

FASTENING SCHEDULE : TABLE 2304.9.1

CONNECTION		
1. JOIST TO SILL OR GIRDER, TOENAIL		3-8d
2. BRIDGING TO JOIST, TOENAIL EACH END		2-8d
3. 1" x 6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL		2-8d
4. WIDER THAN 1" x 6" SUBFLOOR TO EACH JOIST, FACE NAIL		3-8d
5. 2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL		2-16d
6. SOLE PLATE TO JOIST OR BLOCKING, TYPICAL FACE NAIL	16d AT 16" (406 mm) O/C	0/C
7. TOP PLATE TO STUD, END NAIL	3-16d PER 16" (406 mm)	
8. STUD TO SOLE PLATE	4-8d, TOENAIL OR 2-16d, END NAIL	
9. DOUBLE STUDS, FACE NAIL	16d AT 24" (610 mm) O/C	
10. DOUBLE TOP PLATES, TYPICAL FACE NAIL	16d AT 16" (406 mm) O/C	0/C
11. BLOCKING BETWEEN JOISTS OR RAFTERS TOP PLATE, TOENAIL		8-16d
12. RM JOIST TO TOP PLATE, TOENAIL	8d AT 6" (152 mm) O/C	
13. TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL		2-16d
14. CONTINUOUS HEADER, TWO PEICES	16d AT 16" (406 mm) O/C ALONG EACH EDGE	
15. CEILING JOISTS TO RAFTER, TOENAIL		3-8d
16. CONTINUOUS HEADER TO STUD, TOENAIL		4-8d
17. CEILING JOISTS, LAP OVER PARTITIONS, FACE NAIL		3-16d
18. CEILING JOISTS TO PARALLEL RAFTER, FACE NAIL		3-16d
19. RAFTER TO PLATE, TOENAIL		3-8d
20. 1" DIAGONAL BRACE TO EACH STUD AND PLATE, FACE NAIL		2-8d
21. 1" x 8" SHEATHING TO EACH BEARING, FACE NAIL		3-8d
22. WIDER THAN 1" x 8" SHEATHING TO EACH BEARING, FACE NAIL		3-8d
23. BUILT-UP CORNER STUDS	16d AT 24" (610 mm) O/C	
24. BUILT-UP GIRDER AND BEAMS	20d AT 32" (813 mm) O/C AT TOP AND BOTTOM STAGGERED AND 2-20d FACE NAILS AT ENDS AND AT EACH SPICE	
25. 2" PLANKS		16d AT EACH BEARING
26. COLLAR TIE TO RAFTER, FACE NAIL		3-10d
27. JACK RAFTER TO HIP, TOE NAIL		3-10d
28. ROOF RAFTER TO 2X RIDGE BOARD, TOE NAIL OR FACE NAIL		2-16d
29. JOIST TO BAN JOIST, FACE NAIL		3-16d
30. LEDGER STRIP, FACE NAIL		3-16d
31. WOOD STRUCTURAL PANELS AND PARTICLEBOARD - SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING)		8d* OR 6d* 1 1/2" AND LESS 7/8" - 1 1/4" 1 1/8" - 1 1/4"
SINGLE FLOOR COMBINATION SUBFLOOR-UNDERLAYMENT (TO FRAMING)		6d* 3/4" AND LESS 1 1/8" - 1 1/4" 1 1/8" - 1 1/4"
32. PANEL SIDING (TO FRAMING) :		6d* 1 1/2" AND LESS 5/8"
33. FIBERBOARD SHEATHING :		NO. 11 GA* 1/2" NO. 16 GA* 25/32"
34. INTERIOR PANELING		4d* 3/8"

- FOOTNOTES:**
- COMMON OR BOX NAILS MAY BE USED EXCEPT WHERE OTHERWISE STATED.
 - NAILS SPACED AT 6 INCHES ON CENTER AT EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS EXCEPT 6 INCHES AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLEBOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2325.1, NAILS FOR WALL SHEATHING MAY BE COMMON, BOX OR CASING.
 - COMMON OR DEFORMED SHANK.
 - COMMON.
 - DEFORMED SHANK.
 - CORROSION-RESISTANT SIDING NAIL.
 - FASTENERS SPACED 3 INCHES ON CENTER AT EXTERIOR EDGES AND 6 INCHES ON CENTER AT INTERMEDIATE SUPPORTS.
 - CORROSION-RESISTANT ROOFING NAILS WITH 7/16-INCH DIAMETER HEAD AND 1 1/2-INCH LENGTH FOR 1/2-INCH SHEATHING AND 1 3/4-INCH FOR 25/32-INCH SHEATHING.
 - CORROSION-RESISTANT STAPLES WITH NOMINAL 7/16-INCH CROWN AND 1 1/8-INCH LENGTH FOR 1/2-INCH SHEATHING AND 1 1/2-INCH LENGTH FOR 25/32-INCH SHEATHING. PANEL SUPPORTS AT 16 INCHES (20" IF STRENGTH AXIS IN THE LONG DIRECTION OF THE PANEL, UNLESS OTHERWISE MARKED).
 - CASING OR FINISH NAILS SPACED 6 IN" ON PANEL EDGES, 12 IN" AT INTERMEDIATE SUPPORTS.
 - PANEL SUPPORTS AT 24 INCHES, CASING OR FINISH NAILS SPACED 6 INCHES ON PANEL EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS.
 - FOR ROOF SHEATHING, 8d NAILS MIN. REQUIRED FOR WOOD STRUCTURAL PANELS.
 - STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 7/16 INCH.
 - FOR ROOF SHEATHING APPLICATIONS, FASTENERS SPACED AT 4" O.C. AT EDGES, 8d AT INTERMEDIATE SUPPORTS.
 - FASTENERS SPACED AT 4" O.C. EDGES, 8" AT INTERMEDIATE SUPPORTS FOR SUBFLOOR AND WALL SHEATHING AND 3" O.C. AT EDGES, 6" AT INTERMEDIATE SUPPORTS FOR ROOF SHEATH.
 - FASTENERS SPACED 4" O.C. AT EDGES, 8" AT INTERMEDIATE SUPPORTS.

ABBREVIATIONS

AB	ANCHOR BOLT	FF	FINISHED FLOOR	PCF	(L) PERPENDICULAR
ABV	ABOVE	FIN	FINISH (ED)	PCF	POUNDS PER CUBIC FEET
ADJ	ADJACENT	FLG	FLANGE	PL	PLATE
ALT	ALTERNATE	FLR	FLOOR	PLY	PLYWOOD
AFF	ABOVE FINISHED FLOOR	FN	FIELD NAILING	PSF	POUNDS PER SQUARE FEET
APPROX	APPROXIMATE (LY)	FND	FOUNDATION	PSI	POUNDS PER SQUARE INCH
ARCH	ARCHITECTURAL	FRMG	FRAME (ING)	PT	PRESSURE TREATED
@	AT	FT	FEET	P/T	POST-TENSIONED
BLDG	BUILDING	FTG	FOOTING	QTY	QUANTITY
BLK	BLOCKING	GA	GAUGE	REF	REFERENCE
BM	BEAM	GALV	GALVANIZED (D)	REINF	REINFORCEMENT
BN	BOUNDARY NAILING	GB	GRADE BEAM	RETD	REQUIRED
BRG	BEARING	GLB	GLUE	RJ	ROOF JOIST
BTM (S)	BOTTOM	HD	HOLD DOWN	RO	ROUGH OPENING
BTWN	BETWEEN	HDR	HANGER	RR	ROOF RAFTER
C	CAMBER (ED)	HGR	HANGER	RCH	SCHEDULE
CANT	CANTILEVER	HORIZ (H)	HORIZONTAL	SH	SHEARWALL
CP	CAS-T-IN-PLACE	HT	HEIGHT	SW	SHEET
CL	CENTRALINE	IN (")	INCHES	SM	SIMILAR
CLG	CEILING	INT	INTERIOR	SNP	SIMPSON
CLR	CLEAR	JST	JOIST	SKWD	SKewed
COL	COLUMN	K	KIPS (1000)	SPEC	SPECIFICATIONS
CONC	CONCRETE	KSI	KIPS PER SQUARE INCH	SQ	SQUARE
CONN	CONNECTION	L	ANGLE	SS	SELECT STRUCTURAL
CONT	CONTINUOUS	LB	LAG BOLT	STD	STANDARD
CTR	CENTER (ED)	LD (#)	POUND (S)	STR	STAGER(ED)
d	DEPT (NAILS)	LG	LEADER	STRUC	STRUCTURAL
DBL	DOUBLE	LG	LONG (DIMENAL)	T&G	TOP AND BOTTOM
DEPT	DEPARTMENT	LWT	LIGHT WEIGHT	T&G	TONGUE AND GROOVE
DF	DOUGLAS FIR	MAS	MASONRY	THK	THICK
DIA	DIAMETER	MATL	MATERIAL	THRD	THREAD(ED)
DIAG	DIAGONAL	MAX	MAXIMUM	TN	TOE NAIL
DIAPH	DIAPHRAGM	MB	MACHINE BOLT	TOF	TOP OF FOOTING
DM	DIMENSION	MECH	MECHANICAL	TOL	TOP OF LEDGER
DN	DOWN	MEZZ	MEZZANINE	TOW	TOP OF WALL
DO	DITTO (REPEAT)	MEZ	MOMENT FRAME	TOP	TOP OF PARAPET
DP	DEEP (DEPT)	MFR	MANUFACTURER	TSP	TUBE STEEL
DWG	DRAWING	MIN	MINIMUM	TYP	TYPICAL
EA	EACH	MISC	MISCELLANEOUS	UNO	UNLESS NOTED OTHERWISE
EF	EACH FACE	MTL	METAL	VERT (V)	VERTICAL
ELEV	ELEVATION	(N)	NEW	WF	WERY IN FIELD
EMBD	EMBED (MENT)	NO (#)	NUMBER	W/	WITH
EN	EDGE NAILING	NIS	NOT TO SCALE	WO	WOOD
EW	EACH WAY	ON	ON CENTER	WT	WEIGHT
EXIST (E)XISTING		OWJ	OPEN WEB JOISTS	WTF	WELDED WIRE FABRIC
EXT	EXTERIOR	P/C	PRECAST CONCRETE		

STRUCTURAL WOOD

- SAWN LUMBER SHALL BE DOUGLAS FIR - LARCH CONFORMING TO THE 2006 IRC STANDARD 23-1 AND ANSI/NFPA NDS NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (AND SUPPLEMENT) REVISED 2005, AND SHALL BE GRADE MARKED BY EITHER WCLB OR WMPA.
- SAWN STRUCTURAL FRAMING MEMBERS SHALL BE AS FOLLOWS (U.N.O.):
MEMBERS GRADE
2x WALL STUDS Q 16" D.F. #2
2x FLOOR JOISTS & ROOF RAFTERS D.F. #2
BEAMS & HEADERS (4x, 6x, 8x) D.F. #2
POSTS (4x, 6x, 8x) D.F. #1
- ALL SILLS PLATES BEARING ON CONCRETE OR MASONRY SHALL BE PRESSURE TREATED W/ ANCHOR BOLTS PER SHEARWALL SCHEDULE. ELSEWHERE, INSTALL 5/8" ϕ x 10" L-BOLTS PLACED WITHIN 12" MAX. (4"-1/2" MIN.) FROM EACH END OR SPLICE, WITH 60" MAX. SPACING, MIN. 2 ANCHOR BOLTS PER EACH PANEL.
- SILL PLATES OF INTERIOR, NON-BEARING, NON-SHEAR WALLS MAY BE FASTENED TO A CONCRETE SLAB USING HLT LOW VELOCITY POWDER-ACTUATED FASTENERS (CC #1663). CONCRETE SLAB IS TO BE NORMAL WEIGHT CONCRETE AND CURED AT LEAST 7 DAYS. PLACE FASTENERS 6" FROM ENDS OF SILL AND AT 36" (MAX.) SPACING BETWEEN.
- ORIENTED STRAND BOARD AND PLYWOOD SHEATHING SHALL CONFORM TO U.S. PRODUCT STANDARDS PS-95 OR PS2-92, APA PERFORMANCE STANDARD PRP 108, AND UBC STANDARD 23-2. U.N.O., THE MINIMUM GRADES AND SPAN RATES SHALL BE:
USE MIN. GRADE SPAN RATING
ROOF SHEATHING APA RATED SHEATHING, EXP. 1 24" MIN
FLOOR SHEATHING APA-RATED STURDI-FLOOR TAG 24" MIN
WALL SHEATHING PER SHEARWALL SCHEDULE (N/A)
MIN. APA RATED SHEATHING, EXP. 1
- GLUED LAMINATED TIMBERS SHALL BE FABRICATED IN ACCORDANCE WITH ANSI/AITC A190.1-1992 "STRUCTURAL GLUED LAMINATED TIMBER", AITC 117 OR APA-EWS 117, AND ASTM D3737-89a. EXTERIOR GLUE TO BE USED WITH INTENDED DRY USE CONDITION PER 2005 NDS SECT.5.1.4.1. COMBINATIONS AND USES SHALL BE AS FOLLOWS:
KEY COMBINATION NO. USE
24F-V4 EWS 24F-V4 DF/DF SIMPLE SPAN
24F-V8 EWS 24F-V8 DF/DF CONTINUOUS & CANTILEVERS
- GLUED LAMINATED TIMBERS SHALL BE MARKED WITH A QUALITY MARK. IF MARK IS NOT READABLE, A CERTIFICATE SHALL BE PROVIDED TO INDICATE CONFORMANCE WITH ANSI/AITC A190.1-1992. THE MAXIMUM MOISTURE CONTENT OF THE LAMINATIONS AT TIME OF MANUFACTURE SHALL NOT EXCEED 12% FOR DRY CONDITIONS OF USE.
- LVL, PSL, AND LSL ENGINEERED WOOD MEMBERS SHALL BE PER LEVEL TRUS JOIST WEYERHAEUSER (ESR 1387), MICROLAM, PARALLAM, AND TIMBERSTRAND RESPECTIVELY. NOTE: VERSALA-LAM FROM BOISE CASCADE MAY BE USED AS AN ALTERNATE OPTION OF SAME GRADE OR BETTER (ESR-1040)
PRODUCT GRADE
PARALLAM (PSL) 2.0 E, Fb=2,900 psi, Fv=290 psi
MICROLAM (LVL) 1.9 E, Fb=2,600 psi, Fv=285 psi
TIMBERSTRAND (LSL, RM BOARD) 1.3 E, Fb=1,700 psi, Fv=400 psi
- WOOD I-JOISTS SHALL BE IN COMPLIANCE WITH THE FOLLOWING STANDARDS:
I-JOIST MANUF. STANDARDS
LEVEL TRUS-JOIST WEYERHAEUSER ESR 1153
BCI JOIST B BOISE CASCADE ESR 1336
- FRAMING ANCHORS, POST CAPS, COLUMN BASES, AND OTHER CONNECTORS SPECIFIED ON DRAWINGS SHALL BE AS MANUFACTURED BY "SIMPSON STRONG-TIE" OR AN ENGINEER-APPROVED EQUAL. ALL CONNECTORS TO BE FULLY NAILED OR BOLTED AS SPECIFIED PER MANUF.
- BARNS AND PLATES SHALL CONFORM TO ASTM A36. BOLTS, UNLEADED BOLTS, WASHERS AND DRIFT BOLTS SHALL CONFORM TO ASTM A 307.
- NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 563, GRADE A.
- ALL BOLT HEADS (MACHINE AND LAG) AND NUTS BEARING ON WOOD SHALL HAVE STANDARD CUT WASHERS, U.N.O.
- MACHINE BOLT (THRU-BOLT) HOLES IN WOOD SHALL BE DRILLED A MAXIMUM 1/32" LARGER THAN THE NOMINAL BOLT DIAMETER
- LEAD HOLES FOR LAG SCREWS GREATER THAN 3/8" ϕ SHALL BE BORED AS FOLLOWS: 40X - 70% OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION. CLEARANCE HOLES FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK, AND THE SAME DEPTH OF PENETRATION AS THE LENGTH OF UNTHREADED SHANK. LAG SCREWS SHALL BE INSERTED BY TURNING WITH A WRENCH, NOT BY DRIVING WITH A HAMMER.
- NAILING OF SAWN MEMBERS SHALL CONFORM TO THE CBC TABLE 2304.9.1, U.N.O. ON THE STRUCTURAL DETAILS.
- NAILS HOLES SHALL BE PRE-DRILLED WHEN NECESSARY TO PREVENT SPLITTING.
- CUSTOM STEEL HARDWARE CONNECTORS FOR WOOD OR GLUED LAMINATED TIMBER SHALL BE FABRICATED FROM STEEL CONFORMING TO ASTM A 36. WELDS SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1-2000.
- HORIZONTAL DIAPHRAGM NAILING SHALL CONFORM TO 2010 CBC. STRUCTURAL PANEL SHEARWALLS SHALL CONFORM TO 2010 CBC. NOMENCLATURE IS DEFINED AS FOLLOWS (PER DETAILS):
BN = BOUNDARY NAILING AT DIAPHRAGM BOUNDARIES, AND AT EDGES OF OPENINGS
EN = EDGE NAILING, AT CONTINUOUS PANEL EDGES
FN = FIELD NAILING, AT INTERMEDIATE FRAMING MEMBERS
- WHERE DIAPHRAGM BLOCKING IS SPECIFIED FOR ROOFS OR FLOORS, USE 2x4 FLAT BLOCKING WITH "Z" CLIPS, U.N.O.
- HORIZONTAL SHEATHING SHALL BE CONTINUOUS OVER TWO OR MORE SPANS, AND THE FACE GRAN (LONG DIRECTION) OF SHEATHING SHALL BE PERPENDICULAR TO SUPPORT MEMBERS.
- SIMPLE SPAN WOOD MEMBERS, NOT SHOP CAMBERED, SHALL BE ERECTED WITH THE NATURAL CAMBER UP. FOR CANTILEVERED WOOD MEMBERS, CONSULT WITH PROJECT STRUCTURAL ENGINEER.
- PROVIDE DOUBLE 2x STUDS TO SUPPORT ALL BEAMS, UNLESS POSTS ARE SPECIFIED ON THE PLANS.
- DOUBLE BLOCK UNDER ALL POSTS. DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS, UNLESS OTHERWISE SPECIFIED.
- TOP PLATES OF ALL WOOD STUD WALLS SHALL BE 2-2x (SAME WIDTH AS STUDS), LAP 48" (MIN.), WITH AT LEAST 12-16d NAILS AT EACH SIDE OF LAP AND NOT MORE THAN 6" BETWEEN NAILS (SEE PLANS # STRAPS ARE REQUIRED).
- NOTCHING OF BEAMS OR JOISTS SHALL BE PERMITTED ONLY FOR NDS SECTION 3.2.3.2, DETAILED AND APPROVED BY THE ENGINEER. HOLES DRILLED IN JOISTS SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOIST, AND THE DIAMETER SHALL NOT EXCEED ONE THIRD THE DEPTH OF THE JOIST.
- MOISTURE CONTENT OF SAWN LUMBER AT TIME OF PLACEMENT SHALL NOT EXCEED 19%

STRUCTURAL STEEL AND WELDING

- ALL STRUCTURAL STEEL SHALL CONFORM TO AND BE IDENTIFIED IN ACCORDANCE WITH 2007 CBC STANDARD 22-1. STEEL FABRICATOR TO BE LICENSED BY THE APPROPRIATE MUNICIPALITY.
- MATERIAL AND WORKMANSHIP FOR FABRICATION AND ERECTION SHALL CONFORM TO THE LATEST EDITION OF THE "CODE OF STANDARD PRACTICE", PUBLISHED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
- STRUCTURAL STEEL FOR THE FOLLOWING SHAPES INDICATED SHALL CONFORM TO THE FOLLOWING GRADES:
SHAPE ASTM / GRADE Fy (ksi)
WIDE FLANGE (W) A 992 50-65
PLATES, ANGLES AND CHANNELS A 36 36
RECTANGULAR TUBES A 500 B 46
PIPE A 53 B 35
- BOLTS OF THE TYPE AND USE INDICATED SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS (U.N.O.):
TYPE USE BOLTS
MACHINE BOLTS AS SPECIFIED A 307 GRADE A
ANCHOR BOLTS AS SPECIFIED A 307 GRADE A
HIGH STRENGTH AS SPECIFIED A 325
- NUTS SHALL CONFORM TO ASTM A 563-88a, HEX GRADE A.
- ALL WELDING SHALL CONFORM TO THE PROVISIONS OF AWS D1.1-00, "STRUCTURAL WELDING CODE - STEEL" OF THE AMERICAN WELDING SOCIETY. ELECTRODES SHALL BE TYPE E70-16, UNLESS NOTED OTHERWISE BY PROJECT STRUCTURAL ENGINEER.
- ALL WELDING OF STRUCTURAL STEEL SHAPES SHALL BE ELECTRIC-ARC PROCESS BY QUALIFIED AND CERTIFIED WELDERS, APPROVED BY THE GOVERNING AGENCY. CONTINUOUS DEPUTY INSPECTION REQUIRED FOR FIELD WELDING.
- ALL WELDING OF REINFORCING STEEL SHALL CONFORM TO THE PROVISIONS OF AWS D1.4-00, "STRUCTURAL WELDING CODE - REINFORCING STEEL".
- STEEL MEMBERS TO BE GALVANIZED SHALL BE COATED IN ACCORDANCE WITH ASTM A 123 WITH A MINIMUM OF 2.5 OUNCES ZINC PER SQ. FT.
- SHOP DRAWINGS FOR STRUCTURAL STEEL SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.
- STEEL SHALL BE COATED WITH A SHOP-APPLIED PRIMER, FIELD PAINTING TO BE PROVIDED TO TOUCH UP ANY DAMAGED PAINT ON SHAPES, BOLTS, AND WELDS.
- HIGH-STRENGTH NON-SHRINK GROUT SHALL BE PLACED IMMEDIATELY AFTER COLUMN IS PLUMBED. CONTRACTOR SHALL NOT LOAD COLUMN ANCHOR BOLTS BEFORE PLACEMENT OF NON-SHRINK GROUT. NON-SHRINK GROUT SHALL BE ICBO-APPROVED AND SHALL BE MIXED, PLACED AND CURED IN CONFORMANCE WITH MANUFACTURER'S ICBO REPORT.

STRUCTURAL CONCRETE

- THE MINIMUM 28-DAY CYLINDER STRENGTH SHALL BE AS FOLLOWS, U.N.O.
CONCRETE ELEMENT fc
SLAB ON GRADE 2500 PSI
SPREAD FOOTINGS 2500 PSI
CONT. FOOTINGS 2500 PSI
- PORTLAND CEMENT SHALL CONFORM TO ASTM C 150-94, TYPE I OR II.
- AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C 33-94 AND SHALL BE AS DEFINED IN SECTION 1903.3. "A" AGGREGATES FOR LIGHT WEIGHT SHALL HAVE A DENSITY RANGE OF 110 TO 115 PCF.
- REINFORCEMENT SHALL BE AS MANUFACTURED BY APPROVED STRUCTURAL ENGINEER.
- READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C 94-94 AND PER SECT. 1903.9 - MIXING & PLACING OF CONCRETE.
- MINIMUM CONCRETE COVER (IN INCHES) FOR REINFORCING STEEL IN NONPRESTRESSED CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
LOCATION MIN. COVER (IN.)
A. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3
B. FORMED SURFACES EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER BAR 2
#5 BARS, 5/8 INCH WIRE, AND SMALLER 1-1/2
C. NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:
#14 AND #18 BARS 1-1/2
#11 AND SMALLER 1
PRIMARY REINFORCEMENT, STIRRUPS, TIES OR SPIRALS 1-1/2"
- SLEEVES, PIPES AND CONDUITS SHALL NOT BE PLACED THROUGH CONTINUOUS OR SPREAD FOOTINGS, GRADE BEAMS, PILE CAPS OR TIE BEAMS UNLESS SHOWN IN APPROVED BY STRUCTURAL ENGINEER AND SHOWN IN STRUCTURAL DETAILS.
- ALL SLEEVES THROUGH BEAMS, GIRDERS AND FOUNDATION WALLS SHALL BE INSTALLED AND SECURED IN POSITION PRIOR TO PLACING CONCRETE. EXCEPT AS SHOWN ON STRUCTURAL DRAWINGS, SLEEVING SHALL NOT BE PERMITTED UNLESS APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
- CONDUIT SHALL NOT BE PLACED IN ANY CONCRETE SLAB LESS THAN 3- 1/2" THICK. IF CONDUIT IS PLACED IN CONCRETE SLAB, ITS OUTSIDE DIAMETER SHALL NOT BE GREATER THAN ONE THIRD OF THE SLAB THICKNESS.
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 INCH (U.N.O.)
- FRAMING CONTRACTOR TO VERIFY LOCATION OF HOLDINGS PRIOR TO POURING OF CONCRETE FOUNDATIONS.

STRUCTURAL GENERAL NOTES

- ALL CONSTRUCTION, INCLUDING MATERIAL AND WORKMANSHIP, SHALL CONFORM TO THE PROVISIONS OF THE 2009 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), WITH THE GOVERNING AGENCY AMENDMENTS AND STANDARDS REFERENCED THEREIN. WHEREVER BUILDING CODE IS REFERENCED IN THE FOLLOWING GENERAL NOTES OR OTHER NOTE SECTIONS, IT SHALL IMPLY THE IBC REFERENCED ABOVE. ALL PROJECTS LOCATED IN THE STATE OF CALIFORNIA SHALL CONFORM TO THE 2010 CALIFORNIA BUILDING CODE (CBC) AND REFER TO THE CBC IN LIEU OF THE AFOREMENTIONED IBC.
- ALL ASTM STANDARDS LISTED HEREIN SHALL BE AS REFERENCED IN THE LATEST ISSUE OF THE ANNUAL BOOK OF STANDARDS OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
- THE CONTRACTORS SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS PRIOR TO STARTING WORK. THE ARCHITECT AND STRUCTURAL ENGINEER SHALL IMMEDIATELY BE NOTIFIED IN WRITING OF DISCREPANCIES. DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER, ARCHITECT, AND FIELD INSPECTOR. THE ARCHITECT OR STRUCTURAL ENGINEER SHALL PROVIDE A SOLUTION PRIOR TO PROCEEDING WITH ANY WORK AFFECTED BY THE CONFLICT OR OMISSION.
- IN CASE OF CONFLICT, NOTES AND DETAILS OF THESE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES AND/OR STANDARD DETAILS SHOWN ON SHEET SD1. TYPICAL DETAILS SHALL BE USED WHENEVER APPLICABLE.
- IF A SPECIFIC DETAIL IS NOT SHOWN FOR ANY PART OF THE WORK, THE CONSTRUCTION SHALL BE THE SAME AS FOR SIMILAR WORK.
- WORKING DIMENSIONS SHALL NOT BE SCALED FROM PLANS, SECTIONS OR DETAILS ON THESE STRUCTURAL DRAWINGS.
- THE CONTRACTORS SHALL PROVIDE AND MAINTAIN ADEQUATE SHORING AND BRACING AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION.
- PIPES, DUCTS, SLEEVES, OPENINGS, POCKETS, BLOCK-OUTS, ETC. SHALL NOT BE PLACED IN SLABS, BEAMS, GIRDERS, COLUMNS, WALLS, FOUNDATIONS, ETC. NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR SUCH ITEMS, UNLESS SPECIFICALLY DETAILED ON THESE STRUCTURAL DRAWINGS. IF ANY PIPES, DUCTS, CONDUIT, ETC. ARE PLACED THAT ARE NOT SHOWN ON THESE STRUCTURAL DRAWINGS, THE ARCHITECT AND STRUCTURAL ENGINEER SHALL BE NOTIFIED (SEE PARAGRAPH 4 ABOVE).
- IF THE CONTRACTOR PROPOSES ANY SUBSTITUTION, NEW CALCULATIONS AND DETAILS MAY HAVE TO BE PREPARED, EXISTING DETAILS MAY HAVE TO BE ALTERED, AND NEW DRAWINGS MAY HAVE TO BE SUBMITTED TO THE BUILDING DEPT. THE CONTRACTOR SHALL PAY THE STRUCTURAL ENGINEER'S FEES TO ALTER THE APPROVED PLANS. THE CONTRACTOR SHALL ALSO PROCESS THE REVISED PLANS REFLECTING ALL SUBSTITUTIONS THROUGH THE APPROPRIATE OFFICE OF ALL GOVERNING AGENCIES.

CONCRETE BLOCK MASONRY

- MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C-90 GRADE N, W/ AN ULTIMATE COMPRESSIVE STRENGTH - fm = 1500 PSI.
- MORTAR MIX SHALL BE ONE PART CEMENT, 3 PARTS SAND, 1/4 HYDRATED LIME OR LIME PUTTY BY VOLUME; WATER CONTENT SHALL BE THE MINIMUM REQUIRED FOR WORKING CONSISTENCY; MORTAR SHALL BE TYPE "S", UNLESS NOTED OTHERWISE.
- GROUT MIX SHALL BE ONE PART CEMENT, 3 PARTS SAND, 2 PARTS PEA GRAVEL BY VOLUME. THE 28 DAYS ULTIMATE STRENGTH OF THE GROUT SHALL BE 2000 PSI.
- GROUT MIX SHALL BE SOLID GROUTED, UNLESS NOTED OTHERWISE ON PLANS.
- CONTINUOUS DEPUTY INSPECTION IS NOT REQUIRED, UNLESS NOTED OTHERWISE.
- FIRST COURSE OF BLOCKS ABOVE OPENINGS SHALL BE LINTEL/BOND BEAM UNITS.
- MAXIMUM GROUT LIFT SHALL NOT EXCEED 4'-0" IN ONE DAY UNLESS PROPER PROCEDURES OF HIGH LIFT GROUTING OF THE GOVERNING AGENCIES ARE FOLLOWED. VIBRATE ALL GROUT LIFTS.
- MASONRY SHALL BE CLEAN AND FREE OF ALL SUBSTANCES THAT MAY IMPAIR BOND.
- BOND BEAM TYPE UNITS SHALL BE USED FOR ALL HORIZONTAL REINFORCING STEEL.
- VERTICAL COLD JOINTS ARE NOT ALLOWED UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- HORIZONTAL CONSTRUCTION JOINTS: WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, THE GROUT POUR MUST BE STOPPED A MINIMUM 1 1/2" BELOW THE TOP OF THE UPPER LIFT.

REINFORCING STEEL

- DEFORMED BAR REINFORCEMENT SHALL CONFORM TO THE FOLLOWING GRADES OF ASTM A 615-94:
GRADE 40 - #3 AND SMALLER & GRADE 60 - #4 AND LARGER
- DETAILS OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH CBC SEC. 1907 & OTHER SECTIONS ACCORDING TO APPLICATION.
- VERTICAL REINFORCEMENT SHALL BE TIED OR OTHERWISE FIXED IN POSITION AT THE TOP AND BOTTOM AND AT INTERMEDIATE LOCATIONS, SPACED NOT GREATER THAN 192 BAR DIAMETERS (SEE DETAILS FOR OTHER REQTS).
- ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE BEFORE PLACING CONCRETE OR GROUT.

BASIS OF STRUCTURAL DESIGN

VERTICAL DESIGN:	FLOOR DEAD LOAD = .15 PSF	FLOOR LIVE LOAD = .40 PSF	EXT. WALL WEIGHT = .16 PSF	INT. WALL WEIGHT = .16 PSF
ROOF LIVE LOAD = .16 PSF				
DECK DEAD LOAD = .25 PSF				
DECK LIVE LOAD = .40 PSF				

SEISMIC DESIGN:	WIND DESIGN:
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE	BASIC WIND SPEED 85 MPH, EXPOSURE: B
BUILDING OCCUPANCY CATEGORY - II	TOPOGRAPHIC FACTOR, Kt = 1.0
SITE CLASS - D	HEIGHT ADJUSTMENT FACTOR, R = 1.0
SEISMIC DESIGN CATEGORY - D	IMPORTANCE FACTOR, Iw = 1.0A
SPECTRAL RESPONSE COEFFICIENT (SHORT PERIOD), S _w = 1.0	
SPECTRAL RESPONSE COEFFICIENT (1-SECOND PERIOD), S _w = 0.6	
RESPONSE MODIFICATION COEFFICIENT, R = 6.5	
SEISMIC IMPORTANCE FACTOR, I = 1.0	
DESIGN BASE SHEAR, V = C _w W = 0.175W (Allowable Stress Design)	

SOILS & FOUNDATION DESIGN:
GEOTECHNICAL REPORT PREPARED BY: SOIL TESTERS
REPORT NUMBER: J2505-13 ; DATE: 6-5-13
SOIL BEARING CAPACITY: 2,000 PSF
PASSIVE PRESSURE: 350 PSF
COEFFICIENT OF FRICTION: 0.30
ACTIVE PRESSURE: 48 PSF (UNRESTRAINED)
ACTIVE PRESSURE: 86 PSF (RESTRAINED)

TEST AND INSPECTIONS :

- CONTINUOUS INSPECTION (U.N.O.) SHALL BE PERFORMED BY QUALIFIED SPECIAL INSPECTORS RETAINED BY OWNER AND APPROVED BY THE BUILDING OFFICIAL TO ACT AS A SPECIAL INSPECTOR.
- THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL.
- THE SPECIAL INSPECTIONS IDENTIFIED ON PLANS ARE, IN ADDITION TO, AND NOT A SUBSTITUTE FOR, THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY A CITY'S BUILDING INSPECTOR.
- THE SPECIAL INSPECTOR MUST BE CERTIFIED BY THE LOCAL JURISDICTION'S BUILDING DEPARTMENT, DEVELOPMENT SERVICES, IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION.
- THE CONSTRUCTION MATERIALS TESTING LABORATORY MUST BE APPROVED BY THE LOCAL JURISDICTION BUILDING DEPARTMENT, FOR TESTING OF MATERIALS, SYSTEMS, COMPONENTS AND EQUIPMENTS.
- FABRICATOR MUST BE REGISTERED AND APPROVED BY THE LOCAL JURISDICTION'S BUILDING DEPARTMENT, FOR THE FABRICATION OF MEMBERS AND ASSEMBLIES ON THE PREMISES OF THE FABRICATOR'S SHOP.
- FABRICATOR SHALL SUBMIT AN "APPLICATION TO PERFORM OFF-SITE FABRICATION" TO THE INSPECTOR SERVICES DIVISION FOR APPROVAL PRIOR TO COMMENCEMENT OF FABRICATION.
- FABRICATOR SHALL SUBMIT A "CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION" TO THE INSPECTION SERVICES DIVISION PRIOR TO ERECTION OF FABRICATED ITEMS AND ASSEMBLIES.
- A PROPERTY OWNER'S FINAL REPORT FOR WORK REQUIRED TO HAVE SPECIAL INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS MUST BE COMPLETED BY THE PROPERTY OWNER, PROPERTY OWNER'S AGENT OF RECORD, ARCHITECT OF RECORD OR ENGINEER OF RECORD AND SUBMITTED TO THE INSPECTION SERVICES DIVISION.
- WHERE MATERIALS OR ASSEMBLIES ARE REQUIRED BY THE BUILDING CODE TO BE LABELED, SUCH MATERIALS AND ASSEMBLIES SHALL BE LABELED BY AN AGENCY APPROVED BY THE LOCAL BUILDING JURISDICTION IN ACCORDANCE WITH SECTION 1703. PRODUCTS AND MATERIALS TO BE LABELED SHALL BE TESTED, INSPECTED AND LABELED IN ACCORDANCE WITH THE PROCEDURES SET FORTH IN SECTIONS 1703.5.1 THROUGH 1703.5.3. SPECIAL INSPECTION TO BE PROVIDED BY TESTING SERVICES & INSPECTION, INC. - (619) 234-9904.

LIST OF SPECIAL INSPECTIONS REQUIRED:

- THE SPECIAL INSPECTOR SHALL, IN ACCORDANCE WITH CBC CHAPTER 17, INSPECT THE FOLLOWING STRUCTURAL WORK:
- STEEL COMPONENTS AND WELDING:
FABRICATION OF STEEL COLUMNS BASE PLATES PER PLAN.
* NOTES: a. WELDS DONE IN A FABRICATOR'S SHOP APPROVED BY INSPECTIONS SERVICES NEED NOT HAVE CONTINUOUS OR PERIODIC SPECIAL INSPECTION. AT COMPLETION, THE APPROVED FABRICATOR MUST SUBMIT A "CERTIFICATE OF COMPLIANCE" IN ACCORDANCE FORM TO INSPECTION SERVICES.
b. SPECIAL INSPECTIONS IS REQUIRED FOR WELDS DONE IN A SHOP OF A FABRICATOR WHICH IS NOT APPROVED BY INSPECTION SERVICES.
 - MASONRY (CONTINUOUS LEVEL 1 SPECIAL INSPECTION):
1. CONTINUOUS INSPECTION OF PROPORTIONS OF SITE-PREPARED MORTAR.
2. CONTINUOUS INSPECTION OF CONSTRUCTION OF MORTAR JOINTS.
3. CONTINUOUS INSPECTION OF LOCATION OF REINFORCEMENT.
4. CONTINUOUS INSPECTION OF SIZE AND LOCATION OF STRUCTURAL ELEMENTS.
5. CONTINUOUS INSPECTION OF TYPE, SIZE AND LOCATION OF ANCHORS INCLUDING ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.
6. CONTINUOUS INSPECTION OF SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT.
7. CONTINUOUS INSPECTION TO ENSURE THAT GROUT SPACE IS CLEAN.
8.