GENERAL

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE 1998 CALIFORNIA BUILDING CODE CBC (TITLE 24, PART 2 OF THE CALIFORNIA CODE OF REGULATIONS).

FEATURES OF CONSTRUCTION NOT FULLY SHOWN OR NOTED ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS SHALL BE OF THE SAME SIZE AND CHARACTER AS FOR SIMILAR CONDITIONS SHOWN OR NOTED. SPECIFIC NOTES AND DETAILS ON STRUCTURAL DRAWINGS TAKE PRECEDENCE OVER THE GENERAL NOTES AND TYPICAL DETAILS.

THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE JOB SITE. THE CONTRACTOR SHALL COMPARE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, CIVIL, LANDSCAPE, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS BEFORE COMMENCING WITH THE WORK AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES REQUIRING CLARIFICATION OR REVISION. DO NOT SCALE DRAWINGS.

THE GENERAL CONTRACTOR SHALL REVIEW AND COORDINATE ALL SHOP DRAWINGS AND STAMP THEM "REVIEWED" PRIOR TO SUBMITTING THEM TO THE ARCHITECT FOR REVIEW.

SHOP DRAWINGS ARE PRODUCED TO FACILITATE FABRICATION AND COORDINATION BY THE CONTRACTORS. SHOP DRAWINGS SHALL BE EXCHANGED AND COORDINATED BY THE CONTRACTORS. THEY SHALL IN NO WAY TAKE PRECEDENCE OVER THE GOVERNING AGENCY'S APPROVED CONTRACT DOCUMENTS. REVIEW BY THE ARCHITECT AND/OR STRUCTURAL ENGINEER IS INTENDED TO BENEFIT THE FABRICATORS AND CONTRACTORS. NO APPROVAL IS IMPLIED OR INTENDED FOR VARIATIONS BETWEEN SHOP DRAWINGS AND THE CONTRACT DOCUMENTS. WHEN DIFFERENT COMPONENTS ARE ERECTED, THEY ARE INSPECTED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, NOT THE SHOP DRAWINGS.

UNDERPINNING, BRACING, AND/OR SHORING OF EXISTING BUILDING ELEMENTS AND EXISTING ADJACENT BUILDINGS:

1) IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR (OR THE CONTRACTOR'S SUBCONTRACTOR) TO DETERMINE UNDERPINNING REQUIREMENTS AND TO SUBMIT DETAILS AND CALCULATIONS TO THE BUILDING DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION. DETAILS AND CALCULATIONS SHALL BE PREPARED AND SIGNED BY A GEOTECHNICAL ENGINEER AND A STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA.
2) THE ENGINEERS OF RECORD FOR THIS PROJECT SHALL NOT BE ASSOCIATED WITH THIS WORK.
3) DEGENKOLB ENGINEERS IS NOT RESPONSIBLE FOR THIS WORK.

FOUNDATIONS

SLABS-ON-GRADE AND FOUNDATIONS SHALL BEAR ON APPROVED 24" MIN. NON-EXPANSIVE COMPACTED FILL OVER A SUBDRAIN AND KEYWAY AT A DEPTH OF APPROXIMATELY 12 FEET.

FOR BIDDING PURPOSES, THE ELEVATION OF THE BOTTOM OF FOOTINGS SHALL BE AS INDICATED ON THE FOUNDATION PLANS AND ON DETAILS. THESE FOOTING DEPTHS ARE MINIMUM AND SHALL IN NO CASE BE LESS THAN 2'-6" BELOW LOWEST ADJACENT GRADE. THEY SHALL BE SUBJECT TO APPROVAL BY THE SOIL ENGINEER DURING FOUNDATION EXCAVATION AND CONSTRUCTION.

FOOTINGS SHALL BE CENTERED UNDER BEARING WALLS ABOVE UNLESS OTHERWISE NOTED.

SEE ARCHITECTURAL, PLUMBING, MECHANICAL, ELECTRICAL AND ANY OTHER INCLUDED DRAWINGS, AND CONSULT WITH THE RESPECTIVE TRADES FOR VERIFICATION OF ALL ITEMS SHOWN OR NOT SHOWN ON STRUCTURAL PLANS PRIOR TO POURING CONCRETE FOOTINGS AND FLOOR SLABS.

THE GEOTECHNICAL INVESTIGATION APPLICABLE TO THIS PROJECT SITE IS BY HARDING ESE DATED JANUARY 5, 2001, JOB. NO. 52304, AND IS AVAILABLE FOR REVIEW AT THE ARCHITECT OFFICE.

ALLOWABLE SOIL BEARING PRESSURES BASED ON THE 1998 CBC:
- DEAD LOAD 3000 PSF
- DEAD LOAD PLUS LIVE LOAD 3750 PSF
- DEAD LOAD PLUS LIVE LOAD PLUS WIND/SEISMIC 4500 PSF

PASSIVE PRESSURE FROM SOIL ADJACENT TO THE FOOTING IS EQUIVALENT TO A FLUID PRESSURE OF 400 PSF. FRICTION COEFICIENT IS 0.4.

WHERE FOUNDATION WALL BACKFILL IS NECESSARY, THE BACKFILL SHALL BE PLACED SIMULTANEOUSLY ON EACH SIDE OF WALL. AND THE LEVEL ON ONE SIDE SHALL NOT EXCEED THE OTHER SIDE MORE THAN 6" DURING THIS OPERATION.

THE SPECIAL INSPECTION REQUIREMENTS OF SECTION 1701A, 1998 CBC APPLY TO FILL AND BACKFILL OPERATIONS. FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING REINFORCING STEEL.

THE CLOSEST KNOWN SEISMIC SOURCE IS THE SAN ANDREAS FAULT (SEISMIC SOURCE TYPE A), WHICH IS LESS THAN 2KM AWAY. SEISMIC COEFFICIENTS, C_a AND C_v, ARE 0.6 AND 1.12, RESPECTIVELY. NEAR-SOURCE FACTORS NA AND NV ARE 1.5 AND 2.0, RESPECTIVELY, FOR DESIGN PURPOSES. THE SITE IS ASSUMED TO BE UNDERLAIN BY THE SOIL PROFILE SC AND IS IN ZONE 4. R COEFFICIENT OF 5.5 IS USED FOR DESIGN.

PLYWOOD SHEATHING

WHERE NOTED ON STRUCTURAL PLANS, ROOFS, FLOORS, EXTERIOR SHEAR WALLS AND INTERIOR SHEAR WALLS SHALL BE SHEATHED WITH DOUGLAS FIR PLYWOOD, STRUCTURAL I, C-D OR BETTER, WITH EXTERIOR GLUE.

IN GENERAL, PLYWOOD SHEETS SHALL BE 4'-0" x 8'-0". MINIMUM PANEL WIDTH IS 24". ALL SHEETS SHALL HAVE APA STAMP. THE LONG DIMENSION MAY BE LAID EITHER HORIZONTALLY OR VERTICALLY AT WALLS. ROOF AND FLOOR SHEETS SHALL BE LAID WITH FACE PLIES ACROSS JOISTS OR FRAMING MEMBERS AND WITH END JOINTS STAGGERED 4'-0". ALL PLYWOOD JOINTS SHALL BE ACCURATELY CENTERED ON SUPPORTING ELEMENTS, INCLUDING BLOCKING. BLOCKING AT PLYWOOD JOINTS BETWEEN WALL STUDS SHALL BE 3x STUD DEPTH. BLOCKING BETWEEN JOISTS AT PLYWOOD JOINTS SHALL BE 3x4 MINIMUM FLAT BLOCKING.

STAGGER NAILS AND USE 3x FRAMING AT PLYWOOD JOINTS. PROVIDE 4 x 4 MINIMUM BLOCKING BETWEEN JOISTS AND STUDS. LEDGERS SHALL BE 4x SAME DEPTH AS JOIST. ALL ROOF, FLOOR AND WALL PLYWOOD SHALL BE BLOCKED. USE 3x STUD FOR ALL VERTICAL WALL JOINTS WHERE SHEATHING IS ON BOTH SIDES, WITH STAGGERED NAILING. NO CONTINUOUS HORIZONTAL JOINTS ARE ALLOWED IN SHEAR WALL, THE PLYWOOD PANELS MUST BE STAGGERED.

CARPENTRY

REFER TO SPECIFICATIONS FOR COMPLETE REQUIREMENTS.

FRAMING LUMBER: DOUGLAS FIR-LARCH, AND GRADED IN ACCORDANCE WITH THE WEST COAST LUMBER INSPECTION BUREAU.

STRUCTURAL LIGHT FRAMING (PARA. 124): NO. 1 2" TO 4" THICK; 2" TO 4" WIDE

STRUCTURAL JOISTS AND PLANKS (PARA. 123): NO. 1 2" TO 4" THICK; 6" AND WIDER

BEAMS (PARA. 130): SELECT STRUCTURAL, FREE OF HEART CENTER 5" AND THICKER; WIDTH MORE THAN 2" GREATER THAN THICKNESS

POSTS (PARA. 131): NO. 1 STRUCTURAL

STUDS (PARA 122 & 123): NO. 1 2x4 OR 3x4 CONSTRUCTION, 2x6 AND LARGER NO. 1

BLOCKING AND BRIDGING - PROVIDE AS FOLLOWS:

A. 2" SOLID BLOCKING BETWEEN JOISTS AND RAFTERS OVER SUPPORT.
B. 2"x3" (MIN) CROSS BRIDGING BETWEEN JOISTS AND RAFTERS NOT OVER 8'-0" O.C. NOR MORE THAN 8'-0" FROM SUPPORT.
C. OMIT CROSS BRIDGING BETWEEN CEILING JOISTS AND RAFTERS 2x8 AND SMALLER.
D. CONTINUOUS 2" HERRINGBONE BRIDGING, SLOPE 3-IN-12, AT MID-HEIGHT OF STUDS OR SO SPACED THAT UNBRACED LENGTH OF STUDS SHALL NOT EXCEED 8'-0" EXCEPT WHERE WALL FINISH OR PLYWOOD SHEATHING AT SHEAR WALLS CALLS FOR SOLID HORIZONTAL BLOCKING.

BOLTS IN WOOD SHALL BE A307 MACHINE BOLTS UNLESS OTHERWISE NOTED. ALL MACHINE BOLTS SHALL HAVE CUT THREADS (UPSET THREADS NOT ALLOWED).

BOLT HOLES IN WOOD AND STEEL SHALL BE THE DIAMETER OF THE BOLT PLUS 1/16". PROVIDE SQUARE PLATE WASHER UNDER HEAD AND NUT WHERE BEARING IS AGAINST WOOD. WASHER WILL NOT BE REQUIRED UNDER HEAD OF CARRIAGE BOLTS. LENGTH OF THREAD SHALL BE SUCH THAT THREADS DO NOT BEAR AGAINST WOOD OR STEEL. ALL NUTS SHALL BE TIGHTENED WHEN PLACED AND RETIGHTENED AT COMPLETION OF THE JOB OR IMMEDIATELY BEFORE CLOSING WITH FINISH CONSTRUCTION.

BOLT DIAMETER	SQ. STEEL PLATE WASHER	BOLT DIAMETER	SQ. STEEL PLATE WASHER
1/2"	2 x 2 x 1/4"	7/8"	3-1/2 x 3-1/2 x 3/8"
5/8"	2-1/2 x 2-1/2 x 1/4"	1"	3-1/2 x 3-1/2 x 3/8"
3/4"	3 x 3 x 5/16"	1-1/8"	4 x 4 x 7/16"
		1-1/4"	4-1/2 x 4-1/2 x 1/2"

MALLEABLE IRON WASHERS MAY BE USED IN LIEU OF SQUARE STEEL PLATE WASHERS.

MANUFACTURED TIMBER FASTENERS ARE INDICATED ON THE DRAWINGS USING THE SIMPSON COMPANY CATALOG DESIGNATIONS. NAILING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, WITH A NAIL PROVIDED FOR EACH PUNCHED HOLE.

NAILS SHALL BE GALVANIZED COMMON WIRE NAILS. MINIMUM NAILING SHALL BE IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE AND THE SCHEDULE LISTED.

SILLS ON CONCRETE SHALL BE CLOSE GRAIN REDWOOD, OR PRESSURE-TREATED NO. 2 GRADE DOUGLAS FIR-LARCH WITH AWPB STAMP LP2 OR LP22, 3" THICK AT STRUCTURAL PLYWOOD SHEATHED WALLS AND 2" MINIMUM THICK ELSEWHERE. THEY SHALL BE ANCHORED WITH 5/8" DIAMETER X 18" MACHINE BOLTS UNLESS OTHERWISE NOTED (HOLES MAY BE 1/16" OVERSIZE) WITH A BOLT WITHIN 9" OF EACH END OF EACH STICK AND SPACED NOT OVER 48" O.C. BETWEEN. SEE STRUCTURAL DETAILS FOR SPECIFIC SIZE AND SPACING OF ANCHOR BOLTS WHICH MAY BE NOTED AS LESS THAN 48" O.C. THERE SHALL BE AT LEAST 2 BOLTS IN EACH STICK. WHERE NOTCHES FOR PIPES, ETC., EXCEED 1/3 THE WIDTH OF THE SILL, PLACE A BOLT WITHIN 9" OF EACH SIDE OF NOTCH. TIEDOWN BOLTS SHALL NOT BE CONSIDERED AS SILL BOLTS. SILLS SHALL BE BEDDED IN 1:2 MORTAR 3/4" THICK. ALL ANCHOR BOLTS AND SILL BOLTS SHALL BE SECURED IN PLACE PRIOR TO POURING CONCRETE FOOTINGS.

ALL POSTS AND MULTIPLE STUDS SHALL BE FULL HEIGHT OF BUILDING AND SHALL BE SOLID BLOCKED AT FRAMING LEVELS. ALL MULTIPLE JOISTS AND BEAMS SHALL BEAR ON MULTIPLE STUDS AND POSTS OF EQUAL WIDTH FOR FULL HEIGHT OF FRAMING UNLESS SHOWN OTHERWISE. RAFTERS, JOISTS, AND STUDS SHALL ALIGN FOR FULL HEIGHT OF FRAMING.

WHERE JOISTS SPAN BETWEEN CONCRETE OR MASONRY WALLS, STEEL PLATE ANCHOR CONNECTORS SHALL BE PROVIDED AT EACH END OF THE SAME JOIST. SUCH CONNECTED JOISTS SHALL NOT BE SPACED OVER 48" ON CENTER. WHERE A JOIST OR STUD IS PLACED AGAINST CONCRETE OR MASONRY WALL, BOLT TO WALL WITH 3/4" DIAMETER ANCHOR BOLTS AT NOT OVER 48" O.C.

DOUBLE TOP PLATES OF EXTERIOR WALLS SHALL NOT BE CUT TO LAP THE TOP PLATES OF INTERSECTING WALLS EXCEPT AT EXTERIOR WALL CORNERS OR AS OTHERWISE NOTED ON DRAWINGS.

PIPES EXCEEDING ONE-THIRD OF THE PLATE WIDTH SHALL NOT BE PLACED IN PARTITIONS USED AS BEARING OR SHEAR WALLS, UNLESS OTHERWISE DETAILED OR COMPLETELY FURRED CLEAR OF THE STUDS. PIPES SHALL PASS THROUGH THE CENTER OF THE PLATES USING NEATLY BORED HOLES. NO NOTCHING WILL BE ALLOWED.

LAG SCREWS SHALL BE SCREWED (NOT DRIVEN) INTO PLACE. DRILL HOLE SAME DIAMETER AND DEPTH AS SHANK, THEN DRILL HOLE WITH A DIAMETER EQUAL TO 60-75% OF THE SHANK DIAMETER FOR THE THREADED PORTION. USE PLATE WASHERS AS REQUIRED FOR SAME BOLT SIZE.

ALL WOOD WINDOW AND DOOR FRAMES SHALL BE SECURED IN PLACE. BLOCK OUT SOLIDLY BETWEEN JAMBS AND CRIPPLES OR MULLION; ONE NEAR TOP AND BOTTOM AND NOT OVER 24" O.C. BETWEEN, NAIL TO EACH BLOCK WITH 2-16d CASING NAILS SET 1/8".

SEE PLANS FOR EXISTING TIE DOWNS. A MINIMUM OF 50% OF EXISTING TIE DOWNS OR TWO (2) FOR EACH BUILDING SHALL BE PULL TESTED. EXISTING TIE DOWNS SHALL BE TESTED FOR A PROOF LOAD OF 6368 POUNDS.

PNEUMATIC GUN NAILING

PNEUMATIC GUN NAILS SHALL HAVE THE SAME GAUGE AND HEAD DIAMETER AS A 10d COMMON NAIL. NAILS SHALL BE FULL HEADED. MINIMUM LENGTH: 2-3/8" FOR 1/2" PLYWOOD AND 2-5/8" FOR 3/4" PLYWOOD. (SHANK DIAMETER 0.148 INCHES, HEAD DIAMETER 5/16").

MINIMUM EDGE DISTANCE OF NAIL FROM EDGE OF PLYWOOD AND FRAMING SHALL BE 3/8 INCHES FOR 2 x FRAMING, AND SHALL BE A MINIMUM OF 3/4 INCHES FOR 3 x FRAMING. THE PLYWOOD JOINT SHALL BE CENTERED OVER A SINGLE MEMBER.

SPACING OF NAILS SHALL BE AS SPECIFIED FOR 10D COMMON NAILS.

"SHINERS" OR NAILS WHICH DO NOT PENETRATE INTO FRAMING OR BLOCKING SHALL BE REMOVED AND REPLACED.

OVERDRIVING OF PNEUMATIC GUN NAILS, SUCH THAT THE HEAD OF NAIL IS BELOW THE TOP SURFACE OF PLYWOOD, SHALL NOT BE PERMITTED.

PNEUMATIC GUN SHALL UNDERDRIVE NAIL BY 3/4" MAXIMUM AND THE NAIL SHALL BE HAND--DRIVEN, SO THAT THE HEAD OF THE NAIL IS FLUSH WITH TOP SURFACE OF PLYWOOD.

PREPARE TWO SAMPLE PANELS, ONE FOR 1/2" PLYWOOD AND ONE FOR 3/4" PLYWOOD FOR EACH; GUN OPERATORS, MAXIMUM TWO. NOTE NAME AND SOCIAL SECURITY NUMBER OF GUN OPERATOR ON THE SAMPLE PANEL.

GUN NAILING MAY BE APPROVED FOR 1/2" PLYWOOD ROOF AND WALL SHEATHING AND FOR 3/4" PLYWOOD ROOF SHEATHING. WALLS THAT ARE SHEATHED EACH SIDE OF WALL SHALL NOT BE NAILED WITH GUN, BUT BY HAND.

CONTRACTOR SHALL SUBMIT NAILING GUN DATA, INCLUDING I.C.B.O. REPORT AND NAIL SAMPLE.

ARCHITECT, STRUCTURAL ENGINEER AND THE STATE OFFICE OF REGULATION SERVICES SHALL ACCEPT OR REJECT THE USE OF SUBMITTED NAILING GUN FOR USE ON THE PROJECT.

CONTINUED ACCEPTANCE OF GUN NAILING IS SUBJECT TO SATISFACTORY JOB SITE PERFORMANCE.

IF ANY BLOCKING OR JOISTS RECEIVING THE POINTS OF THE NAILS ARE DAMAGED (SPLIT, NAIL HOLES TOO CLOSE, ETC.), THEY SHALL BE REMOVED AND REPLACED.

ALL END NAILING, TOE NAILING AND CORRECTIVE NAILING SHALL BE DONE BY HAND NAILING.

STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL BE ASTM A572 GRADE 50. ALL STRUCTURAL TUBING SHALL BE ASTM A500 GRADE B. ALL STEEL PIPES SHALL BE ASTM A53 GRADE B. ALL MISCELLANEOUS STEEL AND ANGLES SHALL BE A36. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS, LATEST EDITION.

ALL BOLTED CONNECTIONS STEEL-TO-STEEL SHALL BE MADE WITH 3/4" DIAMETER HIGH--STRENGTH (A325SC) BOLTS, UNLESS OTHERWISE NOTED. AT HIGH-STRENGTH BOLTED CONNECTIONS, STRUCTURAL STEEL SHALL NOT BE PAINTED WITHIN THREE INCHES OF THE CENTERLINE OF THE BOLT HOLES.

ALL ANCHOR BOLTS SHALL BE ASTM A307 OR A36.

ALL THREADED STEEL RODS SHALL BE ASTM A307 OR ASTM A36.

ALL MACHINE BOLTS, ANCHOR BOLTS, ALL-THREAD RODS, ETC., SHALL HAVE CUT THREADS, NOT ROLLED THREADS.

BOLT HOLES IN STEEL SHALL BE 1/16" OVERSIZE, UNLESS OTHERWISE NOTED.

ALL STRUCTURAL STEEL SHALL BE PRIMED EXCEPT THAT TO BE FIREPROOFED.

WOOD NAILERS ON STRUCTURAL STEEL SHALL BE BOLTED WITH 5/8" DIAMETER CARRIAGE BOLTS OR WELDED STUD BOLTS @ 24" O.C. STAGGERED.

ALL WELDS SHALL BE TESTED AND INSPECTED IN ACCORDANCE WITH: (A) CBC, TITLE 24, PART 2, SECTION 2231A FOR HOSPITALS AND SCHOOLS,; (B) THE SPECIFICATIONS; (C) THE UNIFORM BUILDING CODE; (D) AWS D1.1. THE CERTIFIED WELDING INSPECTOR SHALL CHECK THE MATERIAL, EQUIPMENT, FIT UP AND PROCEDURES AS WELL AS THE WELDS. THE INSPECTOR SHALL USE ALL MEANS NECESSARY TO DETERMINE THE QUALITY OF THE WELDS, INCLUDING THE USE OF GAMMA RAY, MAGNAFLUX, TREPANNING, SONICS OR ANY OTHER AID TO VISUALLY INSPECT AND TO ASCERTAIN THE ADEQUACY OF THE WELDING. THE INSPECTOR SHALL FURNISH THE ARCHITECT AND THE STRUCTURAL ENGINEER WITH A REPORT VERIFYING THAT ALL WELDS CONFORM WITH THE DRAWINGS, SPECIFICATIONS, AWS D1.1 AND ANY OTHER APPLICABLE CODES.

UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, THE FABRICATION AND ERECTION REQUIREMENTS MAY DICTATE FIELD WELDING AND/OR SHOP WELDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE METHOD OF WELDING TO FULFILL THESE REQUIREMENTS. ALL ASSOCIATED COSTS INCLUDING TESTING AND INSPECTION SHALL BE INCLUDED IN THE CONTRACT PRICE.

WHERE CLOSER THAN AISC TOLERANCES ARE NECESSARY, SUCH AS FOR ALIGNMENT OF STEEL STUDS, MULLIONS, GFRC PANELS, ETC., FIELD WELDING WILL BE REQUIRED TO MEET THE NECESSARY TOLERANCES WITH NO ADDITIONAL COSTS TO THE OWNER.

WELDING OF REBAR TO STRUCTURAL STEEL SHALL BE DONE BY STRUCTURAL STEEL SUBCONTRACTOR.

EXISTING FIREPROOFING REMOVED FOR NEW CONSTRUCTION SHALL BE REPLACED WITH SIMILAR FIREPROOFING AFTER NEW CONSTRUCTION HAS BEEN COMPLETED.

ALL EXPOSED STEEL SHALL BE HOT-DIPPED GALVANIZED.

EXPANSION ANCHORS IN HARDENED CONCRETE

MAXIMUM VALUES: THE ALLOWABLE SHEAR AND TENSION SHALL NOT EXCEED; (a) EIGHTY (80) PERCENT OF THE ALLOWABLE LOAD LISTED IN THE ICBO EVALUATION REPORT FOR THE SPECIFIC ANCHOR;

SPACING AND EDGE DISTANCE: THE MAXIMUM SPACING BETWEEN ANCHORS U.O.N. SHALL BE THE GREATER OF; (a) AS DEFINED IN THE ICBO REPORT, (b) 12 DIAMETERS OR 2 TIMES MINIMUM EMBEDMENT. THE MINIMUM EDGE DISTANCE SHALL BE 10 BOLT DIAMETERS U.O.N.

EMBEDMENT: ALL EXPANSION ANCHORS SHALL MEET MINIMUM DEPTH OF EMBEDMENT CRITERIA OF THE ICBO REPORT FOR EACH SPECIFIC ANCHOR. ANCHORS SPECIFIED IN THE SCHEDULE BELOW SHALL HAVE EMBEDMENT AS LISTED. ANCHORS SHALL NOT BE INSTALLED IN SLABS WHICH ARE THINNER THAN THE MINIMUM SLAB THICKNESS RECOMMENDED IN THE ICBO REPORT OR THE ANCHOR MANUFACTURER'S TECHNICAL GUIDE.

INSTALLATION: THE ANCHORS MUST BE INSTALLED IN ACCORDANCE WITH THE ICBO REPORT. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING INTO EXISTING PRESTRESSED CONCRETE (OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE TENDON AND DRILLED-IN ANCHOR.

IF DRILLED HOLES FOR EXPANSION ANCHORS HAVE BEEN ABANDONED, THE HOLES SHALL BE DRYPACKED SOLID WITH NON-SHRINK GROUT. LOCATE ANY NEW EXPANSION ANCHORS A MINIMUM OF 6 DIAMETERS FROM ABANDONED FILLED HOLES.

WHEN INSTALLING EXPANSION ANCHORS THROUGH METAL DECK INTO CONCRETE, LOCATE ANCHORS IN THE CENTER OF THE LOW FLUTES. THE EFFECTIVE DEPTH OF EMBEDMENT SHALL BE 1/3 OF THE METAL DECK RIB HEIGHT PLUS A MINIMUM OF 1-1/2" ABOVE THE TOP FLUTE OF THE DECKING.

DRILLING OF HOLES FOR EXPANSION ANCHORS SHALL BE PERFORMED WITH ROTO HAMMERS HAVING POSITIVE STOPS SO THAT THE HOLE WILL BE EXACTLY THE EMBEDMENT REQUIRED (SEE SCHEDULE FOR EMBEDMENT). POSITIVE STOPS SHALL BE INSPECTED AND APPROVED BY THE JOB INSPECTOR PRIOR TO STARTING WORK.

JOB TESTING: 10% OF EXPANSION ANCHORS USED FOR SILL PLATE BOLTING SHALL BE TENSION TESTED. 50% OF EXPANSION ANCHORS USED FOR NONSTRUCTURAL APPLICATION INCLUDING EQUIPMENT ANCHORAGE SHALL BE TENSION TESTED. 100% OF EXPANSION ANCHORS USED FOR STRUCTURAL APPLICATIONS SHALL BE TENSION TESTED. IF ANY ANCHOR FAILS, TEST ALL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE PASS, THEN RESUME INITIAL TESTING FREQUENCY. TESTING SHALL BE PERFORMED IN PRESENCE OF THE PROJECT INSPECTOR. THE LOAD MUST BE APPLIED BY A METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION IN THE ANCHOR, SUCH AS DIRECT PULL WITH A HYDRAULIC JACK, CALIBRATED SPRING-LOADING DEVICES, ETC.

TENSION-PROOF LOAD TESTS SHALL BE DONE BY AN INDEPENDENT TESTING LABORATORY.

TEST INSPECTOR SHALL VERIFY ALL EXPANSION ANCHORS NOT TENSION-LOAD TESTED FOR MINIMUM INSTALLATION TORQUE.

PRODUCT DATA: ALL EXPANSION TYPE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT II EXPANSION ANCHORS, OR APPROVED EQUAL.

EXPANSION ANCHOR SCHEDULE (FOR 3000PSI NWC - ICBO REPORT ER-4627, JULY 1, 1998)

ANCHOR DIA(in)	MINIMUM EMBED.(in)	TENSION-PROOF LOAD (lbs.)	MIN. INSTALLATION TORQUE (ft-lbs.)	MIN. EDGE DIST.(in.)	MIN. SPACING (in.)
1/4	2	1010	7	3-3/8	4
3/8	2 1/2	2420	25	4-7/8	5
1/2	3-1/2	4000	45	6-3/4	7
5/8	4	5340	95	8-1/4	8
3/4	4-3/4	7250	225	9-3/4	9-1/2
1	6	10620	325	13-1/2	12

LIMITATIONS ON ANCHORS IN WITHDRAWAL: ANCHORS IN WITHDRAWAL SHALL NOT BE USED FOR MAJOR CONNECTIONS SUCH AS ANCHORING TILT-UP WALLS, TIE-DOWNS, HEAVY CONTINUOUSLY APPLIED LOADS, FREQUENT VIBRATORY LOADS, ETC.

SPECIAL INSPECTION

THE SPECIAL INSPECTION REQUIREMENTS OF SECTION 1701A OF THE 1998 CALIFORNIA BUILDING CODE APPLY TO THE FOLLOWING:

DRILLED DOWELS AND ANCHORS
EXPANSION ANCHORS
REINFORCING STEEL BY INSPECTOR OF RECORD
STRUCTURAL STEEL WELDING AND BOLTING
PLYWOOD NAILING BY INSPECTOR OF RECORD
WELDED STUDS

NAILING

ALL NAILS SHALL BE COMMON WIRE NAILS. WHERE NAILS TEND TO SPLIT THE WOOD, NAIL HOLES SHALL BE SUB-DRILLED.

SCHEDULE OF MINIMUM PERMISSIBLE CONNECTION

DETAILS		FASTENING	
STUDS TO BEARING	2x6 AND SMALLER	2-10d	TOENAILS EACH SIDE (3-10d TOENAILS EACH SIDE WHEN HEIGHT AT EXTERIOR WALLS EXCEEDS 13'-4")
	2x8 AND LARGER	3-10d	TOENAILS EACH SIDE TOP & BOTTOM AT EXTERIOR WALLS (3-16d TOENAILS EACH SIDE WHEN STUD EXCEEDS 20'-0")
SOLE PLATES (ON SHEATHING)	PERPENDICULAR TO JOISTS	2-20d	EACH JOIST
	PARALLEL TO JOIST	20d	@ 8" O.C. STAGGERED
DOUBLE 2" TOP PLATES (USE 30d FOR 3" PLATES)	LOWER PLATE TO STUD	2-20d	FOR 2x6 STUDS OR SMALLER; 3-20d FOR 2x8
	UPPER TO LOWER STAGGERED	16d	@ 12" O.C. (MIN.) LAP 4'-0" WITH 16-16d EACH LAP. SEE PLANS FOR SPECIAL CONDITION.
JOIST OR RAFTERS	LAP AT INTERSECTIONS	3-16d	
	TO BEARING	2-10d	TOENAILS EACH SIDE
	TO SIDE OR EDGE OF STUD		3-16d FOR 8" DEPTH JOIST OR LESS ADD 1-16d FOR EACH ADDITIONAL 4" IN DEPTH OF JOIST
	TO PARALLELING MEMBERS (PLATES, ETC.)	16d	@ 12" O.C.
	ALL LAPS (12" MIN.)	4-16d	
BLOCKING	TO JOISTS OR RAFTERS	2-10d	TOENAILS EACH SIDE EACH END
	TO BEARINGS	2-10d	TOENAILS EACH SIDE
HERRINGBONE BRIDGING	TO STUDS	2-10d	
CROSS BRIDGING	TO JOISTS OR RAFTERS	2-8d	
MULTIPLE STUDS	EACH LAYER	16d	@ 8" O.C.
BUILT-UP BEAMS (MULTIPLE JSTS.)	EACH LAYER	16d	@ 8" O.C. FOR BEAMS LESS THAN 10" IN DEPTH ONLY 1/2" DIAMETER BOLTS @ 24" O.C. STAGGERED FOR BEAMS 10" OR GREATER IN DEPTH
DOUBLE JOIST	WHERE NOT BLOCKED	16d	@ 8" O.C. STAGGERED
UNDER PARTITIONS	WHERE BLOCKED APART	3-16d	EACH BLOCK EACH SIDE (BLOCKS 2x @ 24" O.C.)
PLYWOOD SHEATHING	PW NAILING LOCATION (SEE PLANS & STRUCTURAL SECTIONS)		PW AT LOCATIONS AS INDICATED ON STRUCTURAL DRAWINGS.
1/2" THICKNESS @ ROOF	AT ALL EDGES OF SHEET AND WHERE CALLED OUT "EDGE NAILING" (E.N.)	10d	@ 4" o.c.
1/2" THICKNESS @ WALLS	AT ALL OTHER CONTACTS (FIELD NAILING)	10d	@ 12" O.C. UON
		10d	@ 10" O.C. FLOORS
	AT DOUGLAS FIR SILLS	10d	@ 4" O.C.
	AT REDWOOD SILLS	10d	@ 3" O.C.
	AT POST WITH HOLDOWN	10d	@ 4" O.C.

ABBREVIATIONS

(E)	EXISTING
(N)	NEW
&	AND
@	AT
A.A.	ADHESIVE ANCHOR
A.B.	ANCHOR BOLT
ABV	ABOVE
ADDL	ADDITIONAL
ADJ.	ADJACENT
AGGR.	AGGREGATE
AL.	ALUMINUM
ALT.	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
ASTM	AMERICAN SOCIETY for TESTING and MATERIALS
A.C.	ASPHALT CONCRETE
AWG	AMERICAN WIRE GUAGE
BET.	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BM, BMS	BEAM, BEAMS
B.N.	BOUNDARY NAILING
B.O.F.	BOTTOM OF FOOTING
BOT.	BOTTOM
BRG	BEARING
BSMT	BASEMENT
B.S.	BOTH SIDES
C	CHANNEL
CL	CENTERLINE
C.I.P.	CAST IN PLACE
C.J.	CONTROL JOINT
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CSK	COUNTERSINK
CP	COMPLETE PENETRATION
CTR	CENTER
d	PENNY (NAIL SIZE)
DBL.	DOUBLE
DK, DKG	DECK or DECKING
DEMO.	DEMOLITION
DET., DETS	DETAIL, DETAILS
DIAG.	DIAGONAL
DIA. or ø	DIAMETER
DIM., DIMS	DIMENSION, DIMENSIONS
DIST.	DISTANCE
DN	DOWN
DO	DITTO
DWL, DWLS	DOWEL, DOWELS
DWG, DWGS	DRAWING, DRAWINGS
EA.	EACH
E.A.	EXPANSION ANCHOR
E.F.	EACH FACE
E.S.	EACH SIDE
E.W.	EACH WAY
ELEC.	ELECTRICAL
EL.	ELEVATION
ELEV.	ELEVATOR
EMBED.	EMBEDMENT
E.N.	EDGE NAILING
E.O.S.	EDGE OF SLAB
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.J.	EXPANSION JOINT
EV.	EVERY

EXCAV.	EXCAVATION
EXP.	EXPANSION
EXT.	EXTERIOR
F.F.	FAR FACE
FDN	FOUNDATION
FIN.	FINISH
FLR, FLRS	FLOOR, FLOORS
F.N.	FIELD NAILING
F.O.	FACE OF
F.O.C.	FACE OF CONCRETE
F.O.S.	FACE OF STUDS
FP.	FIREPROOFING
F.S.	FAR SIDE
FT	FOOT or FEET
FTG, FTGS	FOOTING, FOOTINGS
GA.	GAUGE
GALV.	GALVANIZED
GL.	GLASS or GLAZING
GLB	GLU-LAM BEAM
GRND	GROUND
GR.	GRADE
GYP. BD.	GYPSUM BOARD
H.D.G.	HOT DIPPED GALVANIZED
HDR	HEADER
H.P.	HIGH POINT
HSB	HIGH STRENGTH BOLTS
HT	HEIGHT
H.D.	HOLD-DOWN
HSS	HOLLOW STRUCTURAL STEEL
HK, HKS	HOOK, HOOKS
HORIZ., (H)	HORIZONTAL
I.D.	INSIDE DIAMETER
INFO.	INFORMATION
JST, JSTS	JOIST, JOISTS
JT	JOINT
K.O.	KNOCK-OUT
L	ANGLE
ld	DEVELOPMENT LENGTH
ldb	HOOK DEVELOPMENT LENGTH
LEV.	LEVEL
LLBB	LONG LEG BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC.	LOCATION
LONGIT.	LONGITUDINAL
L.P.	LOW POINT
ls	LAP SPLICE LENGTH
LT	LIGHT
LWC	LIGHTWEIGHT CONCRETE
MAX.	MAXIMUM
M.B.	MACHINE BOLT
MEZZ.	MEZZANINE
MECH.	MECHANICAL
M.E.P.	MECHANICAL, ELECTRICAL, PLUMBING DOCUMENTS
MTL	METAL
MFR	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTD.	MOUNTED
N	NORTH
N.F.	NEAR FACE
N.I.C.	NOT IN CONTRACT
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
NO. or #	NUMBER
NOM.	NOMINAL (DIAMETER)
NWC	NORMAL WEIGHT CONCRETE

O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER (DIM)
O.H.	OPPOSITE HAND
OPNG	OPENING
OPP.	OPPOSITE
PL	PLATE
PC., PCS.	PIECE, PIECES
PERP.	PERPENDICULAR
PLYWD	PLYWOOD
PP	PARTIAL PENETRATION
PR	PAIR
PT	POINT
PTN	PARTITION
R.O.	ROUGH OPENING
R or RAD.	RADIUS
REBAR	REINFORCING BAR
REF.	REFERENCE
REINF.	REINFORCED or REINFORCING
REQD	REQUIRED
REV.	REVISE or REVISION
RFG	ROOFING
RSJ	ROLLED STEEL JOIST
S.A.D.	SEE ARCH. DOCUMENTS
SCHED.	SCHEDULE
SECT.	SECTION
SHT	SHEET
SHTG	SHEATHING
SIM.	SIMILAR
SL.	SLOPE
SMS	SHEET METAL SCREW
S.O.G.	SLAB ON GRADE
SPEC.,SPECS	SPECIFICATION, SPECIFICATIONS
SQ.	SQUARE
SS	STAINLESS STEEL
STAGG.	STAGGER or STAGGERED
STD	STANDARD
STIFF.	STIFFENER
STIR.	STIRRUP or STIRRUPS
STL	STEEL
STRUC.	STRUCTURAL
SUBST.	SUBSTITUTE
SUSP.	SUSPENDED
SYM.	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
THK	THICK
THRD	THREADED
THRU	THROUGH
T.O.	TOP OF
T.O.CONC.	TOP OF CONCRETE
T.O.STL	TOP OF STEEL
T.O.SLAB	TOP OF STRUCTURAL SLAB
TR.	TREAD
TS	TUBE STEEL
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
URM	UNREINFORCED MASONRY
VERT., (V)	VERTICAL
V.I.F.	VERIFY IN FIELD
W or WF	WIDE FLANGE
W/	WITH
W/O	WITHOUT
WD	WOOD
W.P.	WORK POINT
WT	WEIGHT
WWM	WELDED WIRE MESH
X HVY.	EXTRA HEAVY
XX HVY.	DOUBLE EXTRA HVY.
X STR.	EXTRA STRONG
XX STR.	DOUBLE EXTRA STRONG

REVISIONS: (△ INDICATES REVISIONS MADE TO THIS SHEET.)

NO.:	DATE	REASON	BY

SEAL:

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STAMP:

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL 01 103529
AC — FLS — SS MJ
DATE 5/4/01
Redate MJ 5/21/01

APPL. NUMBER:

KEY PLAN:

AS-BUILTS

SHEET TITLE:

GENERAL NOTES

DRAWN BY:	PROJECT NO.:
JS	304.99
CHECKED BY: MAE/RT	DATE: 01-13-01
APPL NO.:	SHEET: S1.1
DATA NO.: 101-000	NO.: OF: