GENERAL REQUIREMENTS

NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES

ALL MATERIALS AND WORK PERFORMED SHALL CONFORM TO THE REQUIREMENTS OF THE 2018 WISCONSIN COMMERCIAL BUILDING CODE INCLUDING LOCAL ORDINANCES AND AMENDMENTS

ALL MATERIAL SHALL BE FURNISHED AS SHOWN HEREIN UNLESS THE OWNER OR ENGINEER OF RECORD APPROVES EQUAL ALTERNATIVES

NO CHANGES ARE TO BE MADE TO THESE PLANS WITHOUT THE KNOWLEDGE AND WRITTEN CONSENT OF THE ENGINEER OF RECORD. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND SHORING. OBSERVATION VISITS TO THE SITE BY THE ENGINEER OF RECORD AND/OR THE ENGINEER'S REPRESENTATIVE (S) SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OF THE CONSTRUCTION PROCEDURES

<u>DESIGN LOADS</u>

IMPORTANCE FACTOR (16) THERMAL FACTOR (Ct.) EXPOSURE FACTOR (Ce.) SLOPE FACTOR (Co.) SLOPED ROOF SNOW LOAD (Po.) UNBALANCE SNOW LOAD	:	40 PSF 1.0 1.1 1.0 1.0 30.8 PSF SEE DIAGRAM BELOW SEE DIAGRAM BELOW
THERMAL FACTOR (Ct.) EXPOSURE FACTOR (Cs.) SLOPE FACTOR (Cs.) SLOPED ROOF SNOW LOAD (Ps.) UNBALANCE SNOW LOAD	: :	1.1 1.0 1.0 30.8 PSF SEE DIAGRAM BELOW
EXPOSURE FACTOR (Ce) SLOPE FACTOR (Cs) SLOPED ROOF SNOW LOAD (Ps) UNBALANCE SNOW LOAD	: :	1.0 1.0 30.8 PSF SEE DIAGRAM BELOW
SLOPE FACTOR (Cs) SLOPED ROOF SNOW LOAD (Ps) UNBALANCE SNOW LOAD	= = =	1.0 30.8 PSF SEE DIAGRAM BELOW
SLOPED ROOF SNOW LOAD (Ps) UNBALANCE SNOW LOAD	=	30.8 PSF SEE DIAGRAM BELOW
UNBALANCE SNOW LOAD	=	SEE DIAGRAM BELOW
DRIFT SNOW LOAD	=	SEE DIAGRAM BELOW
SLIDING SNOW LOAD	=	N/A
ROOF LIVE LOAD	=	20 PSF (NOT REDUCIBLE
BASIC WIND SPEED		= 115 MPH
EXPOSURE CATEGORY	=	C
IMPORTANCE FACTOR (IW)	=	1.0
TOPOGRAPHIC FACTOR(Kzt)	-	1.0
WIND DIRECTIONALITY FACTOR (Kz)	-	1.0
INTERNAL PRESSURE COEFFICIENT (GCPI ENCLOSED BUILDING) =	±0.18
	ROOF LIVE LOAD BASIC WIND SPEED EXPOSURE CATEGORY IMPORTANCE FACTOR (IW) TOPOGRAPHIC FACTOR(Kzt) WIND DIRECTIONALITY FACTOR (Kz) INTERNAL PRESSURE COEFFICIENT (GCPI ENCLOSED BUILDING	ROOF LIVE LOAD = BASIC WIND SPEED EXPOSURE CATEGORY = IMPORTANCE FACTOR (IW) = TOPOGRAPHIC FACTOR(Kzt) = WIND DIRECTIONALITY FACTOR (Kz) = INTERNAL PRESSURE COEFFICIENT (GCpi) =

LOADS TO BE APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2018 WISCONSIN COMMERCIAL BUILDING CODE

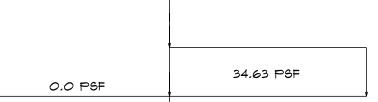
DEFLECTION AMPLIFICATION FACTOR = 4.0

OVERSTRENGTH FACTOR

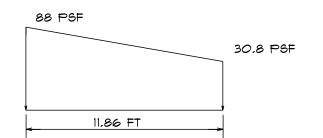
CHART CO

ENCLOSED, F COMPONENT h <= 60 FT, B	¢ CLADD					
BUILDING AREA		TRIBUTARY AREA SQ. FT.				
	10	20	50	100	200	
INTERIOR WALL (4)	-32.23	-30.89	-29.12	-27.78	.26.45	
CORNER WALL (5)	-39,79	-3T.II	-33.57	-30.89	-28.22	
INTERIOR ROOF (1)	-27.19	-26.44	-25.43	-24.68	-24.68	
EDGE ROOF (2)	-47.34	-43.55	-38.54	-34,75	-34,75	
CORNER ROOF (3)	-70.00	-65,45	-59,44	-54,89	-54.89	
EDGE ZONE STRIP WIDTH	(FT)	4				

MIRROR ABOUT RIDGE FOR WORSE CASE



UNBALANCED SNOW LOAD



DRIFT SNOW LOAD 14FT TO 9FT

DESIGN METHOD

2018 WISCONSIN COMMERCIAL BUILDING CODE (IBC 2015 AMENDED)

BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE (ACI 318-14)

NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS 15)

NATIONAL DESIGN STANDARDS FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION (TPI 1-14)

ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (ICC/ANSI A117.1-09)

DESIGN CRITERIA

MINIMUM COMPRESSIVE STRENGTH C	OF CONCRETE (f'c) AT 28 DAYS SHALL BE:
SLAB-ON-GRADE	4000 PSI (MAX 3/4" AGGREGATE)
FOOTINGS	4000 PSI (MAX 1 1/2" AGGREGATE)
FOUNDATION WALLS	4000 PSI (MAX 3/4" AGGREGATE)
GROUT FOR BASE PLATES	4000 PSI

REINFORCING STEEL SHALL BE:

NON WELDABLE FY = 60 KSI (ASTM AGI5, GRADE 60) WELDABLE MARKED AS GRADE 60W

WOOD MEMBERS SPECIES AND GRADES ARE TO BE CALLED OUT ON PLANS AND SHALL HAVE THE FOLLOWING STRENGTHS: SPF *2 Fb = 875 PSI FV = 135 PSI E = 1,400,000 PSI

	E =	1,400,000 PSI
SYP #I	Fb = F/ = E =	1,850 PSI 175 PSI 1,700,000 PSI
LVL	Fb = Fv = E =	2950 PSI 285 PSI 2,900,000 PSI

CONCRE

TRANSIT MIXED CONCRETE SHALL CONFORM TO ASTM C94, SPECIFICATION FOR READY-MIXED CONCRETE

THE WATER CEMENT RATIO SHALL BE KEPT TO A MINIMUM AND CONCRETE SLUMP SHALL NOT EXCEED 4 INCHES WHEN TESTED IN ACCORDANCE WITH ASTM C143

CONCRETE SHALL HAVE THE REQUIRED MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS WHEN TESTED ACCORDING TO ASTM C39

PORTLAND CEMENT SHALL CONFORM TO ASTM CI50 - SPECIFICATION FOR PORTLAND CEMENT

FINE AND COURSE AGGREGATES SHALL CONSIST OF CLEAN HARD STRONG AND DURABLE INERT MATERIAL FREE OF INJURIOUS AMOUNTS OF DELETERIOUS SUBSTANCES AND CONFORM TO ASTM C33 - SPECIFICATION FOR CONCRETE AGGREGATES

MIXING WATER SHALL BE FREE OF ANY ACID, ALKALI, OIL OR ORGANIC MATERIAL THAT MAY INTERFERE WITH THE SETTING OF THE CEMENT

ALL EXTERIOR CONCRETE SHALL BE AIR-ENTRAINED, THE ENGINEER OF RECORD SHALL APPROVE ALL ADMIXTURE

REINFORCING BARS TO BE WELDED SHALL BE IDENTIFIED AS GRADE 60W
WELDED WIRE FABRIC SHALL CONFORM TO THE MOST CURRENT ASTM

REINFORCING SHALL HAVE THE MINIMUM COVER REQUIREMENTS AS INDICATED IN ACI 318-14 WITH THE FOLLOWING MINIMUM VALUES:

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"

EXPOSED TO EARTH OR WEATHER: #5 AND SMALLER = 1 1/2"

*6 AND LARGER = 2"

ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED, IN

ACCORDANCE WITH ACI DETAILING MANUAL, LATEST EDITION (6P-66)

ALL REINFORCING SHALL BE SUPPORTED IN FORMS, SPACED WITH

ACCORDANCE WITH CRSI "REINFORCING BAR DETAILING" (LATEST EDITION)

ALL CONCRETE SHALL CURE A MINIMUM OF 1 DAYS, IF FORMS ARE REMOVED BEFORE THE END OF THE CURING PERIOD, COAT SURFACES WITH LIQUID CURING COMPOUND

NECESSARY ACCESSORIES AND SHALL BE SECURELY WIRED TOGETHER IN

SAW CUTTING OF CONTROL JOINTS IS TO BE PERFORMED AS SOON AS CONDITIONS PERMIT, BUT NO MORE THAN 12 HOURS AFTER THE CONCRETE

PROVIDE STANDARD HOOKED DOWELS IN WALL FOOTINGS WITH EQUAL SIZE AND SPACING AS VERTICAL WALL STEEL, UNLESS NOTED OTHERWISE

ALL CONCRETE SLABS SHALL BE REINFORCED AS INDICATED ON THE DRAWINGS. FIBER REINFORCED CONCRETE MAY BE USED IN THE FLOOR SLABS IN ADDITION TO THE REQUIRED REINFORCING AT DOSAGE RATES ACCORDING TO SUPPLIERS

USE NON-SHRINK, NON-METALLIC GROUT UNDER BASE PLATES

DIMENSIONS OF THE FINISHED PRODUCT SHALL BE WITHIN THE LIMITS RECOMMENDED BY ACI IIT

THE CONCRETE CONTRACTOR SHALL COORDINATE ALL OTHER TRADES FOR SIZE AND LOCATION OF ALL OPENINGS IN WALLS AND FLOORS, ALL OPENINGS IN STRUCTURAL CONCRETE SHALL BE DETAILED OR APPROVED BY THE ENGINEER

CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED

NOTES: 1) NORMAL WEIGHT CONCRETE

2) CLEAR COVER > BAR DIAMETER

3) MINIMUM SPACING S >= BAR DIA,

W/STIRUPS

4) MINIMUM SPACING S >= 2* BAR DIA.

W/O STIRRUPS

5) fc' = 3000 PSI , Fy = 60,000 PSI
6) FOR TOP BARS MULTIPLY BY 1.3

1) UNCOATED REINFORCING BARS

BAR MIN. LAP LENGTH (INCHES) 3 22 4 29 5 36 6 43 7 63 8 12

FOUNDATIONS

FOUNDATIONS SHALL NOT BE PLACED PRIOR TO CONFIRMATION OF THE SOIL TYPE AT A DEPTH OF THE FOOTING ELEVATION, THE CONTRACTOR SHALL PROVIDE TEST HOLE REPORT TO THE ENGINEER OF RECORD, THE SOIL BEARING CAPACITY IS PRESUMED TO BE 2,000 PSF. SOIL TYPE IS PRESUMED TO BE SAND

COMPLETE NORMAL CLEARING AND GRUBBING OPERATION OVER THE ENTIRE BUILDING PAD AREA, THE BUILDING PAD AREA IS DEFINED AS AN AREA EXTENDING A MINIMUM OF 5 FEET BEYOND THE PROPOSED BUILDING LINES

REMOVE UNSUITABLE MATERIAL BELOW FOUNDATION. THE DEPTH OF THE REMOVAL IS DICTATED BY THE UNSUITABLE SOILS ENCOUNTERED SUCH AS SILT, ORGANIC MATTER SUCH AS ROOTS AND VEGETATION, AND RANDOM FILL MATERIALS SUCH AS WOOD, TINS, ASPHALT, MUCK, ETC.

FILL MATERIALS REQUIRED SHALL BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES AND COMPACTED TO 95% MODIFIED PROCTOR (ASTM DIS57, LATEST EDITION) AT OPTIMUM MOISTURE CONTENT WITHIN A DISTANCE OF 5 FEET BEYOND ALL FOOTING EDGES

9IX INCHES MINIMUM GRANULAR MATERIAL TO BE PLACED UNDER THE FLOOR 9LAB

STRUCTURAL WOOD CONSTRUCTION

STRUCTURAL WOOD SHALL BE VISUALLY GRADED IN ACCORDANCE WITH ASTM D245, WOOD SHALL BE IDENTIFIED BY A GRADE MARK OR CERTIFICATE OF INSPECTION ISSUED BY A RECOGNIZED INSPECTION AGENCY

ALL WOOD SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 15% PRIOR TO INSTALLATION

ALL WOOD PERMANENTLY EXPOSED TO THE WEATHER, IN CONTACT WITH EXTERIOR, IN CONTACT WITH THE GROUND, SHALL HAVE A PRESERVATIVE TREATMENT EQUAL TO 0.4 P.C.F. RETENTION OF PRESSURE INJECTED CCA

NO WOOD MEMBER SHALL BE CUT, NOTCHED, OR DRILLED WITHOUT SPECIFIC WRITTEN APPROVAL OF THE ENGINEER OF RECORD

ALL JOISTS AND RAFTERS SHALL BE SUPPORTED BY DIRECT END BEARING ON

BEAMS, PARTITIONS, OR JOIST HANGERS. ALL ROOF AND FLOOR TRUSSES
MUST BE LOCATED ABOVE WALL STUDS

DO NOT EMBED WOOD MEMBERS IN CONCRETE UNLESS THEY ARE TREATED PLYWOOD SHALL BE LAID WITH FACE GRAIN PERPENDICULAR TO SUPPORTS, STAGGER ALL JOINTS

PLYWOOD SHALL BE CAPABLE OF SUPPORTING DESIGN LOADS AT REQUIRED SUPPORT SPACING AND BEAR APPROPRIATE GRADING STAMP FROM AMERICAN PLYWOOD ASSOCIATION

PLYWOOD SHEAR WALL SHALL BE FASTENED TO SUPPORTS WITH IOD NAILS SPACED AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS, UNLESS OTHERWISE NOTED

PLYWOOD DIAPHRAGM SHALL BE FASTENED TO SUPPORTS WITH IOD NAILS SPACED AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS, UNLESS OTHERWISE NOTED

L USE COMMON WIRE NAILS UNLESS NOTED OTHERWISE

ALL BOLTS AND LAG SCREWS SHALL CONFORM TO ASTM A307, USE STEEL WASHERS BETWEEN HEAD OF BOLT OR LAG SCREW AND WOOD, USE STEEL WASHERS BETWEEN NUT AND WOOD

ALL FASTENERS USED FOR PRESERVATIVE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL

ALL NAILING SHALL CONFORM TO TABLE 2304.9 OF IBC 2009, UNLESS NOTED OTHERWISE

LAP ALL DOUBLE TOP PLATES A MINIMUM OF FOUR FEET AND FASTEN TOGETHER WITH MINIMUM TWELVE IOD NAILS

WOOD TRUSSES

WOOD TRUSSES SHALL BE FABRICATED BY AN AUTHORIZED TRUSS
MANUFACTURER IN ACCORDANCE WITH THE DESIGN(S) AS PREPARED BY THE
ENGINEER OF RECORD

FIVE BOUND SETS OF ENGINEERING DRAWINGS, SHOWING CONFORMANCE TO THE DESIGN LOADS AND CODE DEFLECTION CRITERIA AND INDICATING MEMBER SIZES SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR DESIGN CONCEPT APPROVAL. DESIGN CALCULATIONS AND DRAWINGS ARE TO BE PREPARED BY AND BEAR THE SEAL AND SIGNATURE OF A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED

DESIGN STANDARDS SHALL CONFORM TO THE APPLICABLE PREVISIONS OF THE NDS 2015 AND THE LATEST "DESIGN SPECIFICATION FOR METAL PLATE CONNECTION TO WOOD TRUSSES"

BOTTOM CHORD AND WEB BRACING REQUIREMENTS ARE TO BE DETERMINED BY THE TRUSS MANUFACTURER, BRACING TO BE INSTALLED BY THE GENERAL CONTRACTOR, CONSULT TRUSS MANUFACTURER FOR SIZE, LOCATION AND NAILING REQUIREMENTS BEFORE BIDDING

AT ALL ENDS OF THE BUILDING AND AT INTERVALS ALONG THE LENGTH OF THE BUILDING, AS DETERMINED BY THE TRUSS MANUFACTURER, 'X' BRACING SHALL BE INSTALLED ALONG LATERALLY BRACED WEBS

ALL TRUSS SPANS ARE TO BE FIELD VERIFIED PRIOR TO FABRICATION OF

CONTRACTOR IS RESPONSIBLE FOR ERECTION PROCEDURE OF ROOF TRUSSES, ROOF TRUSSES TO BE ERECTED AND BRACED PER THE LATEST BCSI

ROOF FRAMING PLAN IS A SCHEMATIC ONLY, TRUSS MANUFACTURER IS TO PREPARE A TRUSS SETTING PLAN FOR CONTRACTOR'S USE IN FIELD

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Architect under the laws of the

State of WISCONSIN

Number — Da

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STRUCTURAL NOTES

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