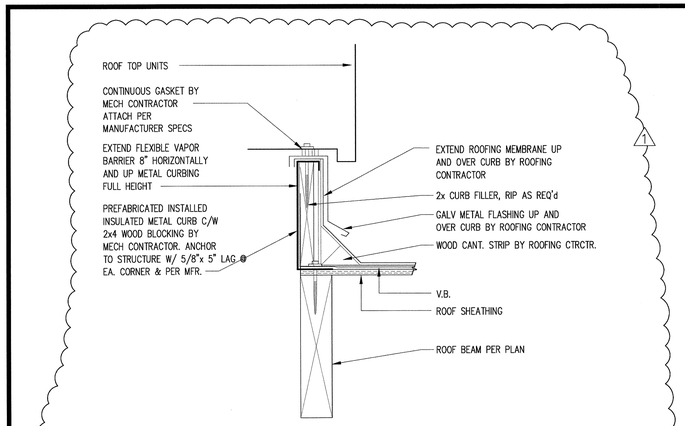
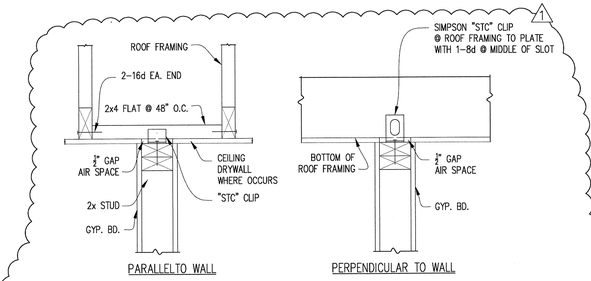


1 HVAC CURB AT ROOF DETAIL

SCALE: 3/4"=1'-0"

ROOF FRAMING NOTES:

1. Please refer to notes and details on sheets SD-1B to SD-3B.
2. Use 16" TJI 560 or equal roof rafters at 24" o.c. U.O.N.
3. Use 7/16" CDX (32/16) sheathing with 10d @ 4" edge & 8" field.
4. Solid block at 8' o.c. max. at top chord of joists.
5. Provide MST48 at top chord splices unless noted otherwise.
6. Top plates and sole plates to be 3X6 min. Where nailing exceeds 4" o.c. panel joints must have 3x6 studs.
7. Exterior (parapet) walls are to be balloon framed 2X6 studs at 16" o.c. unless noted otherwise.
8. Provide double roof joists with curb as required at all skylights or mechanical units.
9. Coordinate with Civil, HVAC, Mechanical, Architectural and Electrical drawings.
10. If discrepancies found in plans, notify engineer of record immediately.



2 INTERIOR NON-BEARING WALL/ CEILING DETAILS

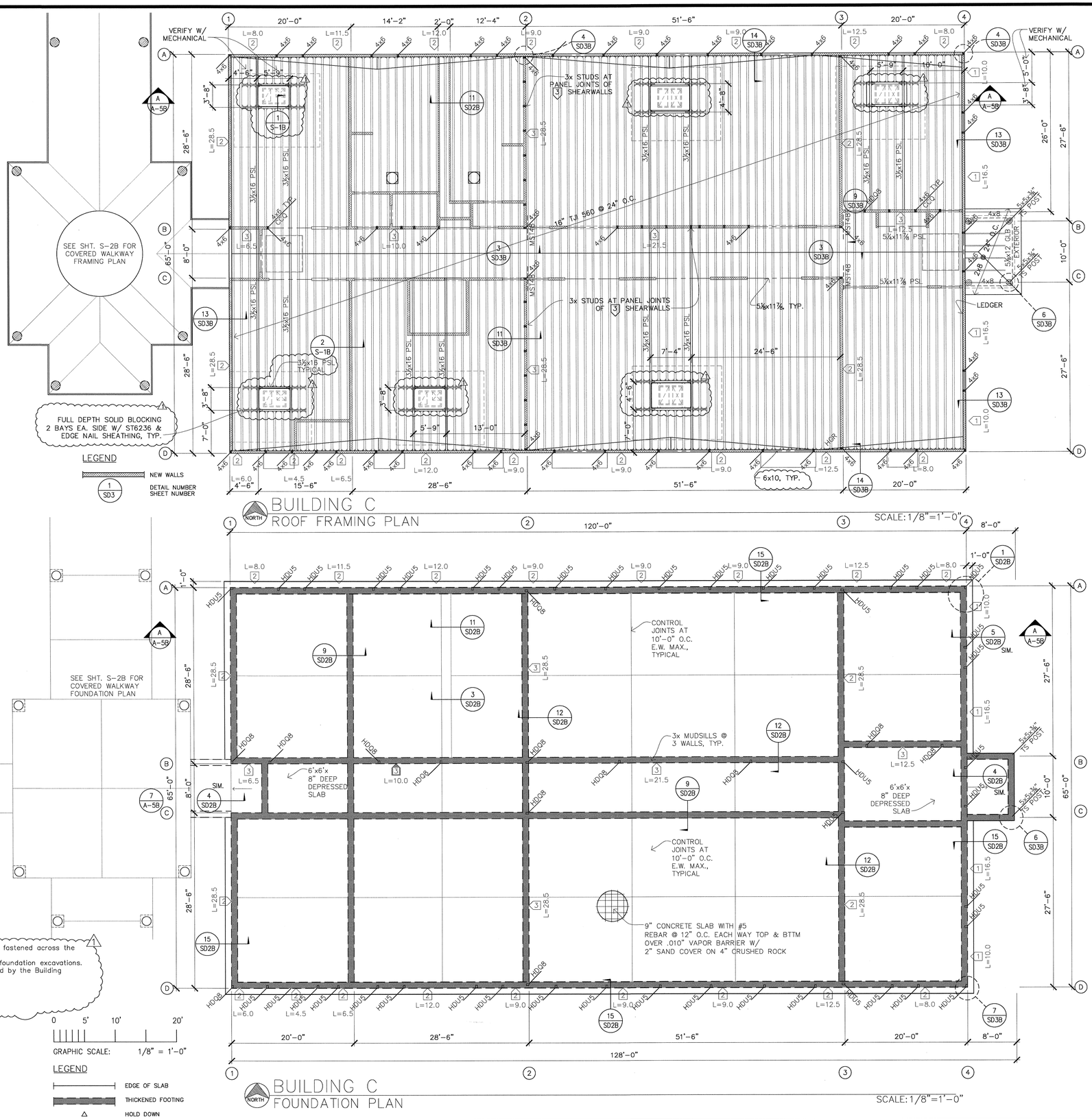
SCALE: 3/4"=1'-0"

FOUNDATION NOTES:

1. Please refer to notes and details on sheets SD-1B to SD-3B.
2. All footings to be 12" wide with 3-#5 rebar top & 3-#5 rebar at bottom.
3. Design drawings S-1 take precedent over SD-1 to SD-3.
4. Concrete shall not have less than six sacks of cement per cubic yard of concrete & a slump not to exceed 4" when placed.
5. Soils report No. H-140-01 by Henry Justiniano & Associates, dated August 10, 2009.
6. Soils engineer to be on site during excavations and grading.
7. Coordinate with Civil, HVAC, Mechanical, Architectural and Electrical drawings.
8. Use the following holdown anchors:
   SSTB24 - for HDU5
   SSTB28 - for HDQ8
9. If discrepancies found in plans, notify engineer of record immediately.
10. Where top or sole plate are cut for pipes, a metal tie minimum 0.058 inches thick and 1 ½ inches wide shall be fastened across the opening with 6 - 16d nails minimum each side. CBC Section 2320.11.7.
11. Prior to requesting a Building Department foundation inspection, the soils engineer shall inspect and approve the foundation excavations.
12. Prior to calling for foundation inspection, final grading and compaction reports shall be submitted to and approved by the Building Department and any revisions from the original soils report incorporated into the plans and specifications.
13. Hold down hardware must be secured in place prior to foundation inspection.

MINIMUM DESIGN LOADS

A) Wind Load = 85mph, exposure C
B) Seismic Design Category per 2007 CBC
Site Class D
Fa=1.0, Fv=1.5, Sds=1.2, Sdi=0.67
C) Climate Zone=12
D) Soil Bearing Pressure = 1500 psf



REVISIONS		BY
A	05-24-10	HCCC
1	07-30-10 PC Resp'nse	HCCC

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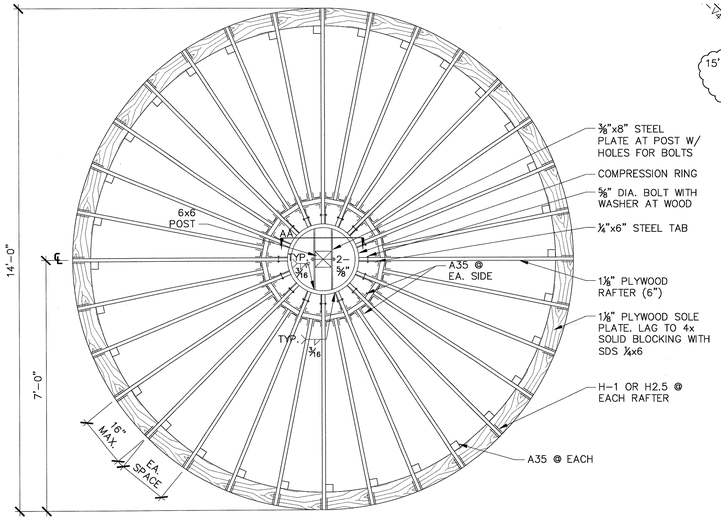
FOUNDATION & ROOF FRAMING PLAN

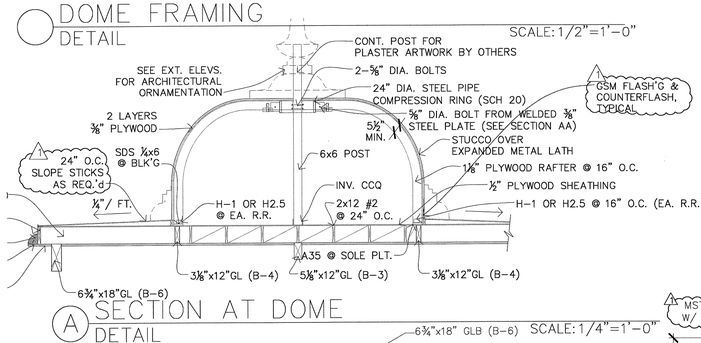
DATE	03/12/10
SCALE:	1/8"=1'-0"
DRAWN BY:	BRG
PROJECT:	ARROWHEAD

S-1B



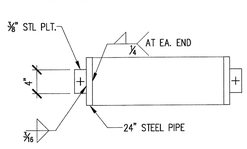
DOME FRAMING DETAIL

SCALE: 1/2"=1'-0"

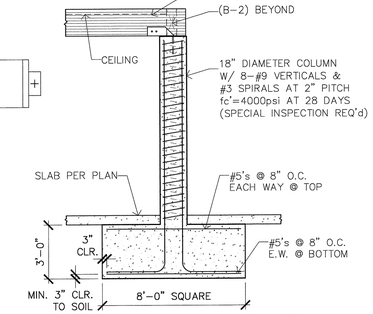


A SECTION AT DOME DETAIL

SCALE: 1/4"=1'-0"

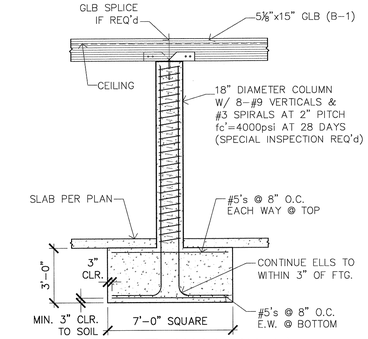


AA



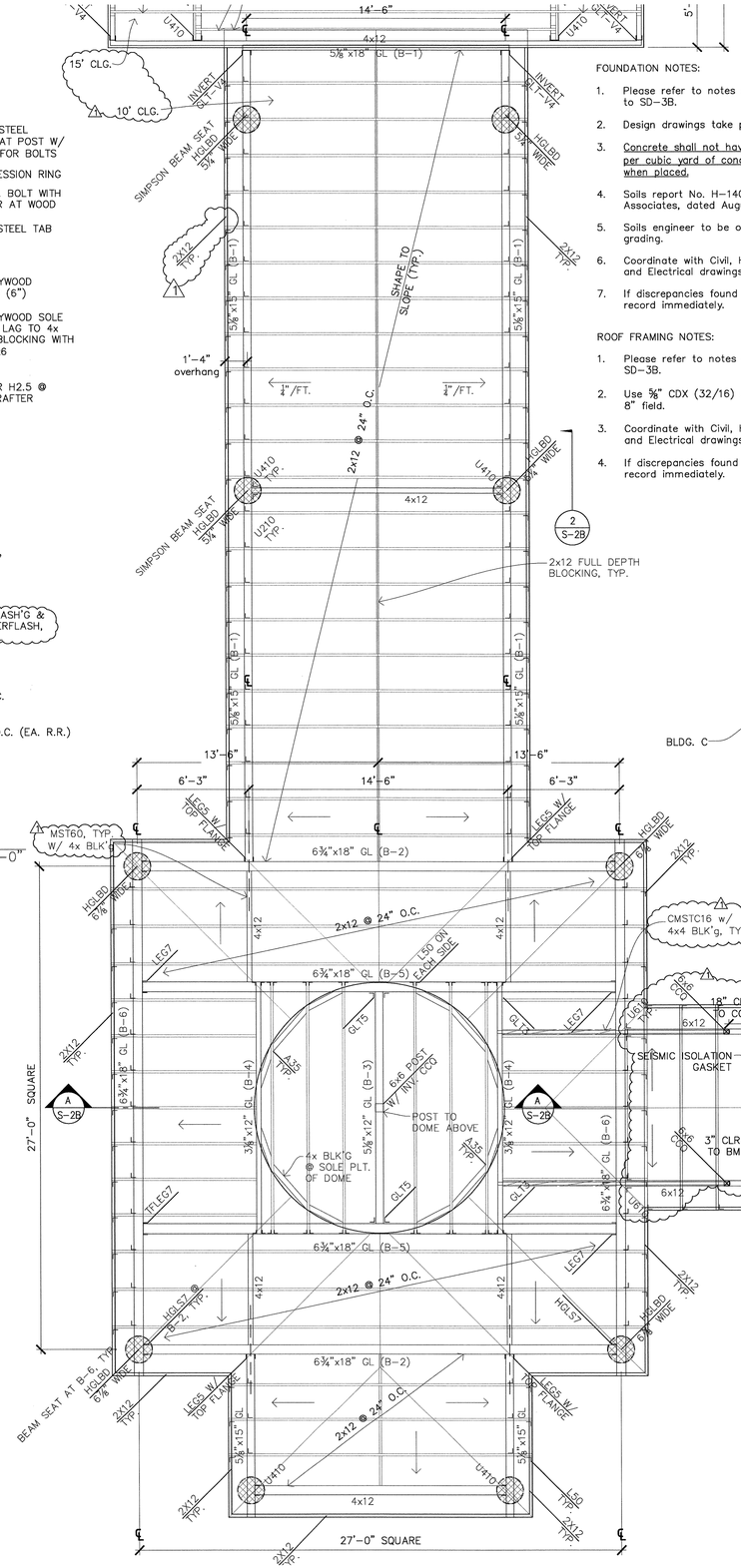
1 COLUMN AT DOME DETAIL

1/4"=1'-0"



2 COL. AT WALKWAY DETAIL

1/4"=1'-0"



COVERED WALKWAY ROOF FRAMING PLAN

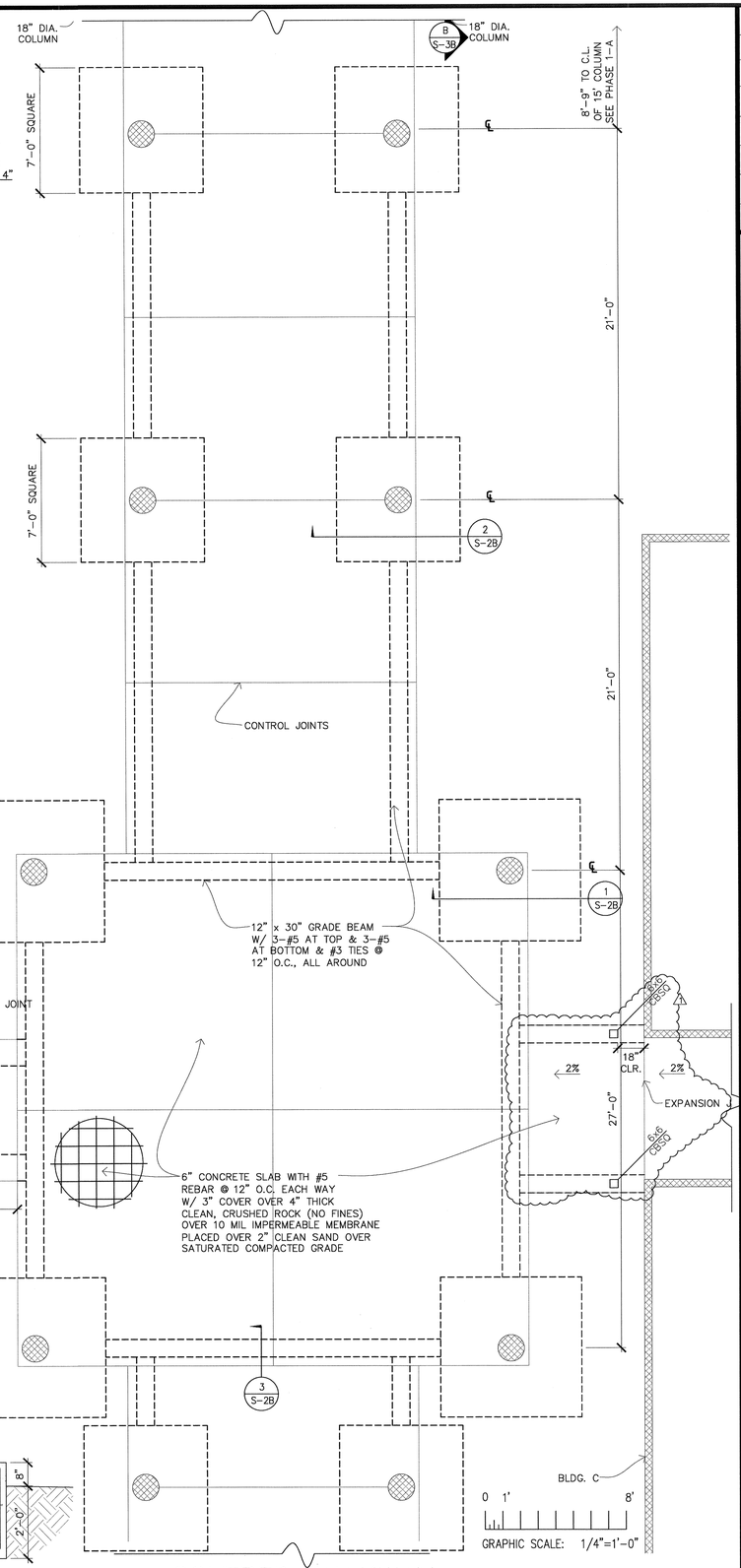
SCALE: 1/4"=1'-0"

FOUNDATION NOTES:

1. Please refer to notes and details on sheets SD-1B to SD-3B.
2. Design drawings take precedent over SD-1B to SD-3B.
3. Concrete shall not have less than six sacks of cement per cubic yard of concrete & a slump not to exceed 4" when placed.
4. Soils report No. H-140-01 by Henry Justiniano & Associates, dated August 10, 2009.
5. Soils engineer to be on site during excavations and grading.
6. Coordinate with Civil, HVAC, Mechanical, Architectural and Electrical drawings.
7. If discrepancies found in plans, notify engineer of record immediately.

ROOF FRAMING NOTES:

1. Please refer to notes and details on sheets SD-1B to SD-3B.
2. Use 5/8" CDX (32/16) sheathing with 10d @ 4" edge & 8" field.
3. Coordinate with Civil, HVAC, Mechanical, Architectural and Electrical drawings.
4. If discrepancies found in plans, notify engineer of record immediately.



3 CONC. DETAIL

1/2"=1'-0"

COVERED WALKWAY FOUNDATION PLAN

SCALE: 1/4"=1'-0"

REVISIONS	BY
A 05-24-10	HCCC
1 07-30-10 PC Respnse	HCCC

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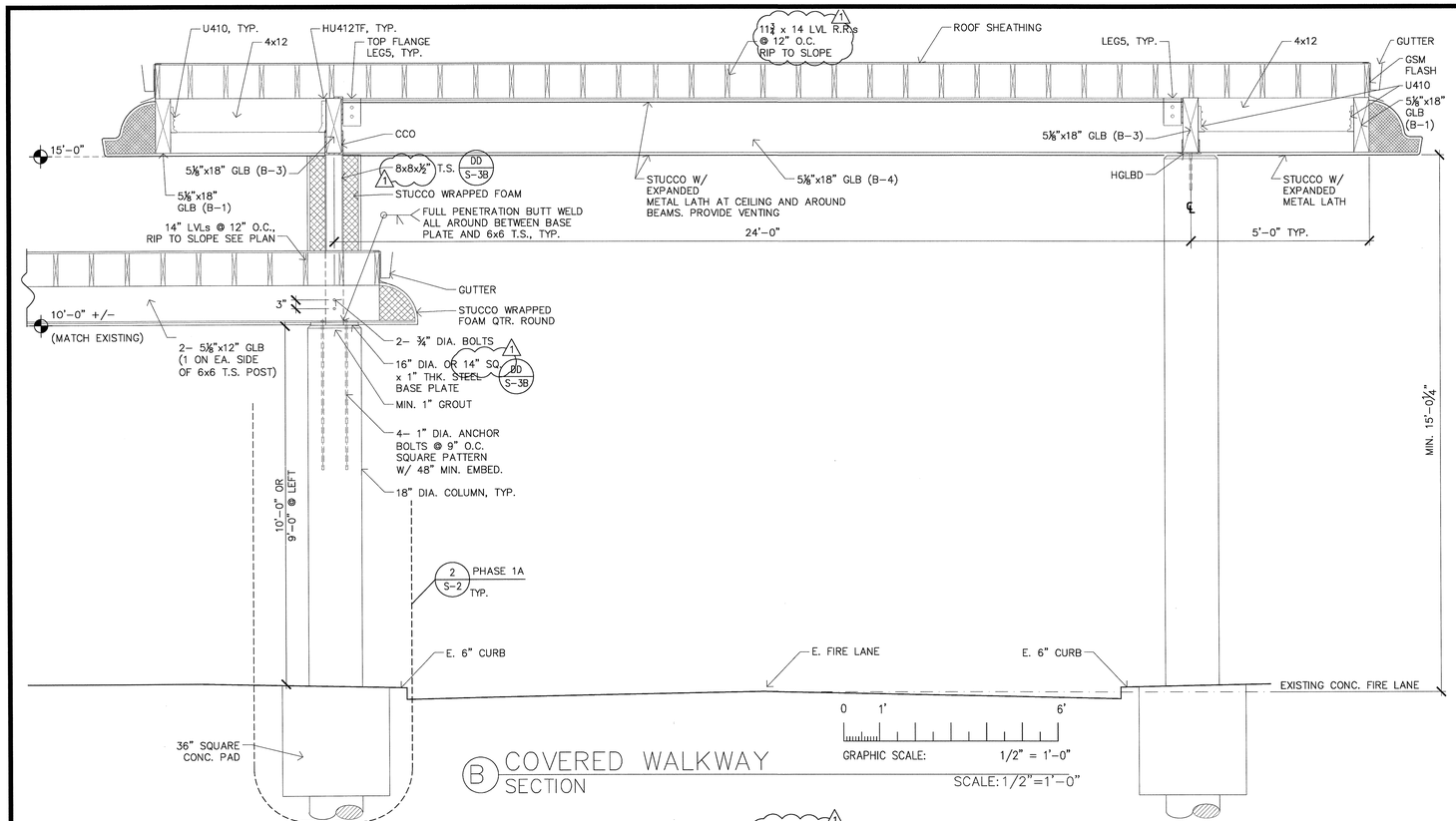
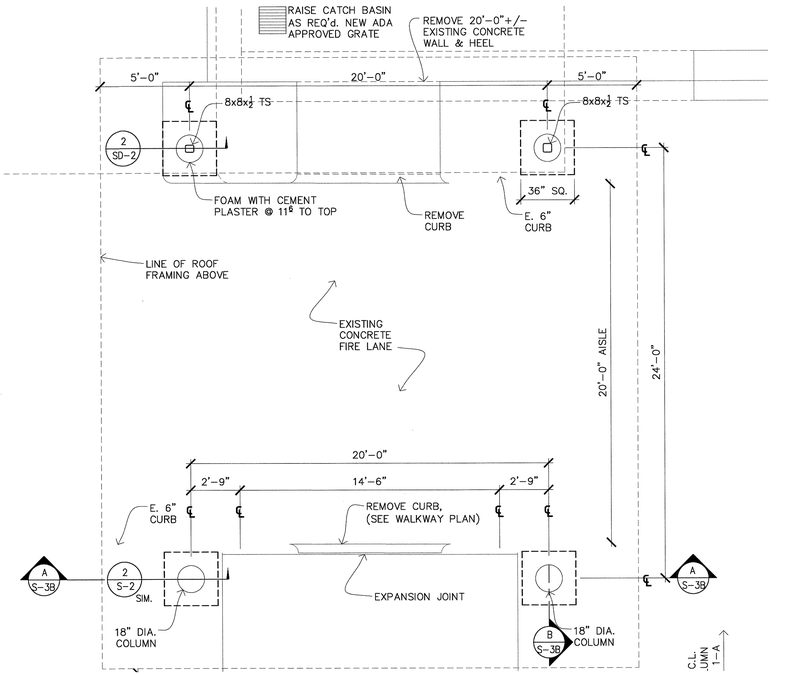
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

DATE	03/12/10
SCALE:	1/8"=1'-0"
DRAWN BY:	BRG
PROJECT:	ARROWHEAD

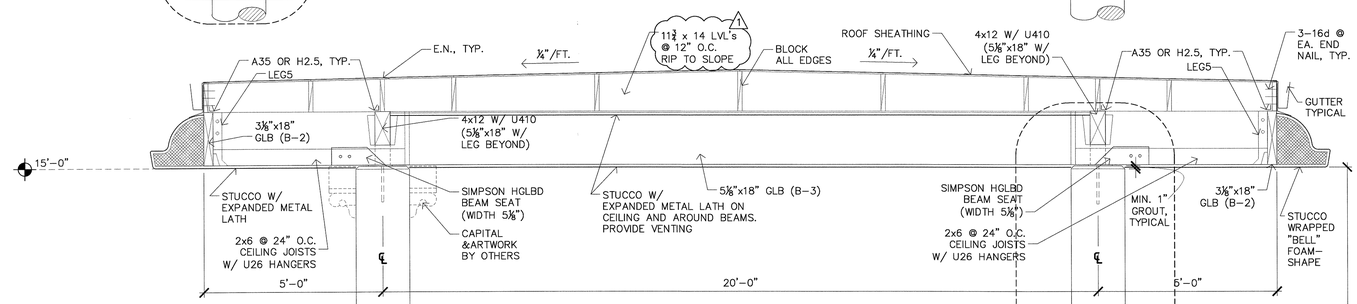
S-2B

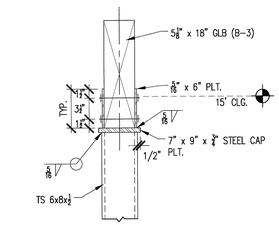


B COVERED WALKWAY SECTION
SCALE: 1/2"=1'-0"



COVERED WALKWAY FOUNDATION PLAN
SCALE: 1/4"=1'-0"

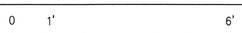




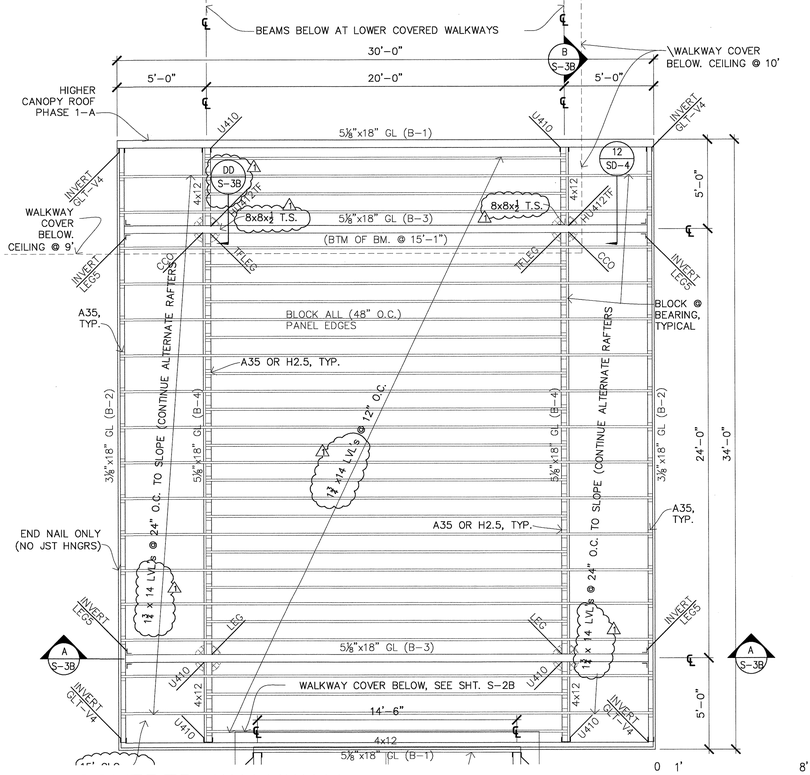
DD TUBESTEEL DETAIL
1"=1'-0"

FOUNDATION NOTES:

1. Please refer to notes and details on sheets SD-1B to SD-3B.
2. All piers at covered walkway are 18" diameter x 25'-0" deep with 8 – #9 vertical rebars full depth with #3 hoops at 12" o.c., extend four (4) to conc. cap at top, bend two each way alternate directions.
3. Design drawings S-1 to S-4 take precedent over SD-1B to SD-3B.
4. Concrete shall not have less than six sacks of cement per cubic yard of concrete & a slump not to exceed 4" when placed.
5. Soils report No. H-140-01 by Henry Justiniano & Associates, dated August 10, 2009.
6. Soils engineer to be on site during pier drilling and is to inspect and approve all pier holes and submit letter to building inspector.
7. Coordinate with Civil, HVAC, Mechanical, Architectural and Electrical drawings.



A COVERED WALKWAY SECTION
1/2"=1'-0"



COVERED WALKWAY ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"

REVISIONS		BY
A	05-24-10	HCCC
1	07-30-10 PC Respnse	HCCC

HINDU COMMUNITY and CULTURAL CENTER

1200 ARROWHEAD AVE. LIVERMORE, CA 94551

PHASE 1-B
COVERED WALKWAY
PLANS & SECTIONS

DATE	03/12/10
SCALE:	1/8"=1'-0"
DRAWN BY:	BRG
PROJECT:	ARROWHEAD

S-3B

A. GENERAL

A1. ALL WORK SHALL CONFORM TO THE PROJECT CONSTRUCTION DOCUMENTS AND THE 2007 EDITION OF THE CALIFORNIA BUILDING CODE (CBC), AND THE APPLICABLE FEDERAL, STATE AND LOCAL CODE REQUIREMENTS, LAWS AND CITY ORDINANCES.

A2. THE INTENT OF THESE DRAWINGS IS TO DELINEATE ALL ITEMS, INCLUDING GENERAL AND TYPICAL DETAILS OF CONSTRUCTION, THAT ARE NECESSARY TO COMPLETE THE STRUCTURE. TYPICAL DETAILS AND NOTES SHALL APPLY TO SIMILAR CONDITIONS, UNLESS SPECIFICALLY NOTED OTHERWISE.

A3. FOR CONDITIONS NOT SPECIFICALLY INDICATED ON THE DRAWINGS, DETAILS OF SIMILAR CHARACTER AND CONSISTENT WITH THE TYPE SHOWN FOR SIMILAR CONDITIONS, SHALL BE USED. SUCH DETAILS SHALL BE SUBJECT TO REVIEW BY THE STRUCTURAL ENGINEER.

A4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL VERIFY ALL EXISTING JOB CONDITIONS AND CHECK ALL DIMENSIONS. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE STRUCTURAL ENGINEER, AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK.

A5. COORDINATE STRUCTURAL DRAWINGS WITH ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS, SPECIALLY FOR THE SIZE AND LOCATION OF THE OPENINGS.

A6. OBTAIN STRUCTURAL ENGINEER'S APPROVAL BEFORE PROCEEDING WITH THE WORK FOR OPENINGS THAT PENETRATE STRUCTURAL MEMBERS, AND ARE NOT SHOWN AND/OR DETAILED ON STRUCTURAL DRAWINGS.

A7. FRAME OPENINGS AND SUPPORT MISCELLANEOUS EQUIPMENT AS DETAILED ON THE DRAWINGS. WHERE NO DETAILS ARE PROVIDED, OBTAIN STRUCTURAL ENGINEER'S APPROVAL BEFORE PROCEEDING WITH THE WORK.

A8. PROVIDE LATERAL BRACING FOR ALL SUSPENDED EQUIPMENT AND SUSPENDED CEILING IN ACCORDANCE WITH THE CBC.

A9. DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING, AND FOR THE FABRICATION, ERECTION AND JOB SAFETY; AND SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY REGULATIONS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF SHORING, BRACING, FORM WORK, ETC., REQUIRED FOR THE PROTECTION AND SAFETY OF LIFE AND PROPERTY DURING THE CONSTRUCTION PERIOD.

A10. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE CONDUCT OF WORK, INCLUDING ALL CONSTRUCTION METHODS AND PROCEDURES, SITE SAFETY, AND METHODS OF DESIGN AND MATERIALS FOR PROVIDING TEMPORARY VERTICAL AND LATERAL SUPPORT OF EXISTING AND NEW STRUCTURES. ENGINEERS SITE OBSERVATION VISITS SHALL NOT BE INTERPRETED AS A REVIEW OF CONTRACTOR'S SAFETY MEASURES.

A11. PROVIDE CONTINUOUS SPECIAL INSPECTION IN ACCORDANCE WITH CBC SECTION 306 FOR DRILLING AND CONCRETE PLACEMENT IN FOUNDATION PIERS.

A12. IF ANY CONSTRUCTION IS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS, THE INSPECTOR SHALL NOTIFY THE STRUCTURAL ENGINEER. THIS NOTIFICATION SHALL BE BY TELEPHONE, INCLUDING A MESSAGE AT THE STRUCTURAL ENGINEER'S OFFICE, EXPLAINING THE NATURE OF NON-CONFORMANCE, FOLLOWED BY CONFIRMATION IN WRITING. THE CONTRACTOR SHALL BE ADVISED IMMEDIATELY, OF ANY CONSTRUCTION WHICH, IN THE INSPECTOR'S OPINION IS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.

B. FOUNDATIONS

B1. THE RECOMMENDATIONS OF THE FOLLOWING GEOTECHNICAL INVESTIGATION REPORT THAT HAS BEEN PREPARED FOR THIS SITE, SHALL BE CONSIDERED AS A PART OF THE CONSTRUCTION DOCUMENTS:

- REPORT BY: HENRY JUSTINIANO & ASSOCIATES
- REPORT NO.: H-140-01
- DATE: AUGUST 10, 2009

Exterior and bearing walls to have 5/8" dia. galv. Anchor bolts at 48" on center with 3"x3"x1/4" washers (u.n.o.)

B2. THE BOTTOM OF THE FOUNDATION SHALL BE AT UNDISTURBED NATIVE SOIL OR ENGINEERED FILL.

B3. THE SOILS ENGINEER SHALL INSPECT SLAB AND FOUNDATION SUBGRADE PRIOR TO PLACING CONCRETE.

B4. RETAINING WALLS - DO NOT BACKFILL AGAINST CONCRETE OR MASONRY RETAINING WALLS UNTIL THEY HAVE REACHED DESIGN STRENGTH.

IF BACKFILLING IS NECESSARY BEFORE THE RETAINING WALL REACHES DESIGN STRENGTH OR THE ADJACENT STRUCTURE IS COMPLETE, PROVIDE BRACING AS REQUIRED, TO SUPPORT RETAINING WALL UNTIL THE ADJACENT STRUCTURE IS COMPLETE AND/OR THE RETAINING WALL HAS REACHED DESIGN STRENGTH.

C. CONCRETE

C1. CONCRETE SHALL CONFORM TO THE CURRENT EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI) "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"

Standards and Reference by the current IBC Code

CONCRETE SHALL BE READY-MIXED TYPE CONFORMING TO CONCRETE SHALL HAVE NOT LESS THAN SIX (6) SACKS OF CEMENT PER CUBIC YARD OF CONCRETE. AT TWENTY-EIGHT (28) DAYS, CONCRETE SHALL DEVELOP COMPRESSIVE STRENGTH (F'c) OF 2,500 PSI. THE SLUMP SHALL NOT EXCEED 4 INCHES WHEN PLACED. THE MAXIMUM SIZE OF AGGREGATE SHALL NOT EXCEED 3/4 INCH FOR SLAB-ON-GRADE, WALLS AND COLUMNS; AND 1½ INCHES FOR FOOTINGS, PIERS AND GRADE BEAMS.

C2. CONCRETE SHALL BE REGULAR WEIGHT, WITH HARD-ROCK TYPE AGGREGATE (150 LB/CFT). AGGREGATE SHALL CONFORM TO AMERICAN SOCIETY FOR MATERIALS AND TESTING (ASTM) C33. CEMENT SHALL CONFORM TO ASTM C150, TYPE 2.

C3. CONCRETE SHALL BE MACHINE MIXED AND DELIVERED TO THE SITE IN ACCORDANCE WITH ASTM C-94.

C4. CONCRETE PLACEMENT SHALL BE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

C5. PROVIDE MINIMUM CLEAR COVER OF CONCRETE OVER REINFORCEMENT AS INDICATED BELOW:

• AGAINST EARTH FORM:	3 INCHES
• EXPOSED TO EARTH BUT POURED AGAINST FORM WORK & BOTTOM OF SLAB-ON-GRADE	2 INCHES
• ALL OTHER CONCRETE	1½ INCHES

C6. EXCEPT 6-INCH OR LESS THICK SLAB-ON-GRADE, ALL CONCRETE SHALL BE MECHANICALLY VIBRATED TO ELIMINATE VOIDS AND COMPLETELY FILL THE FORMS WITHOUT CAUSING UNDUE SEPARATION.

C7. DOWELS SHALL MATCH MAIN REINFORCEMENT IN SIZE AND SPACING. PROVIDE MINIMUM 40 BAR DIAMETER LAP, UNLESS OTHERWISE NOTED.

C8. SLAB-ON-GRADE - AT LIVING AREAS, PLACE SLAB ON 2 INCHES OF COMPACTED CLEAN SAND OVER 10 MIL. VAPOR BARRIER OVER 4 INCHES OF CLEAN, FREE-DRAINING CRUSHED ROCK. JUST PRIOR TO CONCRETE PLACEMENT, DAMPEN SAND WITH WATER.

C9. CURING - WITHIN SEVEN DAYS OF PLACEMENT, CONCRETE SURFACES EXPOSED TO THE ATMOSPHERE SHALL BE PROTECTED AND CURED BY DAMPENING WITH WATER AS NECESSARY, UNTIL THE SPECIFIED DESIGN STRENGTH IS ACHIEVED.

C10. INTERIOR SLABS SHALL HAVE STEEL TROWEL FINISH; EXTERIOR SLABS SHALL HAVE LIGHT BROOM FINISH.

C11. SPECIAL INSPECTION PER CBC SECTION 107 IS NOT REQUIRED.

D. CONCRETE REINFORCEMENT AND ACCESSORIES

D1. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 40 FOR NO. 5 AND SMALLER DIAMETER BARS AND GRADE 60 FOR LARGER THAN NO. 5 BARS. BAR DEFORMATION SHALL BE IN ACCORDANCE WITH ASTM-305.

WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. PROVIDE A MINIMUM 6 INCHES LAP AT JOINTS.

DO NOT WELD REINFORCEMENT.

D2. REINFORCING BARS SHALL BE LAPPED AS INDICATED. PROVIDE MINIMUM LAP EQUAL TO 48 TIMES THE DIAMETER OF REINFORCING BARS AT SPLICES, AND STAGGER SPLICES.

D3. ALL HOOKS SHALL BE STANDARD HOOKS UNLESS NOTED OTHERWISE. ALL COLUMN, BEAM AND PILASTER TIES SHALL HAVE A 135° MINIMUM TURN PLUS 4 INCH EXTENSION TO THE FREE END.

D4. PROVIDE REINFORCING BARS AT MID HEIGHT IN SLABS-ON-GRADE AND AS SHOWN ON THE DRAWINGS.

D5. ANCHOR BOLTS SHALL BE MACHINE BOLTS A 307 WITH AMERICAN STANDARD REGULAR, SEMI-FINISHED, SQUARE OR HEXAGON HEADS. NUTS SHALL BE AMERICAN STANDARD HEAVY, SEMI-FINISHED, HEXAGON-TAPPED, UNC THREADED, CLASS B.

UNLESS OTHERWISE NOTED ON SHEAR WALL SCHEDULE, SILL PLATE BOLTS SHALL BE 5/8 INCH DIAMETER BY 10 INCHES LONG WITH A 2-INCH HOOK AND SPACED 4 FEET ON CENTERS. PROVIDE SILL BOLTS AT A DISTANCE OF 6 INCHED FROM EACH END OF THE SHEAR WALL, CORNER AND SPLICE. PROVIDE A MINIMUM OF 2 BOLTS PER SILL PLATE.

D6. CONCRETE ACCESSORIES - ADHESIVE ANCHORS (RE 500 - SD, ESR-2322), EXPANSION BOLTS (HILTI KB-TZ, ESR-1917) AND POWDER-DRIVEN FASTENERS (HILTI X-U, ESR-2269) SHALL BE AS MANUFACTURED BY HILTI, INC., TULSA, OK. OR APPROVED EQUIVALENT. THESE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

E. CONCRETE UNIT MASONRY

E1. CONCRETE MASONRY UNITS (CMU) SHALL BE HOLLOW CLOSED, SINGLE OR DOUBLE OPEN END TYPE. ALL CMU SHALL CONFORM TO ASTM C-90, GRADE N, TYPE 1, AND HAVE AN ULTIMATE COMPRESSIVE STRENGTH (F'm) = 1,500 PSI. WHEN PLACED, THE CMU SHALL HAVE CURED FOR NOT LESS THAN 28 DAYS. DO NOT USE CHIPPED OR CRACKED CMU. PROMPTLY REMOVE ANY CHIPPED OR CRACKED CMU IF DISCOVERED IN A FINISHED WALL, AND REPLACE THEM WITH NEW CMU TO THE SATISFACTION OF THE STRUCTURAL ENGINEER.

E2. CMU SHALL BE LAID IN RUNNING BOND. PROVIDE FULL INTERSECTING BOND AT CORNERS AND AT WALL INTERSECTIONS. PROVIDE SPECIAL PILASTER UNITS AT PILASTERS, OR BUILD PILASTERS USING FACE SHELLS ONLY; BRACE AS NECESSARY DURING GROUT PLACEMENT.

E3. MORTAR SHALL BE TYPE S, THAT WILL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 1,800 PSI IN 28 DAYS.

E4. GROUT SHALL BE PEA GRAVEL MIX, 8 INCHES TO 10 INCHES SLUMP, AND DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS. IF TRANSIT-MIX GROUT IS NOT PLACED IN THE FINAL POSITION WITHIN 1½ HOURS AFTER WATER IS FIRST ADDED TO THE BATCH, IT SHALL BE REJECTED.

GROUT SOLID ALL CELLS CONTAINING REINFURCEMENT, ANCHOR BOLTS OR OTHER EMBEDDED ITEMS.

E5. CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C-150, TYPE I OR TYPE II AND SHALL BE ENTIRELY OF ONE MANUFACTURER.

E6. WATER USED FOR GROUT AND MORTAR SHALL BE CLEAN AND FREE FROM DELETERIOUS AMOUNTS OF ACIDS, SALTS, ALKALIES AND ORGANIC MATERIAL.

E7. SAND FOR MORTAR SHALL CONFORM TO ASTM C-404, TABLE 1, COARSE AGGREGATE.

E8. QUICKLIME SHALL CONFORM TO ASTM C-S.

E9. WHERE GROUT POUR EXCEEDS 4 FEET IN HEIGHT, CLEANOUT OPENINGS SHALL BE PROVIDED AT THE BOTTOM OF ALL CELLS CONTAINING VERTICAL REINFORCEMENT.

E10. ALL HORIZONTAL REINFORCING SHALL BE IN BOND BEAM UNITS AND AGAINST VERTICAL BARS.

E11. VERTICAL BARS SHALL BE ACCURATELY AND POSITIVELY HELD IN PLACE BEFORE SETTING BLOCKS. BARS MAY BE DOWELLED AT THE TOP OF FOOTING ONLY, UNLESS OTHERWISE NOTED.

VERTICAL BARS AT CORNERS AND JAMBS AT OPENINGS, ETC., SHALL BE ONE CONTINUOUS LENGTH WITHOUT SPLICE. PROPER VERTICAL ALIGNMENT OF REINFORCING STEEL AND CMU BLOCKS MUST BE MAINTAINED AT ALL TIMES, UNLESS OTHERWISE NOTED.

E12. REINFORCING SHALL BE FULLY EMBEDDED IN THE GROUT. VERTICAL REINFORCING STEEL BARS SHALL IN PLACE PRIOR TO LAYING THE CMU WALL.

E13. WHEN GROUTING IS TO BE STOPPED FOR A PERIOD OF ONE (1) HOUR OR LONGER, CREATE A HORIZONTAL CONSTRUCTION JOINT BY STOPPING THE GROUT POUR ONE AND A HALF (1½) INCHES BELOW THE UPPERMOST CMU COURSE.

E14. ALL MASONRY SHALL BE LAID TO MAINTAIN AN UNINTERRUPTED VERTICAL CONTINUITY OF THE CELLS TO BE FILLED WITH GROUT. THE VERTICAL ALIGNMENT SHALL MAINTAIN A CLEAR, UNOBSTRUCTED VERTICAL FLUE MEASURING NOT LESS THAN 3 INCHES BY 3 INCHES.

E15. EXCEPT AS SHOWN ON THE DRAWINGS, NO PLUMBING PIPE OR CHASE SHALL BE EMBEDDED IN CMU WALLS OR PARTITIONS.

E16. CMU WALLS SHALL BE CURED BY DAMPING FOR FIVE (5) DAYS

E17. CMU REINFORCING LAPS SHALL BE AS INDICATED IN THE TABLE BELOW:

BAR SIZE	CORNER & END WALLS	OTHER PLACES
NO. 4	25 INCHES	18 INCHES
NO. 5	38 INCHES	27 INCHES
NO. 6	45 INCHES	33 INCHES
NO. 7	53 INCHES	38 INCHES
NO. 8	60 INCHES	43 INCHES

F. STRUCTURAL STEEL

F1 MATERIAL FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE THE AMERICAN SOCIETY FOR MATERIALS AND TESTING (ASTM) SPECIFICATIONS AS LISTED BELOW:

• WIDE FLANGE COLUMNS:	ASTM A572,	Fy = 50 KSI
• OTHER STRUCTURAL STEEL:	ASTM A36,	Fy = 36 KSI
• STEEL TUBING:	ASTM A500, GRADE B,	Fy = 46 KSI
• PIPE:	ASTM A53, GRADE B,	Fy = 35 KSI
• HIGH STRENGTH BOLTS:		ASTM A325
• OTHER BOLTS:		ASTM A307
• ANCHOR BOLTS:		ASTM A307

F2, FABRICATE AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH THE CURRENT EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".

F3. WELDING SHALL BE BY CERTIFIED WELDERS IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE - STEEL (ANSI/AWS D1.1-86)" AND AWS "STANDARD QUALIFICATIONS PROCEDURE".

F4. ARC WELDING ELECTRODES SHALL BE E70 SERIES FOR MANUAL WELDING, AND GRADE SA-1 OR SA-2 FOR SUBMERGED ARC WELDING. ALL FIELD WELDING SHALL HAVE SPECIAL INSPECTION.

F5. TEN PERCENT (10%) OF ALL FULL PENETRATION WELDS SHALL BE TESTED WITH X-RAY OR ULTRASONICALLY UNDER THE SUPERVISION OF AN INSPECTOR APPROVED BY THE OWNER.

G. WOOD FRAMING

G1. GENERAL - WOOD FRAMING SHALL BE IN ACCORDANCE WITH 2007 EDITION OF THE CBC, AND THE STANDARD PRACTICES RECOMMENDED BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) AND WEST COAST LUMBER ASSOCIATION (WCLA) GRADING.

G2. WORKMANSHIP - ALL ROUGH CARPENTRY SHALL PRODUCE JOINTS TRUE AND TIGHT AND WELL NAILED WITH MEMBERS ASSEMBLED IN ACCORDANCE WITH THE DRAWINGS AND WITH ALL APPLICABLE BUILDING CODES. SHIMMING OF SILLS, JOISTS, SHORT STUDS, TRIMMERS, HEADERS, OR OTHER FRAMING MEMBERS SHALL NOT BE PERMITTED. ALL WALLS AND PARTITIONS SHALL BE STRAIGHT, PLUMB AND ACCURATELY LOCATED. CAREFULLY SELECT ALL STRUCTURAL MEMBERS. INDIVIDUAL MEMBERS SHALL BE SELECTED SO THAT KNOTS AND VISIBLE MINOR DEFECTS WILL NOT INTERFERE WITH THE INSTALLATION OF BOLTS, OR PROPER NAILING OR THE MAKING OF SOUND CONNECTIONS. LUMBER MAY BE REJECTED BY THE STRUCTURAL ENGINEER FOR EXCESSIVE WARP, TWIST, BOW, OR COOK, OR FOR MILDEW, FUNGUS OR MOLD, AS WELL AS, FOR IMPROPER GRADE MARKING. DEFECTS WHICH RENDER A PIECE INCAPABLE OF SERVING ITS INTENDED FUNCTION SHALL BE DISCARDED.

G3. THE MAXIMUM MOISTURE CONTENT OF STRUCTURAL WOOD FRAMING MEMBERS SHALL NOT EXCEED NINETEEN PERCENT (19%).

G4. WOOD IN CONTACT WITH MASONRY OR CONCRETE OR PERMANENTLY EXPOSED TO THE WEATHER SHALL BE PRESSURE TREATED AND MARKED WITH THE AMERICAN WOOD PRODUCERS BUREAU (AWBP) MARK OR SHALL BE FOUNDATION GRADE REDWOOD.

KEEP ALL UNTREATED WOOD MINIMUM HALF AN INCH (½") AWAY FROM CONCRETE OR MASONRY.

G5. SIZING AND SURFACING - EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE, ALL LUMBER SHALL BE MILL SIZED AND SURFACED ON ALL FOUR SIDES. LUMBER SHALL BE SINGLE-LENGTH PIECES FROM STRAIGHT STOCK FREE FROM WARP AND CUP. SPLICING SHALL NOT BE PERMITTED EXCEPT WHERE SPECIFICALLY DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

G6. UNLESS OTHERWISE NOTED ON THE DRAWINGS, FRAMING MEMBERS 3 X AND SMALLER, AND 4 X POSTS SHALL BE DOUGLAS FIR, GRADE NO. 2. FRAMING MEMBERS 4 X AND LARGER SHALL BE DOUGLAS FIR, GRADE NO. 1. EXCEPTION 4 X HEADERS MAY BE DOUGLAS FIR GRADE NO 2.

G7. NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED UNLESS SPECIFICALLY SHOWN OR NOTED ON THE DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.

G8. INTERIOR STUDS THAT ARE 14 FEET OR LESS IN HEIGHT SHALL BE DOUGLAS FIR CONSTRUCTION GRADE AND BETTER. INTERIOR STUDS THAT ARE MORE THAN 14 FEET IN

HEIGHT SHALL BE DOUGLAS FIR GRADE NO. 2. STUD SPACING SHALL BE 16 INCHES ON CENTERS, UNLESS OTHERWISE NOTED.

G9. AT WALLS SUPPORTING TRUSSES, PROVIDE A STUD DIRECTLY BELOW EACH TRUSS; PROVIDE ADDITIONAL STUD AS NECESSARY.

PROVIDE STUDS OR POSTS SUPPORTING THE FULL WIDTH OF BEAMS ENTERING WALLS; PROVIDE SOLID POSTS AND BLOCKING DOWN TO THE FOUNDATION.

PROVIDE DOUBLE JCIST OR TRUSS UNDER PARTITIONS PARALLEL TO THE JOISTS.

PROVIDE HALF-INCH (½") GAP BETWEEN THE TOP OF NON-BEARING PARTITIONS, AND THE BOTTOM OF TRUSSES; PROVIDE A CONNECTION TO BRACE THE PARTITION WHICH WILL ALLOW HALF INCH (½") VERTICAL MOVEMENT BOTH UPWARD AND DOWNWARD.

PROVIDE SOLID BLOCKING BETWEEN JOISTS AT PARTITIONS, GIRDERS,BEARING WALLS, AND ANY OTHER SUPPORT.

G10. SHEAR WALLS - BLOCK AT PLYWOOD JOINTS WITH BLOCKING OF SAME SIZE AS STUDS. EDGE-NAIL SHEATHING TO STUDS AT HOLD-DOWNS.

EXTEND SHEAR WALLS THROUGH FLOOR AND ROOF SYSTEMS WITH BLOCKING THAT IS STRUCTURALLY EQUIVALENT TO SHEAR WALL SHEATHING

G11. ALL SHEATHING FOR ROOF, FLOOR AND WALLS, SHALL BE AMERICAN PLYWOOD ASSOCIATION (APA) RATED SHEATHING, EXPOSURE 1, AND SHALL BE IDENTIFIED WITH THE APPROPRIATE TRADEMARK OF THE APA. SHEATHING SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF U.S. PRODUCT STANDARD PS 1, OR ONE OF THE APA PERFORMANCE STANDARDS. SHEATHING AT LOCATIONS PERMANENTLY EXPOSED TO WEATHER SHALL BE EXTERIOR CLASS.

G12. FLOOR AND ROOF SHEATHING SHALL BE INSTALLED WITH THE FACE GRAIN PERPENDICULAR TO THE SUPPORTS, AND THE LONG DIMENSION OF THE PANEL CONTINUOUS OVER TWO (2) OR MORE SPANS. STAGGER PANELS 4 FEET LENGTHWISE, UNLESS OTHERWISE NOTED. ALLOW 1/8 INCH SPACING AT PANEL ENDS AND 1/4 INCH AT PANEL EDGES. FLOOR SHEATHING SHALL BE 3/4 INCH MINIMUM PLYWOOD, APA RATED STURD-I-FLOOR WITH A SPAN RATING OF 24; ROOF SHEATHING SHALL BE 1/2 INCH MINIMUM PLYWOOD WITH A MINIMUM PANEL SPAN RATING OF 32/12.

MINIMUM NAILING SHALL CONFORM TO PLYWOOD DIAPHRAGM SCHEDULE.

GLUE PLYWOOD TO ALL SUPPORTS, INCLUDING BLOCKING, WITH 1/4 INCH MINIMUM BEADS OF APPROVED ADHESIVE MEETING APA SPECIFICATION AFG-01 AND APPLIED PER NER-108.

G13. PLYWOOD FLOOR, ROOF AND WALL SHEATHING NAILS OR OTHER APPROVED SHEATHING CONNECTORS SHALL BE DRIVEN FLUSH. THE OUTER LAYER OF SHEATHING SHALL NOT BE FRACTURED BY OVERDRIVING THE NAILS.

G14. ALL FRAMING HARDWARE SHALL BE "STRONG-TIE" AS MANUFACTURED BY SIMPSON COMPANY, OR AN APPROVED EQUAL. AT LOCATIONS EXPOSED TO WEATHER, PROVIDE CORROSION-RESISTANT HARDWARE

WOOD FRAMING MEMBERS NOT RESTING ON, OR FRAMED OVER THEIR SUPPORTS SHALL BE SUPPORTED BY "SIMPSON STRONG-TIE" JOIST HANGERS.

G15. BOLTS IN WOOD FRAMING SHALL BE STANDARD MACHINE BOLTS CONFORMING TO ASTM 307. PROVIDE MALLEABLE IRON WASHERS UNDER HEAD AND NUT OF BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS OTHERWISE NOTED, BOLT HOLES SHALL BE NOMINAL DIAMETER OF THE BOLT PLUS 1/16 INCH. RETIGHTEN ALL BOLTS BEFORE CLOSING IN.

FASTENERS FOR PRESSURE TREATED WOOD SHALL BE HOT-DIPPED ZINC COATED, GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER

H. PREFABRICATED TRUSSES

H1. THE FABRICATOR OF THE PREFABRICATED TRUSSES SHALL SUBMIT TRUSS DESIGN CALCULATIONS AND SHOP DRAWINGS FOR ALL TRUSSES, THAT ARE STAMPED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER, TO THE BUILDING DEPARTMENT FOR APPROVAL. CALCULATIONS SHALL INCLUDE ALL STRESSES AND DEFLECTIONS DUE TO DEAD AND LIVE LOADS. SHOP DRAWINGS SHALL INCLUDE THE LAYOUT OF THE TRUSSES, SIZE OF MEMBERS AND CONNECTION DETAILS.

H2. THE MAXIMUM DEFLECTION OF ROOF TRUSSES DUE TO DEAD AND LIVE LOADS SHALL NOT EXCEED L/240, AND THE MAXIMUM DEFLECTION FOR FLOOR TRUSSES DUE TO LIVE LOAD SHALL NOT EXCEED L/360.

H3. THE DISTRIBUTED LOADS SHALL BE:

MEMBER		ROOF TRUSS	FLOOR TRUSS
TOP CHORD	D.L.	6.0 PSF*	10.5 PSF
	L.L.	16.0 PSF	40.0 PSF
			100.0 PSF CORRIDOR
BOTTOM CHORD	D.L.	7.2 PSF	5.0 PSF
	L.L.	10.0 PSF	10.0 PSF

* USE 16.0 PSF FOR CONCRETE TILE ROOFING

TOP AND BOTTOM CHORD LIVE LOADS MAY NOT BE APPLIED SIMULTANEOUSLY. ONE POINT LOAD OF 250 LBS SHALL BE APPLIED TO EACH TRUSS.

I. GLU-LAMINATED LUMBER

I1. GLU-LAMINATED (GLU-LAM) LUMBER SHALL BE Fb = 2,400 PSI, Fv = 165 PSI AND E = 1,800,000 PSI. ADHESIVE SHALL BE SUITABLE FOR WET AREAS. LAMINATIONS SHALL BE COMBINATION FABRICATED IN ACCORDANCE WITH AITC PS 56.73. FOR SINGLE SPAN MEMBERS USE 24F-V4 DF/DF; FOR CONTINUOUS OR CANTILEVERED OVER SUPPORTS USE 24F-V8 DF/DF. USE PRESSURE TREATED LUMBER FOR GLU-LAM MEMBERS CONTINUOUSLY EXPOSED TO WEATHER.

I2. FABRICATION SHALL BE BY A LICENSED FABRICATOR. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND AITC CERTIFICATION SHALL BE REQUIRED FOR ALL GLU-LAM MEMBERS.

I3. PRIOR TO INSTALLATION, THE CONTRACTOR SHALL PROVIDE A CERTIFICATE OF COMPLIANCE FOR ALL GLU-LAM BEAMS TO THE BUILDING DEPARTMENT AND THE STRUCTURAL ENGINEER FOR APPROVAL.

I4. GLU-LAM BEAMS SHALL NOT BE NOTCHED DRILLED, TAPERED, DAPPED OR CUT IN ANYWAY EXCEPT AS SHOWN ON THE DRAWINGS.

J. SHOP DRAWINGS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE SHOP DRAWINGS AND CONSTRUCTION IS IN CONFORMANCE WITH THE LATEST STRUCTURAL DRAWINGS.

THE CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO THE ARCHITECT/ENGINEER FOR REVIEW TO DETERMINE GENERAL COMPLIANCE WITH THE APPROVED CONSTRUCTION DRAWINGS. THIS REVIEW DOES NOT CERTIFY THAT THE SHOP DRAWINGS ARE IN COMPLIANCE WITH THE LATEST ARCHITECTURAL AND ENGINEERING DRAWINGS.

SHOP DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW OF THE FOLLOWING STRUCTURAL WORK ITEMS:

- REINFORCING STEEL
- GLU-LAM BEAMS AND OTHER MEMBERS
- STRUCTURAL STEEL WORK
- FLOOR AND ROOF TRUSSES
- PRE-FABRICATED STAIRS

FABRICATION SHALL NOT PROCEED UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED BY THE BUILDING DEPARTMENT AND THE STRUCTURAL ENGINEER.

K. CONSTRUCTION INSPECTION

1. GRADING, DRAINAGE, PAD PREPARATION
   a. Henry Justiniano & Associates (Soils Eng.)
2. DRILLED PIERS
   a. Henry Justiniano & Associates (Soils Eng.)
3. STRUCTURAL REINFORCING STEEL
   a. B.R. Govindarao (Engineer of Record)
4. STRUCTURAL COLUMNS, INCLUDING REINFORCING STEEL
   a. B.R. Govindarao (Engineer of Record)
5. EPOXY INSTALLED ANCHOR AND HOLD DOWN BOLTS
   a. B.R. Govindarao (Engineer of Record)
6. STRUCTURAL WELDING
   a. Fabricator's shop welding inspector
7. MANUFACTURED TRUSSES
   a. B.R. Govindarao (Engineer of Record)

Observed deficiencies shall be reported to the Owner, the Special Inspector, the Contractor and the Building Official.

Prior to final inspection, the structural observer shall submit to the Building Official a written statement that site visits have been made and identify any reported deficiencies that have not been resolved.

Contractor in responsible charge to submit a written statement of responsibility to the Owner and Building Official (City of Livermore Permit Center) for:

1. Acknowledgement of awareness of the special requirement contained in the statement of special inspection.
2. Acknowledgement that control will be exercised to obtain conformance with the construction documents approved by the Building Official.
3. Procedures for exercising control within the Contractor's organization, the method of, and frequency of reporting and the distribution of the reports; and
4. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.

Automatic Sprinkler Systems as specified by Livermore Municipal Ordinance
Plans and Specifications shall be submitted to the City of Livermore Permit Center for Review and Approval prior to installation.

Deferred Submittal: 1. Fire Sprinklers
2. Alarm system
3. Manufactured roof trusses

REVISIONS	BY
1 PLAN CHECK 8-9-10	RL

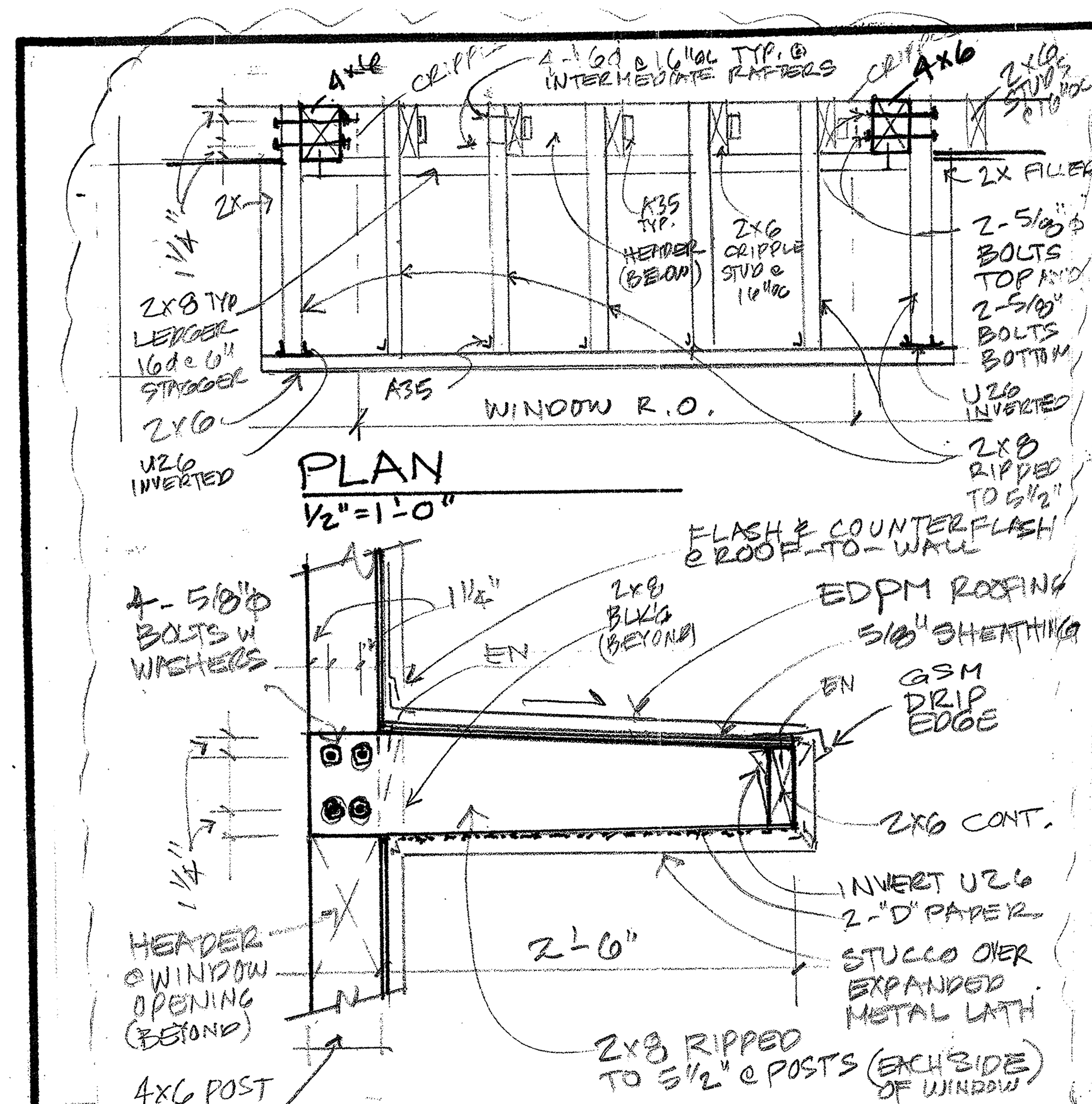
NEW BUILDING "C" – PHASE 1B
HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

STRUCTURAL GENERAL NOTES

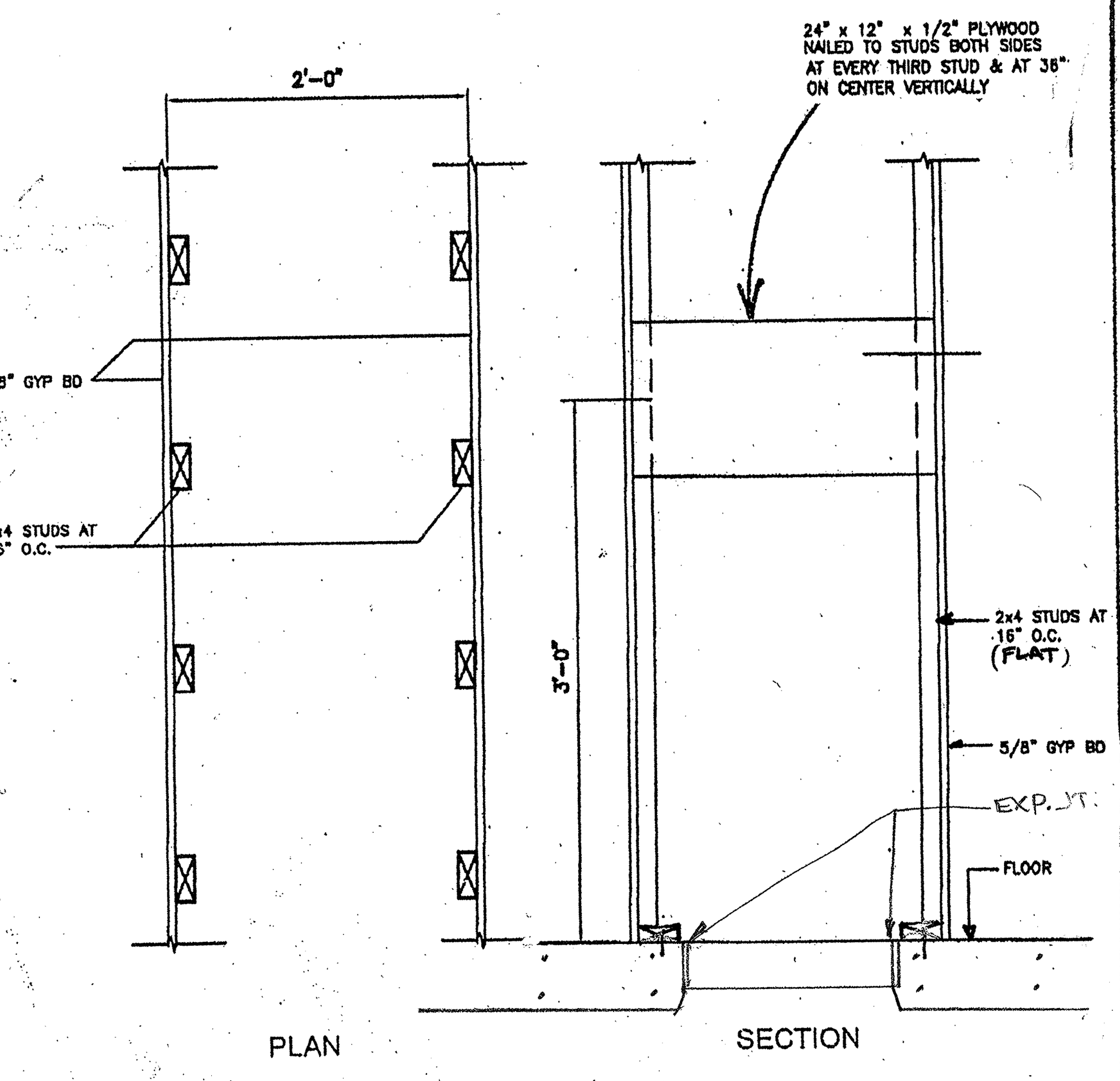
GOVINDARAO

Date: 5-24-10
Scale:
Drawn:
Job: ARROWHEAD

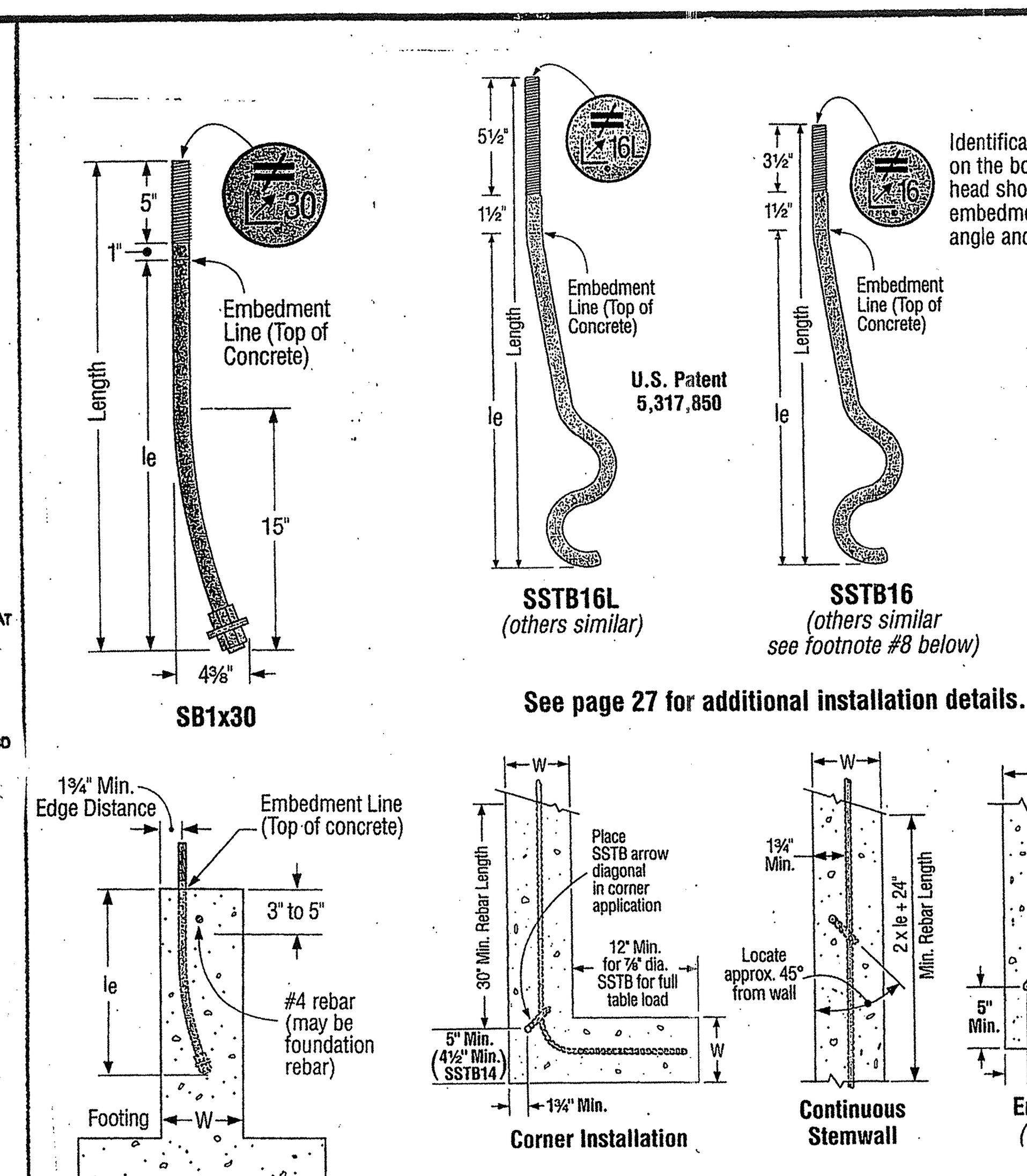
Sheet SD-1B of sheets



CANOPY ROOF (14 / SD-2)



PLUMBING WALL AT WATER CLOSETS (11 / SD-2)



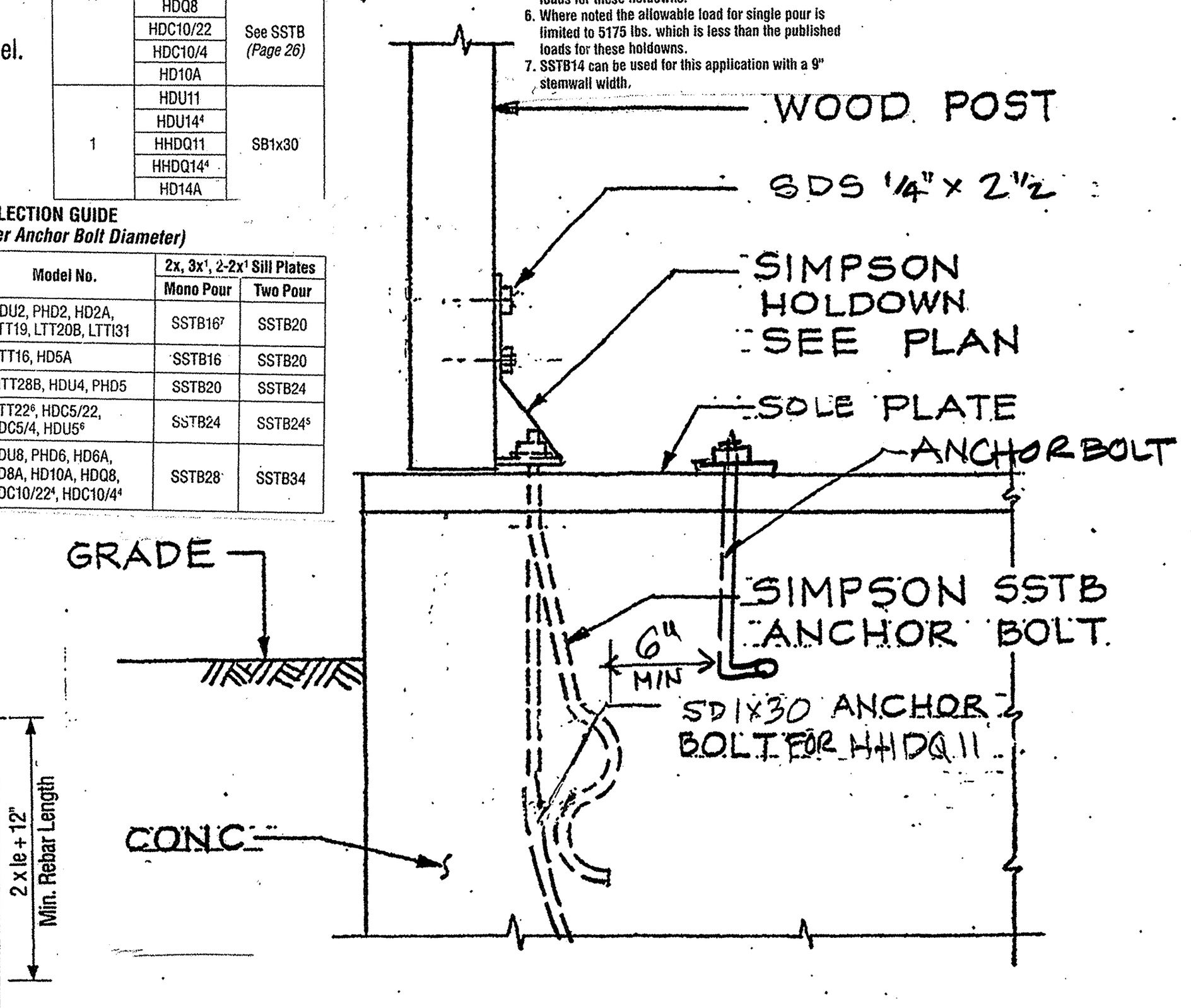
SELECTION GUIDE

Anchor Diameter	Holdown Model No. (2x, 3x, 2-2x Sill Plates)	Anchor Model No. (2x, 3x, 2-2x Sill Plates)
7/8	PHD6	SB7/8x24
	HD6A	
	HD8A	
	HDU8	
	HDQ8	See SSTB (Page 26)
	HDC10/22	
	HDC10/4	
	HD10A	
1	HDU11	SB1x30
	HDU14[4]	
	HHDQ11	
	HHDQ14[4]	
	HD14A	

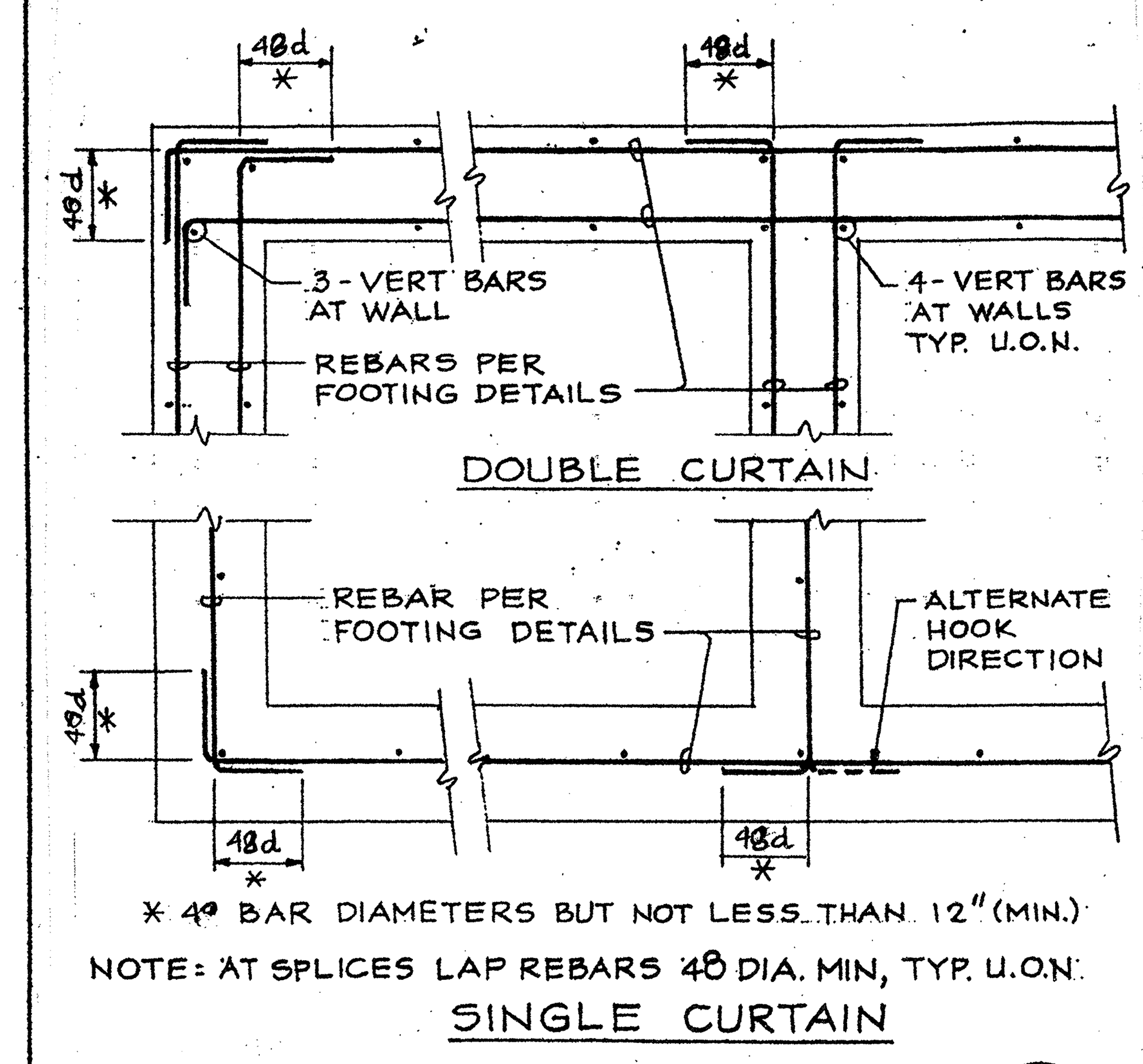
SELECTION GUIDE
(Per Anchor Bolt Diameter)

Model No.	Mono Pour (2x, 3x[1], 2-2x[1] Sill Plates)	Two Pour (2x, 3x[1], 2-2x[1] Sill Plates)
HDU2, PHD2, HD2A, LTT19, LTT20B, LTTI31	SSTB16[7]	SSTB20
HTT16, HD5A	SSTB16	SSTB20
MTT28B, HDU4, PHD5	SSTB20	SSTB24
HTT22[6], HDC5/22, HDC5/4, HDU5[6]	SSTB24	SSTB24[5]
HDU8, PHD6, HD6A, HD8A, HD10A, HDQ8, HDC10/22[4], HDC10/4[4]	SSTB28	SSTB34

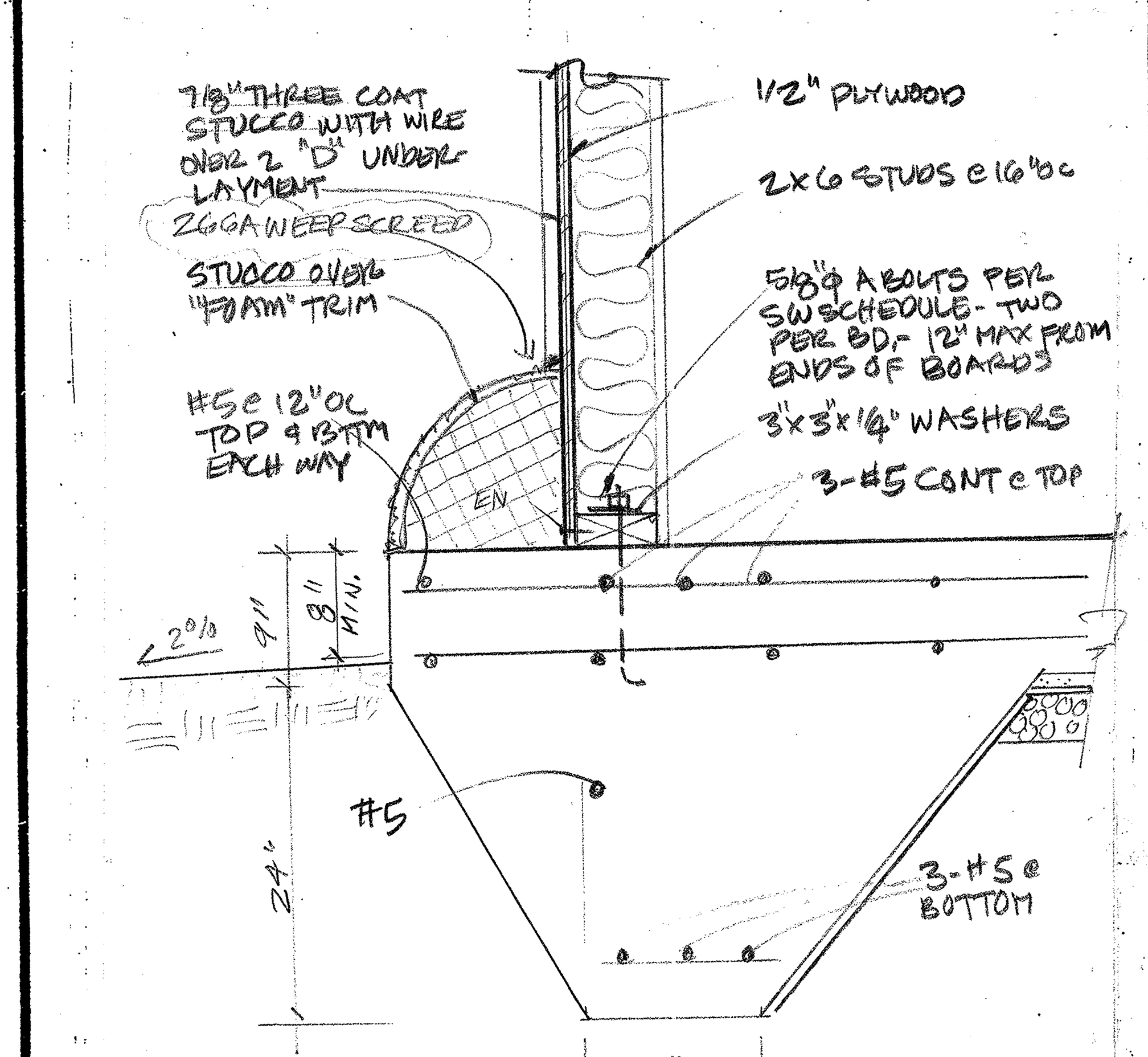
1. SSTBL models are recommended for PHD, HDU and HDQ8 holdowns on 2-2x and 3x sill plates. Where SSTB14's are specified for these products, use SSTB16L.
2. No cold joint within embedment depth unless provisions are made to transfer the load.
3. The design engineer may specify an alternate anchorage system, provided the anchor diameter is the same.
4. Increase the embedment depth 2½" to accommodate the HDC standoff block.
5. Where noted the allowable load for this application is limited to 4600 lbs. which is less than the published loads for these holdowns.
6. Where noted the allowable load for single pour is limited to 5175 lbs. which is less than the published loads for these holdowns.
7. SSTB14 can be used for this application with a 9" stemwall width.



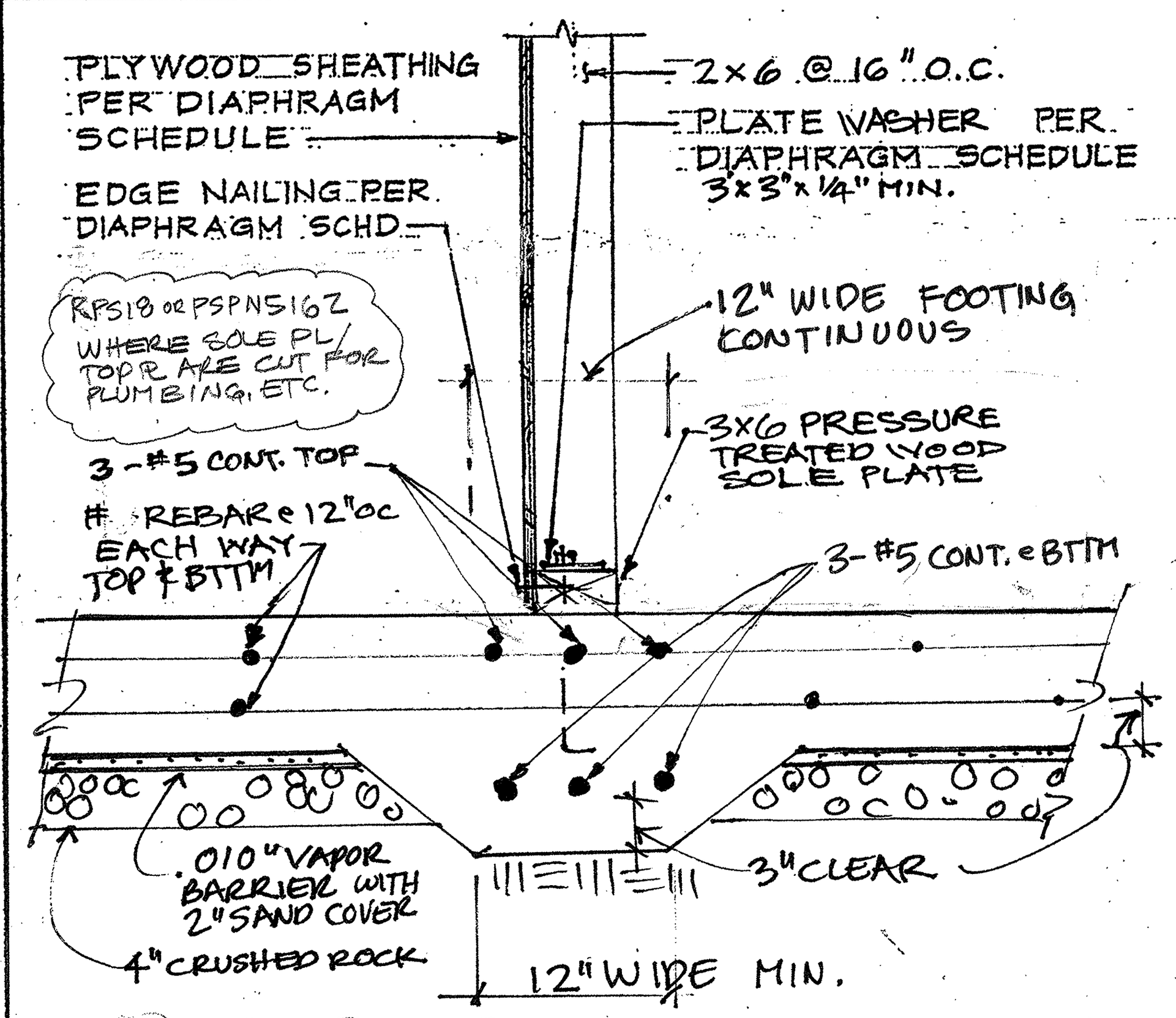
HD HOLDOWN AT EXTERIOR CORNER (5 / SD-2)



CONC FOOTING - TYP REINFORCING AT CORNER & INTERSECTION (1)
NO SCALE

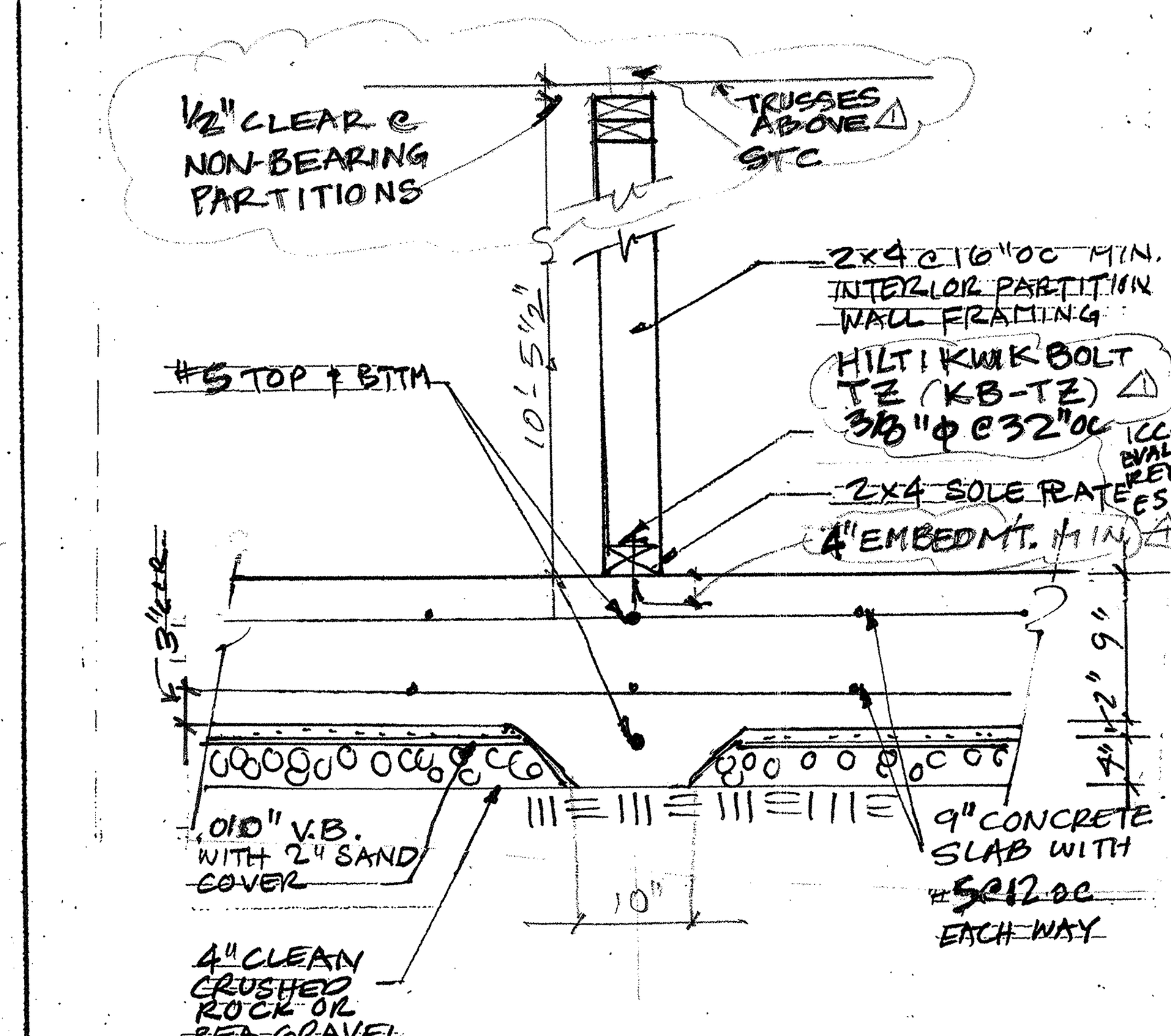


EXTERIOR @ STUCCO TRIM (15 / SD2)



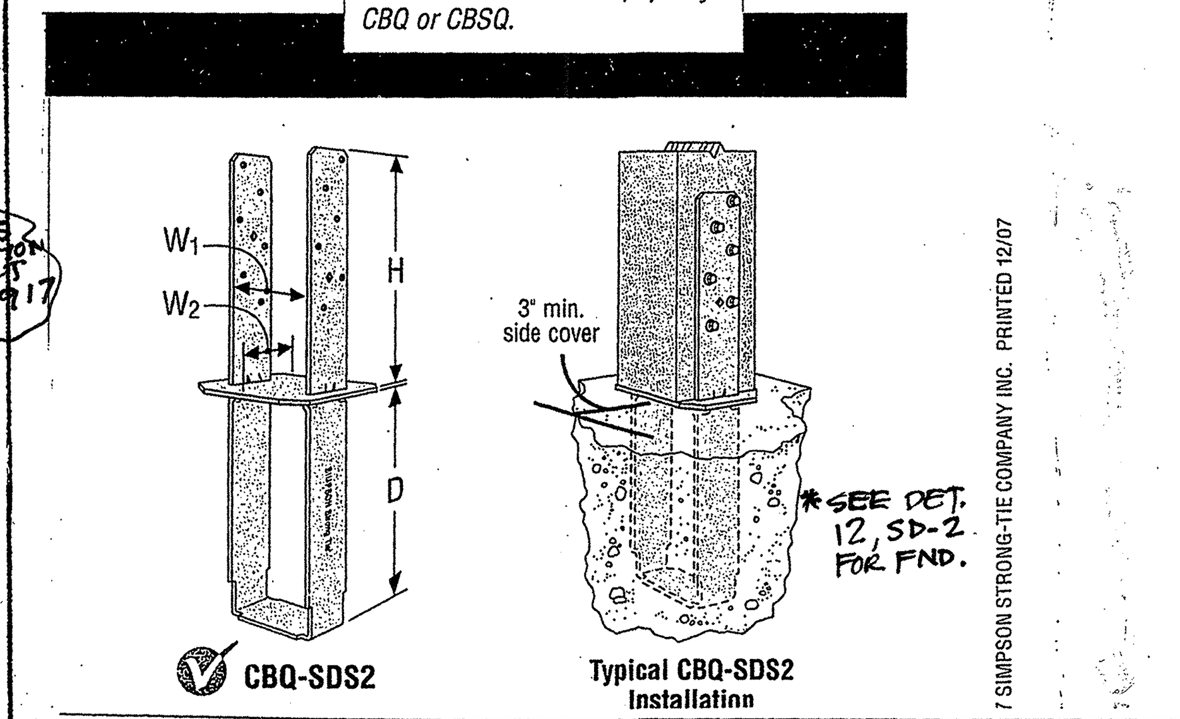
Where top or sole plate are cut for pipes, a metal tie minimum 0.058 inches thick and 1 ½ inches wide shall be fastened across the opening with 6 - 16 d nails minimum each side. CBC Section 2320.11.7.

INTERIOR SHEAR WALL AT FOUNDATION (12 / SD-2)



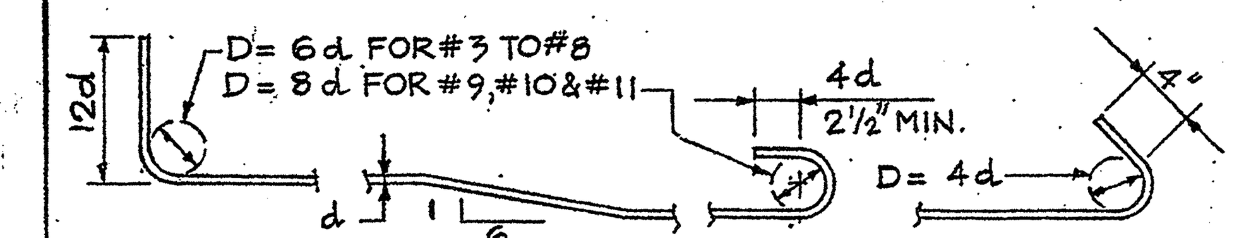
THICKENED SLAB (9 / SD-2)

CBQ and CBSQ
To order with screws, specify CBQ-SDS2 or CBSQ-SDS2.
To order without screws, specify CBQ or CBSQ.

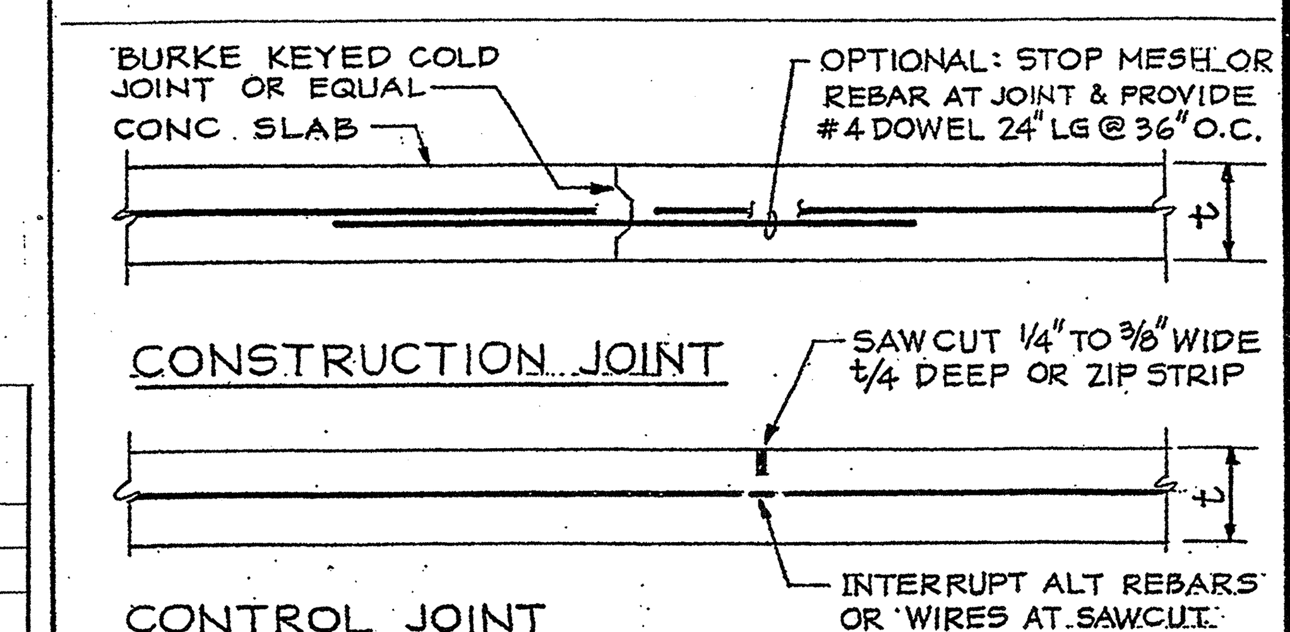


Model No.	Nominal Column Size	Material: Base (Ga)	Material: Strap (Ga x Width)	Dimensions: W_1	Dimensions: W_2	Dimensions: D	Dimensions: H	Number of Simpson SDS ¼"x2" Screws
CBQ44-SDS2	4x4	7	7 ga x 2	3 9/16	3 9/16	8	8 11/16	12
CBQ46-SDS2	4x6	7	7 ga x 2	3 9/16	5½	8	8 11/16	12
CBQ66-SDS2	6x6	7	7 ga x 3	5½	5½	8	8 11/16	12

INTERIOR COL. WITH WOOD STUDS (6 / SD-2)



REBAR TYPICAL HOOKS & OFFSET (2 / SD-2)
NO SCALE



CONCRETE SLAB ON GRADE CONTROL & CONSTRUCTION JOINTS (3 / SD-2)
NO SCALE

TABLE 2304.9.1
FASTENING SCHEDULE

CONNECTION	FASTENING[a,m]	LOCATION
1. Joist to sill or girder	3 - 8d common (2½" × 0.131") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
2. Bridging to joist	2 - 8d common (2½" × 0.131") 2 - 3" × 0.131" nails 2 - 3" 14 gage staples	toenail each end
3. 1" × 6" subfloor or less to each joist	2 - 8d common (2½" × 0.131")	face nail
4. Wider than 1" × 6" subfloor to each joist	3 - 8d common (2½" × 0.131")	face nail
5. 2" subfloor to joist or girder	2 - 16d common (3½" × 0.162")	blind and face nail
6. Sole plate to joist or blocking	16d (3½" × 0.135") at 16" o.c. 3" × 0.131" nails at 8" o.c. 3" 14 gage staples at 12" o.c.	typical face nail
Sole plate to joist or blocking at braced wall panel	3" - 16d (3½" × 0.135") at 16" 4 - 3" × 0.131" nails at 16" 4 - 3" 14 gage staples per 16"	braced wall panels
7. Top plate to stud	2 - 16d common (3½" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	end nail
8. Stud to sole plate	4 - 8d common (2½" × 0.131") 4 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
	2 - 16d common (3½" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	end nail
9. Double studs	16d (3½" × 0.135") at 24" o.c. 3" × 0.131" nail at 8" o.c. 3" 14 gage staple at 8" o.c.	face nail
10. Double top plates	16d (3½" × 0.135") at 16" o.c. 3" × 0.131" nail at 12" o.c. 3" 14 gage staple at 12" o.c.	typical face nail
Double top plates	8-16d common (3½" × 0.162") 12-3" × 0.131" nails 12-3" 14 gage staples	lap splice
11. Blocking between joists or rafters to top plate	3 - 8d common (2½" × 0.131") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
12. Rim joist to top plate	8d (2½" × 0.131") at 6" o.c. 3" × 0.131" nail at 6" o.c. 3" 14 gage staple at 6" o.c.	toenail
13. Top plates, laps and intersections	2 - 16d common (3½" × 0.162") 3 - 3" × 0.131" nails 3 -3" 14 gage staples	face nail
14. Continuous header, two pieces	16d common (3½" × 0.162")	16" o.c. along edge
15. Ceiling joists to plate	3 - 8d common (2½" × 0.131") 5 - 3" × 0.131" nails 5 - 3" 14 gage staples	toenail
16. Continuous header to stud	4 - 8d common (2½" × 0.131")	toenail
17. Ceiling joists, laps over partitions (see Section 2308.10.4.1, Table 2308.10.4.1)	3 - 16d common (3½" × 0.162") minimum, Table 2308.10.4.1 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail
18. Ceiling joists to parallel rafters (see Section 2308.10.4.1, Table 2308.10.4.1)	3 - 16d common (3½" × 0.162") minimum, Table 2308.10.4.1 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail
19. Rafter to plate (see Section 2308.10.1, Table 2308.10.1)	3 - 8d common (2½" × 0.131") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
20. 1" diagonal brace to each stud and plate	2 - 8d common (2½" × 0.131") 2 - 3" × 0.131" nails 3 - 3" 14 gage staples	face nail
21. 1" × 8" sheathing to each bearing	3 - 8d common (2½" × 0.131")	face nail
22. Wider than 1" × 8" sheathing to each bearing	3 - 8d common (2½" × 0.131")	face nail
23. Built-up corner studs	16d common (3½" × 0.162") 3" × 0.131" nails 3" 14 gage staples	24" o.c. 16" o.c. 16" o.c.
24. Built-up girder and beams	20d common (4" × 0.192") 32" o.c. 3" × 0.131" nail at 24" o.c. 3" 14 gage staple at 24" o.c.	face nail at top and bottom staggered on opposite sides
	2 - 20d common (4" × 0.192") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	face nail at ends and at each splice
25. 2" planks	16d common (3½" × 0.162")	at each bearing
26. Collar tie to rafter	3 - 10d common (3" × 0.148") 4 - 3" x 0.131" nails 4 - 3" 14 gage staples	face nail
27. Jack rafter to hip	3 - 10d common (3" x 0.148") 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	toenail
	2 - 16d common (3½" × 0.162") 3 -3" × 0.131" nails 3 - 3" 14 gage staples	face nail
28. Roof rafter to 2-by ridge beam	2-16d common (3½" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	face nail
29. Joist to band joist	3 - 16d common (3½" × 0.162") 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail
30. Ledger strip	3 - 16d common (3½" × 0.162") 4 - 3" x 0.131" nails 4 - 3" 14 gage staples	face nail
31. Wood structural panels and particleboard[b] Subfloor, roof and wall sheathing (to framing)	½" and less: 6d[c,l]; 2 3/8" × 0.113" nail[n]; 1 ¾" 16 gage[o] 19/32" to ¾": 8d[d] or 6d[e]; 2 3/8" × 0.113" nail[p]; 2" 16 gage[p] 7/8" to 1": 8d[c] 1 1/8" to 1 ¼": 10d[d] or 8d[d]	
Single Floor (combination subfloor-underlayment to framing)	¾" and less: 6d[e] 7/8" to 1": 8d[e] 1 1/8" to 1 ¼": 10d[d] or 8d[e]	
32. Panel siding (to framing)	½" or less: 6d[f] 5/8": 8d[f]	
33. Fiberboard sheathing[g]	½": No. 11 gage roofing nail[h]; 6d common nail (2" × 0.113"); No. 16 gage staple[i] 25/32": No. 11 gage roofing nail[h]; 8d common nail (2½" × 0.131"); No. 16 gage staple[i]	
34. Interior paneling	¼": 4d[j] 3/8": 6d[k]	

For SI: 1 inch = 25.4 mm.
a. Common or box nails are permitted to be used except where otherwise stated.
b. Nails spaced at 6 inches on center at edges, 12 inches at intermediate supports except 6 inches at supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.
c. Common or deformed shank (6d - 2" × 0.113"; 8d - 2½" × 0.131"; 10d - 3" × 0.148").
d. Common (6d - 2" × 0.113"; 8d - 2½" × 0.131"; 10d - 3" × 0.148").
e. Deformed shank (6d - 2" × 0.113"; 8d - 2½" × 0.131"; 10d - 3" × 0.148").
f. Corrosion-resistant siding (6d - 1 7/8" × 0.106"; 8d - 2 3/8" × 0.128") or casing (6d - 2" × 0.099"; 8d - 2½" × 0.113") nail.
g. Fasteners spaced 3 inches on center at exterior edges and 6 inches on center at intermediate supports, when used as structural sheathing. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications.
h. Corrosion-resistant roofing nails with 7/16-inch-diameter head and 1½-inch length for ½-inch sheathing and 1 ¾-inch length for 25/32-inch sheathing.
i. Corrosion-resistant staples with nominal 7/16-inch crown and 1 1/8-inch length for ½-inch sheathing and 1 ½-inch length for 25/32-inch sheathing. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).
j. Casing (1½" × 0.080") or finish (1½" × 0.072") nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
k. Panel supports at 24 inches. Casing or finish nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
l. For roof sheathing applications, 8d nails (2½" × 0.113") are the minimum required for wood structural panels.
m. Staples shall have a minimum crown width of 7/16 inch.
n. For roof sheathing applications, fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.
o. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports for subfloor and wall sheathing and 3 inches on center at edges, 6 inches at intermediate supports for roof sheathing.
p. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.

Exception: Comply with Standard Metal Stud and Ceiling Joist Table (no submittal required)

Standard Metal Stud & Ceiling Joist Table

Interior Non-Load Bearing Partitions *(both flanges supported)*

Size (in.)	Gauge	Allowable Height (ft.-in.), Stud Spacing 12	Allowable Height, Stud Spacing 16	Allowable Height, Stud Spacing 24	Web Stiffening Height (ft.-in.) *, Stud Spacing 12	Web Stiffening Height, Stud Spacing 16	Web Stiffening Height, Stud Spacing 24
3-5/8	25	15-10	13-8	11-2		>9-7	>6-4
	20	20-11	19-0	16-7			
6							
	20	31-8	28-10	23-10			

No punchouts or holes drilled within 12" of stud ends. Track gauge same as stud with 1" track leg height.

Ceiling Joist – Top Flange Braced 48" O.C.

Size (in.)	Gauge	Allowable Single Span (ft.-in.), Joist Spacing 12	Joist Spacing 16	Joist Spacing 24
3-5/8	20	10-8	9-8	8-0
6	20	15-10	13-10	10-6

**If stud height exceeds table, web stiffeners are required. A web stiffener is a 6" length of stud secured to the stud web at both ends of the stud, with four (4) #8 pan-head screws.*

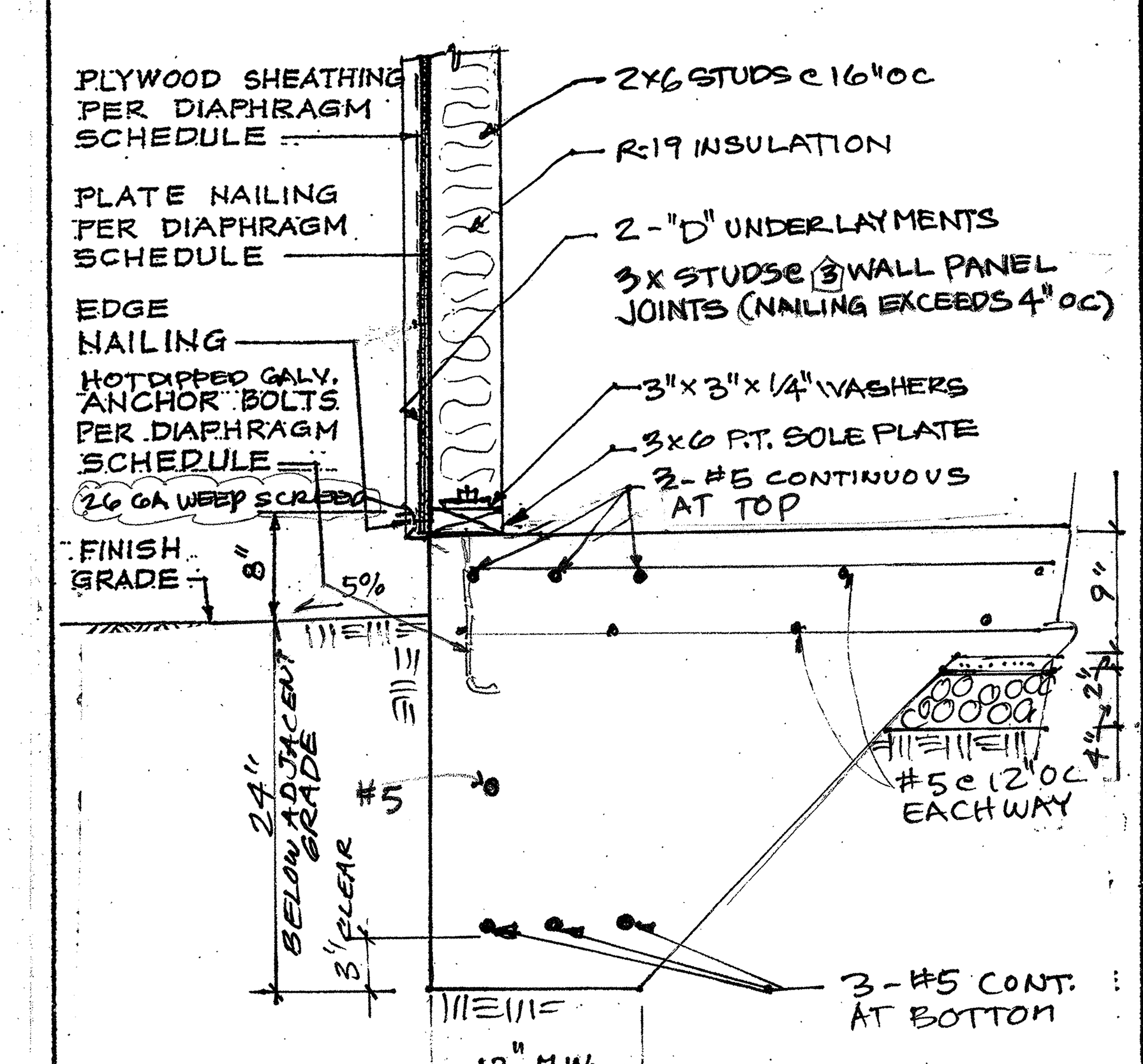
FOR ALL INSTALLATIONS THAT DO NOT COMPLY WITH THE STANDARD METAL STUD TABLE, SUBMIT TO THE BUILDING DIVISION FOR APPROVAL, TWO (2) COPIES OF THE FOLLOWING INFORMATION PRIOR TO INSTALLATION:

A. Cover sheet with the following information:
1. Job site address, contact person, telephone number
2. Manufacturer's name
3. Listing agency and report numbers
4. Provide the following for each stud or joist:
   a. Size
   b. Type
   c. Gauge
   d. Spacing
   e. Actual height or span of stud or joist
   f. Web crippling calculation and indicate if web stiffening is required
   g. Tract size, type, and gauge

B. Copy of the listing agency report. (i.e., ICBO, ES, UL, etc.)
1. Highlight on the applicable tables the size, gauge, spacing and allowable height and spans

C. Provide installation instructions and details for any special conditions such as:
1. Web stiffeners
2. Wall intersections

Metal Stud Submittal Requirements



TYPICAL FOUNDATION AT EXTERIOR WALL (4 / SD-2)

REVISIONS	BY
△ PLAN CHECK 8-9-10	RL

STRUCTURAL DETAILS - SHEET 1

GOVINDARAO
CONSULTING ENGINEER

NEW BUILDING "C" – PHASE 1B
HINDU COMMUNITY and CULTURAL CTR
1260 ARROWHEAD AVE. LIVERMORE, CA

Date	5-24-10
Scale	
Drawn	
Job	ARROWHEAD
Sheet	SD-2B
Of	Sheets

HOLE CHART

INSTRUCTIONS:

1. Determine the joist depth and desired hole size and find the hole factor or hole location in Table 1. If the table reports a hole factor, proceed to step 2.
2. In Table 2, locate the cell where the joist span and hole factor intersect. The dimension shown is the required distance from nearest edge of hole to inside face of support.

Example:
18" TJI® joist with Performance Plus® web, 8" diameter round hole, 21'-0" joist span (center-to-center of support).
1. From Table 1, the hole factor is C.
2. From Table 2, the nearest edge of the hole must be at least 4'-3" from inside face of support.

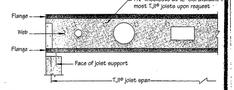


TABLE 1 - HOLE FACTORS AND LOCATIONS

Joist Depth	Round Hole Size	2"	4"	6"	8"	10"	12"	14"	16"
	Rectangular Hole Size	1¼"	2½"	3½"	4½"	6"	7"	8¼"	9½"
	11⅞"	A	B	E					
	14"	A	B	C	E				
	16"	A	A	C	D	E			
	18"	A	A	B	C	E			
	20"	A	A	B	C	D	E		
	22"	A	1'-3"	A	B	C	D	E	
	24"	A	1'-3"	A	B	C	D	E	E
	26"	A	1'-3"	A	A	B	C	D	E
	28"	A	1'-3"	A	A	B	C	D	D
	30"	A	1'-3"	A	A	B	C	C	D

DO NOT cut joist flanges

TABLE 2 - HOLE LOCATIONS

JOIST SPAN (center-to-center of supports)	HOLE FACTOR				
	A	B	C	D	E
14'	1'-3"	2'-0"	2'-6"	3'-0"	3'-6"
16'	1'-3"	2'-3"	3'-0"	4'-6"	5'-9"
18'	1'-3"	2'-3"	4'-3"	5'-6"	6'-9"
20'	1'-9"	3'-0"	4'-3"	5'-6"	7'-0"
22'	2'-0"	3'-0"	4'-3"	5'-9"	7'-3"
24'	2'-3"	3'-3"	4'-6"	5'-9"	7'-6"
26'	2'-3"	3'-9"	4'-9"	6'-0"	7'-9"
28'	2'-6"	4'-0"	5'-3"	6'-6"	8'-0"
30'	2'-9"	4'-3"	5'-9"	7'-0"	8'-6"
32'	3'-0"	4'-6"	6'-0"	7'-6"	9'-3"
34'	3'-0"	5'-0"	6'-6"	8'-0"	9'-9"
36'	3'-3"	5'-0"	6'-9"	8'-6"	10'-3"

ASSUMPTIONS:

Tables are based on **uniformly loaded applications** or building code provisions for concentrated loads (2000 lbs over 2½ feet square) with 25 psf dead and 20 psf partition loading. For joists supporting concentrated loads or other conditions or possible exceptions, contact your Trus Joist representative.

Tables are based on **single span applications.** For uniformly loaded cantilever and continuous span applications, the holes must be located one inch further from the support for each foot of joist span than the values indicated in the tables. **Do not cut holes in cantilever area without consulting your Trus Joist representative.**

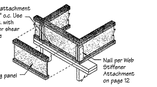
GENERAL NOTES:

Multiple Holes: Where more than one hole is to be cut in the web, the length of the uncut web between holes must be twice the length of the longest dimension of the largest adjacent hole.

Hole Sizes: The sizes given in the table are hole sizes, not duct sizes. Rectangular hole sizes are based on measurement of the longest side.

TJI® BLOCKING PANELS / TimberStrand® LSL RIM BOARD

Minimum TJI® blocking panel attachment to be 10d (3") box nails at 6" o.c. Use 12d (3½") box nails at 6" o.c. with TJIMHD joist. When used for shear transfer, nail to bearing plate with connections equivalent to decking nail schedule.



ALLOWABLE UNIFORM LOAD (PLF)

	RIM BOARD/BLOCKING PANEL DEPTH						
	11⅞"-14"	16"-20"	22"	24"	26"	28"	30"
TJI®/LSS AND TJI®/LSO	2100	2700	2400	2100	1725	1450	1150
TJI®/990	3150	2700	2400	2100	1725	1450	1150
1¼" TimberStrand® LSL	4140	4140	4140	4140	3600	3130	2740

- Allowable uniform loads for TJI® blocking panels or TJI® joists as a wall section.
- Loads shown may not be increased for duration of load.

GENERAL NOTES:

- Shear transfer nailing must be established by design. TJI® blocking panel design limits are to be based upon web material for specific series used. For capacity, use psf shear values for an 11⅞" deep joist of the series used.
- TJI® blocking panels and TimberStrand® LSL rim board may be used for:
  - Vertical load carrying panels.
  - General closure.
  - Helping prevent rollover during installation of joists.
- TJI® blocking panels and TimberStrand® LSL rim board are available from Trus Joist. When used for vertical load transfer, the values provided may be used in pounds per lineal foot of TJI® blocking panels or TimberStrand® LSL rim board.

CONCENTRATED VERTICAL LOADS

Concentrated vertical loads on blocking panels (or rim board) are to be limited to the proportion of the uniform load capacity defined by the applied load area increased by a 45° load distribution through decking and flange to the web t/p (exclude this dimension for rim board allowable).

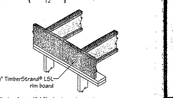
Example:
4x4 post applied to a 20' TJI®/LG5 joist through ¾" plywood sheathing.

Blocking Panel$_{allowable}$ = 2700 $\left[\frac{3.5 + 2(0.75)}{12}\right]$ = 1519 lbs

Loads beyond this should be supported by squash blocks.

4x4 Post applied to a 20' deep 1¼" TimberStrand® LSL rim board through ¾" plywood sheathing.

Rim Board$_{allowable}$ = 4140 $\left[\frac{3.5 + 2(0.75)}{12}\right]$ = 1725 lbs



Minimum TimberStrand® LSL rim board attachment: Toenail TimberStrand® LSL rim board to bearing plate with 10d (3") box nails at 6" on-center or 16d (3½") box nails at 12" on-center. When used for shear transfer, nail to bearing plate with connections equivalent to decking nail schedule.

ROOF AT WALL - JOISTS PARALLEL (13, SD-3)

INTERIOR SHEAR WALL AT ROOF (10, SD-3)

NOTCH AND BORE LIMITS AT TYPICAL FRAMING (7, SD-3)

WALL FRAMING @ CORNERS & INTERSECTIONS (4, SD-3) 1½" = 1'-0"

MINIMUM TOP PLATE SPLICE (2, SD-3) SCALE: 3/4" = 1'-0"

ROOF AT WALL-JOISTS PERPENDICULAR (14, SD-3)

INTERIOR SHEAR WALL AT ROOF (11, SD-3)

TYPICAL SILL PLATE DETAILS (8, SD-3)

SHEAR WALL INTERSECTIONS (5, SD-3) SCALE: 1½" = 1'-0"

PLYWOOD DIAPHRAGM SCHEDULE

MARK	PLYWOOD	NAILING, CLIP OR A.B. SPACING - INCHES ON CENTER				
		EDGE NAILS	FIELD NAILS	SILL NAILS	A-35 CLIPS	5/8" A.B.
ROOF TYP	1/2" CDX	10d @ 6	10d @ 12	N/A	24	N/A
FLOOR TYP	3/4" T&G	10d @ 6	10d @ 10	N/A	16	N/A
SHEAR WALLS						
1	3/8" CDX	8d @ 6	8d @ 12	16d @ 6	24	48
2	½" CDX	10d @ 4	10d @ 10	SDS¼x6 @ 8	16	32
3*	½" CDX	10d @ 3	8d @ 8	SDS¼x6 @ 6	12	16

* AT SILL PLATE & PLYWOOD PANEL JOINTS, PROVIDE 3x MEMBER MIN.

Exterior and bearing walls to have 5/8" dia. galv. Anchor bolts at 48" on center with 3"x3"x1/4" washers (u.n.o.)

NOTE: PROVIDE 5/8 INCH DIAMETER ANCHOR BOLTS (A.B.), 12 INCHES LONG WITH 7 INCHES MINIMUM EMBEDMENT. UNLESS NOTED OTHERWISE ON FOUNDATION PLAN PROVIDE SPACING PER ABOVE SCHEDULE.
USE PLATE WASHER 3"x3"x¼" AT ALL ANCHOR BOLTS (GALV)

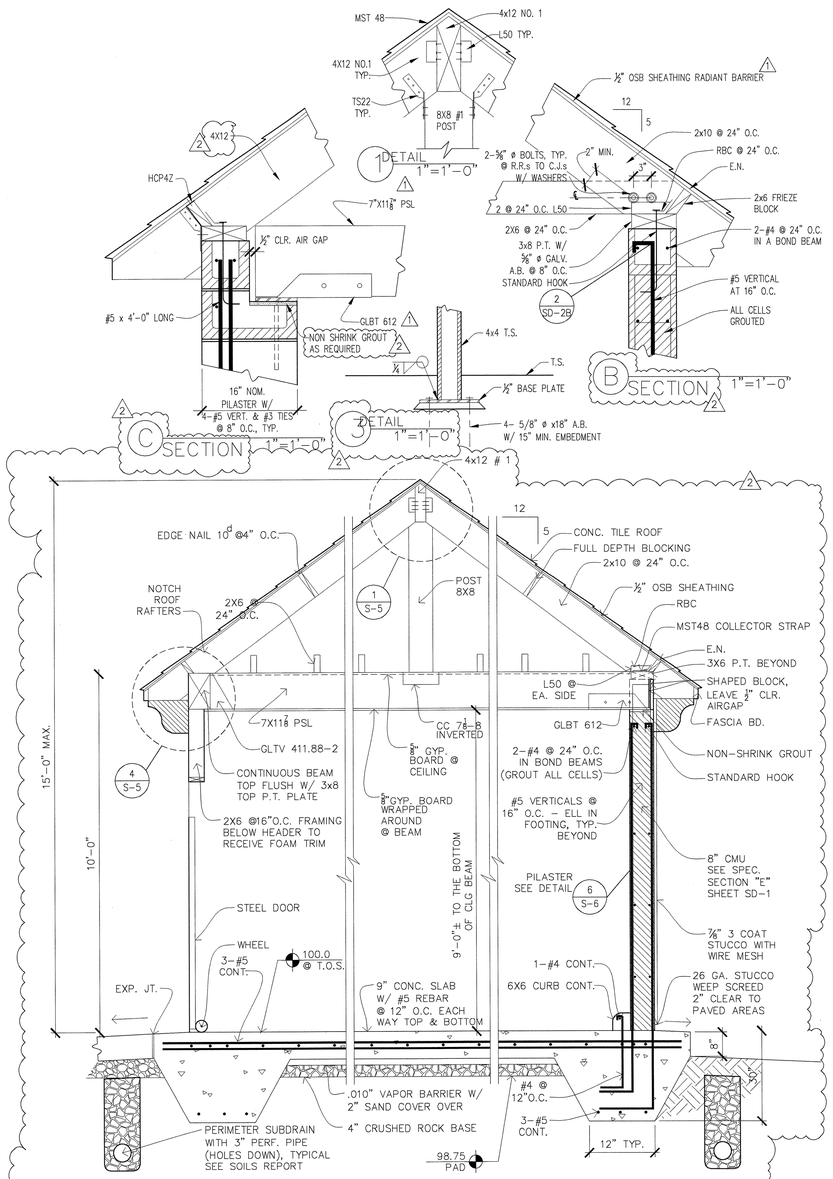
REVISIONS	BY

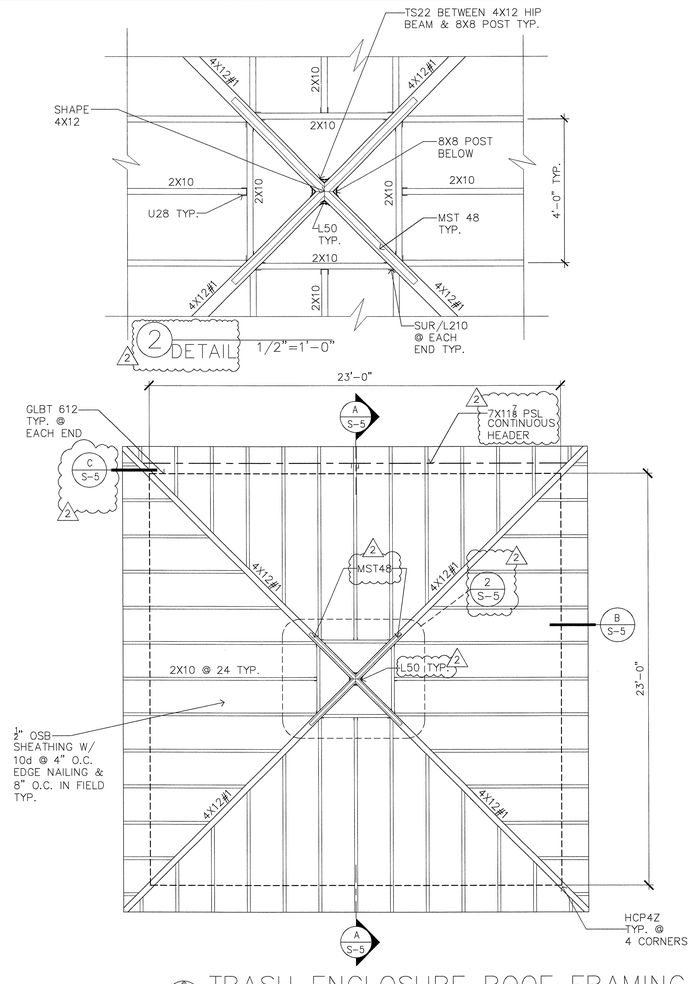
NEW BUILDING "C" – PHASE 1B
HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

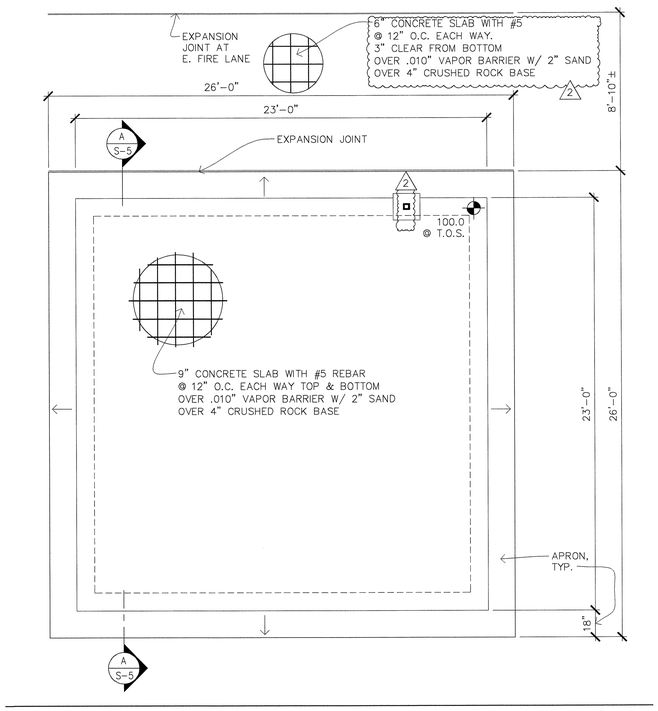
STRUCTURAL FRAMING DETAILS

GOVINDARAO

Date 5-24-10
Scale 1½"=1'-0", UON
Drawn:
Job ARROWHEAD
Sheet **SD-3B**
Of Sheets

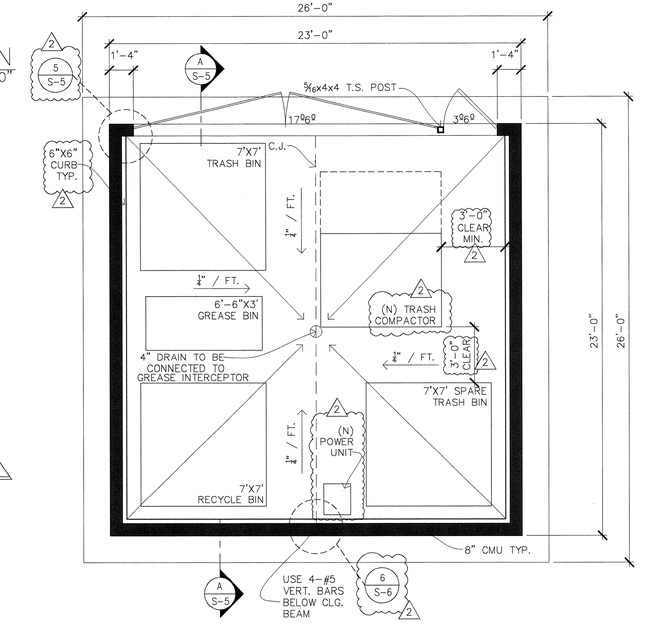






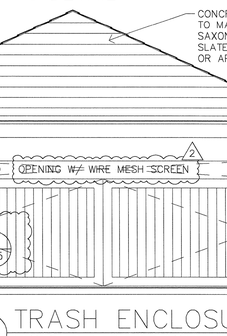
NOTES:

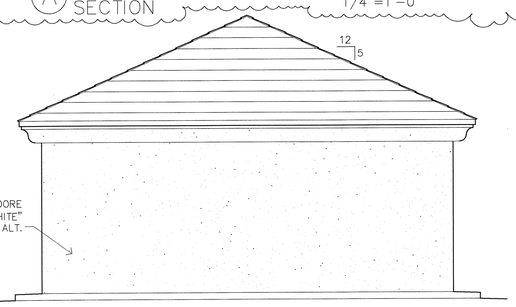
1. SEE SHEET S-6 FOR TRASH ENCLOSURE CEILING FRAMING PLAN.
2. FLOOR DRAIN TO BE CONNECTED TO THE GREASE INTERCEPTOR PRIOR TO CONNECTING TO THE SITE SANITARY SEWER SYSTEM. REFER TO SHEET P10.1B& P12.0B.

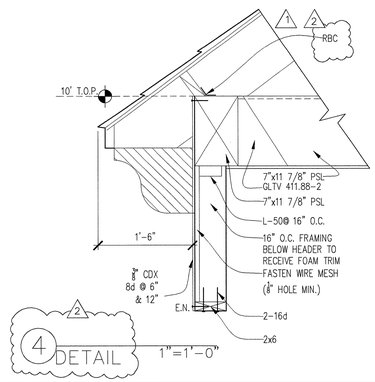


NOTES:

1. Please refer to notes and details on sheets SD-1A to SD-3A.
2. Concrete shall not have less than six sacks of cement per cubic yard of concrete & a slump not to exceed 4" when placed.
3. Soils report No. H-140-01 by Henry Justiniano & Associates, dated August 10, 2009.
4. Coordinate with Civil, HVAC, Mechanical, Architectural and Electrical drawings.
5. Exterior building stucco color to match (E) buildings.
6. FINISHES: Floor-Quarry Tiles, Walls- Ceramic Tiles upto ceiling height, Ceiling- Gyp. Board painted w/ washable oil paint.
7. Interior walls shall be durable, sealed W/ waterproof finish.
8. Provide Hot & Cold water connection w/ hose bib.







REVISIONS		BY
1	05-24-10	HCCC
1	07-30-10 PC Respnse	HCCC
2	12-01-10 PC Respnse	HCCC

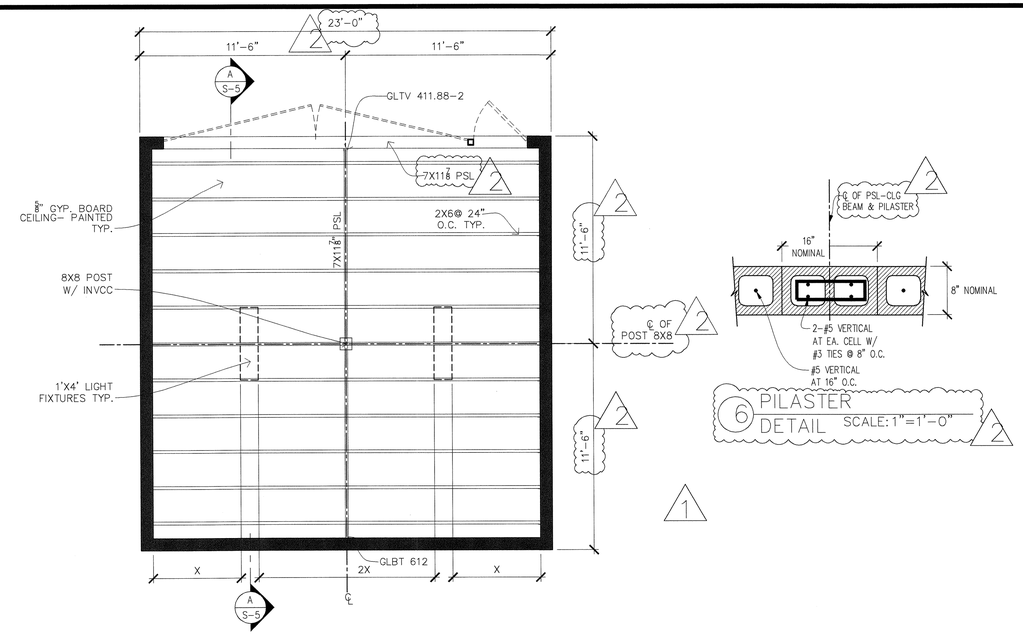
Om Namah Shivaya

HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

PHASE 1-B
TRASH ENCLOSURE
PLANS, SECTION & ELEVATIONS

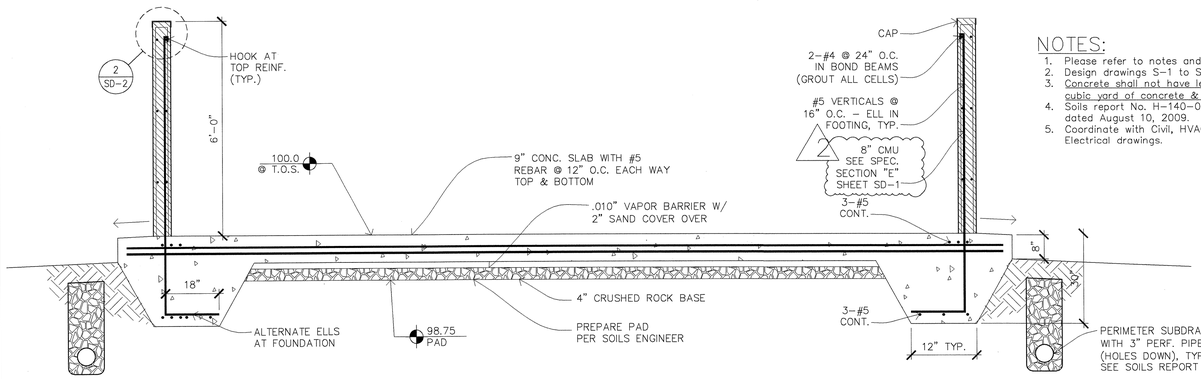
DATE	03/12/10
SCALE:	1/8"=1'-0"
DRAWN BY:	BRG
PROJECT:	ARROWHEAD

S-5



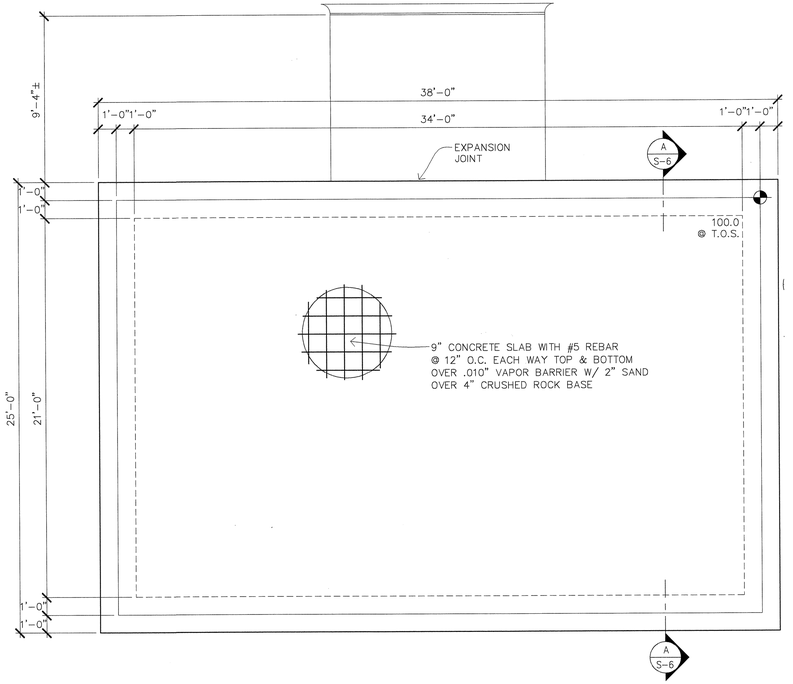
NORTH TRASH ENCLOSURE CEILING FRAMING PLAN
SCALE: 1/4"=1'-0"

NOTE: SEE SHEET S-5 FOR TRASH ENCLOSURE DETAILS.

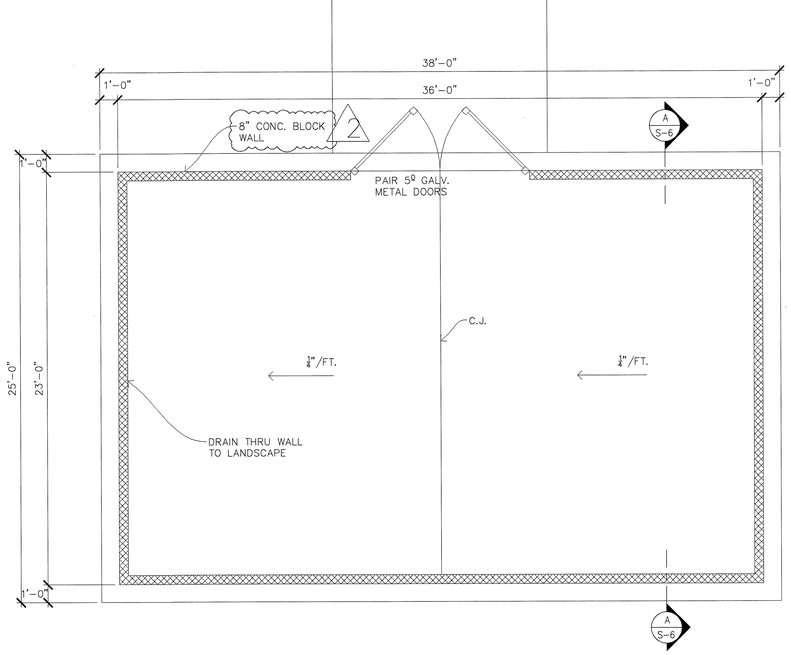


A SECTION AT COMPOSE AREA
1/2"=1'-0"
(100.0 CORRESPONDS W/ 520.0 ON CIVIL DRAWINGS)

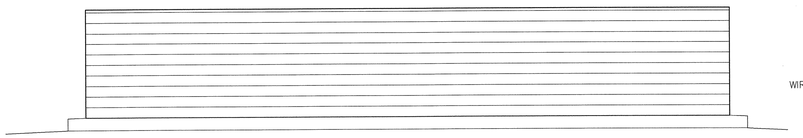
NOTES:
1. Please refer to notes and details on sheets SD-1A to SD-3A.
2. Design drawings S-1 to S-4 take precedent over SD-1 to SD-4.
3. Concrete shall not have less than six sacks of cement per cubic yard of concrete & a slump not to exceed 4" when placed.
4. Soils report No. H-140-01 by Henry Justiniano & Associates, dated August 10, 2009.
5. Coordinate with Civil, HVAC, Mechanical, Architectural and Electrical drawings.



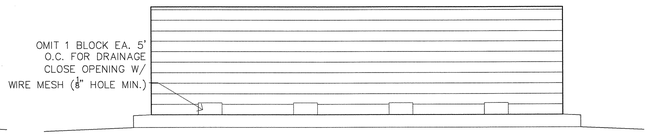
NORTH COMPOST AREA FOUNDATION PLAN
SCALE: 1/4"=1'-0"



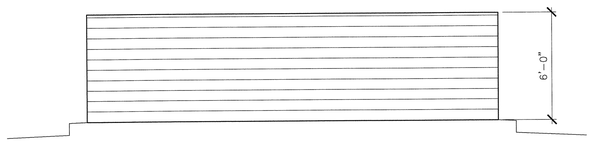
NORTH COMPOST AREA PLAN
SCALE: 1/4"=1'-0"
0 1' 8'
GRAPHIC SCALE: 1/4"=1'-0"



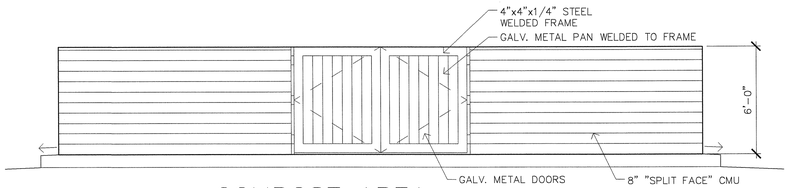
COMPOST AREA SOUTH ELEVATION
1/4"=1'-0"



COMPOST AREA WEST ELEVATION
1/4"=1'-0"



COMPOST AREA EAST ELEVATION
1/4"=1'-0"



COMPOST AREA NORTH ELEVATION
1/4"=1'-0"

REVISIONS	BY
A 05-24-10	HCCC
1 07-30-10 PC Respnse	HCCC
2 12-01-10 PC Respnse	HCCC

Om Namah Narayanaya
Om Namah Shivaya

HINDU COMMUNITY and CULTURAL CENTER
1200 ARROWHEAD AVE. LIVERMORE, CA 94551

PHASE 1-B
COMPOST AREA
PLANS, SECTION & ELEVATIONS
& TRASH ENCLOSURE
CEILING FRAMING PLAN

DATE 03/12/10
SCALE: 1/8"=1'-0"
DRAWN BY: BRG
PROJECT: ARROWHEAD

S-6