DESIGN DATA: ...WIND IMPORTANCE FACTOR (Iw) ...RISK CATEGORY II ...BASIC WIND SPEED (3-SECOND GUST, ULTIMATE) 115 MPH ...BASIC WIND SPEED (3-SECOND GUST, NOMINAL) 90 MPH ...MEAN ROOF HEIGHT 33 FT ...WIND EXPOSURE CATEGORY ...WIND EXPOSURE CLASSIFICATION **ENCLOSED** 0.720 ... VELOCITY EXPOSURE COEFFICIENT KZTOPOGRAPHIC FACTOR (Kzt) 1.0 METHOD 1 (SIMPLIFIED PROCEDURE) ...DESIGN PROCEDURE

NET PRESSURE COEFFICIENTS Cnet					
AREA	C + INTERNAL	C - INTERNAL net			
	PRESSURE	PRESURE			
WINDWARD WALL	0,43	0,73			
LEEWARD WALL	-0,51	-0,21			
SIDEWALL	-0,66	-0,35			
PARAPET WINDWARD WALL	1,28				
PARAPET LEEWARD WALL	-0,85				
FLAT ROOF	-1,09	-0,79			

DESIGN WIND PRESSURES Pnet					
AREA	P + INTERNAL net	P - INTERNAL net			
	PRESSURE	PRESURE			
WINDWARD WALL	10.5 psf	17.8 psf			
LEEWARD WALL	-12.4 psf	-5.1 psf			
SIDEWALL	-16.1 psf	-8.5 psf			
PARAPET WINDWARD WALL	31.2 psf				
PARAPET LEEWARD WALL	-20.7 psf				
FLAT ROOF	-26.6 psf	-19.3 psf			

EARTHQUAKE DESIGN DATA: ...OCCUPANCY CATEGORY ...SEISMIC IMPORTANCE FACTOR (Ie) 0.045 g ...MAPPED SPECTRAL ACCELERATIONS AT SHORT PERIODS (Ss) ...MAPPED SPECTRAL ACCELERATIONS AT (1) SECOND PERIODS (S1) 0.038 g ...SITE CLASSIFICATIONS ...SITE COEFFICIENT (Fa) ...SITE COEFFICIENT (Fv) ...DESIGN SPECTRAL RESPONSE COEFFICIENT AT SHORT PERIODS (Sds) 0.030 g 0.025 g ...DESIGN SPECTRAL RESPONSE COEFFICIENT AT (1) SECOND PERIODS (Sd1) ...SEISMIC DESIGN CATEGORY ...BASIC SEISMIC-FORCE-RESISTING SYSTEM LIGHT FRAME WOOD WALLS WITH STRUCTURAL WOOD SHEAR PANELS ...ANALYSIS PROCEDURE FOR SEISMIC DESIGN EQUIVALENT LATERAL FORCE ANALYSIS

SOIL DESIGN VALUES:SOIL UNIT WEIGHTLATERAL EARTH PRESSURE

.....AT-REST (BASEMENT WALLS) 62,5 PSF/FT OF DEPTH (ASSUMED)PASSIVE 340 PSF (ASSUMED)COEFFICIENT OF SLIDING FRICTION 0.30 (ASSUMED) ...SUBGRADE MODULUS 260 PCI (ASSUMED) ...ALLOWABLE SOIL BEARING PRESSURE 3000 PSF

REFER TO SOILS REPORT NO. 17002 DATED 2/10/2017 PREPARED BY ITCO ALLIED ENGINEERING CO. FOR DESCRIPTION OF SOIL CONDITIONS, GEOTECHNICAL RECOMMENDATIONS, AND DESIGN VALUES

125 PCF (ASSUMED)

MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS fc = 3,000 PSI MAXIMUM WATER-CEMENTITIOUS RATIO 0.59 MAXIMUM AGGREGATE SIZE 5" +/-1" TERIOR PIERS, WALLS, AND COLUMNS MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS f'c = 4,000 PSI MAXIMUM WATER-CEMENTITIOUS RATIO 0.48 MAXIMUM AGGREGATE SIZE 4" +/-1" AIR CONTENT YES 4% to 6% ERIOR SLABS ON GRADE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS fc = 4,000 PSI MAXIMUM WATER-CEMENTITIOUS RATIO 0.48 MAXIMUM AGGREGATE SIZE SLUMP LIMIT 4" +/-1" ..AIR CONTENT CONCRETE TOPPING ...MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS fc = 4,000 PSI ...MAXIMUM WATER-CEMENTITIOUS RATIO 0.48 ...MAXIMUM AGGREGATE SIZE 4" +/-1" ...SLUMP LIMIT ...AIR CONTENT STAIR LANDINGS AND TREADS ...MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS fc = 4,000 PSI ...MAXIMUM WATER-CEMENTITIOUS RATIO 0.48 ...MAXIMUM AGGREGATE SIZE 4" +/-1"SLUMP LIMIT ...AIR CONTENT EXTERIOR SLABS ON GRADE ...MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS fc = 4,000 PSI ...MAXIMUM WATER-CEMENTITIOUS RATIO 0.48 ...MAXIMUM AGGREGATE SIZE 4" +/-1"SLUMP LIMITAIR CONTENT YES 4% to 6% SLURRY ...MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS fc = 1.000 PSI ...MAXIMUM WATER-CEMENTITIOUS RATIO 0.55

MATERIAL STRENGTHS

CAST-IN-PLACE CONCRETE:

STEEL/METAL:

...MAXIMUM AGGREGATE SIZE

....SLUMP LIMIT

...AIR CONTENT

REINFORCING STEEL:ALL ASTM A615, GRADE 60, DEFORMED Fy = 60,000 PSISTEEL WELDED WIRE REINFORCEMENT, FLAT SHEETS Fy = 60,000 PSI

1 1/2"

6" +/-1"

NO

STRUCTURAL STEEL: ...ROLLED WIDE FLANGE SHAPES, ASTM A992 GRADE 50 Fy = 50,000 PSICHANNELS, ANGLES, AND S SHAPES, ASTM A36y = 36,000 PSIPLATE AND BAR, ASTM A36 Fy = 36,000 PSI...TUBE SHAPES, ASTM A500 GRADE B Fy = 46,000 PSI ...PIPE ASTM A53, TYPE E or S, GRADE B Fy = 46,000 PSI

....ALL OTHER ROLLED SHAPES, ASTM A36 Fy = 36,000 PSISTRUCTURAL BOLTS:HIGH STRENGTH BOLTS, NUTS, & WASHERS ASTM A325 ...ZINC-COATED HIGH STRENGTH BOLTS, NUTS, &STM A325 ...STAINLESS STEEL BOLTS, NUTS, & WASHERS ASTM F593

...SHEAR CONNECTORS (GRADES 1015 THRU 102/05/TM A108 ASTM A36 ...THREADED RODSCLEVIS & TURNBUCKLES (GRADE 1035) ASTM A108EYE BOLTS & NUTS (GRADE 1030) ASTM A108ANCHOR BOLTS (GRADE 36) ASTM F1554

WELDED CONNECTIONS:WELDING ELECTRODES E70XX E80XX FOR WELDING REINF MASONRY: f'm = 2,000 PSI

MASONRY MORTAR:TYPE "M" MORTAR BELOW GRADE ...TYPE "M" or "S" ABOVE GRADE

GROUT BELOW BASE PLATES & BEARING PLATES: ...NONMETALLIC, SHRINKAGE-RESISTANT ASTM C1107

FOUNDATION AND EARTHWORK:

- 1. ALL EXTERIOR FOOTINGS MUST BEAR BELOW LOCAL FROST LINE RELATIVE TO ADJACENT FINISH EXTERIOR GRADE.
- DO NOT PLACE ANY FOOTINGS ON FROZEN SUBGRADE.
- 3. BACK FILLING SHALL BE DONE SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS.
- 4. DO NOT PLACE BACK FILL AGAINST BASEMENT WALLS UNTIL THE TOP AND BOTTOM OF THE WALL ARE ADEQUATELY BRACED BY THE SLAB ON GRADE AND THE FLOOR FRAMING AT THE TOP OF THE WALL.
- 5. REMOVE ANY EXISTING CONCRETE 2'-0" BELOW NEW CONCRETE FOOTINGS AND SLABS ON GRADE, UNLESS NOTED OTHERWISE.
- 6. SHORING/OR UNDERPINNING SHALL BE DESIGNED TO LIMIT HORIZONTAL AND VERTICAL MOVEMENT OF EXISTING CONSTRUCTION TO 1/4" MAXIMUM IN ANY DIRECTION.
- 7. CENTER PIER AND COLUMN FOOTINGS ON COLUMN CENTERLINES AND WALL FOOTINGS ON WALL CENTERLINES UNLESS SPECIFICALLY NOTED

PROTECTION AND BEST JUDGMENT OF A SUITABLE BEARING STRATUM. ACTUAL GRADE CONDITIONS AND SUITABLE BEARING STRATUM MUST

EXCAVATIONS SHALL BE EXTENDED UNTIL SOIL WITH STATED BEARING CAPACITY IS REACHED. PLACE COMPACTED FILL BELOW FOOTINGS OR

- 8. ALL BACK FILL WITHIN 3'-0" OF RETAINING WALLS AND BASEMENT WALLS SHALL BE FREE DRAINING GRANULAR MATERIAL APPROVED BY A SOILS ENGINEER AND COMPACTED TO 90% STANDARD PROCTOR. 9. TOP OF FOOTING ELEVATIONS SHOWN ON THESE CONSTRUCTION DOCUMENTS REPRESENT MINIMUM FOOTING DEPTHS FOR FROST
- BE VERIFIED BY THE CONTRACTOR AND A SOILS ENGINEER AT THE TIME OF EXCAVATION. 10.FOOTING EXCAVATIONS MUST EXTEND TO COMPETENT BEARING MATERIAL. CONTRACTOR SHALL HIRE A SOILS ENGINEER TO FIELD VERIFY NET ALLOWABLE SOIL BEARING CAPACITY STATED ON THESE CONSTRUCTION DOCUMENTS AND IN GEOTECHNICAL REPORT FOR THIS PROJECT. IF SUITABLE BEARING STRATUM DOES NOT EXIST AT FOOTING ELEVATIONS STATED ON CONSTRUCTION DOCUMENTS.

EXTEND FOOTINGS DOWN TO SUITABLE BEARING STRATUM. ENGINEERED FILL BELOW SLABS ON GRADE AND FOOTINGS SHALL BE FREE

DRAINING GRANULAR MATERIAL COMPACTED TO 95% MODIFIED PROCTOR AND PLACED PER THE SOIL ENGINEERS RECOMMENDATIONS. ALL

FIELD CONDITIONS THAT WILL AFFECT DESIGN AS PRESENTED MUST BE COORDINATED WITH STRUCTURAL ENGINEER. 11.REFER TO DESIGN DATA FOR DESCRIPTION OF SOIL CONDITIONS, GEOTECHNICAL RECOMMENDATIONS, AND DESIGN VALUES.

CONTINUITY:

ALL REINFORCING SHALL BE CONTINUOUS UNLESS NOTED OTHERWISE. CONTINUITY AT CORNERS AND INTERSECTIONS SHALL BE ACHIEVED USING CORNER BARS AND CONTACT LAP SPLICES, SEE TYPICAL DETAIL. CONTINUITY AT OTHER LOCATIONS MAY BE ACHIEVED USING CONTACT LAP SPLICES SHOWN ON APPROVED SHOP DRAWINGS. LOCATION OF LAP SPLICES SHALL BE SHOWN ON THE SHOP DRAWINGS. UNLESS NOTED OTHERWISE, THE FOLLOWING LAP SPLICES SHALL BE USED: (ALL LAP SPLICES ARE CLASS B SPLICES)

,									
LOCATION:	#3	#4	#5	#6	#7	#8	#9	#10	#11
3,000 & 3,500 PSI CONCRETE:									
- TOP BARS (*):	21"	19"	35"	46"	71"	93"	118"	149"	184"
- OTHER BARS:	16"	22"(**)	27"	35"	55"	71"	91"	115"	142"
4,000 & 4,500 PSI CONCRETE:									
- TOP BARS (*):	16"	19"	25"	36"	61"	80"	102"	129"	159"
- OTHER BARS:	16"	16"(**)	19"	28"	47"	62"	78"	99"	123"

FOR MECHANICAL SPLICE PRODUCTS WITH SHOP DRAWINGS.

- (*) TOP BARS ARE HORIZONTAL REINFORCING WHERE MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE
- (**) FOR #4 EPOXY COATED REBAR, USE 27" SPLICE LENGTH AT 3,000 AND 3,500 PSI CONC. AND 19" AT 4,000 AND 4,500 PSI.
- MECHANICAL CONNECTIONS MAY BE USED IN LIEU OF LAP SPLICES PROVIDED APPROVAL IS OBTAINED FROM THE ARCHITECT/ENGINEER. CONNECTIONS SHALL DEVELOP IN TENSION 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE BAR. ALL MECHANICAL CONNECTIONS SHALL BE SHOWN ON THE SHOP DRAWINGS AND BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE PRODUCT'S ICC-ES REPORT. SUBMIT THE PRODUCT'S ICC-ES REPORT.

TYPICALLY I WOULD SEE SOME LOADING INFORMATION AND PERFORMANCE CRITERIA FOR THE WOOD TRUSS DESIGNER. IT CAN BE PLACED ON THIS SHEET OR IT COULD BE PLACED ON THE SCHEDULE SHEET. THE TRUSS SUPPLIER NEEDS TOP CHORD DEAD LOAD AND BOTTOM CHORD DEAD LOADS NOTED. ALSO DEFLECTION CRITERIA IS USUALLY INCLUDED. DEFLECTION FOR FLOORS TYPICALLY IS LIVE LOAD < L/480 w/ TOTAL LOAD OF L/240. FOR ROOFS SNOW LOAD < L360 AND TOTAL LOAD OF L/240

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