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## STRUCTURAL NOTES

### I. GENERAL

- A. DRAWINGS AND SPECIFICATIONS REPRESENT FINISHED STRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION INCLUDING BUT NOT LIMITED TO SHORING AND TEMPORARY BRACINGS. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE SAFETY OF ALL PERSONS AND STRUCTURES AT THE SITE AND ADJACENT TO THE SITE. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT, ENGINEER OR CONSTRUCTION MANAGER SHALL NOT RELIEVE THE CONTRACTOR OF SUCH RESPONSIBILITY.
- B. HOLES AND OPENINGS THROUGH WALLS AND FLOORS FOR DUCTS, PIPING AND VENTILATIONS SHALL BE COORDINATED BY THE CONTRACTOR WHO SHALL VERIFY SIZES AND LOCATION OF SUCH HOLES OR OPENINGS WITH THE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS AND THESE SUB-CONTRACTORS.
- C. NO PIPES OR DUCTS SHALL BE EMBEDDED IN SLABS OR WALLS UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE ARCHITECT.
- D. SEE DRAWINGS OTHER THAN STRUCTURAL FOR: KINDS OF FLOOR FINISH AND THEIR LOCATION, FOR DEPRESSIONS IN FLOOR SLABS, FOR OPENINGS IN WALLS AND FLOORS REQUIRED BY ARCHITECTURAL AND MECHANICAL FEATURES, FOR ROADWAY PAVING, WALKS, RAMPS, STAIRS, CURBS, ETC.
- E. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT JOB SITE BEFORE COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT.
- F. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, NOTES, AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
- G. DO NOT USE SCALED DIMENSIONS; USE WRITTEN DIMENSIONS. WHERE NO DIMENSION IS PROVIDED, CONSULT THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- H. WHERE MEMBER LOCATIONS ARE NOT SPECIFICALLY DIMENSIONED, MEMBERS ARE EITHER LOCATED ON COLUMN LINES OR EQUALLY SPACED BETWEEN MEMBERS ON COLUMN LINES OR BETWEEN MEMBERS OTHERWISE LOCATED.
- I. TYPICAL DETAILS ARE INTENDED TO APPLY TO APPLICABLE SITUATIONS UON. IN GENERAL, TYPICAL DETAILS ARE NOT SPECIFICALLY REFERENCED.
- J. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE CALLED FOR OR SHOWN.
- K. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO CONSTRUCT THE HOSPITAL BUILDING IN ACCORDANCE WITH THE 2007 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHERE THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA (OSHPD) BEFORE PROCEEDING WITH THE WORK.

### II. EXISTING CONSTRUCTION

- A. WORK SHOWN IS NEW UNLESS NOTED AS EXISTING: (E).
- B. EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM EXISTING CONSTRUCTION DOCUMENTS AND SITE INVESTIGATION AND CAN BE USED FOR BIDDING PURPOSES. THE CONTRACTOR SHALL VERIFY ALL EXISTING JOB CONDITIONS, REVIEW ALL DRAWINGS AND VERIFY DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH THE WORK. DRAWINGS FOR THE EXISTING CONSTRUCTION ARE AVAILABLE FOR REVIEW.
- C. THE REMOVAL, CUTTING, DRILLING, ETC. OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE AND SMALL TOOLS IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL FEATURES NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE ARCHITECT SHALL BE IMMEDIATELY NOTIFIED AND PRIOR APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OF MEMBERS.
- D. THE CONTRACTOR SHALL SAFELY SHORE EXISTING CONSTRUCTION WHEREVER EXISTING SUPPORTS ARE REMOVED TO ALLOW THE INSTALLATION OF THE NEW WORK. ALL SHORING METHODS AND SEQUENCING OF DEMOLITION SHALL BE SPECIFIED BY A LICENSED STRUCTURAL ENGINEER LICENSED IN THE STATE WHERE THIS PROJECT IS LOCATED, TO BE RETAINED BY THE CONTRACTOR. SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS.
- E. THE CONTRACTOR SHALL PERFORM THE WORK WITH A MINIMUM OF INCONVENIENCE TO THE OWNER AND SO AS NOT TO INTERRUPT THE DAY TO DAY WORK OPERATIONS. THE CONTRACTOR SHALL ENSURE SAFE PASSAGE OF PERSONS AROUND AREAS OF CONSTRUCTION AND SHALL CONDUCT OPERATIONS TO PREVENT DAMAGE OR HARM TO THE FACILITIES AND PEOPLE. COORDINATE ALL OPERATIONS WITH THE OWNER OR HIS AGENT.
- F. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES BEFORE BEGINNING WORK. SPECIAL CARE SHALL BE TAKEN TO PROTECT UTILITIES THAT ARE TO REMAIN IN SERVICE DURING CONSTRUCTION.
- G. THE CONTRACTOR SHALL PROMPTLY REPAIR DAMAGE CAUSED DURING OPERATIONS WITH SIMILAR MATERIALS AND WORKMANSHIP.
- H. ALL REMOVED ITEMS, MATERIALS AND DEBRIS, UNLESS OTHERWISE NOTED, SHALL BECOME THE PROPERTY OF THE DEMOLITION CONTRACTOR AND SHALL BE REMOVED PROMPTLY FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER.

### III. DESIGN BASIS

- A. APPLICABLE CODE: 2007 CALIFORNIA BUILDING CODE (CBC), OSHPD AMENDMENTS
- B. OCCUPANCY CATEGORY = IV
- C. VERTICAL LIVE LOADS:
- OFFICES:  
50 PSF + 15 PSF PARTITION + 35 PSF INCIDENTAL (REDUCIBLE)  
2000 LBS CONCENTRATED
  - EXITS AND CORRIDORS:  
100 PSF (REDUCIBLE)  
2000 LBS CONCENTRATED
  - ROOF:  
20 PSF (REDUCIBLE)
- D. WIND DESIGN DATA:
- BASIC WIND SPEED,  $V = 85$  MPH (3-SEC GUST)  
 $I = 1.5$   
EXPOSURE = C
- E. SEISMIC DESIGN DATA:
- $I = 1.5$   
 $S_s = 1.500$   
 $S_1 = 0.600$   
 $S_{DS} = 1.000$   
 $S_{D1} = 0.400$   
SITE CLASS = D  
SDC = D  
 $R = 6.5$

### J. SOIL/FOUNDATION DESIGN CRITERIA

1. DESIGN CRITERIA ARE BASED ON RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT PREPARED BY KC ENGINEERING COMPANY AND DATED MAY 25, 2007 AND VALIDATED BY KLEINFELDER FOR THE 2007 CBC WITH OSHPD AMENDMENTS IN THEIR LETTER DATED FEBRUARY 1, 2011.
2. AS EXCAVATION PROGRESSES, CONDITIONS MAY DEVELOP REQUIRING CHANGES IN THE FOUNDATION DEPTHS AND/OR DESIGN. SUCH CHANGES SHALL BE MADE ONLY AS DIRECTED BY THE GEOTECHNICAL ENGINEER AND SHALL BE ACCOUNTED FOR IN ACCORDANCE WITH CONTRACT DOCUMENTS.
3. SPREAD FOOTINGS:
- FOOTINGS SHALL EXTEND A MINIMUM OF 12" BELOW ADJACENT GRADE
  - ALLOWABLE BEARING PRESSURE:
    - DEAD LOADS 1,800 PSF
    - DEAD + LIVE LOADS 2,500 PSF
    - DEAD + LIVE + WIND/SEISMIC LOADS 3,333 PSF

### IV. MATERIALS

#### A. CONCRETE

- ALL CONCRETE SHALL BE REINFORCED U.O.N.
- ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED.
- CONCRETE STRENGTH AND WEIGHT (SEE SPECIFICATION SECTION 03 30 00 FOR ADDITIONAL CONCRETE PROPERTIES):

CLASS	LOCATION	MIN 28-DAY STRENGTH (PSI)	MAX WEIGHT (PCF)
B	FOOTINGS/ GRADE BEAMS	3000	145
C	SLAB ON GRADE	3000	145

#### B. REINFORCING STEEL:

- BAR: ASTM A615, GRADE 60, UON
- WELDED BARS: ASTM A706
- WELDED WIRE FABRIC: ASTM A185
- WELDED BAR ANCHORS: NELSON D2L DEFORMED BAR ANCHORS (ICC-ES REPORT ER-5217)

LOCATION	COVER
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER: NO 5 BARS OR SMALLER..... NO 6 BARS OR LARGER.....	1 1/2" 2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS, WALLS, JOISTS: NO 11 BARS OR SMALLER ..... NO 14 AND LARGER .....	3/4" 1 1/2"
BEAMS, COLUMNS: PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS .....	1 1/2"
SHELLS, FOLDED PLATE MEMBERS: NO 5 BARS AND SMALLER ..... NO 6 BARS AND LARGER .....	1/2" 3/4"

#### C. TERMINATION OF REINFORCEMENT UON

- TERMINATE ALL BARS IN LAPS, 90 DEGREE BENDS, OR WITH DOWELS INTO EXISTING CONCRETE.
- BEND TOP MAT OR FOOTING BARS DOWN TO BOTTOM BARS AT ENDS.
- BEND BOTTOM MAT OR FOOTING BARS UP WITH STANDARD 90 DEGREE BENDS.
- PROVIDE DOWELS INTO FOOTINGS AND SLABS ABOVE AT WALLS AND COLUMNS OF SAME SIZE AND SPACING AS VERTICAL REINFORCEMENT.

### C. WOOD

1. ALL FRAMING LUMBER SHALL BE DOUGLAS FIR, UON. GRADE SHALL BE AS FOLLOWS:

MEMBER TYPE	GRADE
JOIST AND RAFTERS	No. 1
POSTS, BEAMS, HEADERS	No. 1
STUDS, PLATES, BLOCKS LIGHT FRAMING AND MISC	No. 2



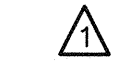
2. ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.
3. LUMBER MOISTURE CONTENT: SEE SPECIFICATIONS
4. REJECTION OF WOOD MEMBERS: THE PROVISION IN DOC PS 20 (AS REFERENCED BY CBC 2303.1.1) WHICH PERMITS 5 PERCENT OF THE MATERIAL TO FALL BELOW GRADE SHALL NOT BE CONSTRUED TO PERMIT BELOW-GRADE MATERIAL TO BE USED AS LOAD-CARRYING MEMBERS WHICH HAVE BEEN DESIGNED FOR SPECIFIED ALLOWABLE STRESSES AND ACCEPTABLE SAFETY FACTORS. MATERIALS WHICH FALL BELOW GRADE SHALL BE REJECTED FOR LOAD-CARRYING USE. WOOD MEMBERS WHICH ARE REQUIRED TO CARRY DESIGN LOADS AND WHICH THE PROJECT ARCHITECT, ENGINEER OR INSPECTOR JUDGE TO BE MISGRADED SHALL BE REINSPECTED BY A QUALIFIED LUMBER GRADING INSPECTOR TO VERIFY THE PROPER GRADING OF THE MATERIAL. WOOD MEMBERS WHICH HAVE PERMISSIBLE GRADE CHARACTERISTICS OR DEFECTS IN SUCH COMBINATION AS TO AFFECT THE SERVICEABILITY OF THE MEMBER SHALL BE REJECTED BY THE PROJECT INSPECTOR WITH THE CONCURRENCE OF THE ARCHITECT OR ENGINEER.
5. STRUCTURAL SHEATHING:
- ROOF SHEATHING: 15/32" APA RATED SHEATHING 32/16", EXPOSURE 1, PS1-95, 5 PLY PLYWOOD
  - FLOOR SHEATHING: 23/32" APA RATED, STURD-I-FLOOR 24 OC, T&G, PS1-95
  - WALL SHEATHING: 15/32" APA RATED SHEATHING, EXPOSURE 1, PS1-95, 5 PLY PLYWOOD.

6. FRAMING HARDWARE: AS MANUFACTURED BY SIMPSON CO. OR APPROVED EQUAL. SIMPSON DESIGNATIONS USED.

7. NAILS: COMMON WIRE GAGE UON. NAILING TO CONFORM TO CBC TABLE 2304.9.1, UON.

USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL OF THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND DSA. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. IF THE NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND-HELD HAMMER, OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY AND MACHINE NAILING SHALL BE DISCONTINUED. FOR PLYWOOD SHEARWALLS WITH PLYWOOD ON BOTH SIDES OF WALL, MACHINE NAILING WILL BE ALLOWED ON ONE SIDE OF WALL ONLY.

8. BOLTS: ASTM A307. ANCHOR RODS = ASTM F1554, F<sub>y</sub> = 36 KSI.
9. PROVIDE LATERAL SUPPORT FOR BEAMS, JOISTS AND RAFTERS PER CBC 2308.8.5.
10. GLUE FLOOR SHEATHING AT T&G JOINTS AND TO SUPPORTING MEMBERS.
11. NAILS, BOLTS AND SCREWS FOR PRESSURE PRESERVATIVE TREATED AND FIRE RETARDANT TREATED WOOD SHALL BE HOT-DIPPED ZINC COATED GALVANIZED.



### D. STEEL

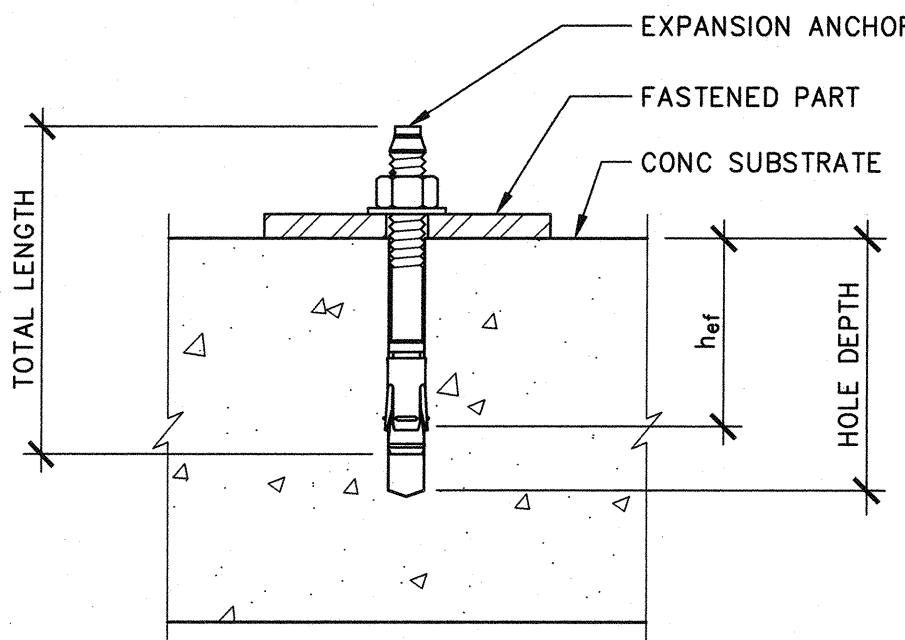
#### 1. STEEL MATERIALS:

SHAPE	MATERIAL
WIDE FLANGES	ASTM A992, GRADE 50
MISCELLANEOUS PLATES	ASTM A36
GUSSET PLATES	ASTM A572, GRADE 50
ANGLES & CHANNELS	ASTM A36
TUBES (SQUARE HSS)	ASTM A500, GRADE B
PIPES (ROUND HSS)	ASTM A500, GRADE B
BOLTS	ASTM A325 N, U.O.N. (SEE NOTE 4)
ANCHOR RODS	ASTM F1554, F <sub>y</sub> =36, U.O.N.
WELDING ELECTRODES	E70, SEE SPECIFICATIONS FOR CVN REQUIREMENTS
WELDED STUDS	FLUX FILLED HEADED ANCHOR STUDS TYPE H4L OR S3L BY NELSON OR EQUAL.

2. STRUCTURAL STEEL MEMBERS AND THEIR CONNECTIONS DENOTED "AESS" SHALL COMPLY WITH SECTION 10, ARCHITECTURALLY EXPOSED STRUCTURAL STEEL, OF THE AISC CODE OF STANDARD PRACTICE, FOR FABRICATION, ERECTION TOLERANCES AND SURFACE FINISHES.

### E. POST-INSTALLED ANCHORS IN CONCRETE OR MASONRY

- POST-INSTALLED ANCHORS INCLUDE EXPANSION ANCHORS, SCREW ANCHORS, AND EPOXY ANCHORS/DOWELS.
- INSTALL POST-INSTALLED ANCHORS IN ACCORDANCE WITH THE APPLICABLE ICC-ES REPORT AND THE MANUFACTURER'S RECOMMENDATIONS.
- USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING BARS.
- SPECIAL INSPECTION IS REQUIRED FOR ALL POST-INSTALLED ANCHOR INSTALLATIONS, UON.
- FIELD TESTING OF POST-INSTALLED ANCHORS IS REQUIRED, UON. TEST/INSTALLED ANCHORS IN ACCORDANCE WITH THE FOLLOWING:
  - TEST 100% OF ANCHORS AT ALL STRUCTURAL APPLICATIONS, UON.
  - TEST 50% OF ANCHORS AT ALL NON-STRUCTURAL APPLICATIONS (SUCH AS EQUIPMENT ANCHORAGE), UON.
  - TEST 10% OF ANCHORS AT SILL PLATE BOLTING APPLICATIONS, UON.
  - IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS OF THE SAME TYPE NOT PREVIOUSLY TESTED UNTIL 20 CONSECUTIVE ANCHORS PASS.
  - FIELD TESTS SHALL BE EITHER TENSION TESTS OR TORQUE TESTS, AS REQUIRED FOR THE SPECIFIC ANCHOR TYPE.
  - TENSION TESTS: APPLY TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT AND INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS AS THE ORIGINAL NUT USING A TORQUE WRENCH. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURES. TO BE ACCEPTABLE, ANCHORS SHALL HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD (OBSERVABLE MOVEMENT IS DEFINED AS THE WASHER UNDER THE NUT BECOMING LOOSE).
  - TORQUE TESTS: TO BE ACCEPTABLE, THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN ONE-HALF TURN OF THE NUT.
  - TEST EQUIPMENT IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
  - FIELD TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR.
- EXPANSION ANCHORS
  - EXPANSION ANCHORS SHALL BE ONE OF THE FOLLOWING, UON:  
CARBON STEEL HILTI KWIK BOLT TZ (ICC-ES REPORT ESR-1917)  
STAINLESS STEEL HILTI KWIK BOLT TZ (ICC-ES REPORT ESR-1917)  
WHERE NOTED ON DRAWINGS.  
SIMPSON STRONG-BOLT (ICC-ES REPORT ESR-1771).
  - ANCHOR EMBEDMENT AND FIELD TEST VALUES ARE AS FOLLOWS, UON:



HILTI KWIK BOLT TZ IN NORMAL-WEIGHT CONCRETE			
ANCHOR DIAMETER	$h_{ef}$	MINIMUM HOLE DEPTH	TORQUE TEST VALUE (FT-LBS)
3/8"	2"	2 5/8"	25
1/2"	2"	2 5/8"	40
5/8"	4"	4 3/4"	60
3/4"	4 3/4"	5 3/4"	110

HILTI KWIK BOLT TZ IN LIGHTWEIGHT CONCRETE			
ANCHOR DIAMETER	$h_{ef}$	MINIMUM HOLE DEPTH	TORQUE TEST VALUE (FT-LBS)
3/8"	2"	2 5/8"	25
1/2"	2"	2 5/8"	40
5/8"	3 1/8"	3 7/8"	60

SIMPSON STRONG-BOLT IN NORMAL-WEIGHT CONCRETE			
ANCHOR DIAMETER	$h_{ef}$	MINIMUM HOLE DEPTH	TORQUE TEST VALUE (FT-LBS)
1/2"	2 1/4"	2 3/4"	50
5/8"	4 1/2"	5 1/8"	85
3/4"	5"	5 3/4"	180
1"	9"	9 3/4"	230

- $h_{ef}$  IS MEASURED FROM FACE OF CONCRETE SUBSTRATE TO THE TEETH ON THE EXPANSION ELEMENT.
- CONTRACTOR SHALL PROVIDE ANCHORS WITH SUFFICIENT TOTAL LENGTH FOR THE SPECIFIED EMBEDMENT LENGTH, THICKNESS OF FASTENED PART, WASHER AND NUT.

### F. EPOXY ANCHORS AND DOWELS

- EPOXY SHALL BE ONE OF THE FOLLOWING, UON:  
HILTI HIT-RE 500-SD (ICC-ES REPORT ESR-2322)  
SIMPSON SET-XP (ICC-ES REPORT ESR-2508)
- RODS EMBEDDED IN EPOXY SHALL BE CARBON STEEL THREADED RODS PER THE EPOXY MANUFACTURER'S ICC-ES REPORT.
- REINFORCING STEEL BARS EMBEDDED IN EPOXY SHALL BE ASTM A615, GRADE 60, UON.
- ANCHOR EMBEDMENT AND FIELD TEST VALUES ARE AS FOLLOWS, UON:

EPOXY ANCHORS IN NORMAL-WEIGHT CONCRETE (3000 PSI MIN)				
THREADED ROD DIAMETER (IN)	REBAR SIZE	EMBEDMENT (IN)	TENSION TEST VALUE (LBS)	HILTI HIT-RE 500-SD
3/8"	#3	3	2045	
1/2"	#4	4	5793	3636
5/8"	#5	5	6247	5767
3/4"	#6	6	11073	8145
7/8"	#7	7	8445	10200
1"	#8	8	17047	12380
-	#9	9	-	14700
1 1/4"	#10	10	-	16780
* SIMPSON SET-XP MAY NOT BE USED NOTED ROD/REBAR				

- TESTING OF EPOXY DOWELS AT JOINTS BETWEEN NEW AND EXISTING SLABS-ON-GRADE IS NOT REQUIRED.
- TESTING SHALL OCCUR AFTER EPOXY HAS CURED, AS PER MANUFACTURER'S RECOMMENDATIONS.

### V. QUALITY CONTROL

- A. THE FOLLOWING WORK REQUIRES TESTS AND/OR INSPECTIONS. FOR SPECIFIC REQUIREMENTS SEE SPECIFICATIONS. INSPECTIONS SHALL BE MADE IN ACCORDANCE WITH CBC 1704A, 1707A AND 1708A BY AN OSHPD CERTIFIED SPECIAL INSPECTOR RETAINED BY THE OWNER.

- FOOTING & PIER EXCAVATION
- PILE DRIVING
- SOIL COMPACTION
- REINFORCING STEEL, PRESTRESSING STEEL TENDONS & ANCHOR RODS
- CONCRETE
- SHOTCRETE
- STRUCTURAL MASONRY
- INSULATING CONCRETE FILL
- POST-INSTALLED ANCHORS
- STRUCTURAL STEEL FABRICATION
- WELDING: REINFORCING STEEL, STRUCTURAL STEEL, METAL DECK, WELDED STUDS
- HIGH STRENGTH BOLT
- PLYWOOD SHEAR NAILING AND HARDWARE

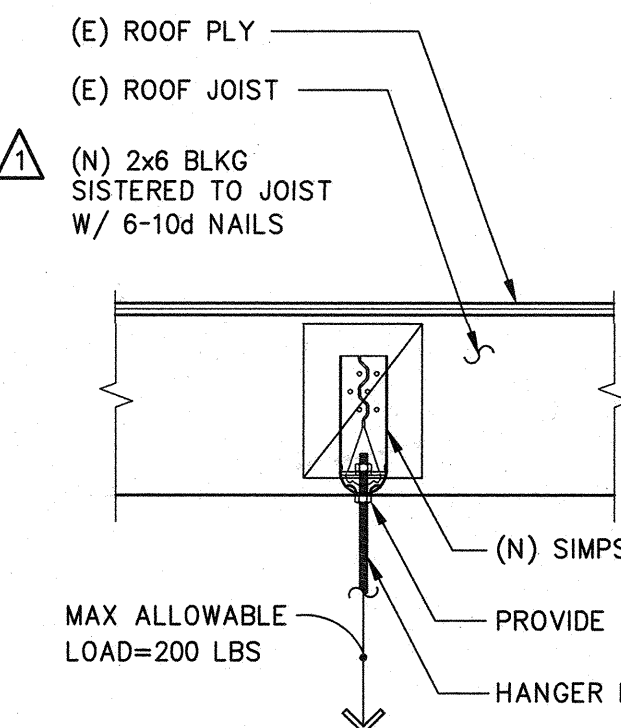
- B. A PARTIAL LISTING OF REQUIRED STRUCTURAL SUBMITTALS FOLLOWS. CONSULT THE SPECIFICATIONS FOR A COMPLETE LISTING OF SUBMITTAL REQUIREMENTS.

- CONCRETE MIX DESIGNS
- GROUT MIX DESIGNS
- CONSTRUCTION JOINT LAYOUT & CONTROL JOINT LAYOUT
- REINFORCING STEEL SHOP DRAWINGS
- STRUCTURAL STEEL AND ERECTION DRAWINGS
- STRUCTURAL STEEL MATERIAL TEST REPORTS
- WELDING ELECTRODE DATA AND WELDING PROCEDURE SPECIFICATIONS
- STRUCTURAL STEEL FASTENERS
- MANUFACTURER'S DATA FOR INSERTS, GROUTS & EPOXIES
- GLULAM BEAM SHOP DRAWINGS
- PLYWOOD NAILS AND NAILING MACHINE DATA

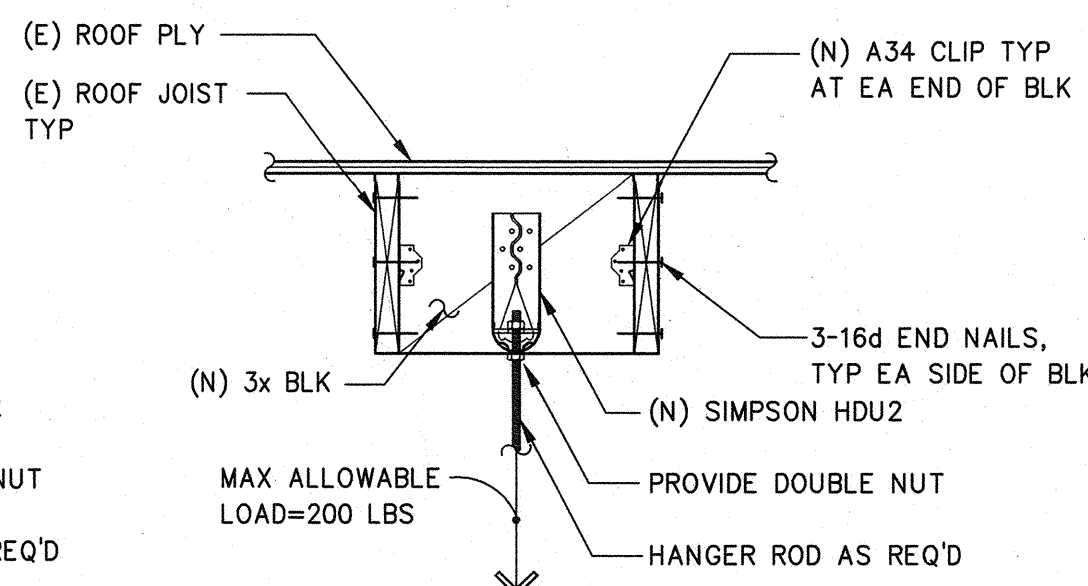
- C. STRUCTURAL OBSERVATIONS WILL BE PROVIDED PER CBC 1709-A BY THE ENGINEER OF RECORD.

### VII. ABBREVIATIONS

	DIAMETER
Ø	ARCHITECTURALLY EXPOSED
AESS	STRUCTURAL STEEL
ARCH	ARCHITECTURAL
AR	ANCHOR ROD
BLDG	BUILDING
BLK'G	BLOCKING
BM	BEAM
BOF	BOTTOM OF FOOTING
BTM	BOTTOM
CB	COLUMN BASE
CC	CENTER TO CENTER
CL	CENTER LINE
CJ	CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONN	CONNECTION
CONT	CONTINUOUS
CTR	CENTER
CTRSK	COUNTERSINK
DOW	DEMAND CRITICAL WELD
DET	DETAIL
DF	DOUGLAS FIR
DOLE	DOUBLE JOIST
DWG	DRAWING
EA	EXISTING
EACH	EACH
EL OR ELEV	ELEVATION
ELECT	ELECTRICAL
EN	END (OR EDGE) NAILING
EQ	EQUAL
EW	EACH WAY
EXT	EXTERIOR
FDN	FOUNDATION
FIN	FINISH
FLOOR	FLOOR
FL OR FLR	FACE OF CONCRETE
F.O.C.	FACE OF STUD
F.S.	FRAMING
FRM'G	FRAMING
FS	FAR SIDE
FTG	FOOTING
GALV	GAUGE
GLB	GALVANIZED
GLU	GLU-LAMINATED BEAM
HD	HOLD DOWN
HORIZ	HORIZONTAL
HSB	HIGH STRENGTH BOLT
HT	HEIGHT
INT	INTERIOR
JH	JOIST HANGER
JO	JOINT
LLH (LLV)	DEVELOPMENT LENGTH OF REBAR
LT	LONG LEG HORIZONTAL (VERTICAL)
LT WT	LIGHT WEIGHT
MA	MAXIMUM
MB	UNFINISHED MACHINE BOLTS
MECH	MECHANICAL
MAN	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
(N)	NEW
NIC	NOT IN CONTRACT
NOM	NOMINAL
NOS	NORTH SIDE
NTS	NOT TO SCALE
OW	NORMAL WEIGHT
ON CENTER	ON CENTER
OD (ID)	OUTSIDE (INSIDE) DIAMETER
OP	OPPOSITE HAND
OPP	OPPOSITE
PAF	PURLIN ANCHOR
PJP	POWDER ACTUATED FASTENER
PL	PARTIAL JOINT PENETRATION
PLY	PLYWOOD
PSL	PARALLEL
PT	POINT
PTN	PARTITION
REF	REFERENCE
REINF	REINFORCEMENT
REQ	REQUIRED
RO	ROUGH OPENING
RWD	REDWOOD
SAD	SEE ARCHITECTURAL DRAWINGS
SCHED	SCHEDULE
SECT	SECTION
SED	SEE ELECTRICAL DRAWINGS
SHT	SHEET
SM	SIMILAR
SLRS	SEISMIC LOAD RESISTING SYSTEM
SMD	SEE MECHANICAL DRAWINGS
SFA	SPECIFICATION
SPEC	SPECIFICATION
SO	SQUARE
ST	STRAP TIE
STAGG'D	STAGGERED
STD	STANDARD
STL	STEEL
SW	STRUCTURAL SHEAR WALL
SWM	SWITCHING
TAB	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
THRD'D	THREADED
T.O.D.	TOP OF CONCRETE
T.O.F.	TOP OF FOOTING
T.O.P.	TOP OF PLATE
T.O.S.	TOP OF STEEL
T.O.W.	TOP OF WALL
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W/O	WITHOUT
W/P	WORK POINT
WT	WEIGHT



a AT ROOF JOIST



b BETWEEN ROOF JOIST

## 1 TYPICAL MEP HANGER ROD ATTACHMENT TO ROOF STRUCTURE

1"=1'-0"

## WRNS STUDIO,LLP

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4TH FLOOR, STE. 402  
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CALIFORNIA 94107  
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## Thornton Tomasetti

Thornton Tomasetti, Inc.

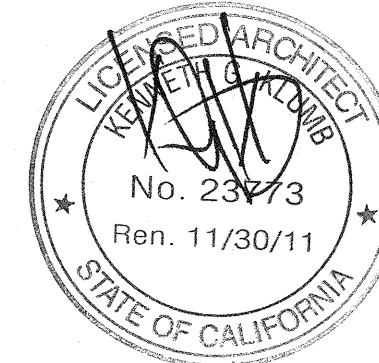
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NO.	ISSUES/REVISIONS	DATE
100%	CRITERIA DESIGN	06/07/2010
50%	DETAILED DESIGN	12/02/2010
100%	DETAILED DESIGN	12/21/2010
80%	IMPLEMENTATION DOCUMENTS	01/14/2011
100%	IMPLEMENTATION DOCUMENTS	02/04/2011
OSHPD	1ST ROUND BACKCHECK RESPONSES	07/08/2011
OSHPD	2ND ROUND BACKCHECK RESPONSES	10/05/2011



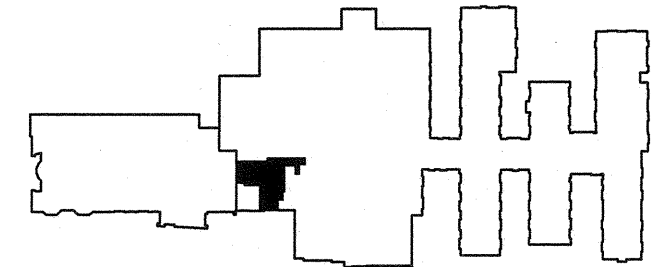
## NORTH BAY HEALTHCARE

CATH LAB MEDICAL CENTER

NORTH LAB RENOVATION II

OSHPD NO. HS101811-48

KEY PLAN



PROJECT NO.: 09017.01 DRAWN BY:  
DATE: 06/07/2010 CHECKED BY: