

GENERAL NOTES

1. SEE CIVIL DRAWINGS FOR EXACT FINISHED FLOOR ELEVATIONS.
2. SEE SHEET A601 FOR DOOR & WINDOW SCHEDULE.
3. SEE DETAIL 7/A721 FOR ALL BUILDING EXTERIOR PLASTER CORNERS, U.N.O.

1040 Lincoln Avenue, Suite 200
Pasadena, California 91103

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Consultant:

CONSTRUCTION ITEMS

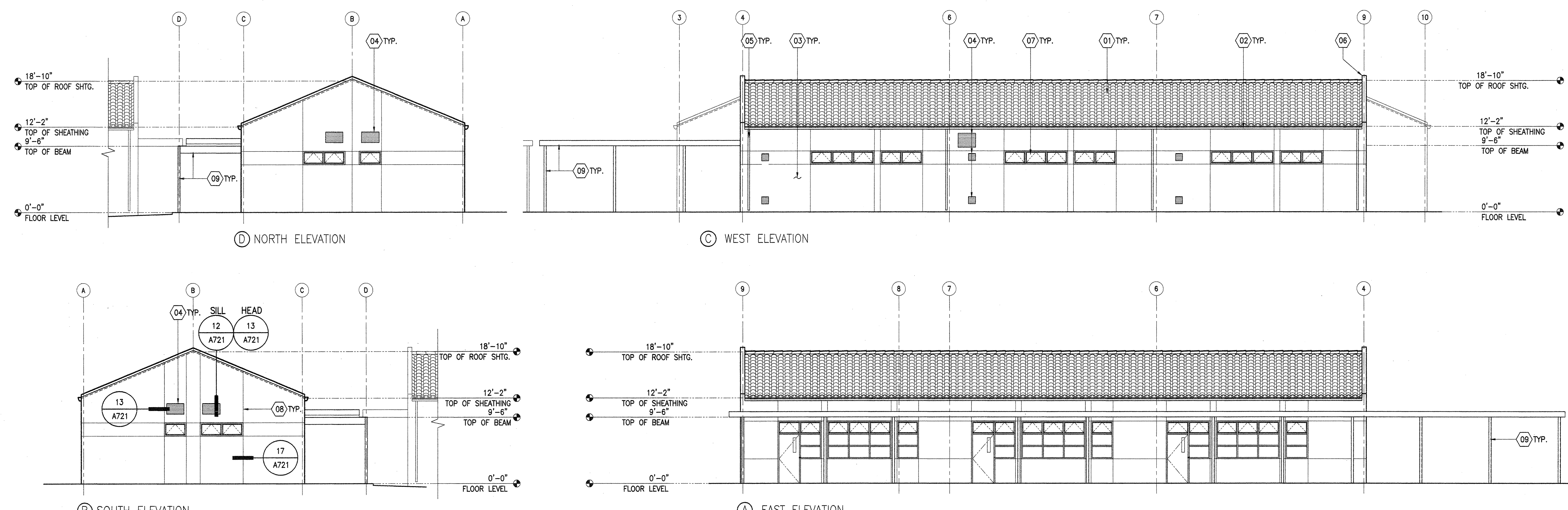
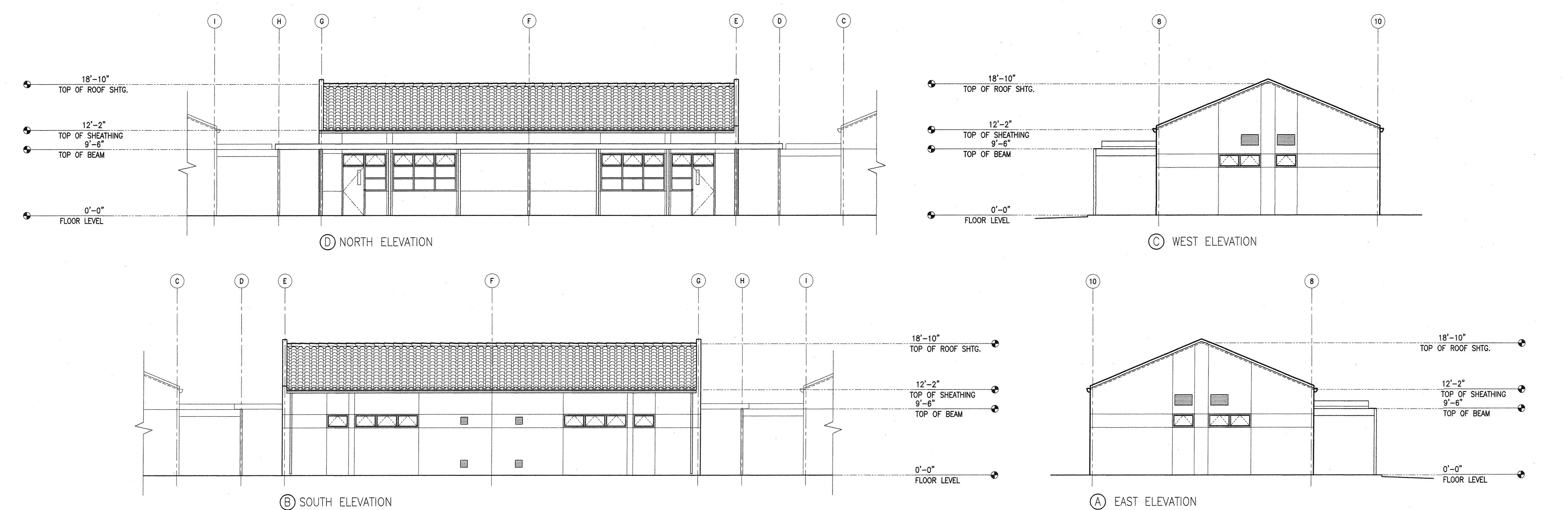
CONSTRUCT/PROVIDE/INSTALL THE FOLLOWING:

- 01 CONCRETE TILE ROOF
- 02 PAINTED GUTTER
- 03 EXTERIOR CEMENT PLASTER, PAINTED TYP.
- 04 MECHANICAL LOUVER, SEE MECHANICAL DRAWINGS
- 05 PAINTED DOWNSPOUT
- 06 PARAPET EDGE, SEE DETAIL 2/A701
- 07 WINDOW, SEE SCHEDULE ON SHEET A601
- 08 PLASTER CONTROL JOINT, SEE DETAIL 17/A721
- 09 EXPOSED STEEL STRUCTURE, PAINTED TYP.

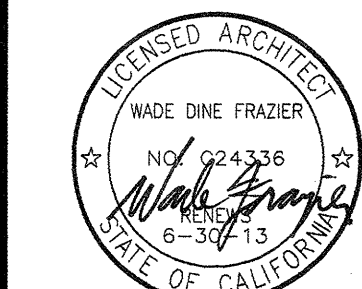
Project Title:

Palos Verdes HS
CLASSROOM BUILDING 3
600 Cloyden Road
Palos Verdes Estates
California 90274

KEY PLAN



BID SET	04.24.12	
DSA SUBMITTAL	07.22.11	
SOX CD	05.31.11	
DESIGN DEVELOPMENT	03.17.11	
Mark	Date	Description
Issues/Revisions		



Approval:

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL 03-114031
EXP. 19-1141
NO. 1177 FILED SS. 11
DATE MAR 22 2012

Project No: 10021.00
CAD Dwg. File:
Drawn By: NC
Checked By: WF
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Sheet Title:
EXTERIOR ELEVATIONS

Sheet Number:
A401

GENERAL NOTES

1. SEE SHEET A601 FOR DOOR & WINDOW SCHEDULE.

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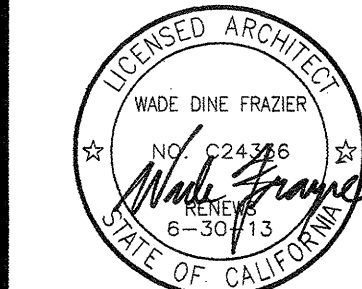
- 01) DOOR PER DOOR SCHEDULE
- 02) RESILIENT BASE
- 03) TACKBOARD
- 04) MARKERBOARD
- 05) GYPBD SOFFIT
- 06) WINDOW PER WINDOW SCHEDULE
- 07) GYPSUM BOARD, REFER TO FINISH SCHEDULE
- 08) SEMI-RECESSED F.E. CABINET, SEE DETAIL 10/A731
- 09) FIRE ALARM COMBINATION MINI HORN / VISUAL STROBE, SEE ELECTRICAL DRAWINGS

KEY PLAN

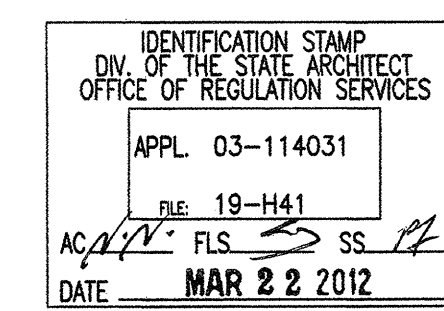
BID SET	04.24.12
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50% CD	05.31.11
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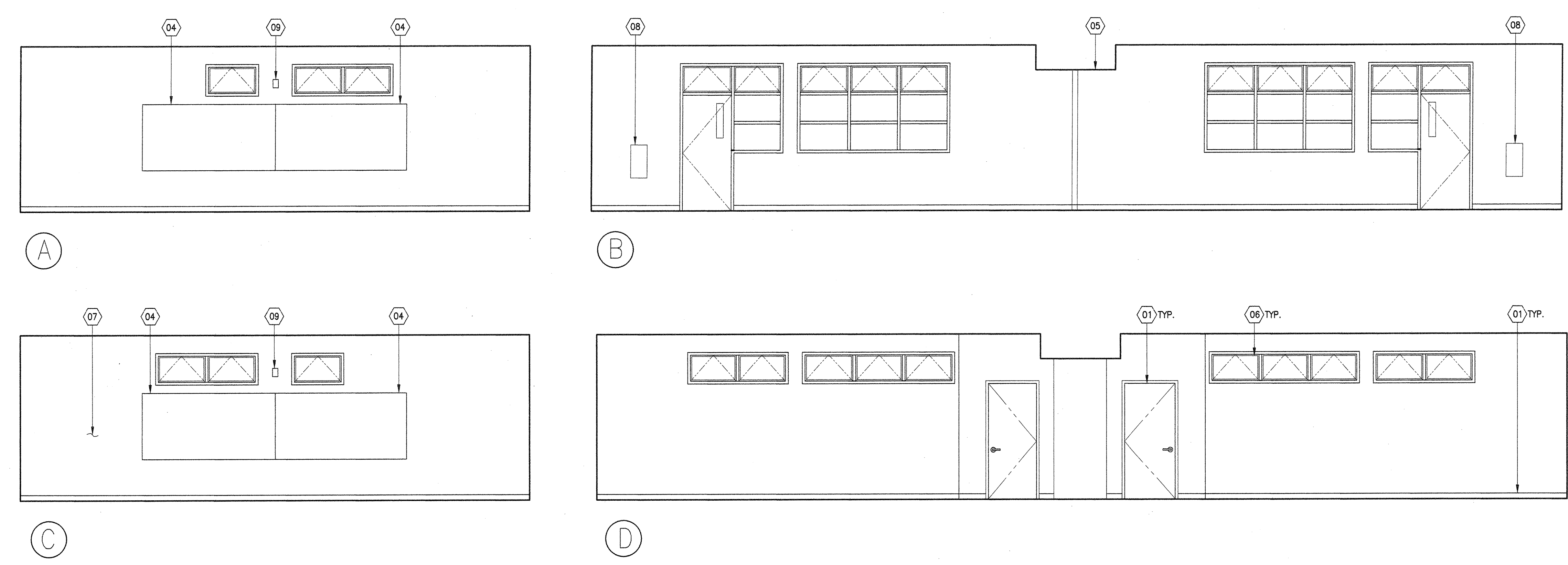
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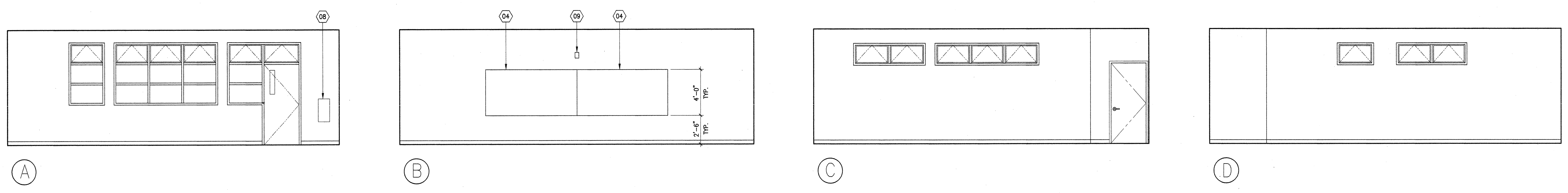
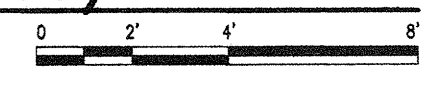
INTERIOR ELEVATIONS

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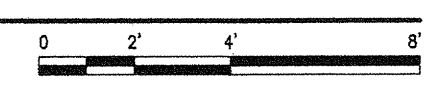
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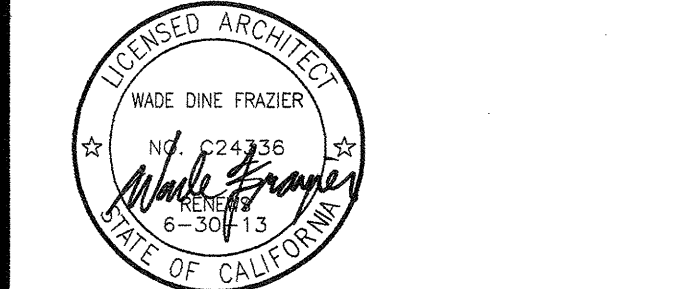
2 INTERIOR ELEVATIONS (CLASSROOM 104 & CLASSROOM 105)
1/4" = 1'-0"



1 INTERIOR ELEVATIONS (CLASSROOM 101)
1/4" = 1'-0"



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APPL. 03-114031
REG. 19-1441
DATE: MAR 22 2012

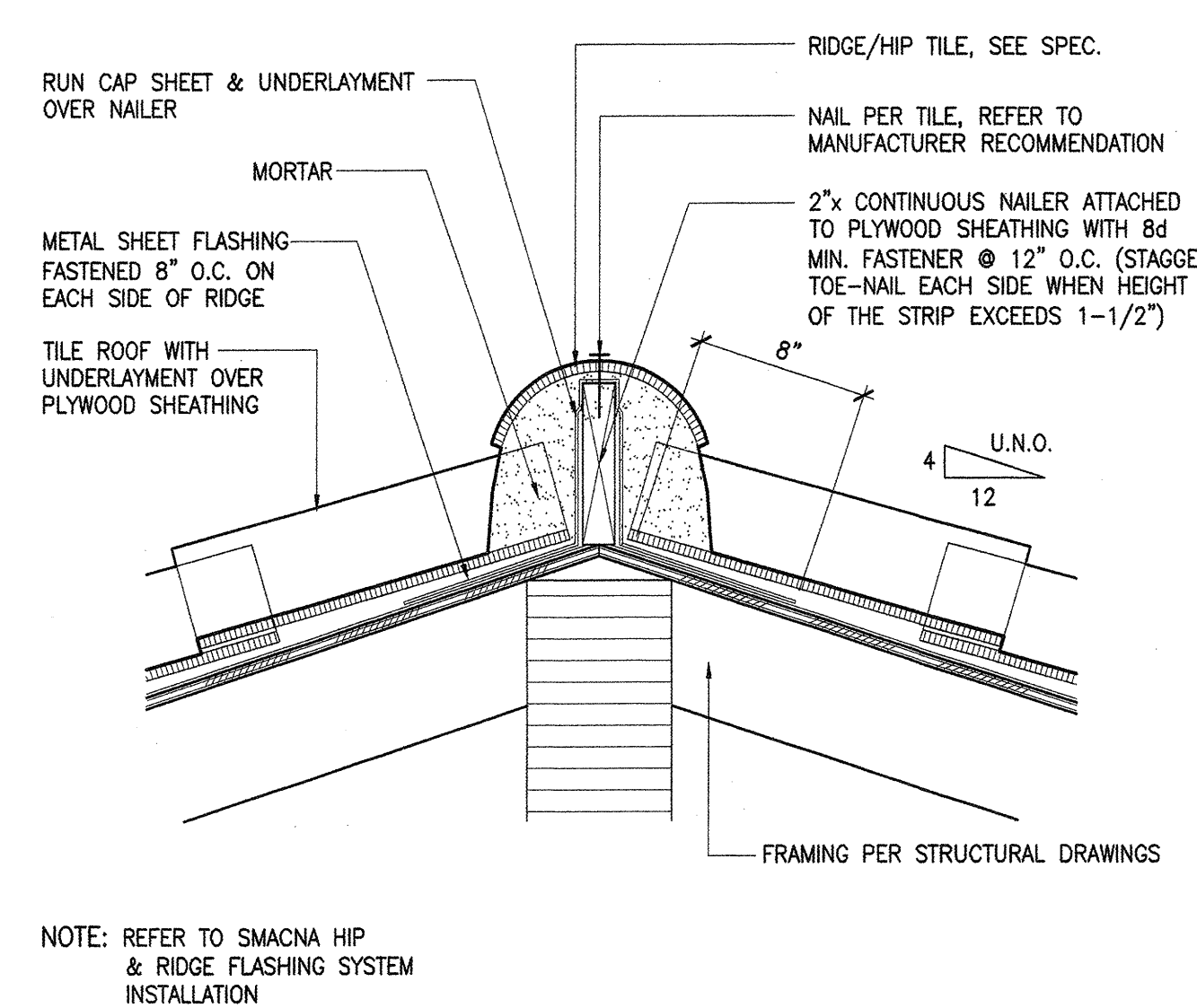
Project No:	10021.00
CAD Dwg. File:	
Drawn By:	MC
Checked By:	MF

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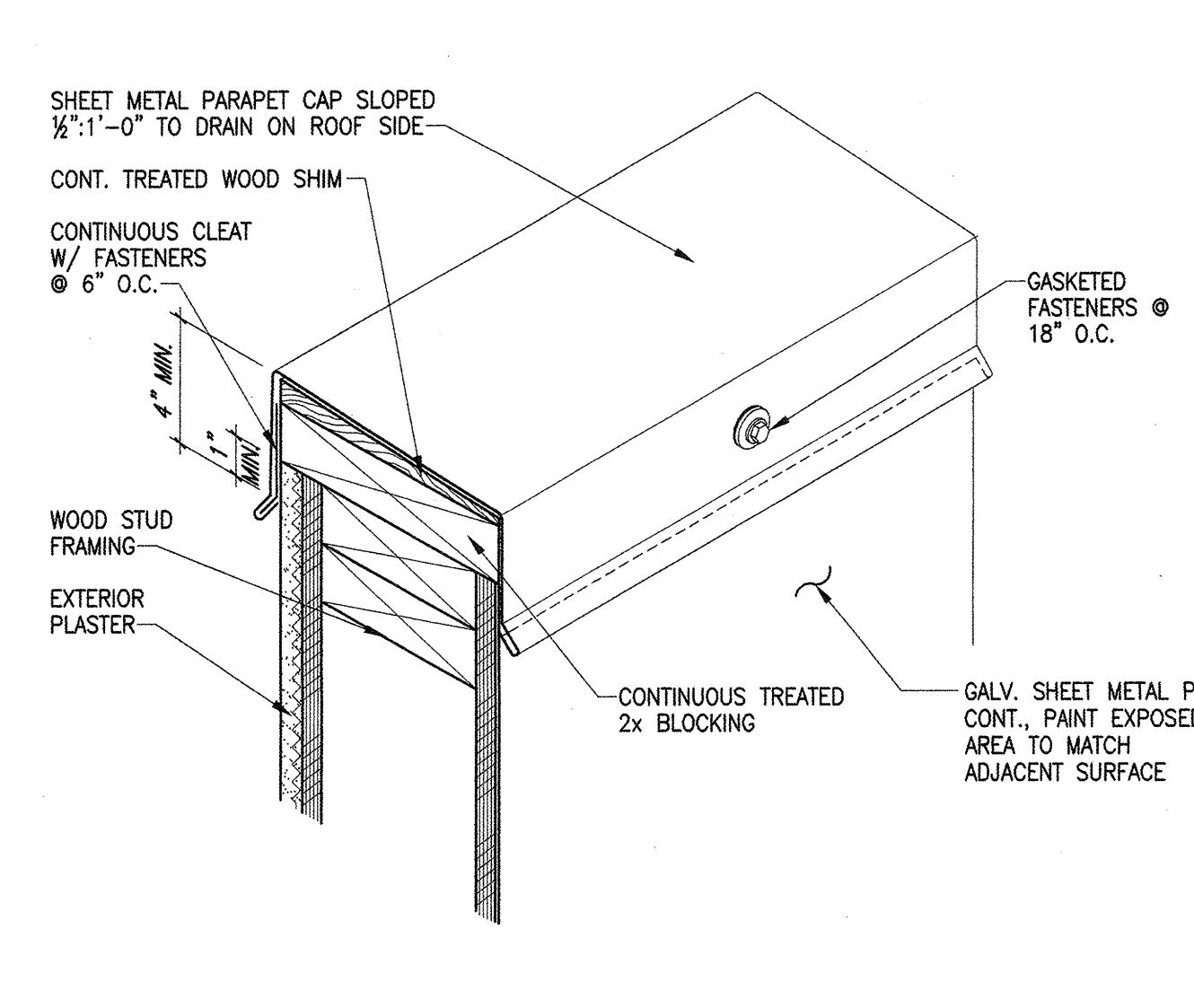
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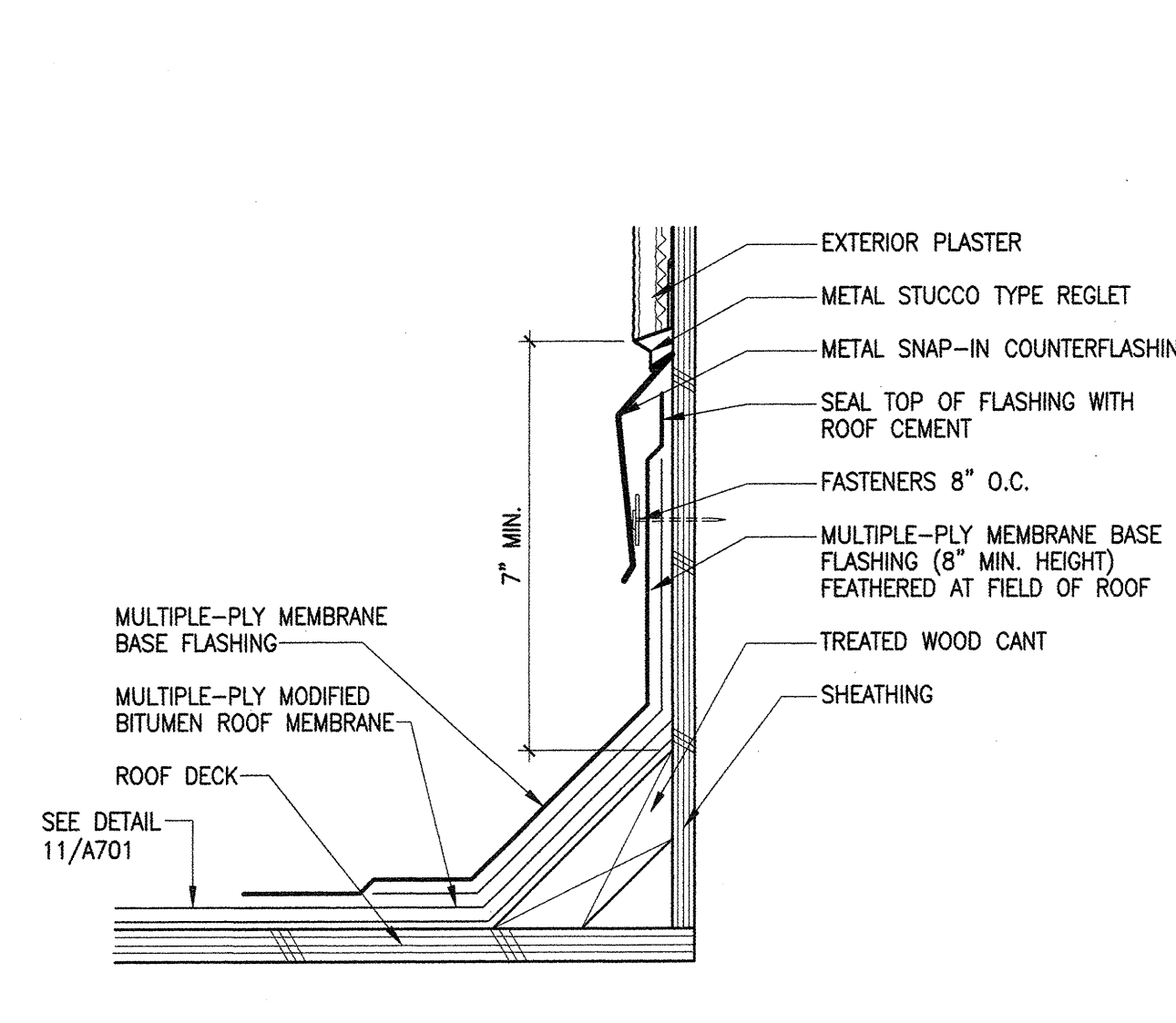
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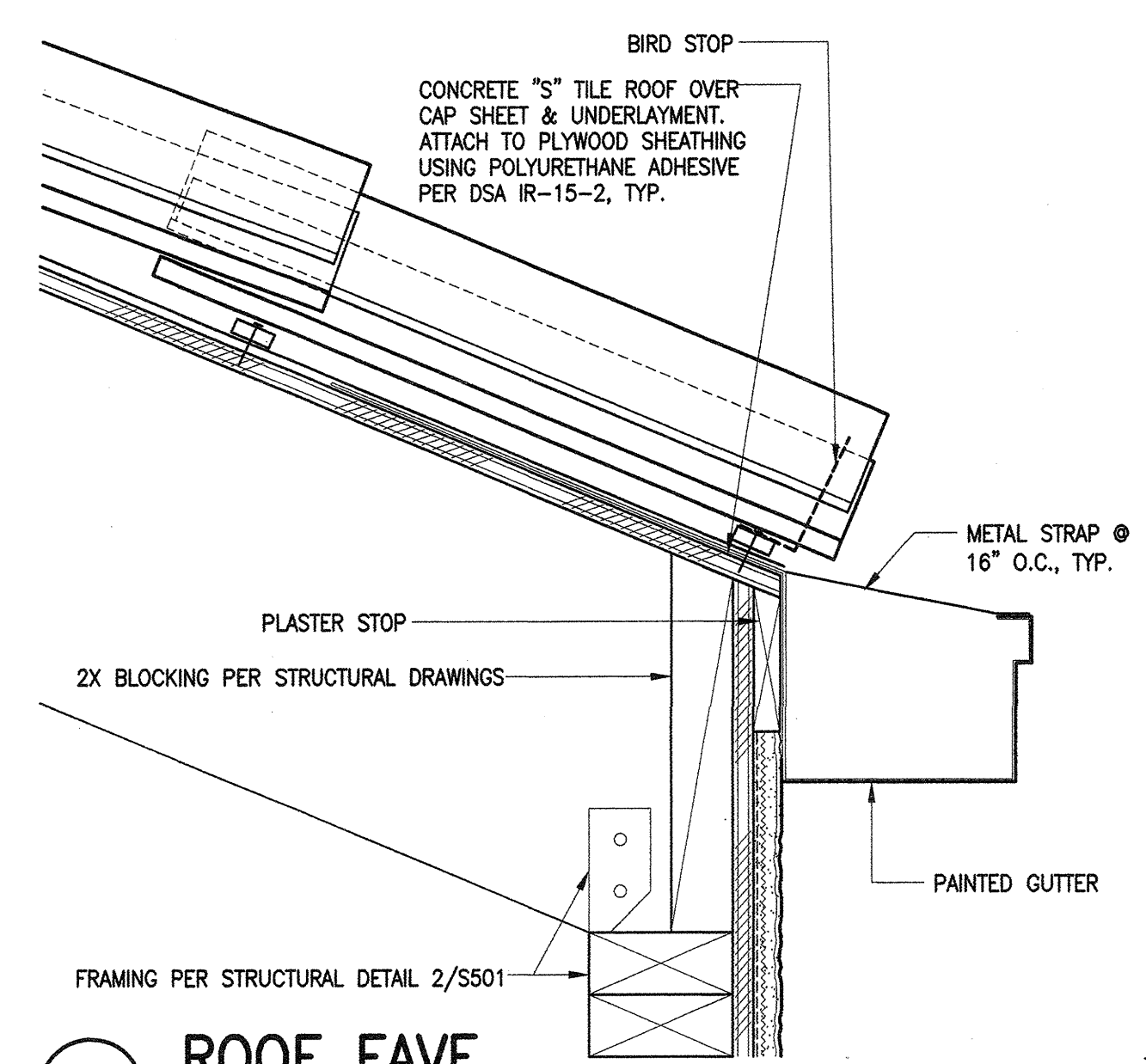
4 RIDGE ROOF
1 1/2" = 1'-0"



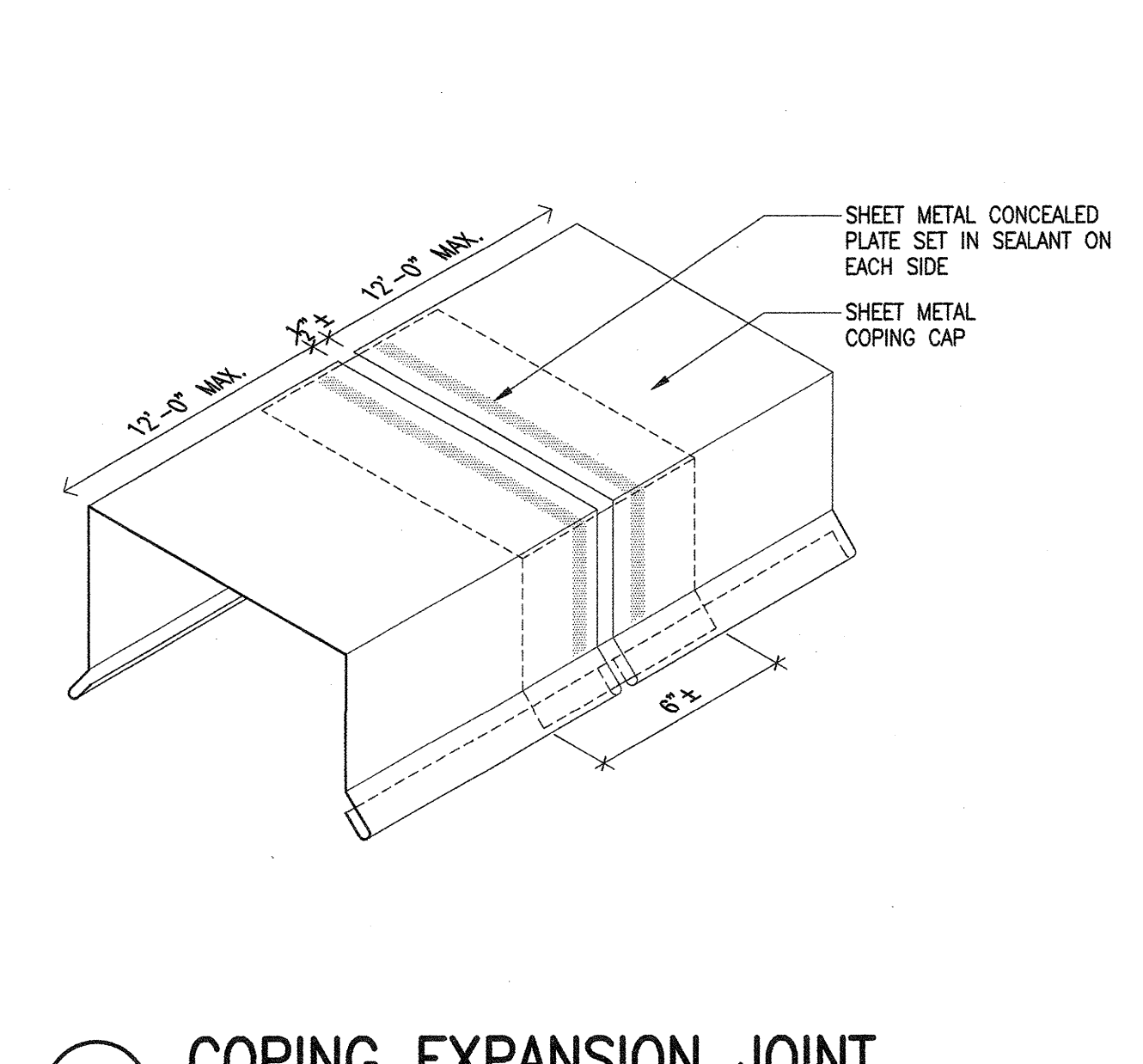
8 PARAPET CAP AT WOOD STUDS
FULL SIZE



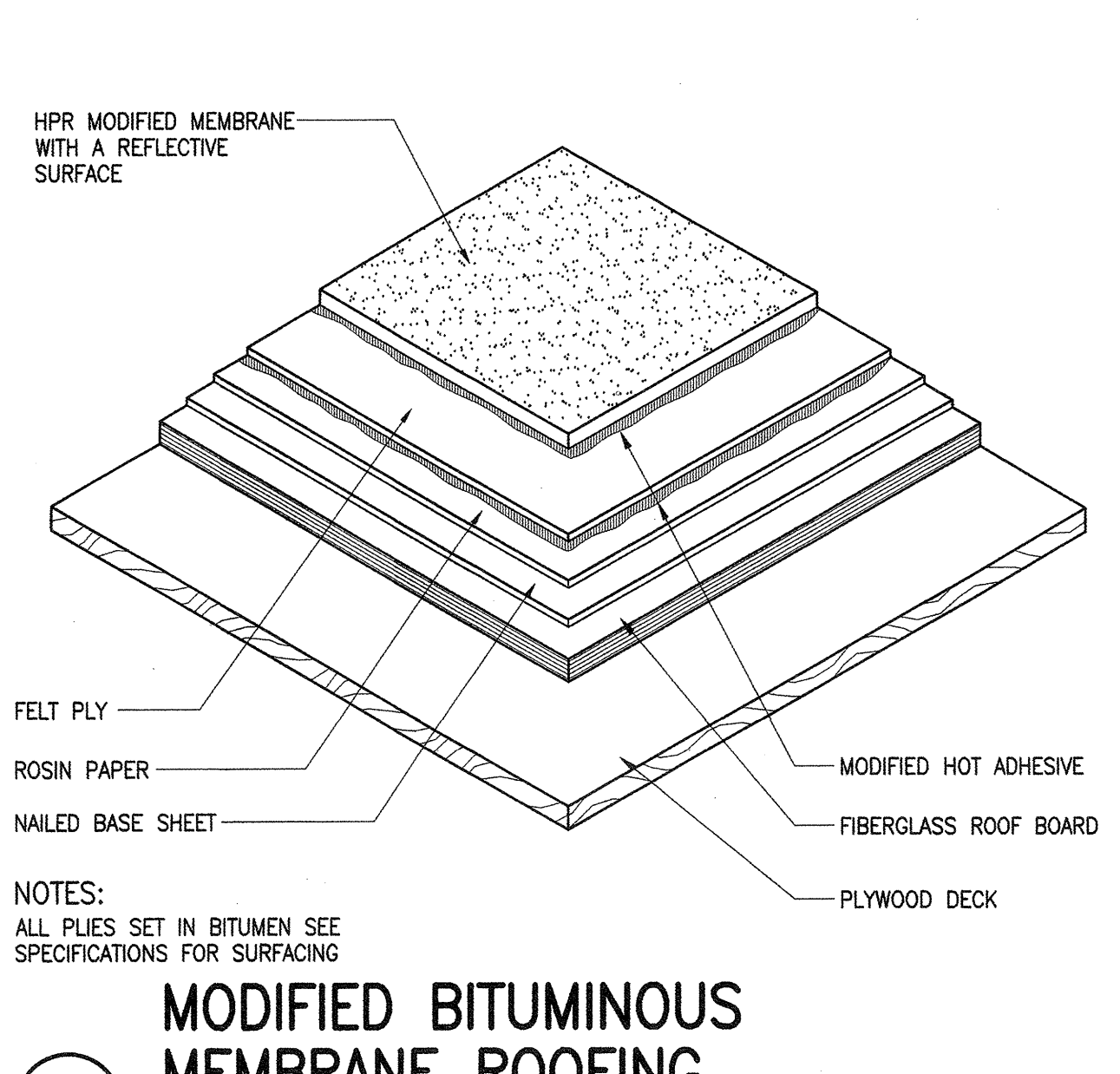
12 BASE FLASHING
3" = 1'-0"



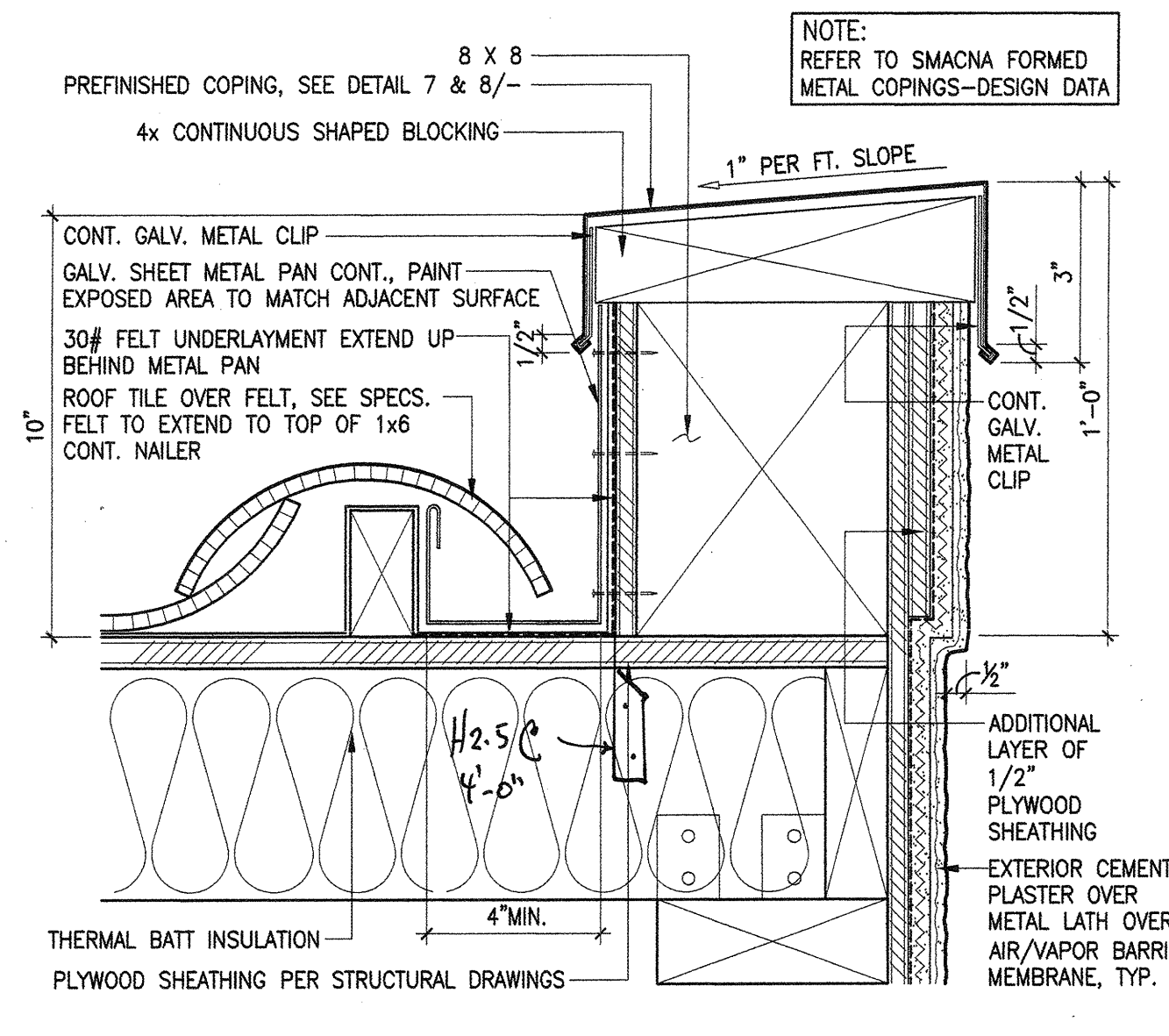
3 ROOF EAVE
3" = 1'-0"



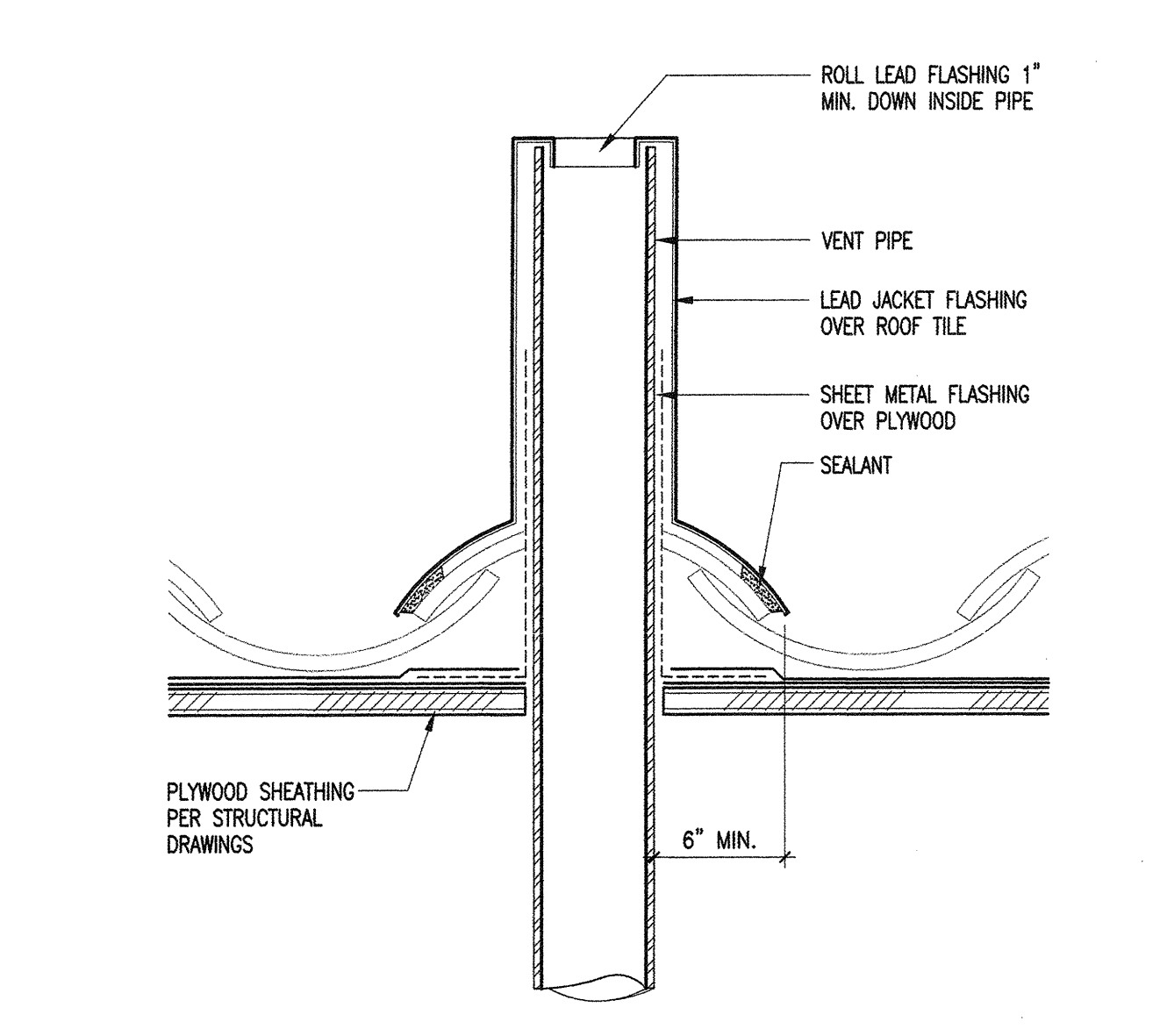
7 COPING EXPANSION JOINT
N.T.S.



11 MODIFIED BITUMINOUS MEMBRANE ROOFING
N.T.S.

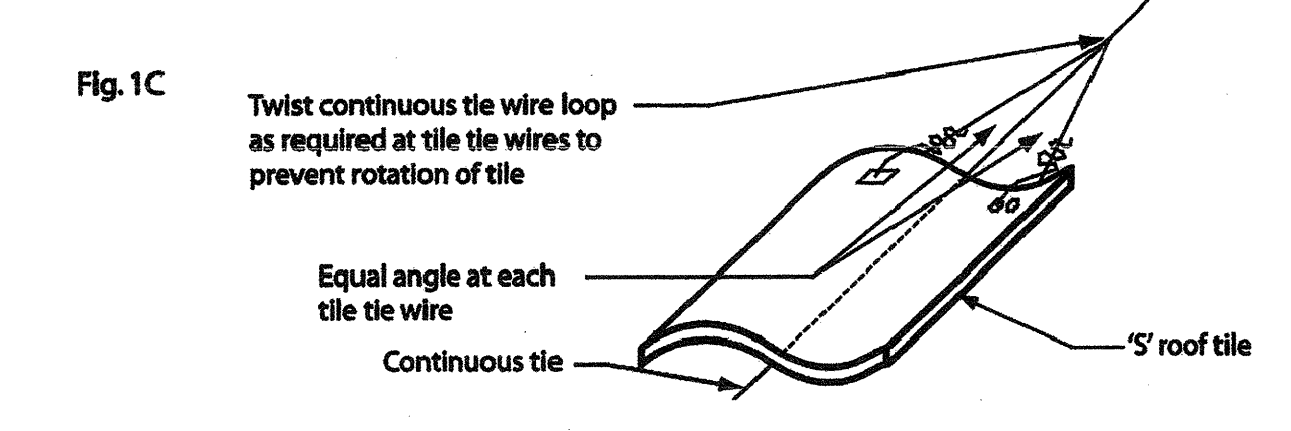
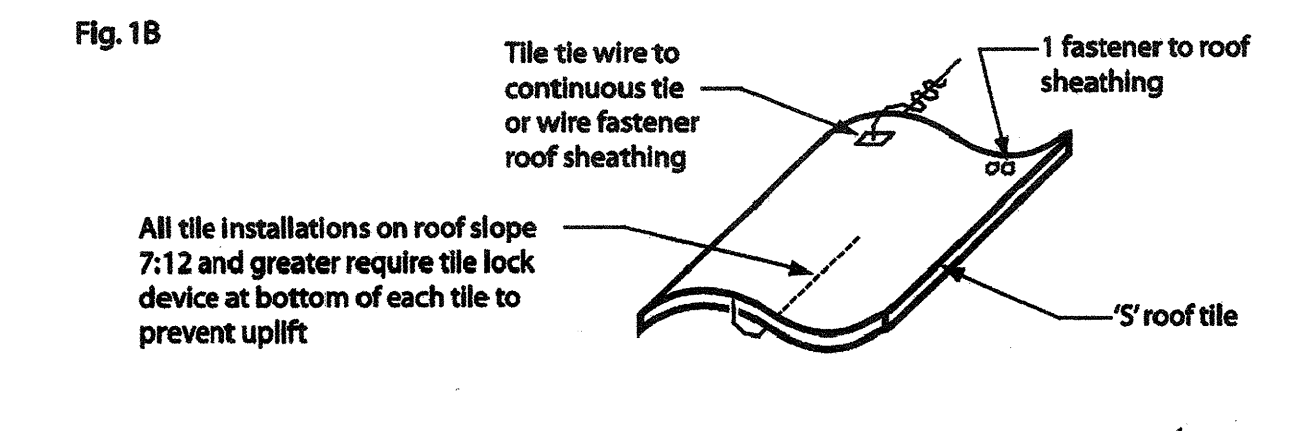
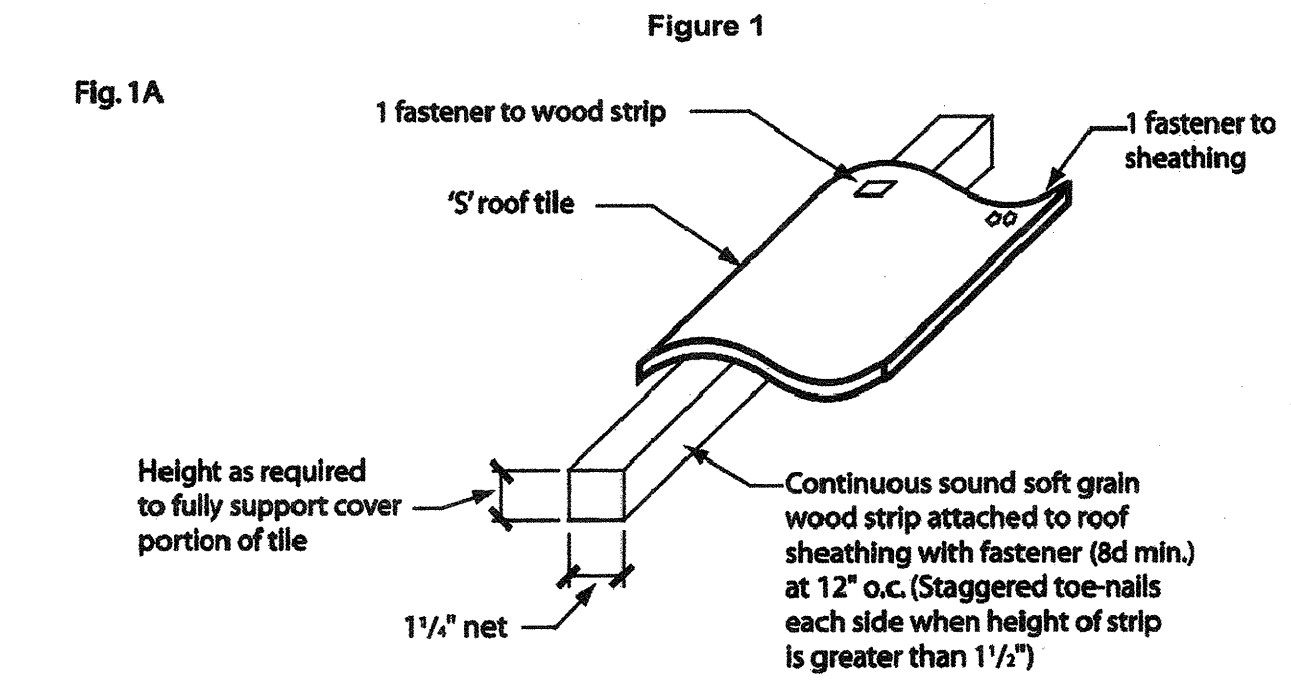


2 TILE ROOF AT PARAPET EDGE
3" = 1'-0"

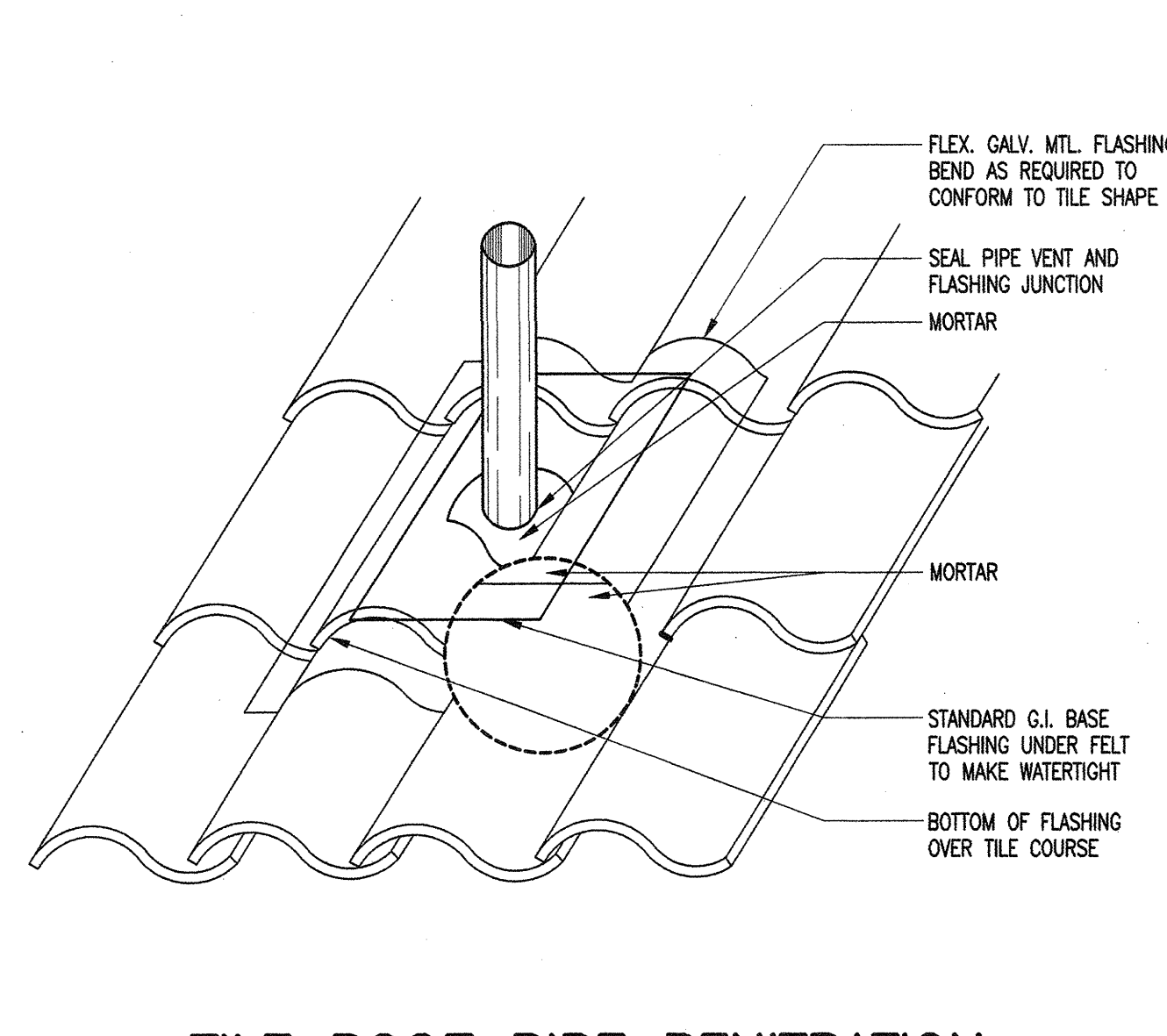


6 VENT PIPE FLASHING
3" = 1'-0"

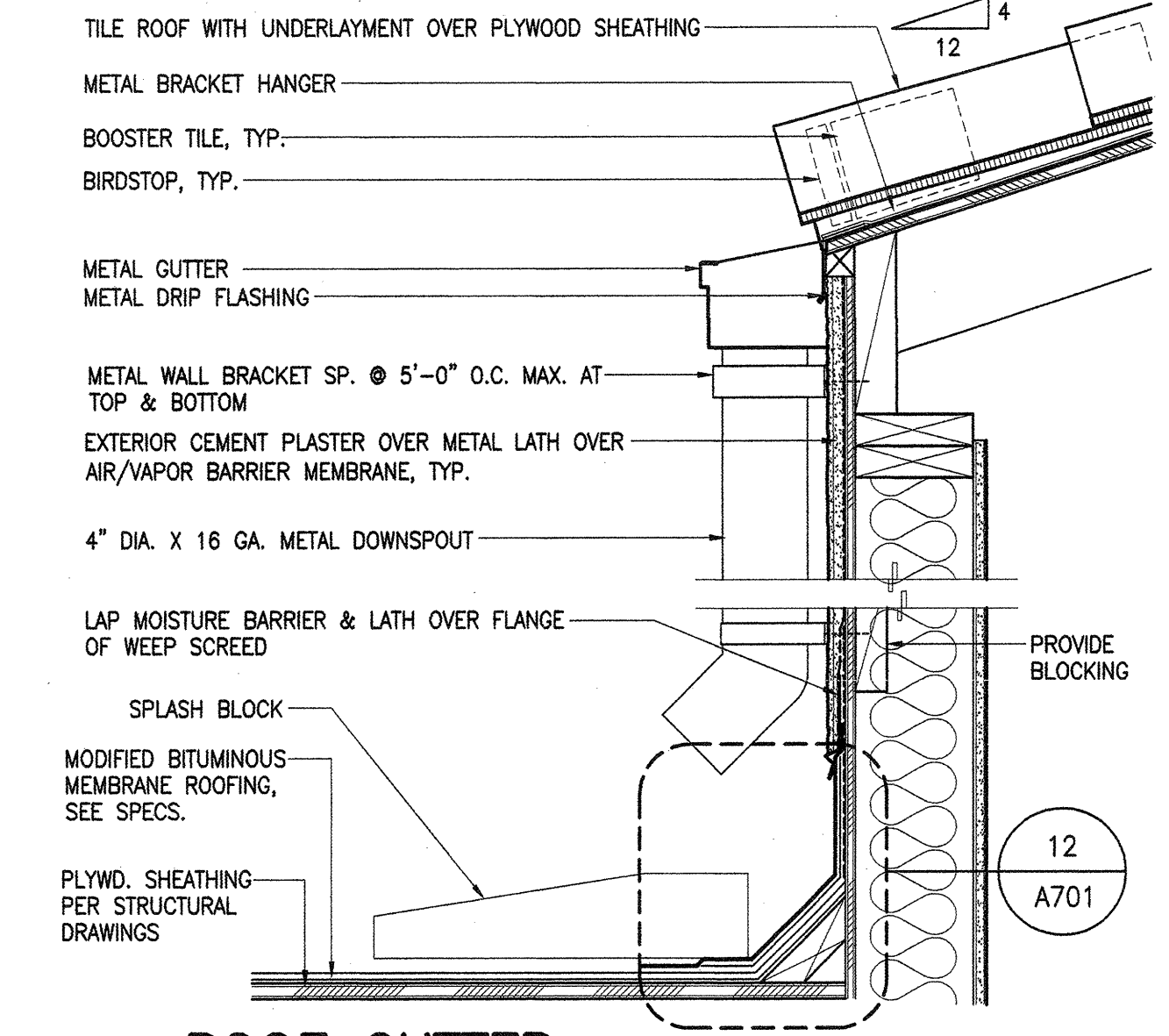
NOTES:
1. INSTALLATION OF TILE SHALL NOT BE STARTED UNTIL ATTACHMENT DETAILS HAVE BEEN REVIEWED AND APPROVED BY DSA FIELD ENGINEER.
2. TILES SHALL COMPLY WITH LOAD TEST REQUIREMENTS OF SECTION 1507.3 AND 1511 OF 2010 CBC OR AS PERMITTED BY IR-15-1
3. REFER TO ICC REPORT ESR-1900 FOR EAGLE ROOFING PRODUCTS FOR ADDITIONAL INSTALLATION REQUIREMENTS.



9 TILE ROOF ATTACHMENT
3" = 1'-0"



5 TILE ROOF PIPE PENETRATION
3" = 1'-0"



1 ROOF GUTTER
1 1/2" = 1'-0"

Consultant:
 Project Title:

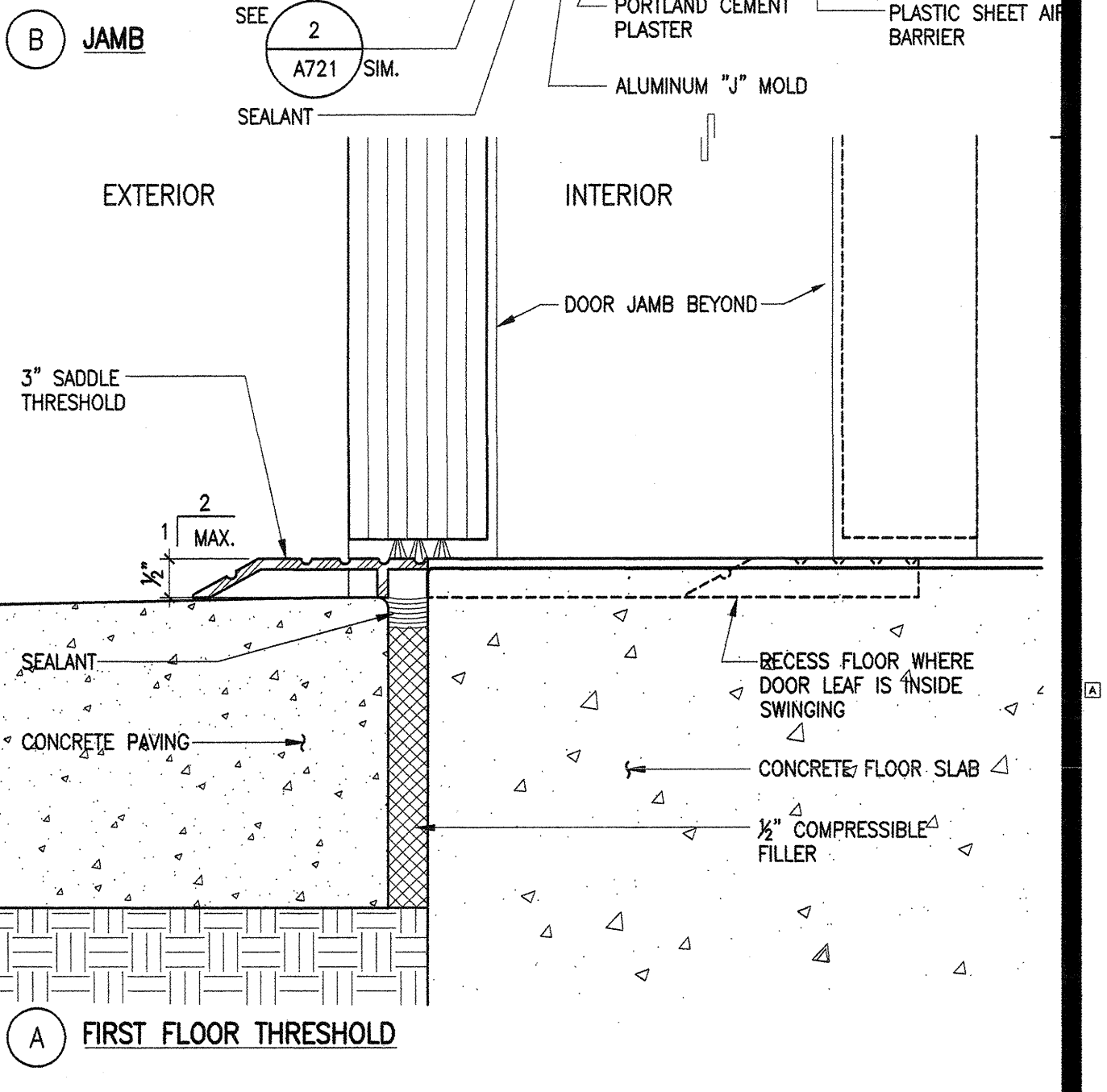
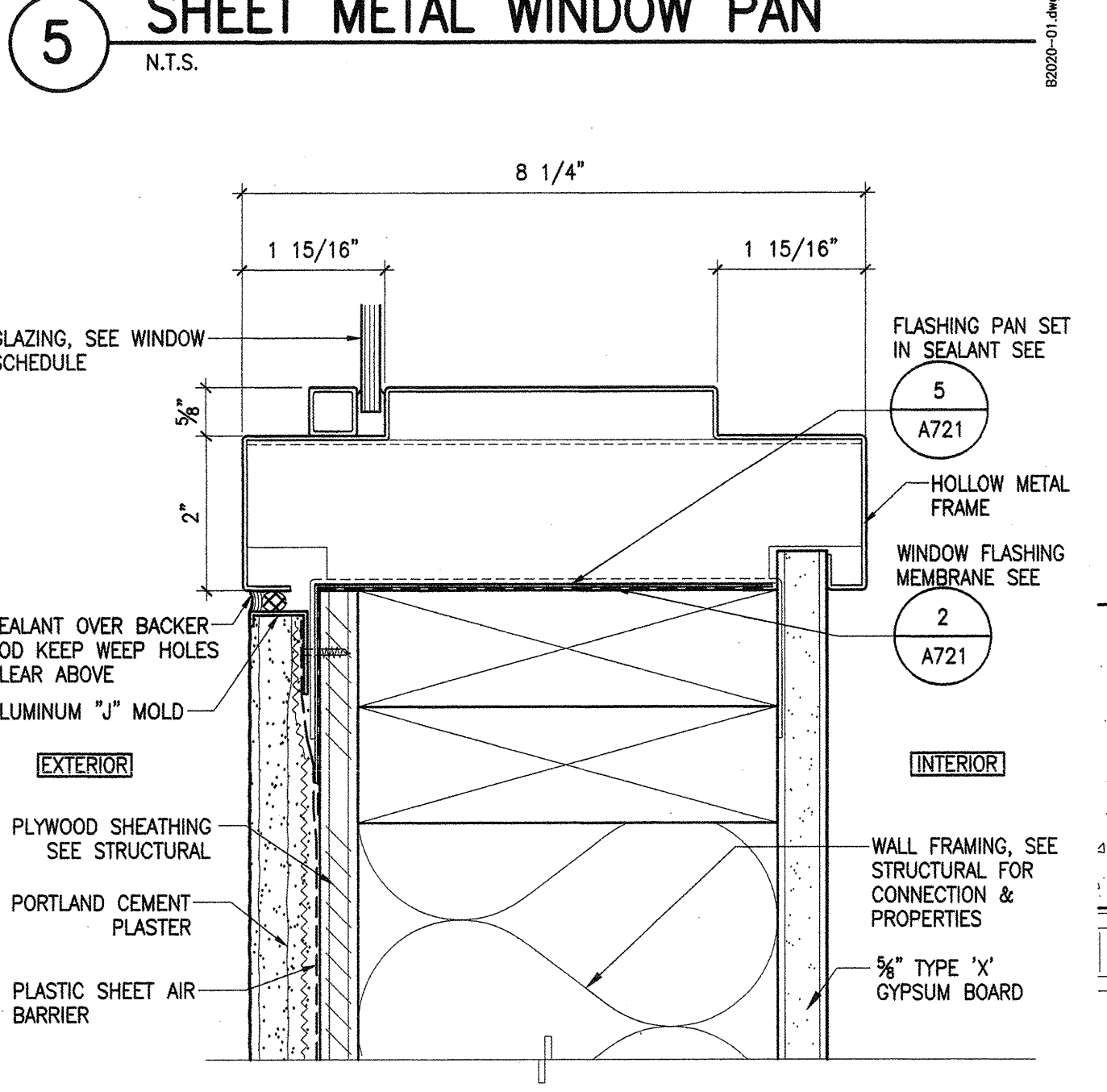
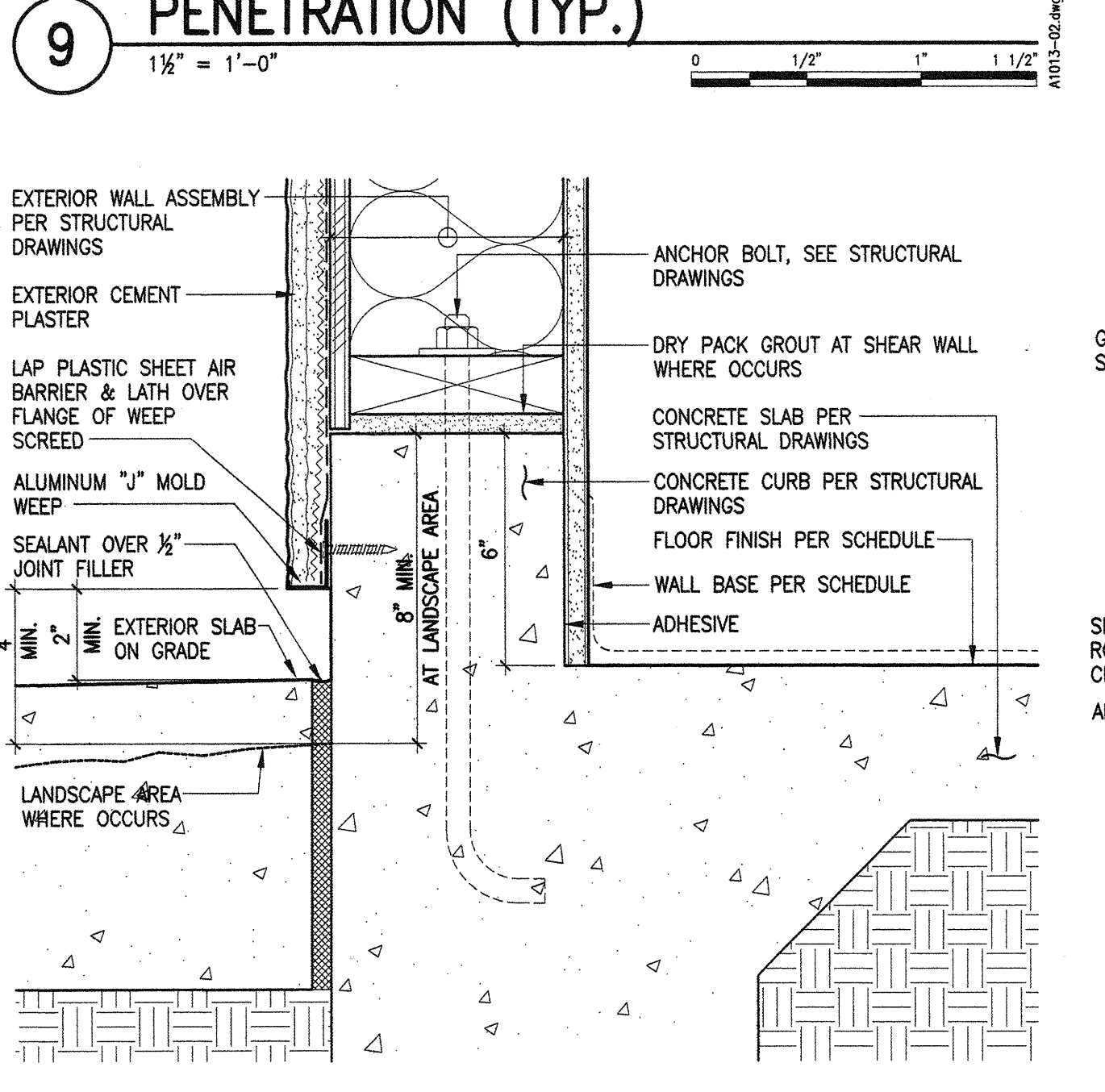
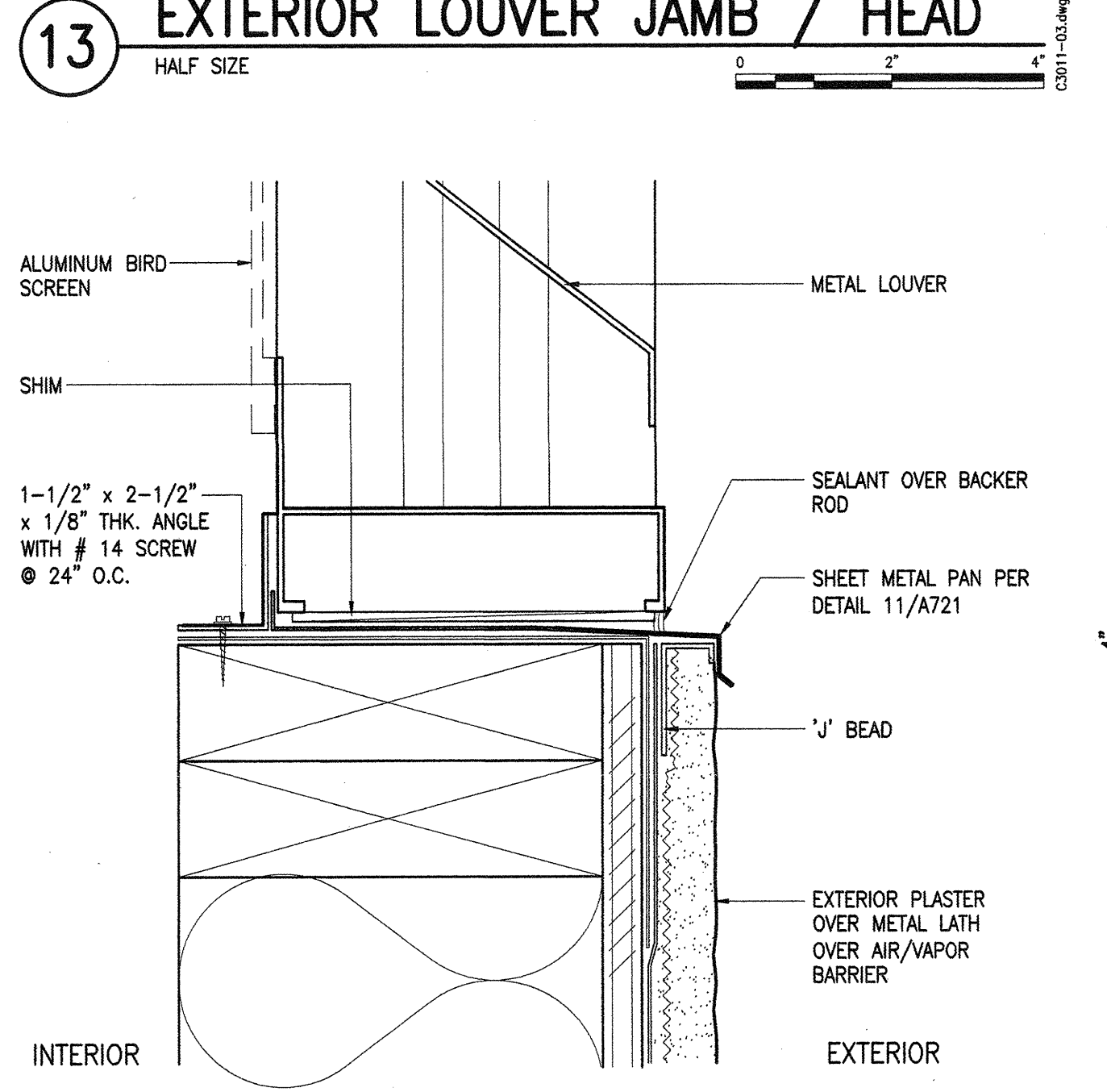
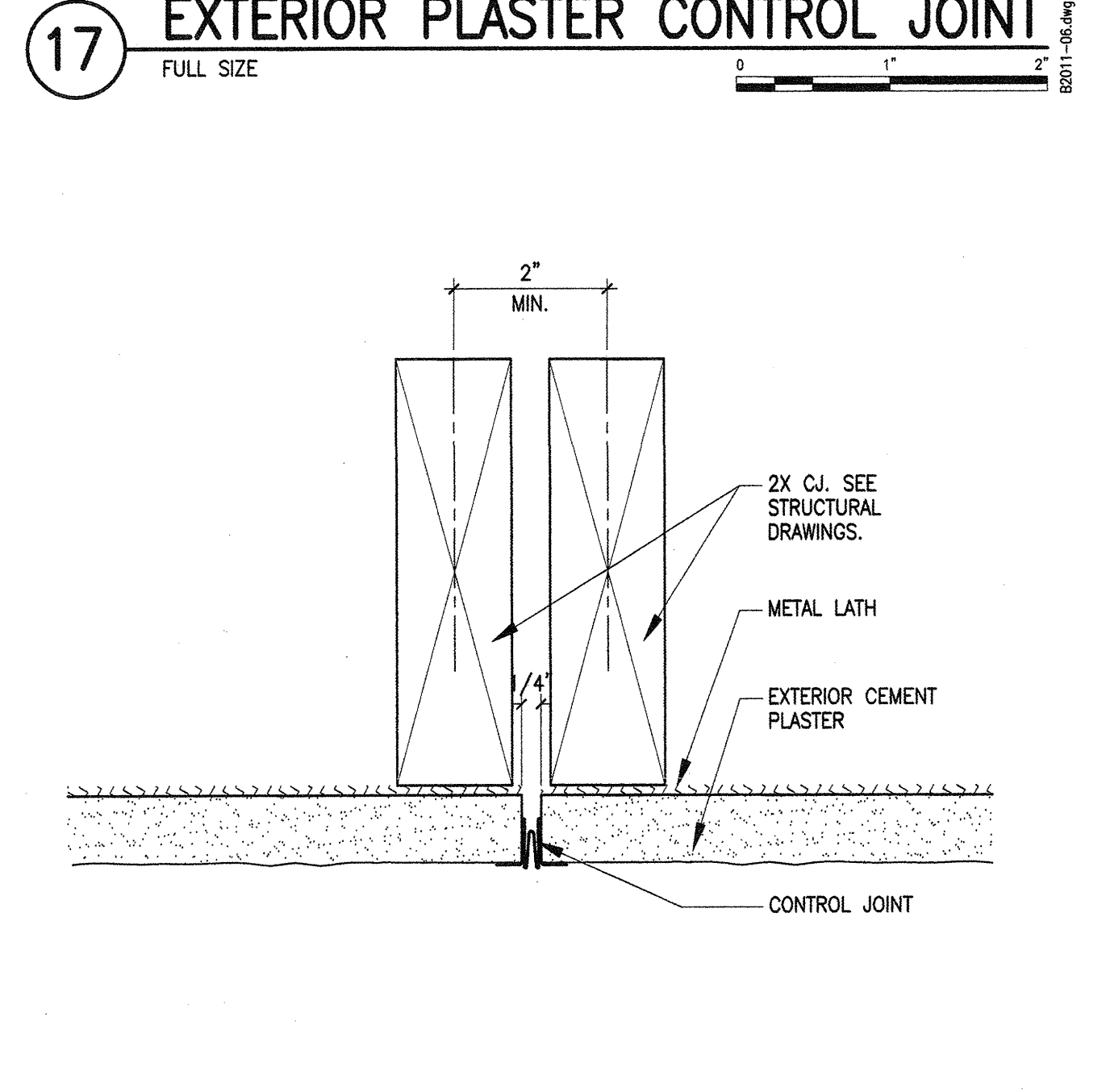
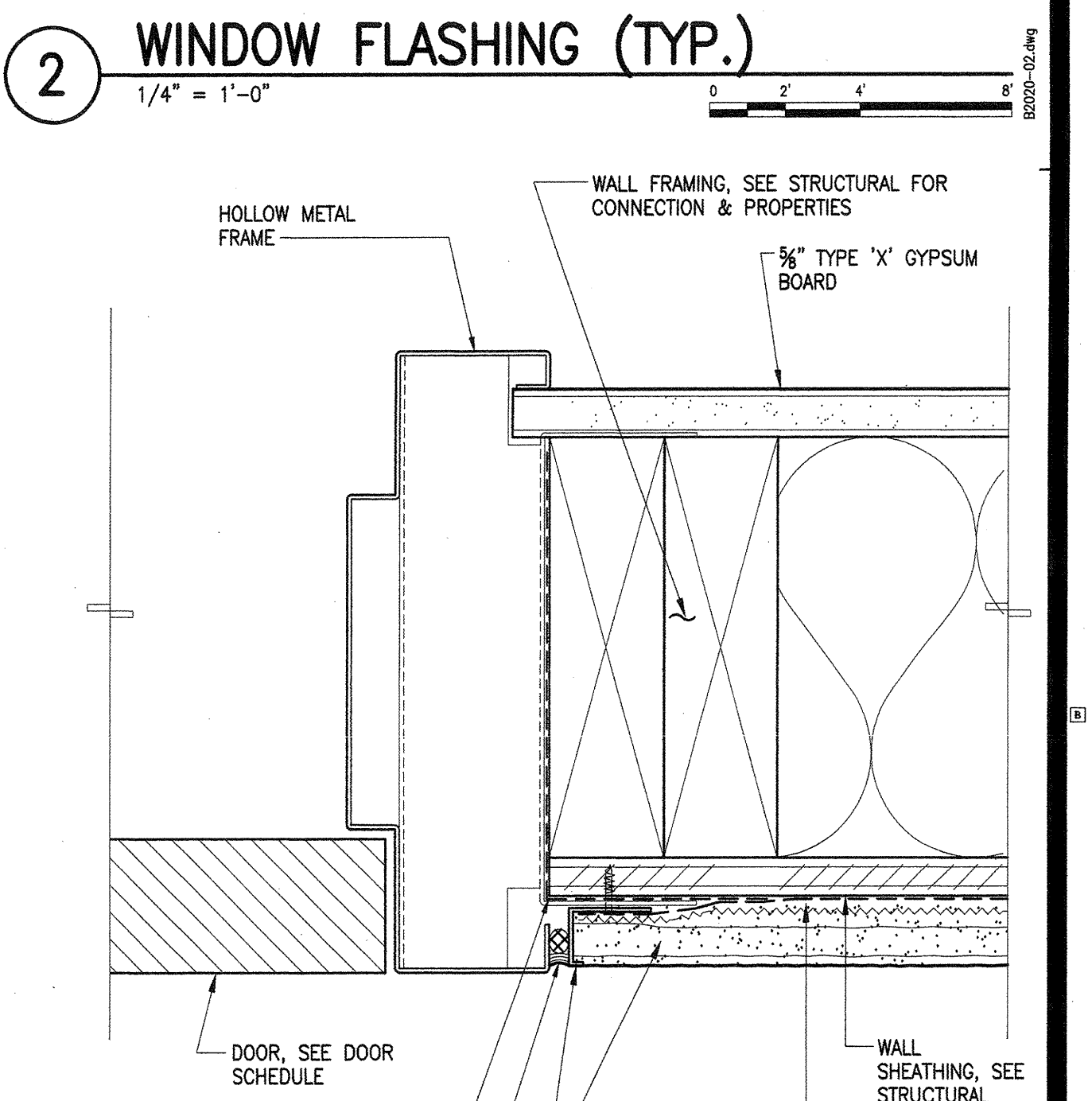
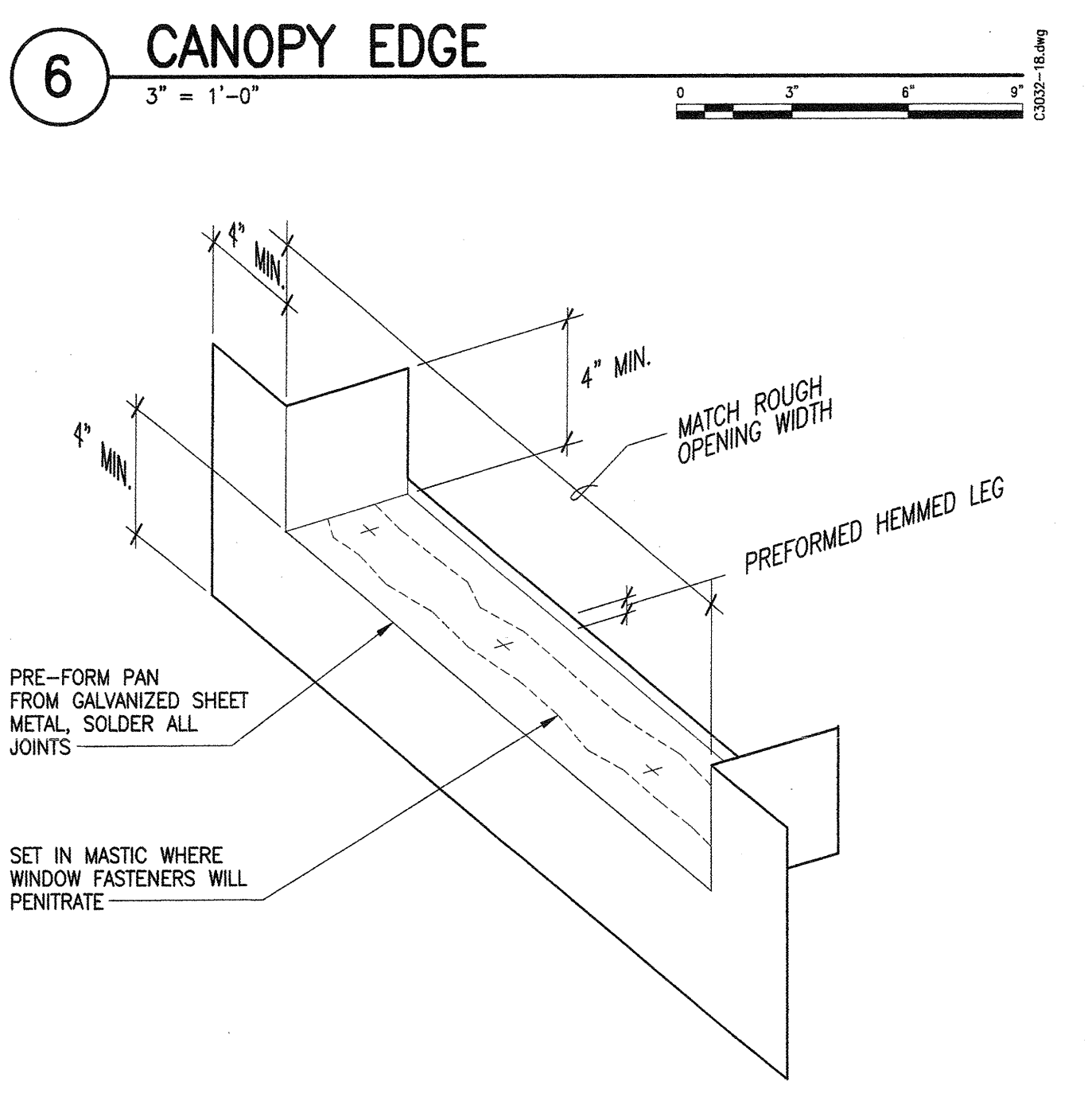
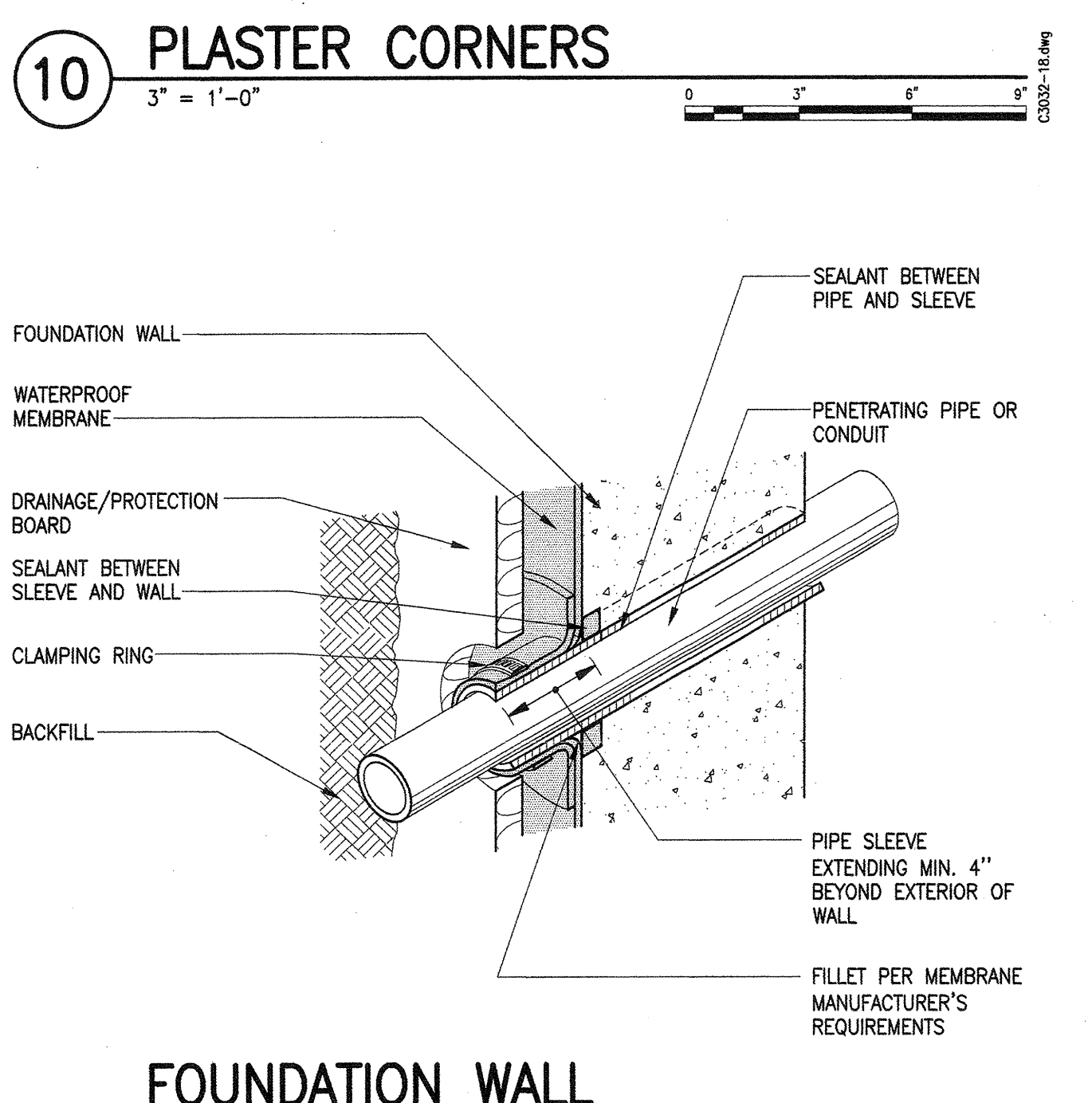
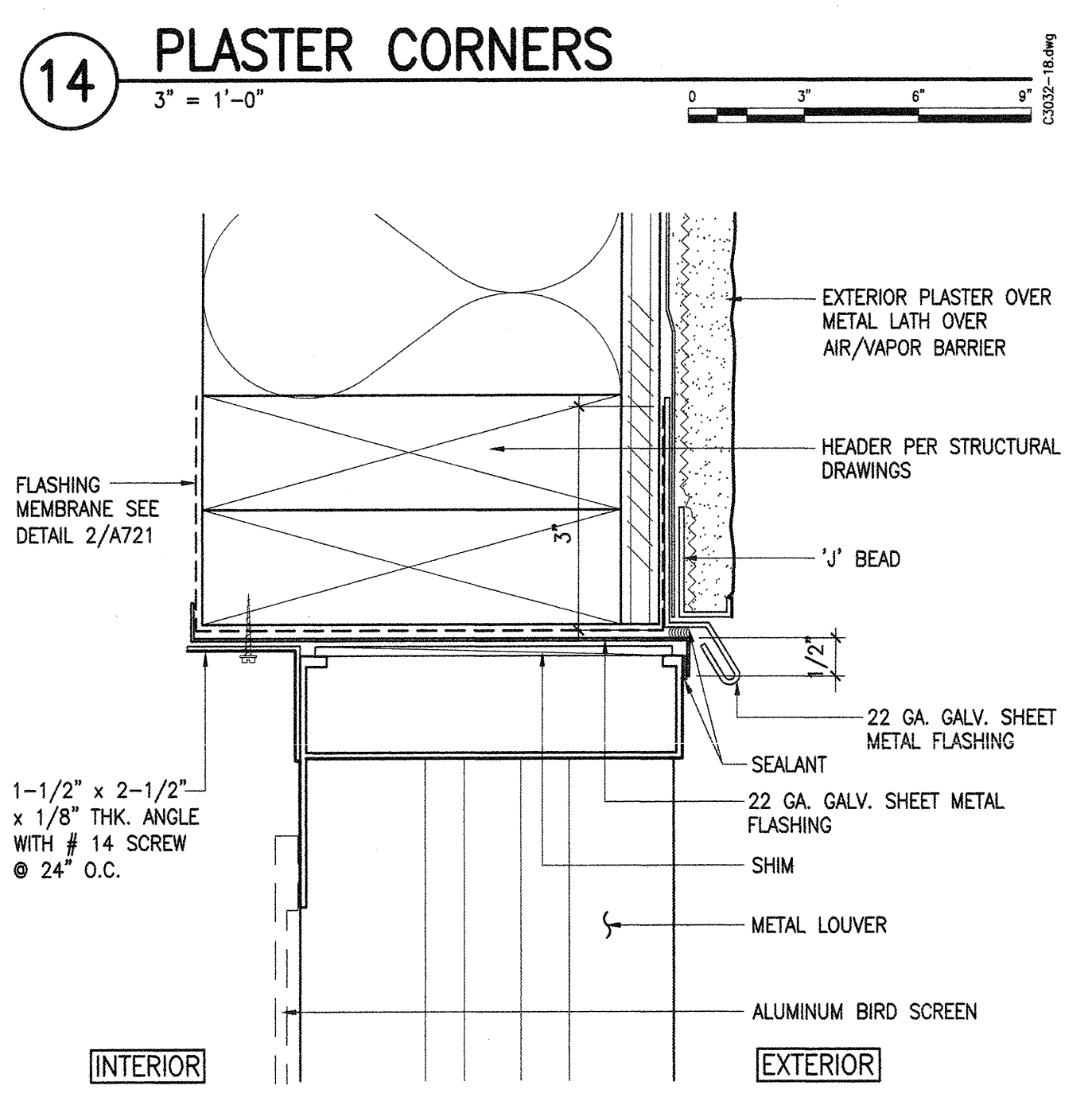
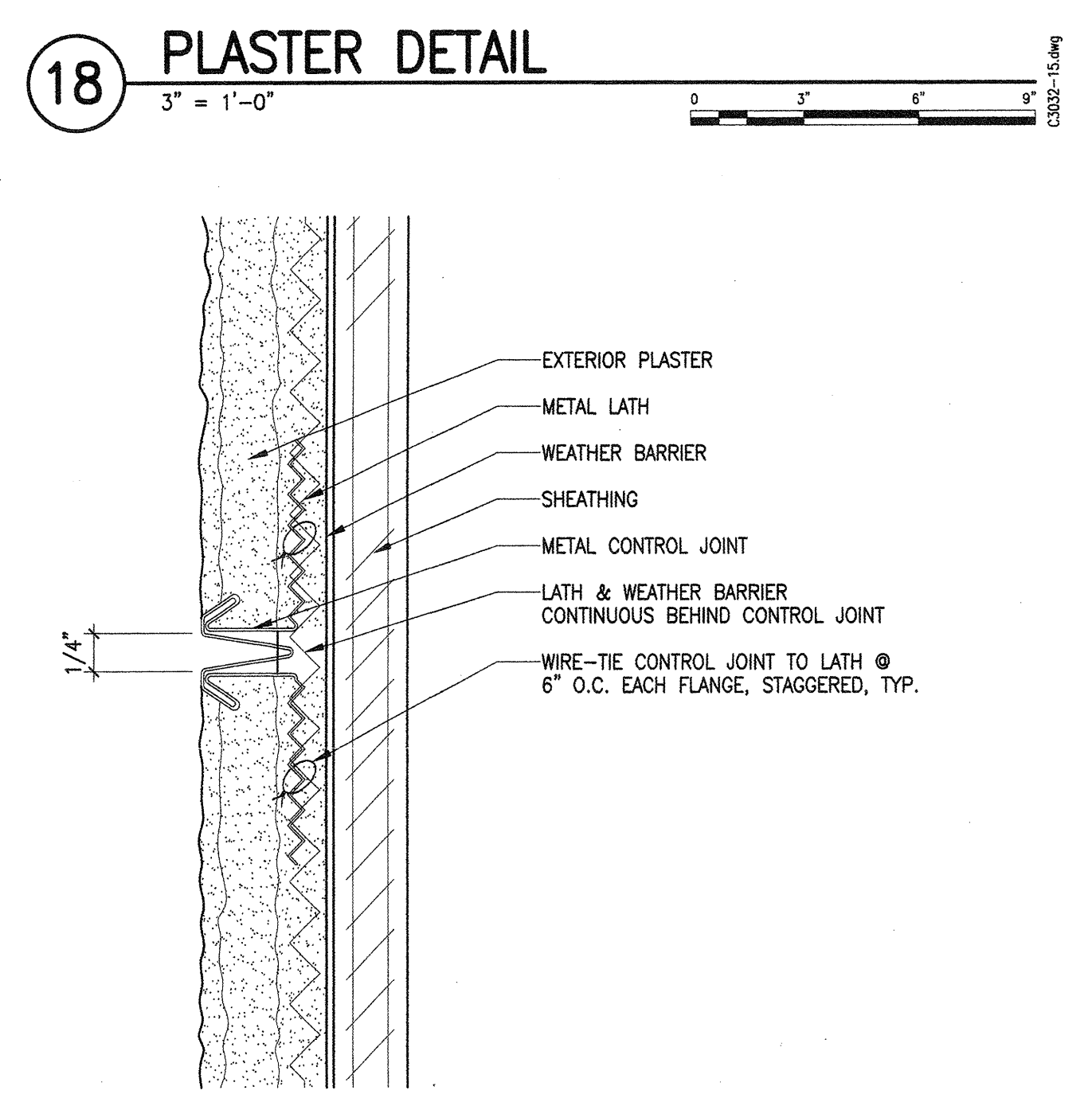
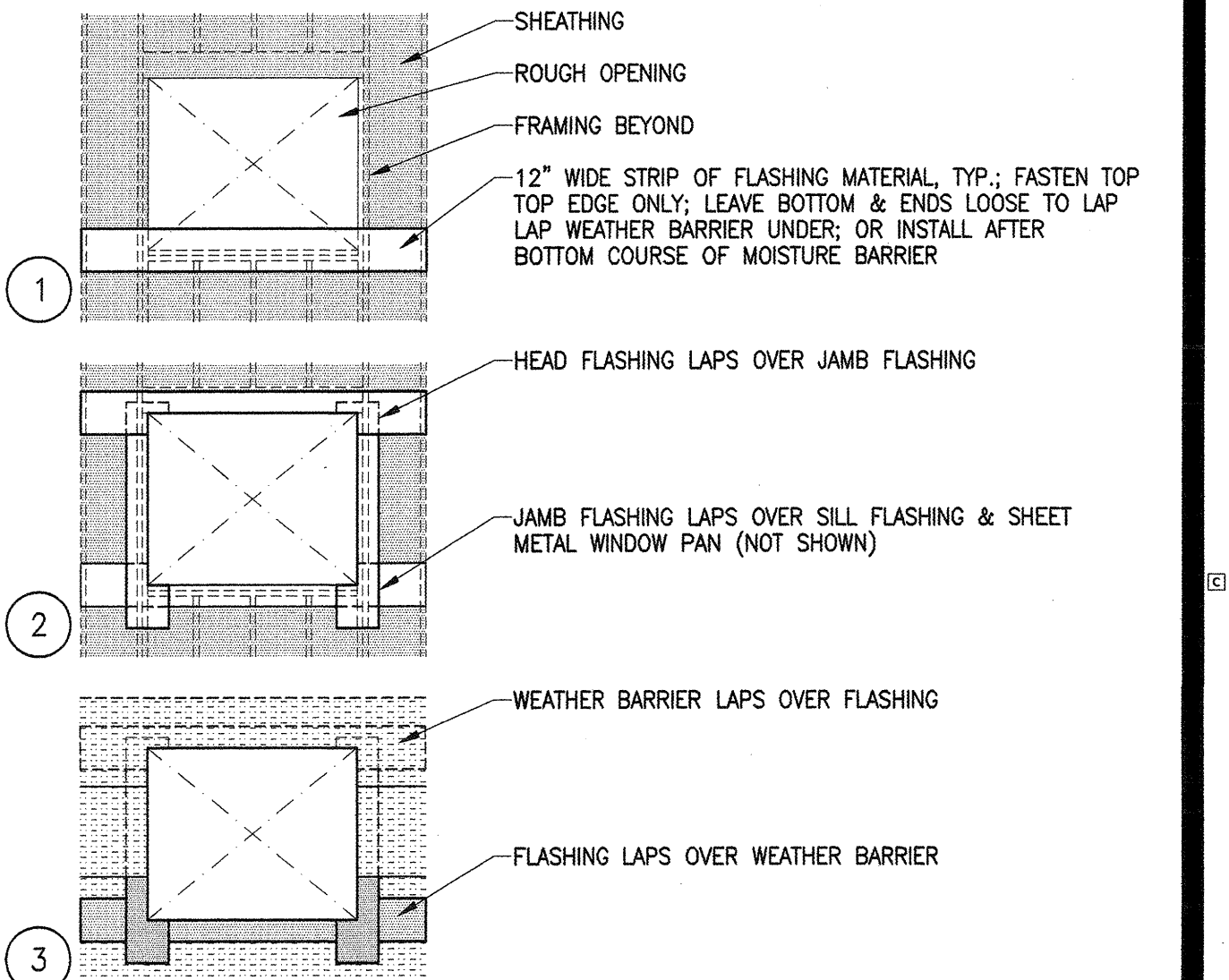
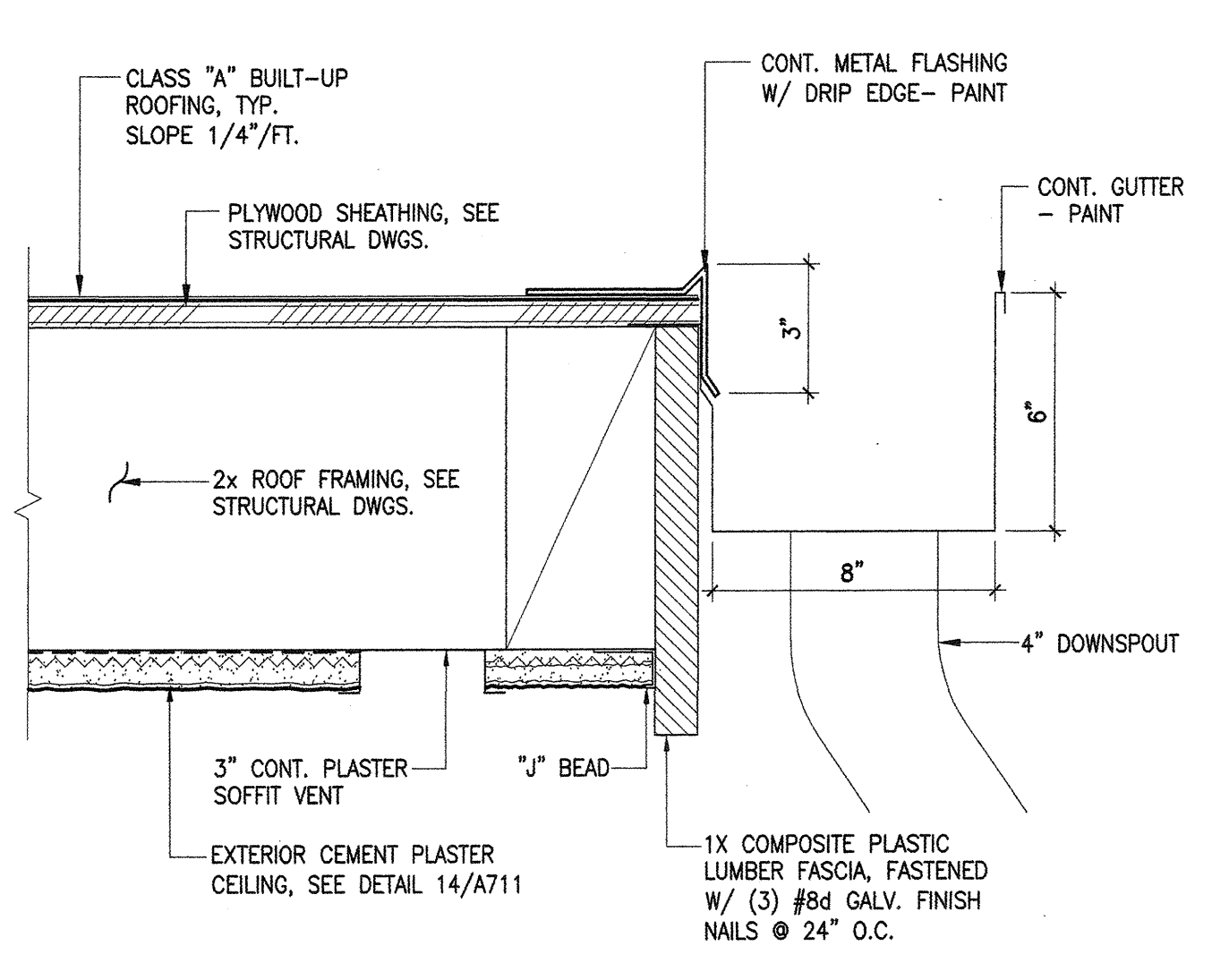
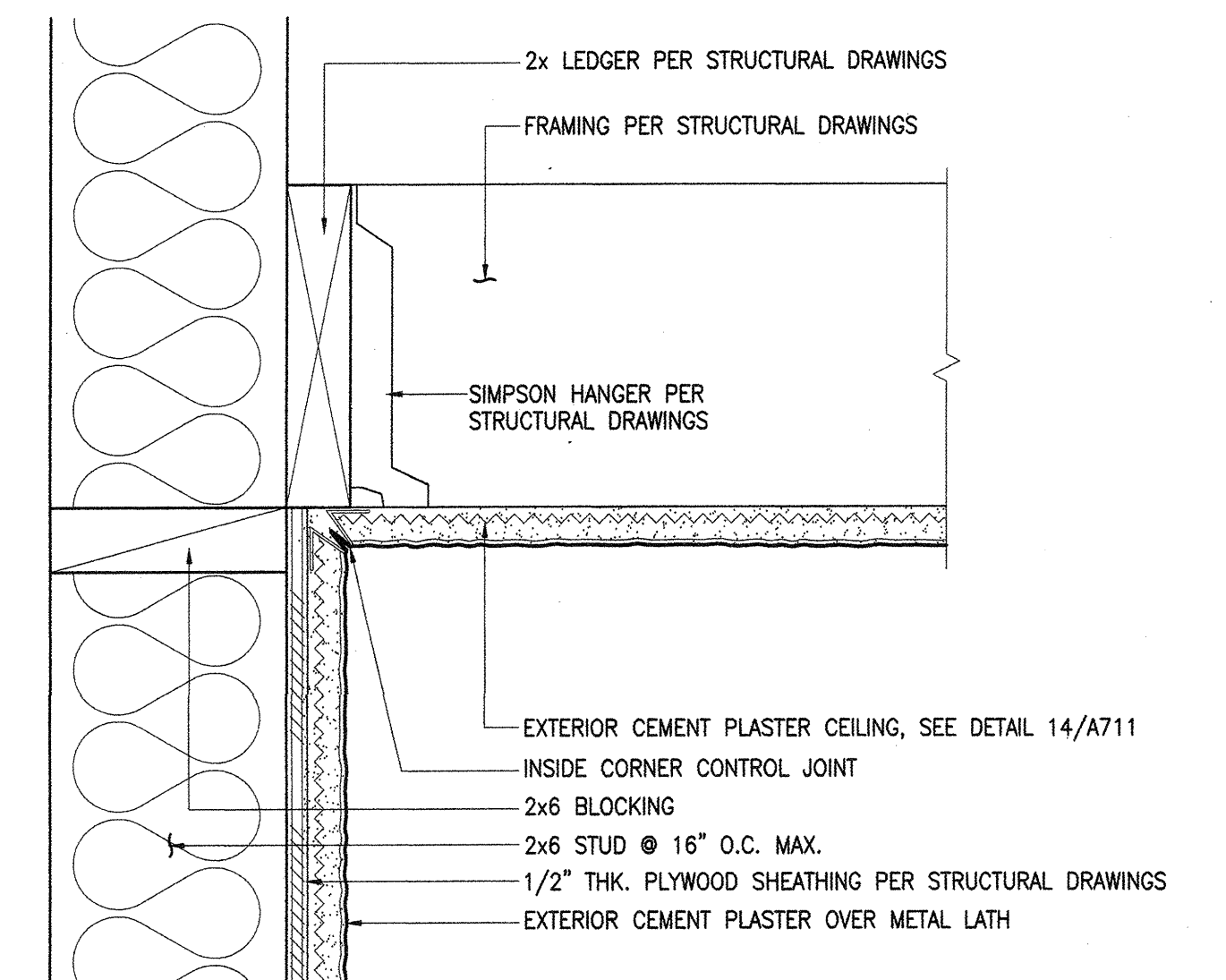
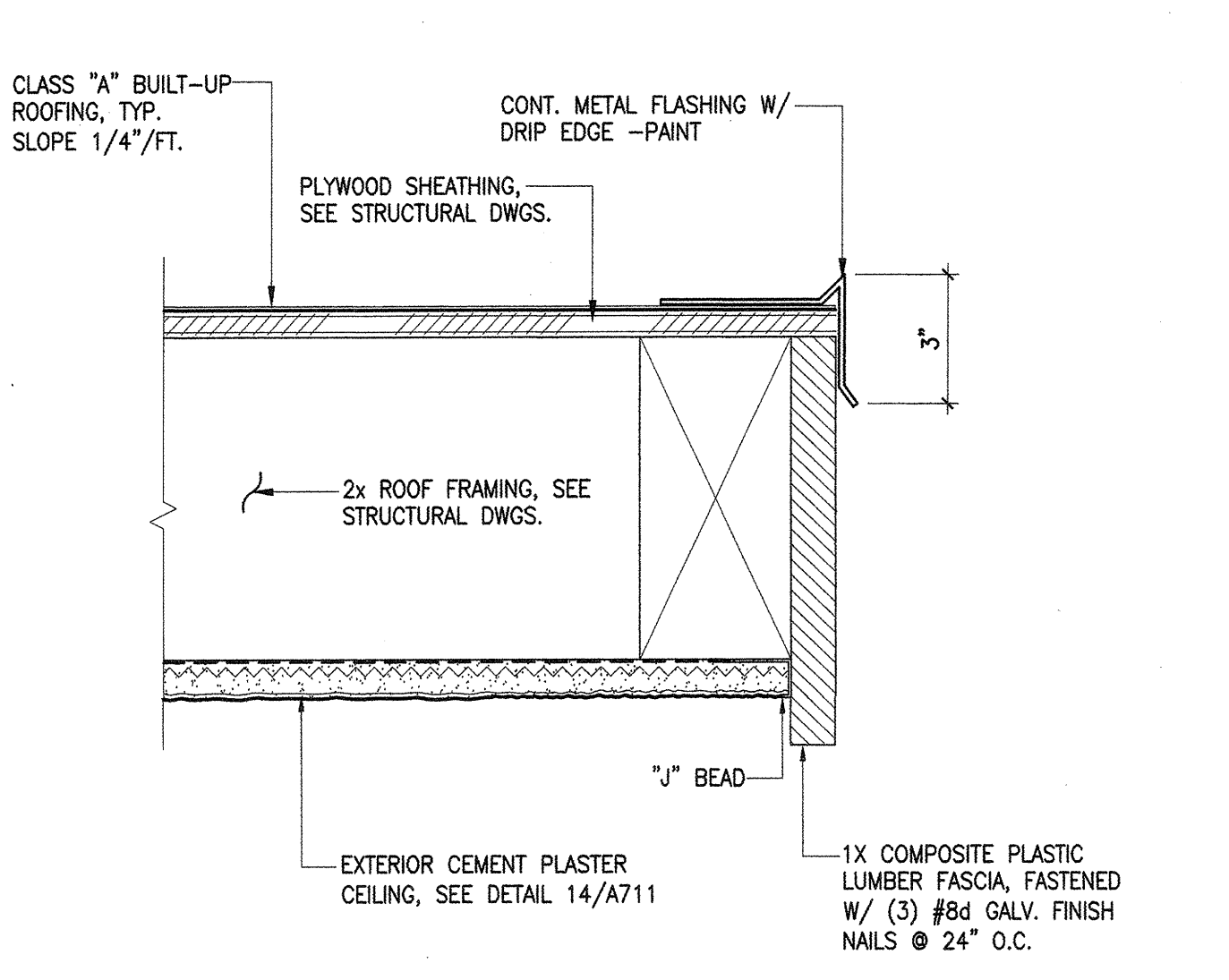
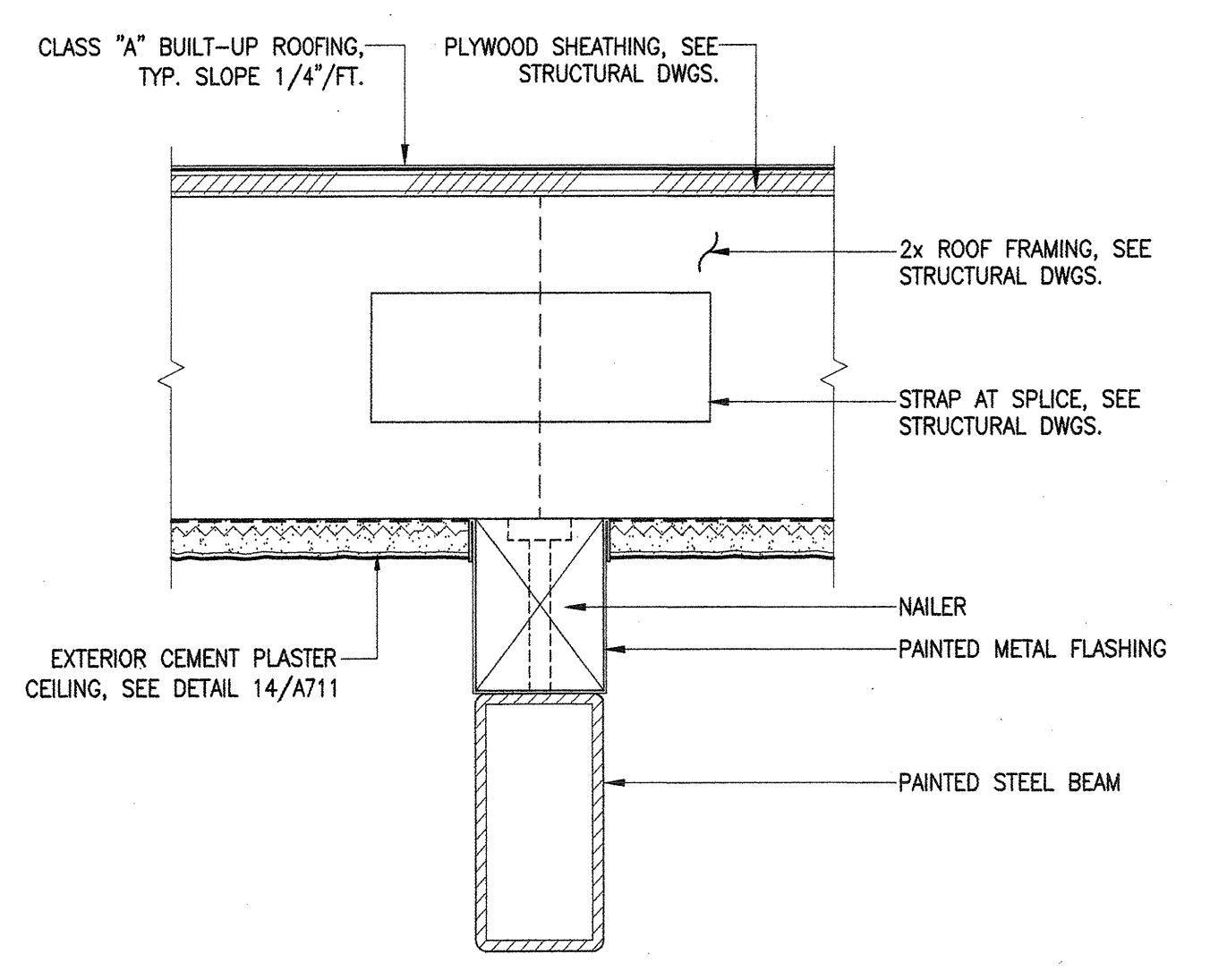
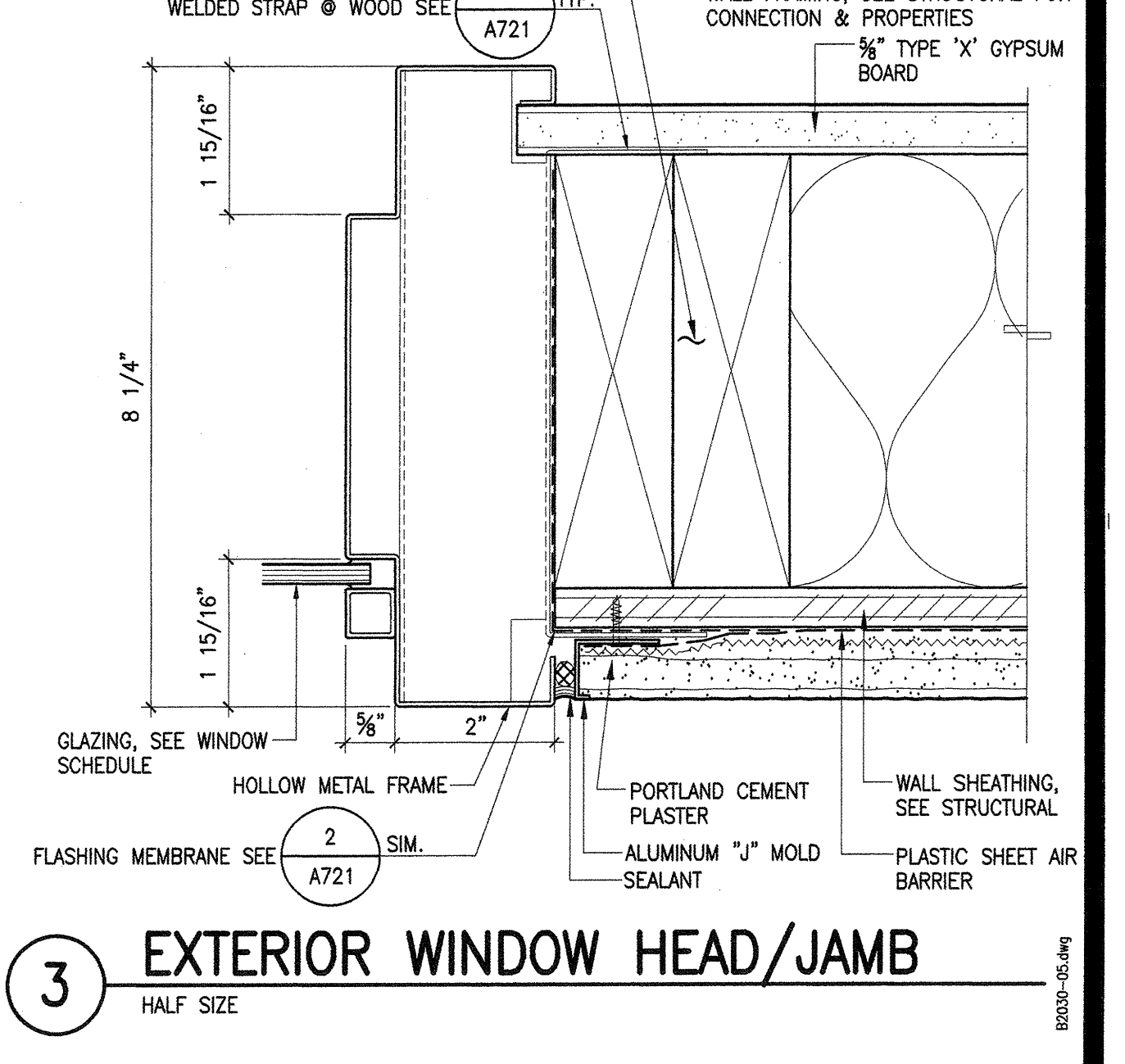
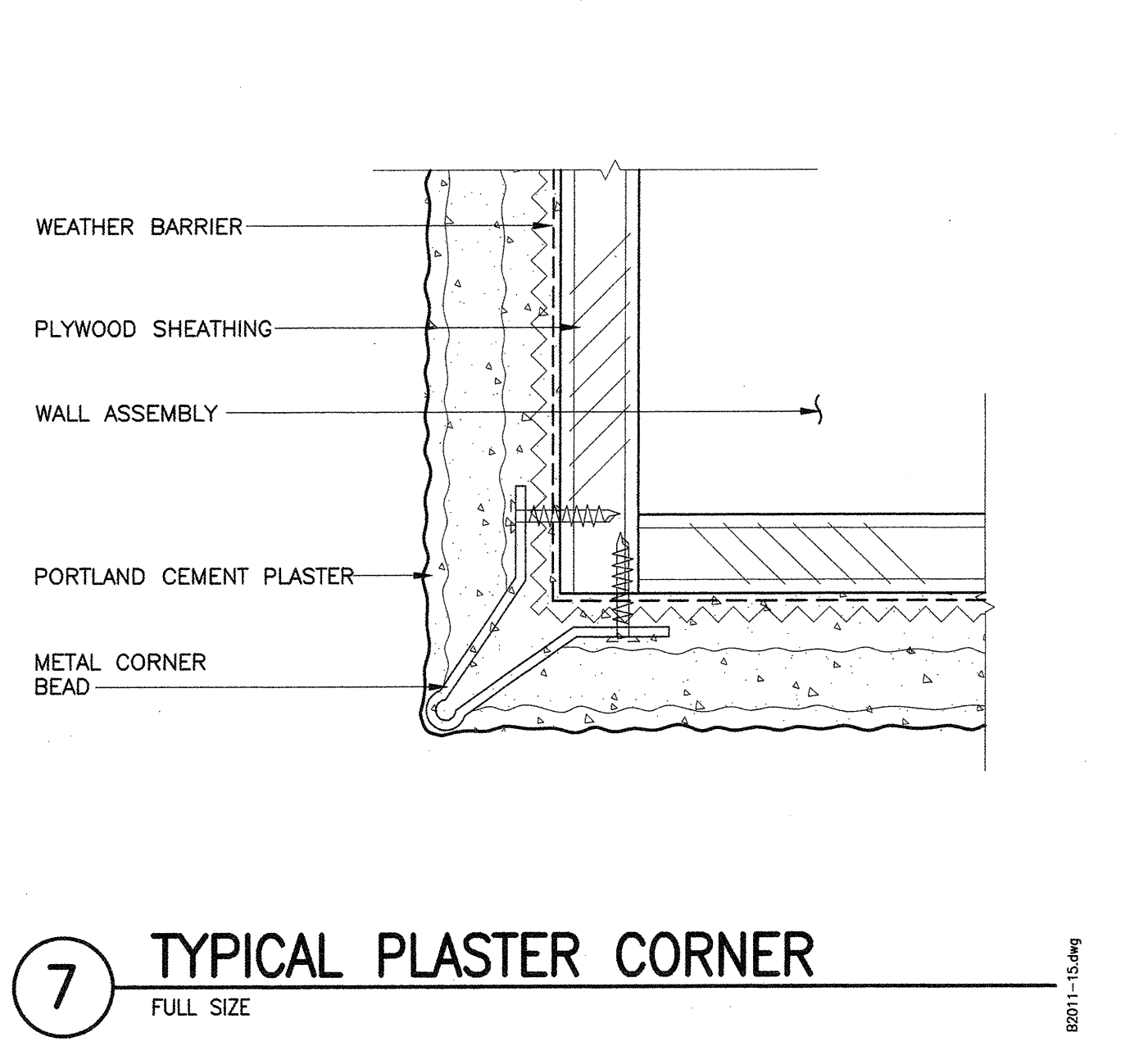
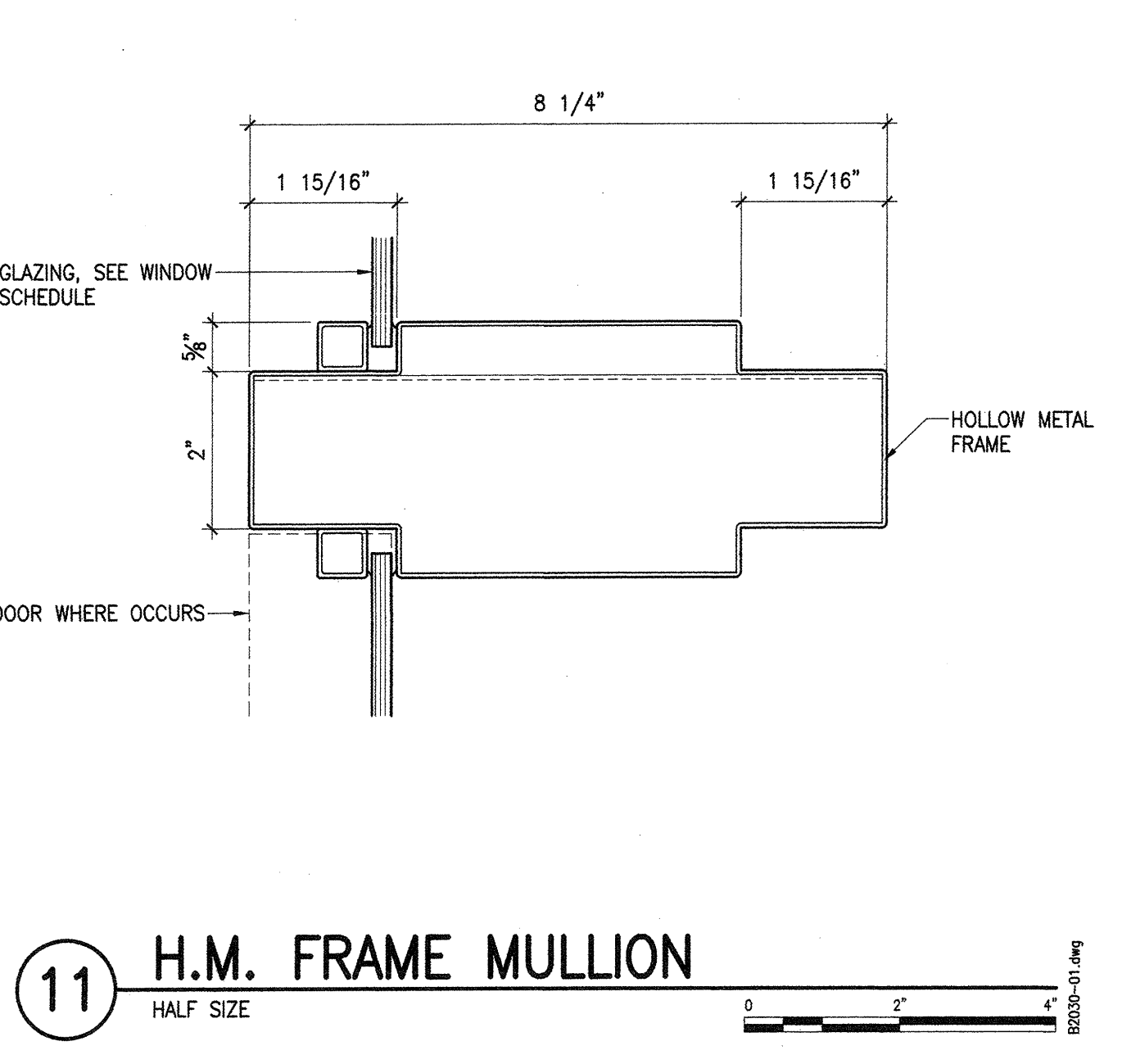
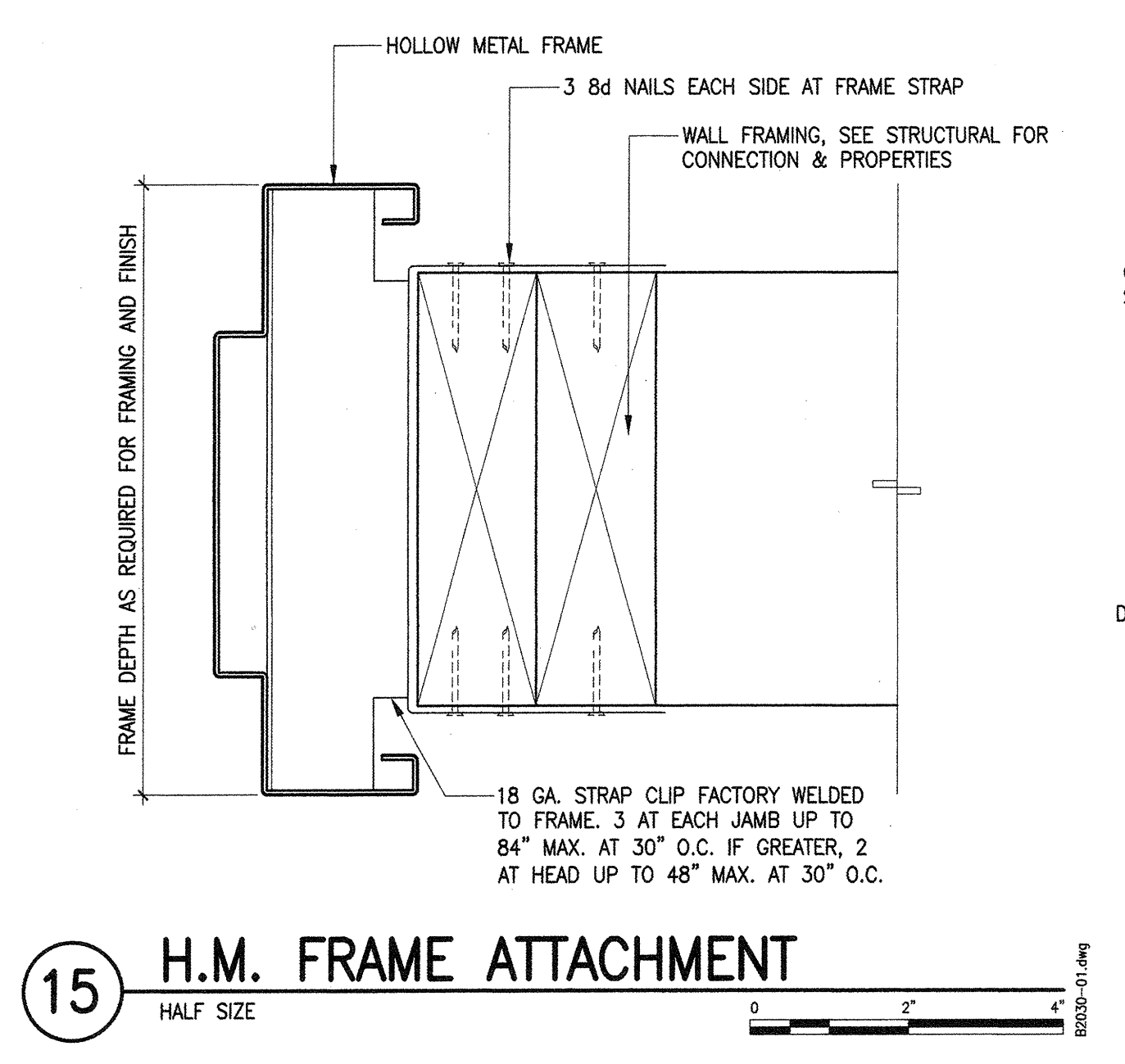
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Issues/Revisions	

APPROVED ARCHITECT
 MADE ONE PRACTOR
 172 C24336
 6-15
 STATE OF CALIFORNIA
 APPROVAL: [Signature]
 IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 OFFICE OF REGULATION SERVICES
 APPL. 03-114031
 REV. 19-H41
 AC 1/12 PLS SS
 DATE MAR 2 2 2012

Project No: 10021.00
 CAD Dwg. File:
 Drawn By: NC
 Checked By: HF
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 Sheet Title:
 EXTERIOR DETAILS
 Sheet Number:
A721



GENERAL NOTES

GENERAL

- All work shall comply with the California Building Code 2010 (CBC) and all other local or state agencies having jurisdiction over this project.
- All drawings and specifications are considered to be a part of the Contract Documents. The Contractor shall be responsible for the review and coordination of all drawings and specifications prior to the start of construction. Any discrepancies that occur shall be brought to the attention of the Architect prior to start of construction so that a clarification can be issued. Any work performed in conflict with the Contract Documents or any code requirements shall be corrected by the Contractor at his own expense and at no expense to the Owner or Architect.
- All symbols and abbreviations used on the drawings are considered to be construction standards. If clarification is required, the Contractor shall notify the Architect prior to proceeding with the work.
- All dimensions and the site conditions shall be verified by the Contractor at the job site prior to bid submittal, start of shop drawings, start of construction, and/or fabrication of materials. If discrepancies are encountered, or conditions develop not covered by the contract documents, the Architect shall be notified for clarification.
- Contractor shall provide and be responsible for the protection and repair of adjacent existing surfaces and areas which may be damaged as a result of new work.
- Do not scale drawings. Printed dimensions have precedence over scaled drawings and large scale over small.
- Typical details shall apply in general construction unless specifically detailed. Where no details are given, construction shall be as shown for similar work.
- The Contract Documents and Specifications represent the finished structure. They do not indicate the method of construction. The Contractor shall provide all measures necessary to protect the structure and safety of workmen during construction. Such measures shall include but not be limited to, bracing, shoring for loads due to construction equipment, etc. Observation visits to the site by the Architect or Structural Engineer shall not include inspection of the above items and does not in any way relieve the Contractor of his responsibilities for the above.
- For trenches or excavations (5) five feet or more in depth into which a person is required to descend, the Contractor is to obtain the necessary permit from the State of California, Division of Industrial Safety, prior to the issuance of a building permit.
- Refer to architectural, electrical and mechanical drawings for details, conditions, pits, trenches, depressions, roof openings, sleeves, items to be embedded or attached to structural elements, etc., not shown on the structural drawings.
- No holes, notches, blockouts, etc. are allowed in structural elements unless detailed on the structural drawings or approved by the Structural Engineer.
- All information shown on the drawings relative to existing conditions is given as the best present knowledge from plans supplied by the owner, but without guarantee of accuracy. Where actual conditions conflict with the drawings, they shall be reported to the Architect or Engineer so that proper clarification may be made. Modification of details of construction shall not be made without written approval of the Architect or Structural Engineer.

EARTHWORK

- See Report of Foundation Exploration by KOURY Geotechnical Services, Inc. Project No. 11-0155, Date: March 24, 2011
- Soils consist of clayey silt artificial fill material which underlies the pavement. The on-site shallow clayey/silty soils and bedrock material are not suitable for being used for backfilling purposes. Ground water possibly perched water resulting from see page irrigation water from higher planters was encountered at a depth between 12'-6" and 16'-6" bgs. If ground water should occur during excavation special procedures shall be implemented as recommended by the Soils Engineer.
- Any existing fill or unsuitable soils, as determined by the Soils Engineer, shall be excavated and replaced as properly compacted fill.
- Extreme care shall be exercised when excavating or grading adjacent to existing structures or improvements so as not to damage or undermine foundations, walls, slabs, utilities, etc.
- Any import fill soil that may be required shall have a low potential for expansion and shall be approved by the Soils Engineer prior to importing.
- All required backfill shall be mechanically compacted in 8" maximum thick layers. Flooding is not permitted. Backfill shall be compacted to 95% of the maximum dry density obtainable by the ASTM D1557-00 method of compaction.
- The soil shall be overexcavated and recompacted per soil report.
- The allowable soil bearing pressure of 2000 psf used in the design of continuous and spread footings. The allowable passive pressure of 250 psf/ft. of depth and a coefficient of friction of 0.35.
- All earthwork and site preparation shall be performed in accordance with the above mentioned report which is on file with the Architect. All foundation excavations shall be observed and approved by the Soils Engineer.
- Where deep excavation is required, and the necessary space is available, temporary uncharged excavations may be sloped back in lieu of shoring. Excavations shall be done as recommended by and under the observation of the Soils Engineer. The top of excavations shall be protected by barricades, etc. to prevent surcharging and bermed to prevent water run-off from entering and eroding the excavation. Adjacent to existing buildings or improvements, the excavation shall be restricted to 2:1 (horizontal to vertical) downward from the toe of the existing footing, etc. unless special procedures are implemented as recommended by the Soils Engineer. All applicable requirements of the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act of 1970, and the Construction Safety Act shall be met. If ample space is not available for the required excavation slope, or as a the available for the construction option, shoring may be a possible alternate. The Contractor shall follow shoring recommendations by the Soils Engineer and conform to General Note No. 8 concerning construction measures.

CONCRETE

- All cement shall conform to ASTM C-150, Type V.
- Fine and coarse aggregate shall conform to ASTM C-33.
- Concrete shall have the following minimum 28 day strength:
All concrete U.N.O. - 3000 psi reg. wt. (145 pcf)
Floor slabs and equipment pads on steel deck forms- 3000 psi Lt. Wt. (110 pcf)
Exterior Concrete Walks, Curbs, etc. and Misc. Concrete - 3000 psi regular weight.
- Concrete design mixes shall be approved by the Structural Engineer.
- Placing of all concrete shall be inspected by a special inspector approved by the architect & DSA to verify that reinforcing steel is securely supported in place during the pour.
- Location of construction joints or pour joints shall be as shown on plans or as approved by the Engineer or Architect prior to pouring concrete and conform to CBC, section 1906A.4.
- Anchor bolts, dowels, reinforcing steel, inserts, etc., shall be securely tied in place prior to pouring concrete. Concrete blocks only shall be used to support reinforcing off grade.
- Concrete slabs shall be cured by keeping continuously wet for 14 days. No curing compounds shall be used unless approved by the Structural Engineer.
- Notify the Structural Engineer 48 hours minimum prior to all pours.
- Provide 3/4" chamfer on all exposed concrete corners.
- All concrete shall be vibrated in place during placing of concrete.
- No stakes, steel or wood, shall be permitted in any concrete pour. Suspend forms from above grade.
- Drypack shall be 1:3 1/2 Portland cement to sand with a minimum 28 day strength of 3000 psi.

REINFORCING

- All reinforcing shall conform to ASTM A-615 specifications, Grade 60. Welded bars shall be ASTM A-706. #3 bars may be Grade 40.
- Reinforcing bars shall be spliced and bent in strict accordance with the drawings and details and C.R.S.I. publications. No kinks allowed. All bars shall be clean prior to concrete placement.
- Provide dowels of same size and number from adjacent pour, both vertically and horizontally to match typical reinforcing shown. Laps to be in accordance with the drawings and details. Dowels shall be cleaned after pour.
- Use low hydrogen electrodes, E-90 (for grade 60), welding all of reinforcing bars.
- Shop drawings for reinforcing steel shall be submitted to the structural engineer for approval prior to fabrication.
- Field welding or bending of reinforcing is not permitted except as indicated on the drawings or as approved by the Structural Engineer.
- The contractor shall furnish (as installed) 1 tons of reinforcing (rebar & tendons) in addition to that required by the drawings to be used at the discretion of the Structural Engineer. (At no additional cost to the owner.)

STRUCTURAL STEEL

- Structural steel shall conform to ASTM Specifications as noted below and to the AISC Specifications for fabrication and erection:
-All WF shapes A-992, Grade 50.
-Pipe Sections: A-53, Grade B.
-Tube Sections: A-500, Grade B.
- All welding shall conform to the specifications of the American Welding Society and shall be performed by certified welders using E70XX electrodes (U.N.O.) and the electric arc process.
- Weld lengths called for on the plans are the net effective length required. Where fillet weld symbol is given without indication of size, use minimum size welds as specified in AISC Manual of Steel Construction, 13th Edition.
- All steel exposed to weather shall be hot-dipped galvanized after fabrication. Abraded areas to be touched up with galvaloy. All tubes and/or pipes shall have welded cap plates to seal exposed ends.
- Bolts shall conform to ASTM A-307 specifications typically unless noted otherwise as H.S.B. High strength bolts to conform to ASTM A-325SC (std.).
- All structural steel shall be fabricated in the shop of a fabricator licensed by the local building department and shop drawings shall be submitted to the Architect for approval prior to fabrication. All welding requires special inspection.
- All field welding except tack welding, shall be continuously inspected by an approved welding inspector.
- Provide one shop coat of paint on all structural steel not covered with concrete, fireproofing, masonry or at contact surfaces at high strength bolts.
- All complete penetration groove welds contained in joints and splices shall be tested 100%.
- High strength bolting shall be continuously inspected by an approved inspector.
- Welding to comply with AWS D1.1 and D1.8
All welding of the Lateral Force Resisting System (LFRS) must comply with AISC 341 Section 7.3 (Charpy V-Notch of 20 ft-lb at 0°F) The LFRS for this project applies to all collector and chord members.

DESIGN LOADS

- Structure has been designed in compliance with of the California Building Code 2010 edition Volume 2.
- Seismic Design Category = D
Site Class = C
Occupancy Category = III
Seismic Response Coefficient, Cs = 0.223
I_s = 1.25 S_s = 1.742 S_{Ds} = 1.161
R = 6.5 S₁ = 0.450 S_{D1} = 0.450
P = 1.3
V = 0.159W (ASD)
Basic Seismic-Force Resistance: Wood Shear Wall
Analysis Procedure = Statics
- Loads: Typical Roof 20 psf (reducible) Roof Dead Load: 23.5 psf
Floor Load: N/A
- Snow Load: Pg = Zero
- Wind = 85 mph (3 - second gust), Exposure C, GC_{pi} = ±0.18, I_w = 1.15
Component & Cladding Pressure: P = +16.0 & -63.7 (At Roof)
P = +27.65 & -36.11 (At Wall)
- Flood Hazard: NONE

WOOD & GLU-LAM

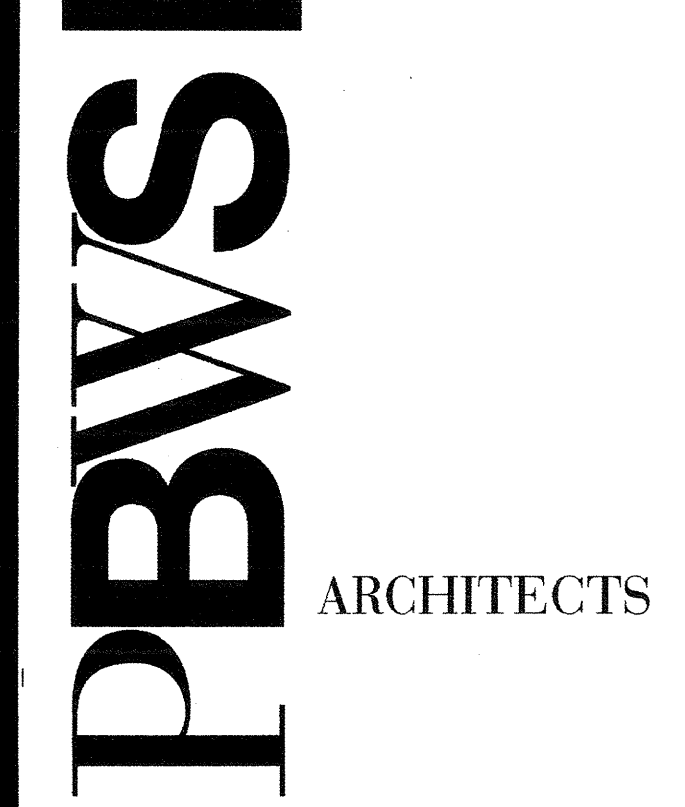
- All lumber shall be graded per Grading Rules #16 of West Coast Lumberman's Association.
- Wood shall be grade marked Douglas Fir or Larch and as follows:
2x Horizontal Framing No. 1 and Better
Studs No. 1
Sills & Blocking No. 2
Posts & Columns No. 1
Lintels & Beams No. 1
- All pressure treated lumber shall be marked with a stamp per AWPB as LP-2 or LP-22.
- All wood in contact with concrete or masonry shall be pressure treated.
- Plywood sheathing shall be Douglas Fir Plywood, 5 ply, Structural I, conforming to PS 1.95. All plywood shall be grade marked "DFPA Structural I, Interior with Exterior Glue".
- Plywood nailing shall be approved by the job inspector and Engineer or Architect, prior to covering up.
- Framing hardware shall be as manufactured by the Simpson Strong Tie or approved equal. Fasteners to be furnished by the manufacturer and all fastener holes to be filled.
- Machine applied nailing is subject to a satisfactory jobsite demonstration for each project and the approval by the project Architect or Structural Engineer. The approval is subject to continued satisfactory performance. If nailheads penetrate the outer ply more than would be normal for a hand hammer, or if minimum allowable edge distances are not maintained, the performance will be deemed unsatisfactory.
- Provide plate washers under all bolts, nuts and heads.
- Re-tighten all bolts prior to closing in.
- Glue laminated beams shall be Douglas Fir in conformance with Product Standards PS 56-73 and shall be of combination 24F-V8 (CBC 2010) Architectural finish with adhesive for wet use.
- All structural glued laminated timber shall be continuously inspected during fabrication by inspector specifically approved by the DSA. An AITC Certificate will not meet this requirement. Submit shop drawings.
- All nailing shall conform to tables set forth in the California Building Code except specifically detailed connections. Use only common nails.
- Truss joist shall be fabricated and erected by a fabricator approved by the checking agency for this work. Structural calculations and shop drawings signed by a Registered Civil Engineer shall be provided by Fabricator and reviewed by Architect.
- All framing members shall be erected with natural or built-in camber up unless noted otherwise.
- Glue Lam Beam shall have the following standard camber (U.N.O.):

LENGTH (FEET)	CAMBER (INCHES)
16	0.240
18	0.304
20	0.375
22	0.454
24	0.540
26	0.634
28	0.735
30	0.844
32	0.960
34	1.084
36	1.215
38	1.354
40	1.500

NAILING SCHEDULE - TABLE 2304.9.1

- The connections listed are the minimum permissible. Use common wire nails for all nailed connections. Where possible, nails driven perpendicular to the grain shall be used instead of toe nails.
Nailing shall comply with 2010 C.B.C. Table 2304.9.1
- Joist or rafters to sides of studs
8 inch joint or less..... 3-16d
For each additional 4 inches in depth of joist..... 2-8d
Bridging to joist, toenail each end..... 2-10d
a. Blocking between joist or rafter- to joist or rafters- toenails each side, each end..... 2-10d toenails or 2-16d
b. Blocking between studs, each end..... 2-8d
- 1" x 6" subfloor or less to each joist, face nail..... 2-8d
Wider than 1" x 6" subfloor to each joist, face nail..... 3-8d
- Sole plate to joist or blocking: Face nail..... 16d at 16"
Braced wall panels..... 3-16d per 16"
Top plate to stud, end nail..... 2-16d
Stud to sole plate: Toenail..... 2-8d
End nail..... 16d at 24"
Double studs, typical face nail..... 16d at 16"
Doubled top plates: Face nail..... 8-16d
Lap splice..... 3-8d
Blocking between joists or rafters to top plate toe nails..... 8d at 6"
Rim joist to top plate, toenail..... 2-16d
Top plates, laps and intersections, face nail..... 16d at 16"
Continuous header, two pieces (along each edge)..... 3-8d
Ceiling joists to plate, toenail..... 4-8d
Continuous header to stud, toenail..... 3-16d
Ceiling joists, laps over partitions, face nail..... 3-16d
Ceiling joists to parallel rafters, face nail..... 2-10d
Joist or rafter at all bearings, toe nail, each side..... 2-8d
1" x 8" sheathing or less to each bearing, face nail..... 3-8d
Wider than 1" x 8" sheathing to each bearing, face nail..... 16d at 24"
Built-up corner studs..... 20d at 32" at top at bottom and staggered
Built-up girders and beams..... 2-20d at ends and at each splice
- PLYWOOD SHEAR WALLS:
1. All exterior walls to be sheathed.
2. Min. nailing & plywood thickness to be per shear wall type U.N.O. See schedule.

STRUCTURAL DRAWING LIST	
S101	GENERAL NOTES
S102	GENERAL NOTES
S103	TYPICAL DETAILS
S104	TYPICAL DETAILS
S105	TYPICAL DETAILS
S106	TYPICAL DETAILS
S107	TYPICAL DETAILS
S201	FOUNDATION PLAN
S202	ROOF FRAMING PLAN
S301	FOUNDATION DETAILS
S401	NOT USED
S402	TRUSS ELEVATION & DETAILS
S501	WOOD DETAILS
S601	WALL FRAMING SECTION
TOTAL	14 SHEETS



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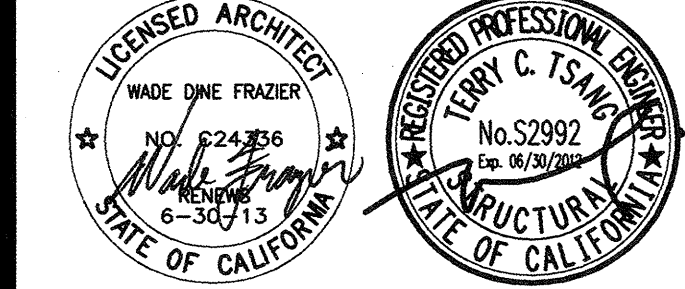
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www.tmad.com Project No. 0011.043.00

Project Title:

Palos Verdes HS
CLASSROOM BUILDING 3
600 Cloyden Road
Palos Verdes Estates
California 90274

KEY PLAN

BID SET	04.24.12
DSA Submittal	06.08.11
SOW CD	06.31.11
DESIGN DEVELOPMENT	03.17.11
Mark Date	Description
Issues/Revisions	



Approval:
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APR 11 2012
MAR 28 2012

Project No: 10021.00
CAD Dwg. File:
Drawn By: DG
Checked By: TL
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Sheet Title:

GENERAL NOTES

Sheet Number:

S101

GENERAL NOTES CONTINUES

ANCHOR BOLTS

1. All field installed concrete anchors shall be approved for the type and installation, for its application, and materials. All bolts shall have an approved ICBO research report number. The following criteria shall apply for the acceptance of installed anchors:

1.1 EXPANSION ANCHORS

The test load may be applied by any method that will effectively transmit a measured tension load to the anchor. Acceptable methods include:

1. Hydraulic jack, either unconfined or confined testing.
2. Calibrated spring loaded devices.
3. Calibrated torque wrench for torque-controlled expansion anchors.

Internally threaded shell-type anchors and displacement-controlled anchors (e.g., drop-in anchors), screw anchors, and adhesive anchors shall not be tested using a torque wrench.

Screw anchor may be loosened a maximum of one full turn to facilitate the positioning of a tension test collar. Following the tension test, the anchor shall be re-torqued in accordance with the manufacturer's installation instructions.

Required test loads shall be determined by one of the following methods:

1. One and one-half (1-1/2) times the calculated design strength for static tension load or two times design strength for seismic tension loads as determined in accordance with Appendix D of ACI 318 (not applicable to screw anchors) using coefficient of basic concrete breakout strength in tension ($K_c=17$).
2. Twice the maximum allowable tension load or one and a quarter (1-1/4) times the maximum design strength of anchors as provided in ICC-ESR.
3. The manufacturer's recommended installation torque or recommended torque in ICC-ESR (not applicable to displacement-controlled anchors and screw anchors).

Tension test load need not exceed 80% of the nominal yield strength of the anchor element ($=0.8 A_{se} F_{ya}$).

Acceptance Criteria:

A. Hydraulic Ram Method:

Anchors tested with a hydraulic jack or spring loaded devices shall maintain the test load for a minimum of 15 seconds and shall exhibit no discernible movement during the tension test, e.g., as evidenced by loosening of the washer under the nut.

B. Torque Wrench Method:

Anchor tested with a calibrated torque wrench must attain the specified torque within 1/2 turn of the nut.

Exceptions:

1. Wedge or Sleeve type:

One-quarter (1/4) turn of the nut for a 3/8 in. sleeve anchor only.

2. Threaded type:

One-quarter (1/4) turn of the screw after initial seating of the screw head.

1.2 Chemical/Adhesive Anchors

A hydraulic cylinder shall be used to apply the tension test load to the anchor with the cylinder supported on a loading plate having a hole diameter equal to 1.5 to 2.0 times the anchor hole diameter (confined configuration) unless otherwise approved by OSHPD.

Exception: Anchors that are de-bonded over their upper length may be tested with wide supports (unconfined testing).

Required test loads shall be the greater of twice the maximum allowable tension load or one and a half times the maximum design strength of anchors as provided in ICC-ESR. Tension test load need not exceed 80% of the nominal yield strength of the anchor element ($= 0.8 A_{se} F_{ya}$).

Exception: Where it is intended that the embedment develop the yield strength of the bolt or reinforcing bar, the test load shall not be less than $0.8A_{se} F_{ya}$.

Acceptance Criteria:

Anchors shall maintain the test load for a minimum of 15 seconds and shall exhibit no discernible movement during the tension test, e.g., as evidenced by loosening of the washer under the nut or by continuous loss of jacking pressure. Where other than bond is being tested, the testing device shall not restrict the concrete shear cone type failure mechanism from occurring.

2. All anchors shall be tested as follows: (Hardrock $f'_c=3000psi$).

ANCHOR WEDGE (HILTI KB-TZ ICC ESR-1917)

DIA. (in.)	TORQUE (FT-LBS)
3/8 (2" EMBED.)	25
1/2 (2" EMBED.)	40
1/2 (3 1/4" EMBED.)	40
5/8 (3 1/8" EMBED.)	60
5/8 (4" EMBED.)	60
3/4 (3 3/4" EMBED.)	110
3/4 (4 3/4" EMBED.)	110

ANCHOR HEAVY DUTY SCREW (SIMPSON ITTEN HD ICC ESR-2713)

DIA. (in.)	TORQUE (FT-LBS)
3/8 (2-1/2" EMBED.) (3-1/4" EMBED.)	50
1/2 (3-1/4" EMBED.) (4" EMBED.)	65
3/4 (5-1/2" EMBED.) (6-1/4" EMBED.)	150

ANCHOR UNDERCUT (HILTI HDA ICC ESR-1546)

DIA. (in.)	TORQUE (FT-LBS)
M10: 3/4 (3.94" EMBED.)	37
M12: 0.83" (4.92" EMBED.)	59

HILTI HIT-RE 500-SD ADHESIVE ANCHOR (ICC ESR-2322)

DIA. (in.)	LOAD (LBS)
#4 REBAR: 1/2 (3" EMBED.)	2715
#5 REBAR: 5/8 (3 3/4" EMBED.)	3770
#6 REBAR: 3/4 (3 1/2" EMBED.)	4741

Minimum edge distance are as follows:

Bolt Diameter (d)	3/8"	1/2"	5/8"	3/4"	0.83"
Min. Edge Distance (10xd)	3-3/4"	5"	6-1/4"	7-1/2"	8-1/2"

Notes:

1. Apply proof test loads to mechanical 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 and apply load.
2. For internally threaded anchors (e.g. drop-ins, etc), verify that the anchor is not prevented from withdrawing by a base plate or other fixtures prior to testing. If restraint is found, loosen and shim or remove fixture(s) prior to testing.
3. Reaction loads from test fixtures may be applied close to the anchor being tested, if the anchor is not restrained from withdrawing by the fixture(s).
4. Shell Type (expansion and undercut) anchors shall be tested by one of the following methods:
 - a. Visually inspect 25% for full expansion as evidenced by the location of the expansion plug indicator in the anchor body. Plug location of a fully expanded anchor should be as recommended by the manufacturer or in the absence of such recommendation, as determined on the job site following the manufacturer's installation instructions. At least 5% of the expansion anchors shall be proof loaded, but not less than three anchors per day for each different person or crew installing anchors or
 - b. Test 50% of the installed anchors in accordance with Section 1916A.8, 2010 CBC.
5. Test equipment (including torque wrenches) shall be calibrated by an approved testing laboratory in accordance with recognized standard procedures.
6. Testing shall occur a minimum of 24 hours after installation of the subject anchors.
7. All tests shall be performed in the presence of the special inspector/ Inspector of Record.

AUTOMATIC END WELDED STUDS

1. Automatic end welded studs shall be Nelson Granular Flux-filled Shear Connector or Anchor Studs (or approved equal). Studs shall be manufactured of C-1015 cold rolled steel which conforms to ASTM Specifications A-108-58-I.
2. The studs shall be automatically end welded in accordance with the manufacturer's recommendations in such a manner as to provide complete fusion between the end of the stud and the plate. There should be no porosity or evidence of lack of fusion between the welded end of the stud and the plate. The stud shall decrease in length during welding approximately 1/8" for 5/8" and under and 3/16" for over 5/8" diameter. Welding shall be done only by qualified welders approved by the welding inspector.
3. Inspection, in accordance with Title 24, Chapter 17A, of all the shop and field welding operations for the automatic end welded studs shall be made by a qualified welding inspector (approved by the DSA). The type and capacity of the welding equipment shall be in accordance with the manufacturer's recommendations and shall be checked and approved by a welding inspector.

At the beginning of each day's work, a minimum of two test stud welds shall be made with the equipment to be used to metal which is the same as the actual work piece. The test studs shall be subjected to a 90° bend test by striking them with a heavy hammer. After the above test, the weld section shall not exhibit any tearing out or cracking.

Testing of end-welded studs shall be in accordance with Section 2212.A, Part 2, Title 24.

POWDER ACTUATED FASTENERS

1. All powder actuated fasteners shall be approved for type, application and installation and shall have an approved ICC research report number.
2. The use of powder driven fasteners, in tension, is limited to support of minor loads such as acoustical ceilings, duct work, conduit, etc. In general, load should be limited to less than 100 pounds unless approved by the Structural Engineer.
3. Fasteners shall not be installed until the concrete has reached its designated strength.
4. Fasteners shall not be installed in concrete whose thickness is less than three times the penetration required, except 1 1/8" penetration in 3 1/4" thick floor slab is acceptable.
5. The minimum distance from the edge of concrete to center of anchor is 3 inches.
6. Fasteners in the underside of concrete slabs on metal decking shall be placed in the thick portion of the slab.
7. Fasteners shall be installed, by a prequalified operator, according to the ICC research report and tested as follows: Inspector shall observe the testing of the first 10 fastener installations. A test "pull-out" load of not less than twice the design load, or 200 pounds, whichever is greater, shall be applied to the pin in such a manner as not to resist the spalling tendency of the concrete surrounding the pin. Random tests under the project inspector's supervision shall be made of approximately 1 in 10 pins, except when the design load is 100 pounds, one half of the pins shall be tested. Should failure occur on any pin tested, all of the next 20 installations must be tested and unfair pins replaced.
8. When installing powder driven pins in existing non-prestressed reinforced concrete, use care and caution to avoid cutting or damaging the existing reinforcing bars. Maintain a minimum clearance of one inch between the reinforcement and the pin.

ABBREVIATIONS

Ø	Diameter
#	Number or Pounds
@	At
⊕	Center Line
A.B.	Anchor Bolt
Anch.	Anchor
Arch'l.	Architectural
B.O.F.	Bottom of Footing
Bm.	Beam
Bott.	Bottom
Btwn.	Between
Clr.	Clear
Col.	Column
Conc.	Concrete
Cont.	Continuous
Det.	Detail
Dim.	Dimension
Dwg.	Drawing
Dwl.	Dowel
E.F.	Each Face
E.W.	Each Way
Ea.	Each
El.	Elevation
Elect'l.	Electrical
Elev.	Elevator or Elevation
(E)	Existing
Exp.	Expansion
Extr.	Exterior
F.O.C.	Face of Concrete
F.O.F.	Face of Finish
F.O.S.	Face of Stud
F.O.W.	Face of Wall
Fdn.	Foundation
Fin.	Finish
Flr.	Floor
Frmg.	Framing
Ftg.	Footing
Ga.	Gauge
Galv.	Galvanized
Gr.Bm.	Grade Beam
H.S.B.	High Strength Bolt
Horiz.	Horizontal
Intr.	Interior
Jt.	Joint
Max.	Maximum
Mech'l.	Mechanical
Mfr.	Manufacturer
Min.	Minimum
Mtl.	Metal
(N)	New
N.I.C.	Not in Contract
N.T.S.	Not to Scale
No.	Number
O.C.	On Center
O.H.	Opposite Hand
Pl.	Plate
Plcs.	Places
Reinf.	Reinforcing
Sched.	Schedule
Sect.	Section
Sep'n.	Separation
Sim.	Similar
Spec.	Specification
Sq.	Square
Std.	Standard
Stiff.	Stiffener
Stl.	Steel
Suppt.	Support
Sym.	Symmetrical
T.O.	Top of
T.O.S.	Top of Steel
T.O.W.	Top of Wall
T.W.S.	Threaded Welded Stud
Thk.	Thick
Typ.	Typical
U.N.O.	Unless Noted Otherwise
V.O.J.	Verify on Job
V.O.S.	Verify on Site
Vert.	Vertical
W/	With
Wt.	Weight

LEGEND

MATERIALS

Earth	
Concrete- Poured in Place	
Metal Stud	
Steel	
Gravel	
Grout or Drypack	
Masonry	
Concrete	
Continuous Wood Member	
Wood Blocking	
Welded Wire Fabric	
Footing Step	
Drain / Overflow	
Moment Connection	
Strut Brace	
Hole in Beam	
Full Height Connection Plate	
Bent Beam	
Number of Shear Studs on Beam (8)	
Slab Depression	
Top of Steel Framing Elevation above 1st Floor Elevation 0'-0" (Maintain constant slope)	
Detail	
Section	
Elevation	
Bld'g. Section	
Wall Section	



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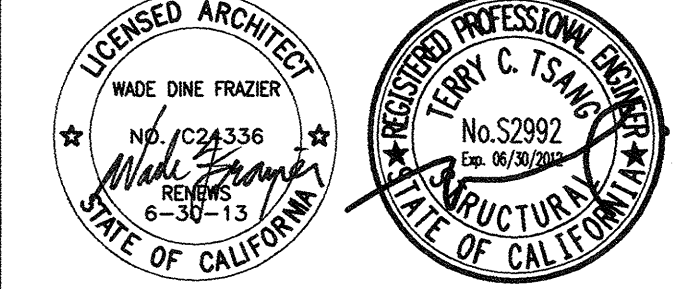
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Project Title:

Palos Verdes HS
CLASSROOM BUILDING 3
600 Cloyden Road
Palos Verdes Estates
California 90274

KEY PLAN

BID SET	04.24.12
DSA Submittal	06.08.11
50% CD	05.31.11
DESIGN DEVELOPMENT	03.17.11
Mark Date	Description
Issues/Revisions	



Approval:
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DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL 114031
INL 19-141
AC FLS SS
DATE MAR 22 2012

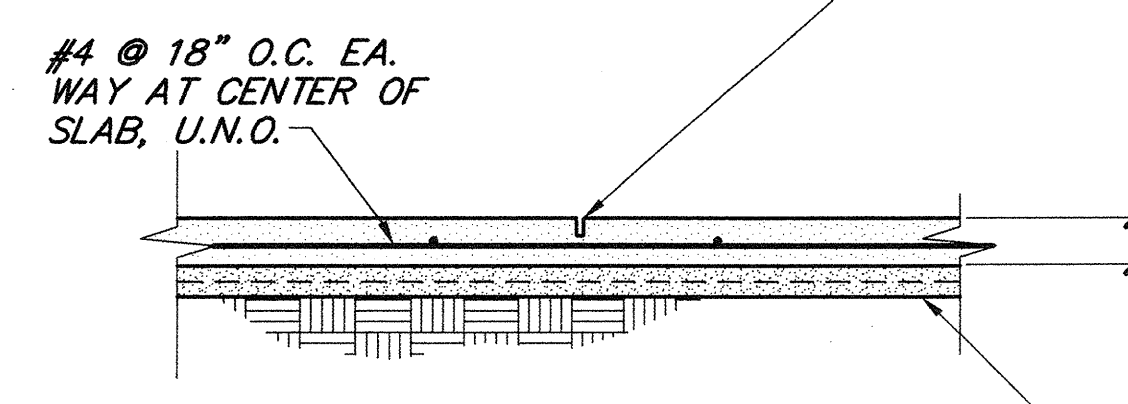
Project No: 10021.00
CAD Dwg. File: DC
Checked By: TL
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GENERAL NOTES

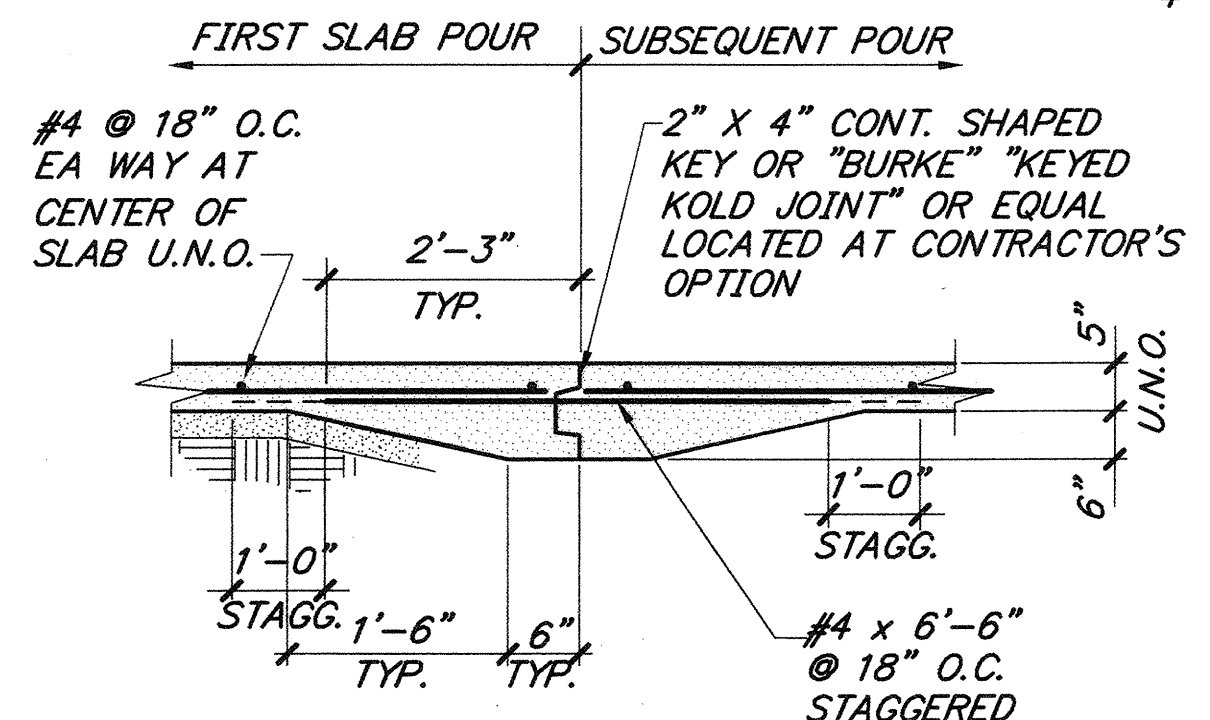
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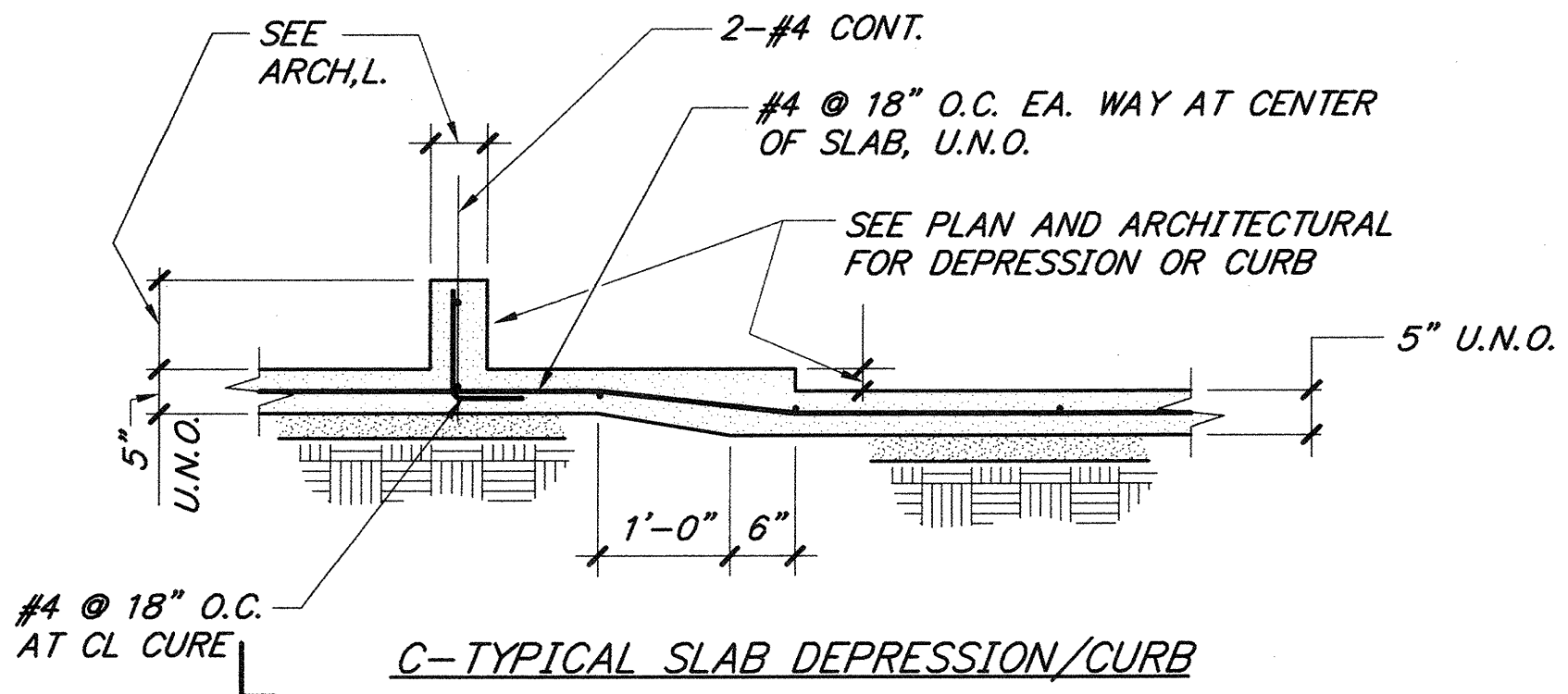
1/2" DEEP X CONT. SAWCUTS @ 15'-0" O.C. MAX. (225 SQ. FT.) EA. WAY WITHIN 8 HOURS OF SLAB POUR. DO NOT DAMAGE ANY SLAB REINFORCING GROUT FILL AFTER 28 DAYS OR "BURKE" PLASTIC ZIP STRIP JOINT FORMER OR EQUAL.



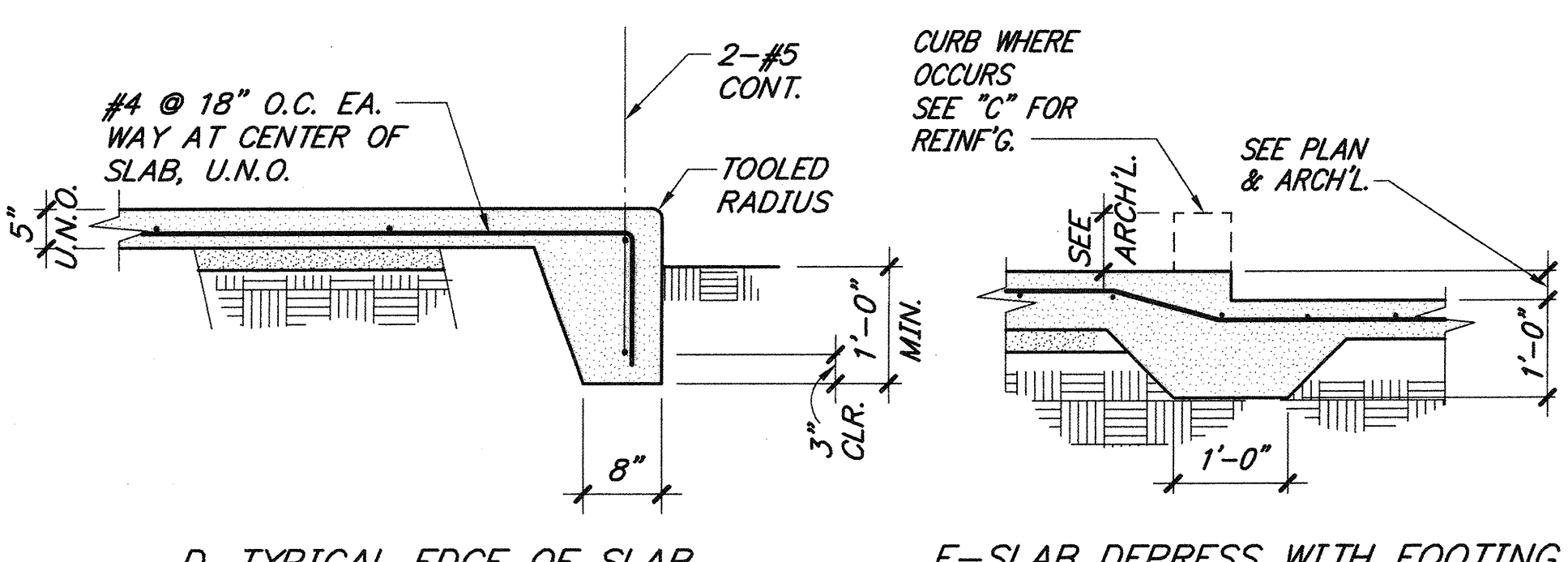
A-TYPICAL CONTROL JOINT (WHERE CONTINUOUS POUR IS USED)



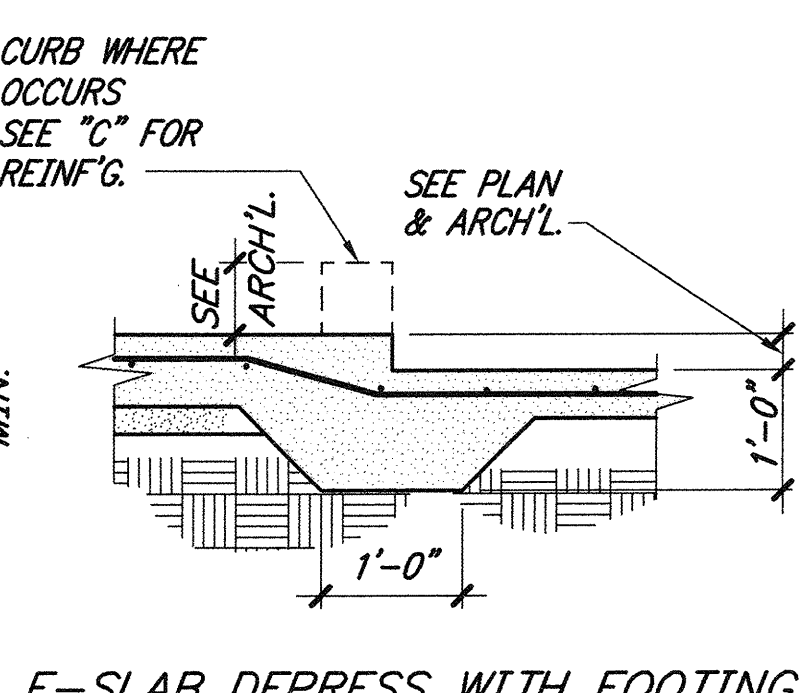
B-TYPICAL CONSTRUCTION JOINT



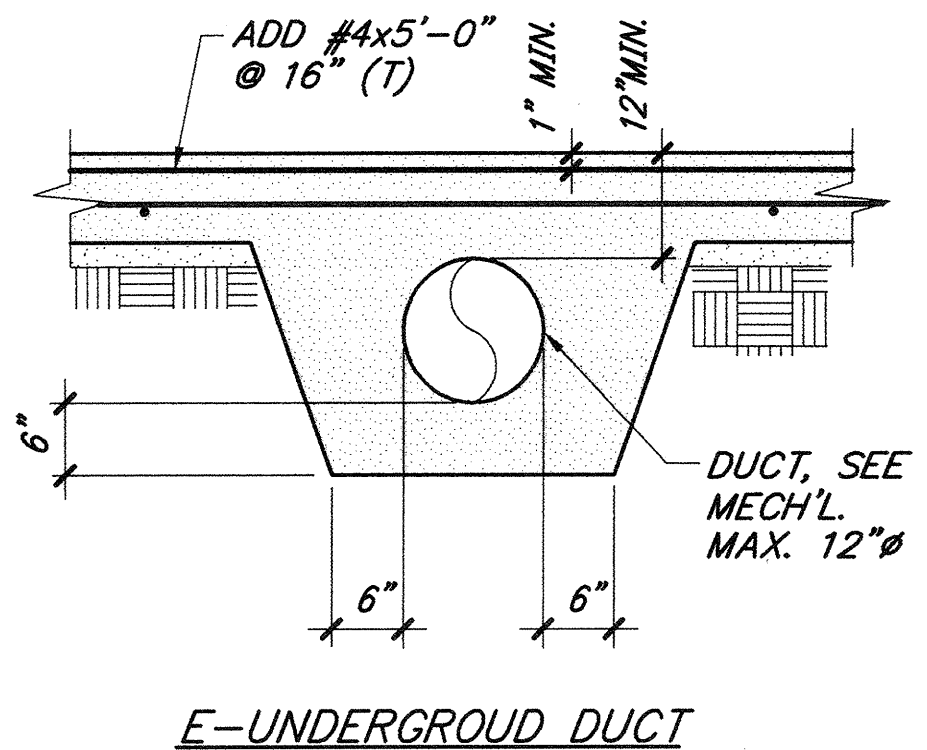
C-TYPICAL SLAB DEPRESSION/CURB



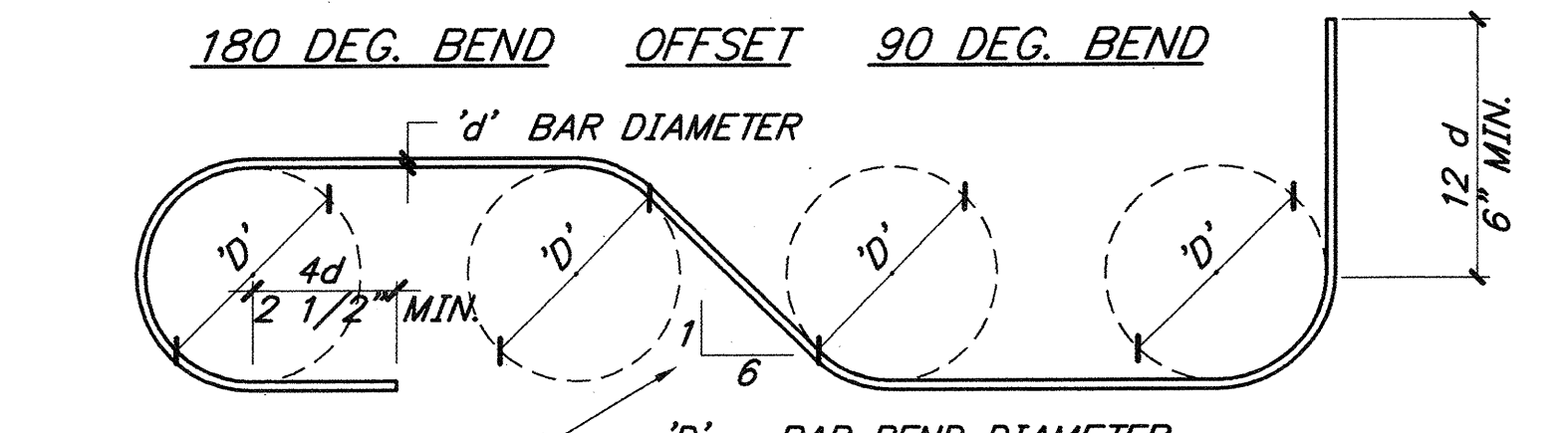
D-TYPICAL EDGE OF SLAB



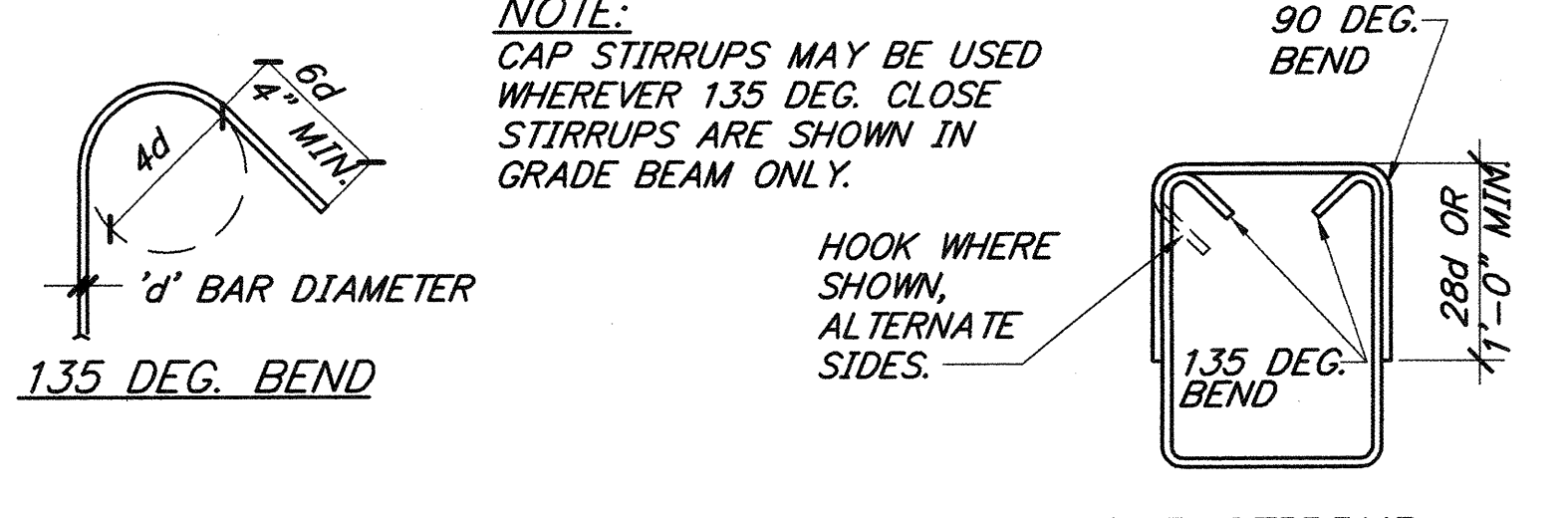
E-SLAB DEPRESS WITH FOOTING



F-UNDERGROUND DUCT



G-TYPICAL REINFORCING DETAIL



H-TYPICAL PIPE TRENCH DETAIL

TYPICAL SLAB ON GRADE DETAIL

NONE 1

ACI TENSION LAP SPLICE FOR $f'_c = 3,000, 4,000$ AND $5,000$ psi

Bar Size	Lap Class	$f'_c = 3,000$ psi				$f'_c = 4,000$ psi				$f'_c = 5,000$ psi			
		Top Bars		Other Bars		Top Bars		Other Bars		Top Bars		Other Bars	
		Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2
#3	B	28	42	22	32	24	36	19	28	22	33	17	25
#4	B	37	56	29	43	32	48	25	37	29	43	22	33
#5	B	47	70	36	54	40	60	31	47	36	54	28	42
#6	B	56	84	43	64	48	72	37	56	43	65	33	50
#7	B	81	122	63	94	70	106	54	81	63	94	49	73
#8	B	93	139	72	107	80	121	62	93	72	108	55	83
#9	B	105	157	81	121	91	136	70	105	81	122	63	94
#10	B	118	177	91	136	102	153	79	118	91	137	70	105
#11	B	131	196	101	151	113	170	87	131	101	152	78	117

NOTES:
 1. TABULATED VALUES ARE BASED ON GRADE 60 REINFORCING BARS AND NORMAL-WEIGHT CONCRETE.
 2. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE BASED ON ACI 318-05, SECTIONS 12.2.2 AND 12.15, RESPECTIVELY. TABULATED VALUES FOR BEAMS OR COLUMNS ARE BASED ON TRANSVERSE REINFORCEMENT AND CONCRETE COVER MEETING MINIMUM CODE REQUIREMENTS. LENGTHS ARE IN INCHES.
 3. CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL MEMBER, CONCRETE COVER, AND THE CENTER-TO-CENTER SPACING OF THE REINFORCING BARS, ARE DEFINED AS:

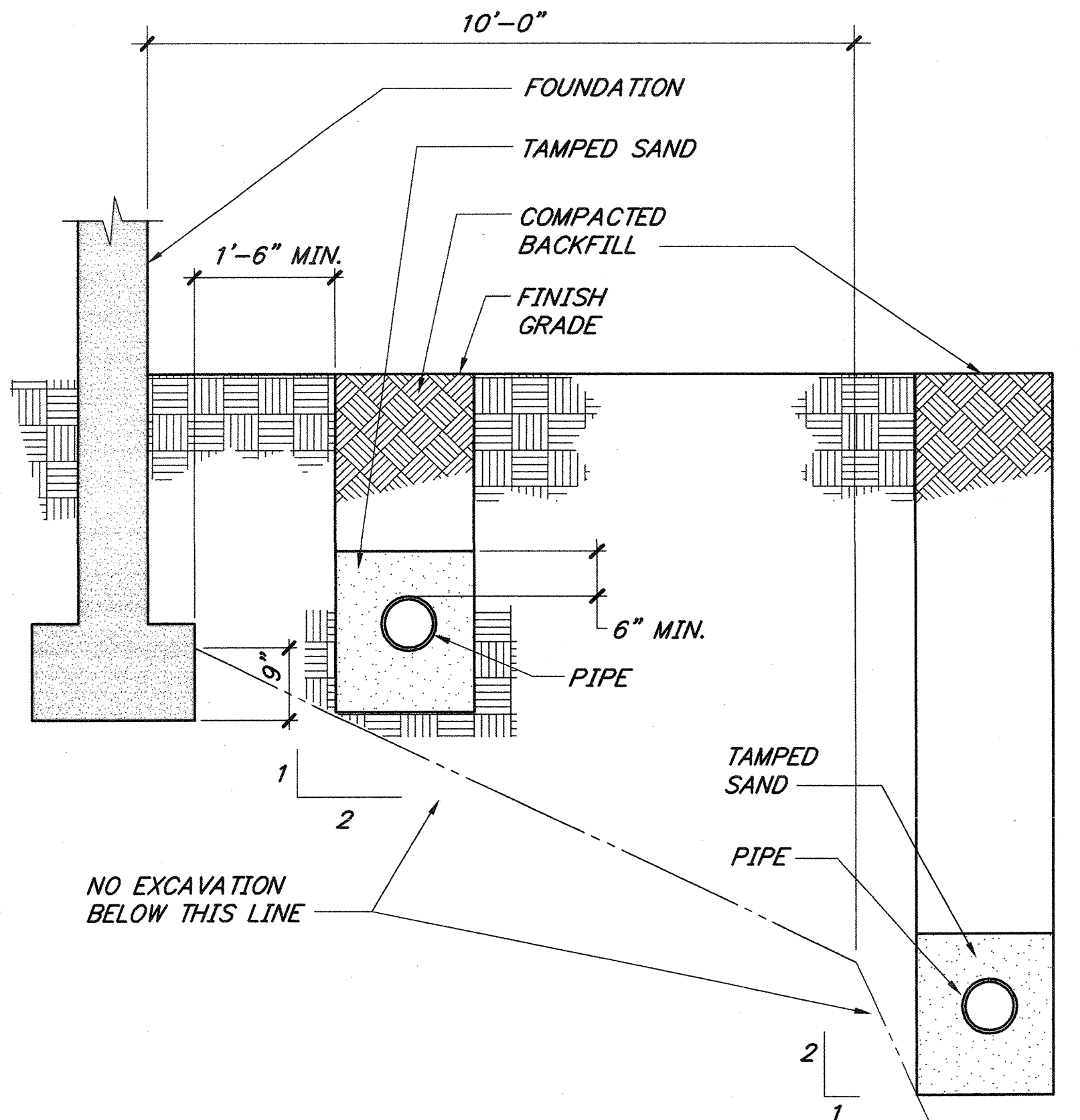
Beams or Columns	Case 1	Cover at least $1d_b$ and c.-c. spacing at least $2d_b$
	Case 2	Cover less than $1d_b$ or c.-c. spacing less than $2d_b$
All Others	Case 1	Cover at least $1d_b$ and c.-c. spacing at least $3d_b$
	Case 2	Cover less than $1d_b$ or c.-c. spacing less than $3d_b$

4. LAP CLASS A VALUES ARE THE THE REQUIRED TENSION DEVELOPMENT LENGTHS, l_d ; LAP SPLICE LENGTHS ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS; CLASS B = $1.3 l_d$ (ACI 318-02, SECTION 12.15.1).
 5. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
 6. FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3; OR WHEN f_{ct} IS SPECIFIED THE FACTOR IS $6.7 \sqrt{f_{ct}} / f_{ct} \geq 1.0$.
 7. FOR EPOXY-COATED REINFORCING BARS, MULTIPLY THE TABULATED VALUES BY ONE OF THE FOLLOWING FACTORS:

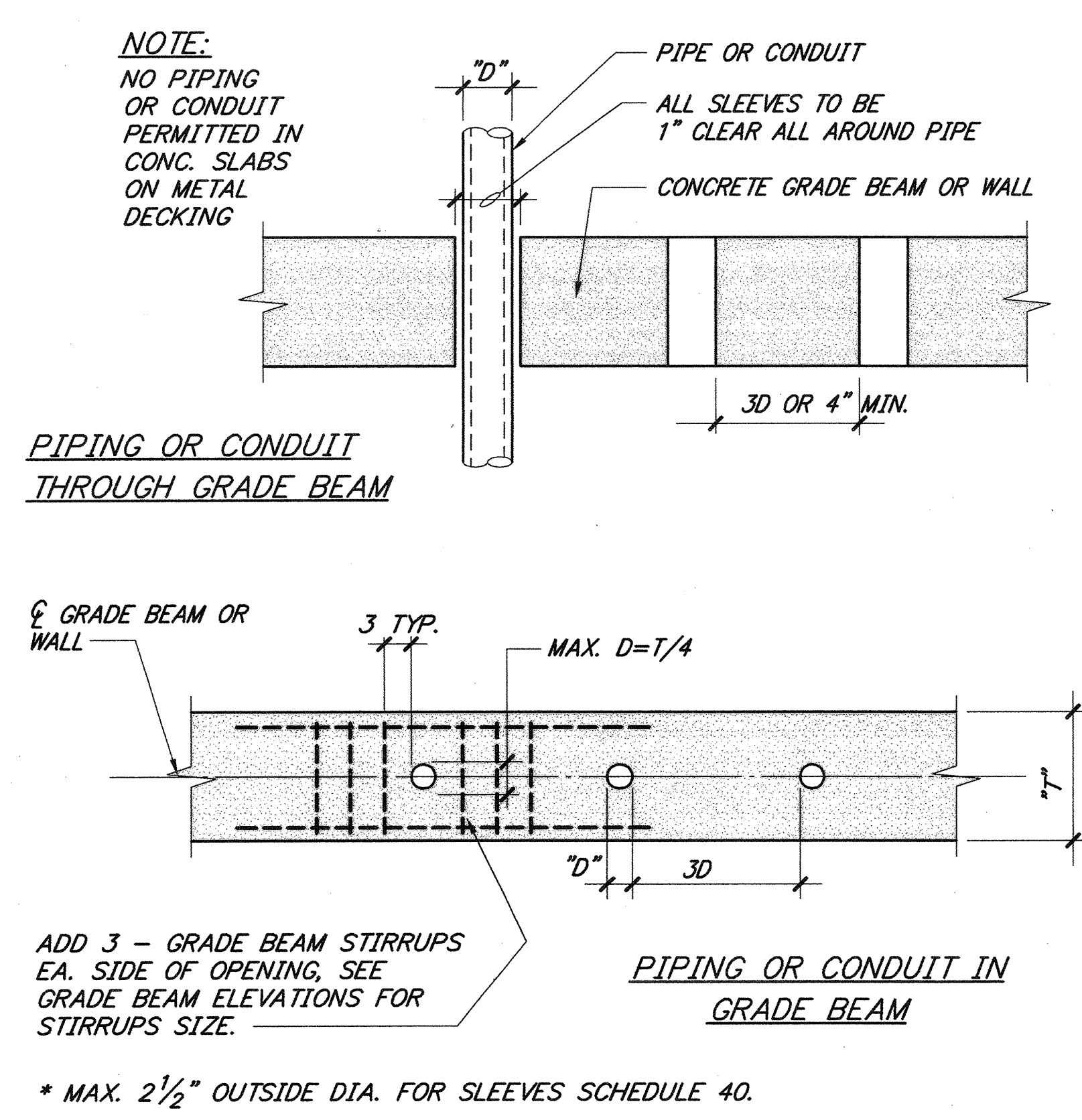
Concrete Cover and Spacing	Top Bars	Other Bars
Cover $< 3d_b$ or c.-c. spacing $< 7d_b$	$1.7/1.3 = 1.31$	1.50
Cover $\geq 3d_b$ and c.-c. spacing $\geq 7d_b$	1.20	1.20

LAP SPLICE SCHEDULE

NONE 3



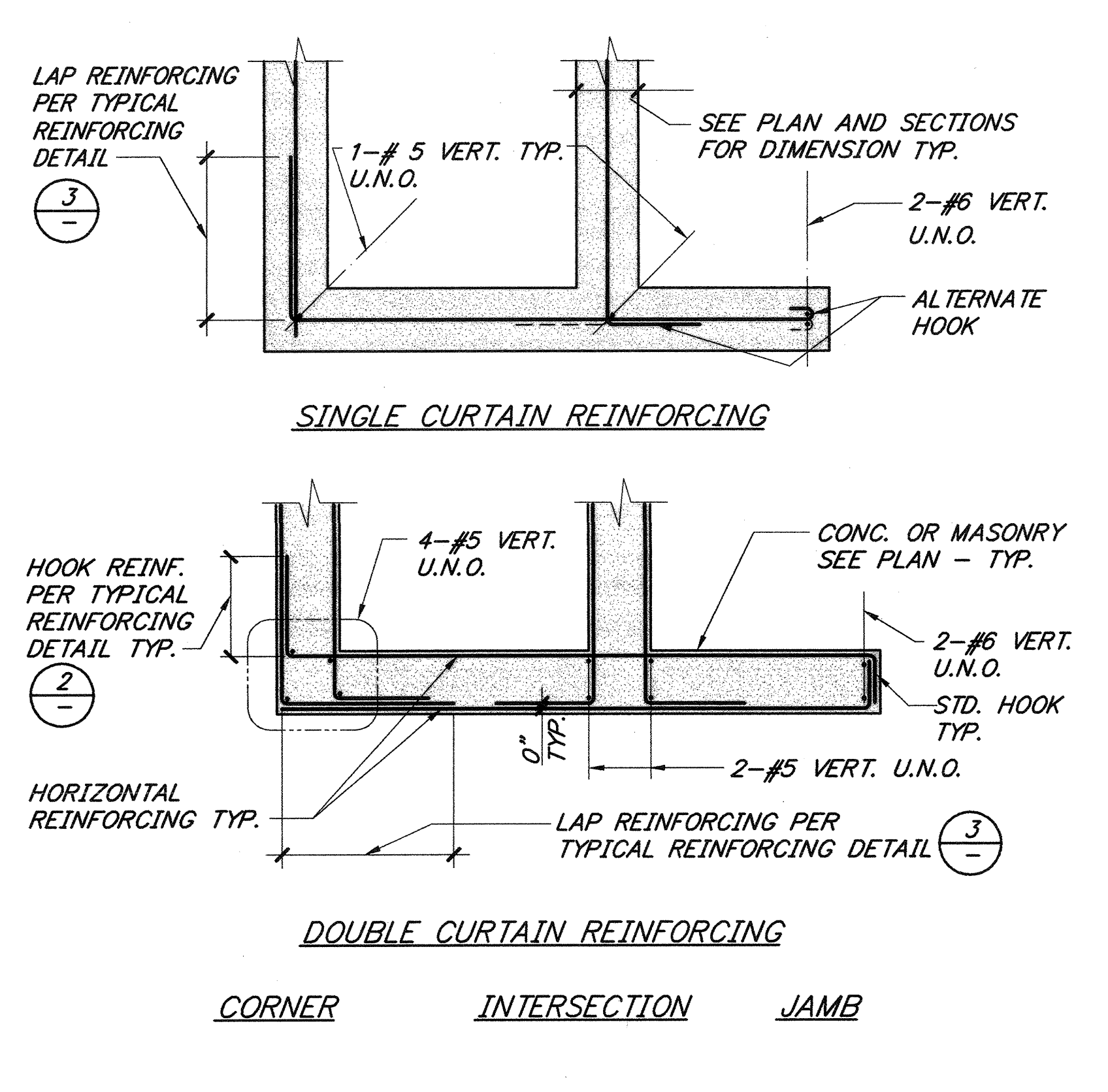
I-TYP. PIPE TRENCH PARALLEL W/ FOUNDATION



J-TYP. PIPE OR CONDUIT THRU CONG.

NOT USED

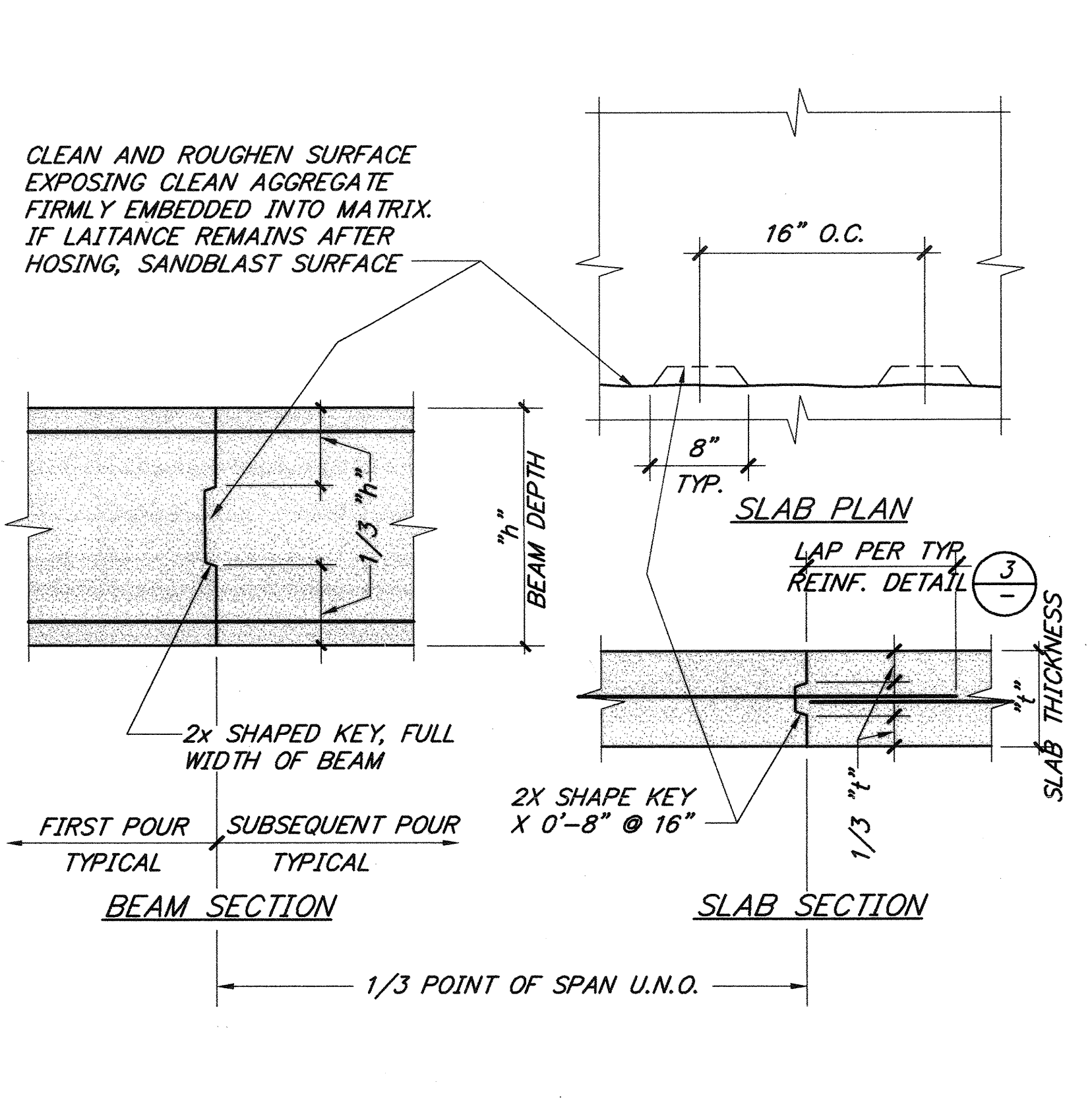
- 4



K-TYPICAL REINFORCING AT INTERSECTION

TYPICAL PIPE TRENCH DETAIL

NONE 5



L-TYPICAL CONST. JOINT DETAILS

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Project Title:

Palos Verdes HS
 CLASSROOM BUILDING 3
 600 Cloyd Road
 Palos Verdes Estates
 California 90274

KEY PLAN

BID SET 04.24.12
 DSA Submittal 06.08.11
 50% CD 05.31.11
 DESIGN DEVELOPMENT 03.17.11

Mark Date Description
 Issues/Revisions

APPROVAL:
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 APPL. 114031
 No. 19-141
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 CAD Dwg. File: DG
 Drawn By: TL
 Checked By: TL
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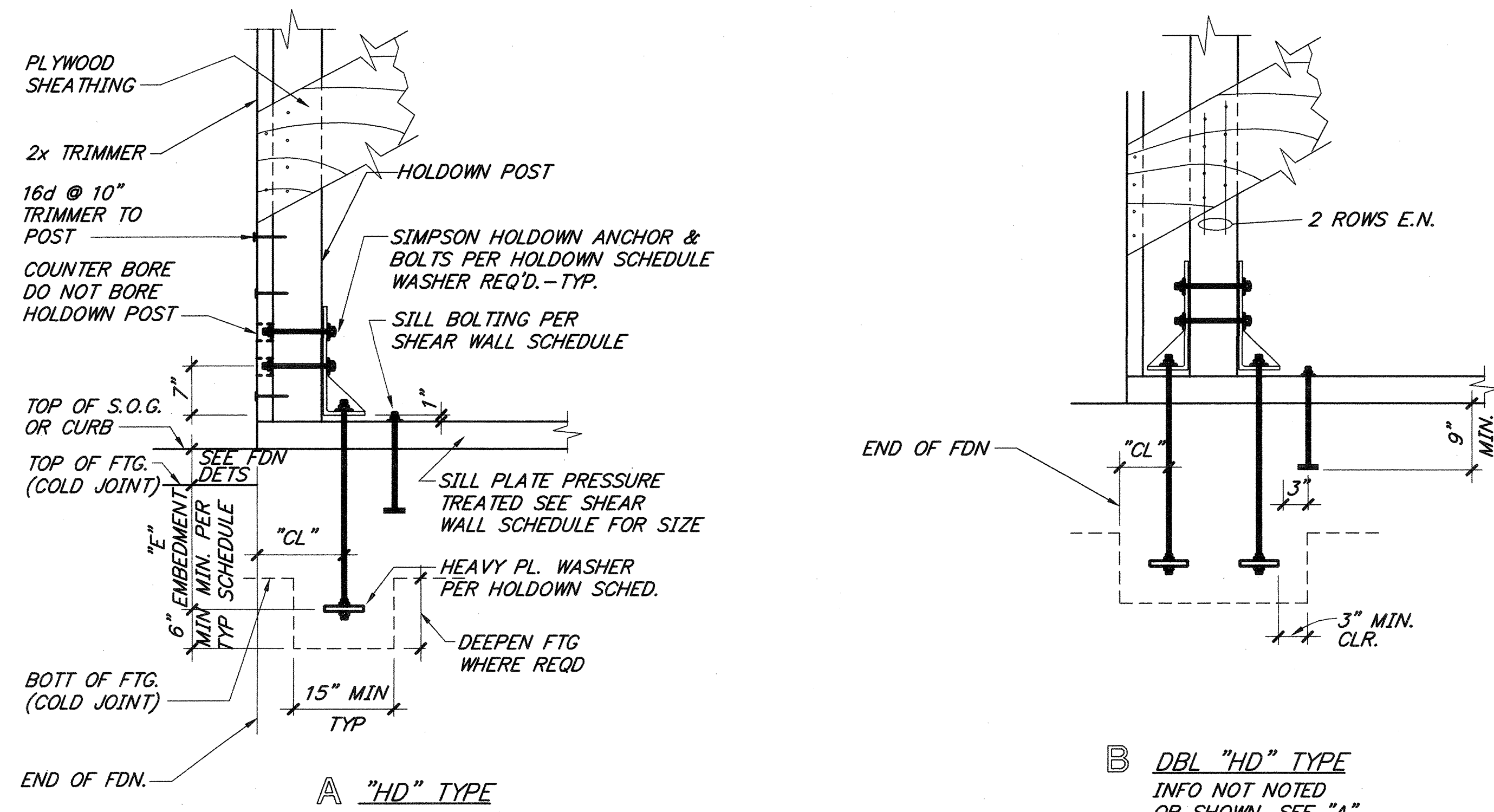
Sheet Title:

Sheet Number: **S103**

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HOLDOWN SCHEDULE										
MARK	SIMPSON HOLDOWN MODEL	BOLTS TO POST	SCREWS TO POST	BOLT END DISTANCE "CL" MIN.	ANCH. PL WASHER SIZE	ANCHOR SIZE	ANCHOR EMBED. "E" MIN.	MIN. HOLD DOWN POST	HOLDOWN ANCHOR SIMPSON SST BOLT TYP. (PHD) STANDARD BOLT (HD)	CAPACITY UPLIFT
①	HD3B	(2)- $\frac{3}{8}$ "	-	4 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "x3 $\frac{1}{2}$ "x $\frac{1}{2}$ "	$\frac{5}{8}$ "	18"	4x6	STD. BOLT (HD)	2504
②	HD5B	(2)- $\frac{3}{4}$ "	-	5 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "x3 $\frac{1}{2}$ "x $\frac{1}{2}$ "	$\frac{5}{8}$ "	18"	4x6	STD. BOLT (HD)	3948
③	HD7B	(3)- $\frac{3}{4}$ "	-	6 $\frac{3}{16}$ "	3 $\frac{1}{2}$ "x3 $\frac{1}{2}$ "x $\frac{1}{2}$ "	$\frac{7}{8}$ "	18"	4x6	STD. BOLT (HD)	5848
④	HD9B	(3)- $\frac{7}{8}$ "	-	7"	3 $\frac{1}{2}$ "x3 $\frac{1}{2}$ "x $\frac{1}{2}$ "	$\frac{7}{8}$ "	18"	6x6	STD. BOLT (HD)	7936
⑤	HD12	(4)-1"	-	6 $\frac{3}{16}$ "	3 $\frac{1}{2}$ "x3 $\frac{1}{2}$ "x $\frac{1}{2}$ "	1"	18"	6x6	STD. BOLT (HD)	10668

* SEE DETAIL 1/S106 FOR JAMB SIZE. LARGER MEMBER GOVERNS.



TYPICAL HOLD DOWN ANCHOR DETAILS

NONE 1

BOLTS SIZE (DIA.)	STD. CUT WASHER (DIA. x THK.)	STD. PL. SQ. WASHER (SIZE x THK.)	MALLEABLE IRON WASHER (DIA. x THK.)
1/2"	1-3/8"x3/32"	2"x2"x1/8"	2-1/2"x1/4"
5/8"	1-3/4"x1/8"	2-1/2"x2-1/2"x3/16"	2-3/4"x5/16"
3/4"	2"x5/32"	3"x3"x1/4"	3"x7/16"
7/8"	2-1/4"x1/8"	3"x3"x1/4"	3-1/2"x7/16"
1"	2-1/2"x1/8"	3-1/2"x3-1/2"x1/4"	4"x9/16"
1-1/8"	2-3/4"x1/8"	3-1/2"x3-1/2"x1/4"	4-1/2"x1/2"

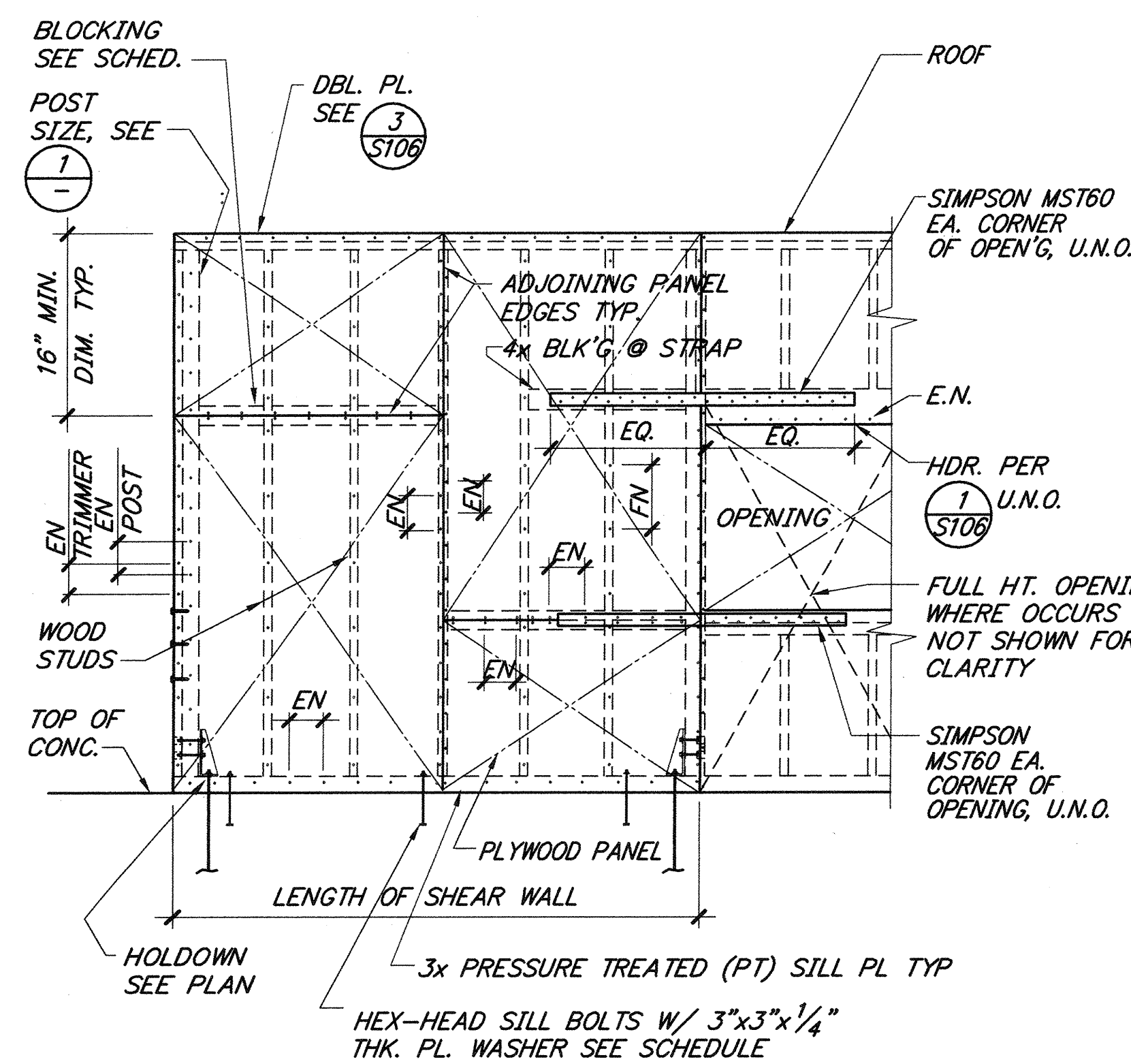
- STANDARD CUT WASHERS TO BE TYPICALLY USED WHERE WASHER IS NOT SPECIFIED.
- PLATE WASHERS & M.I. WASHERS TO BE USED WHERE SPECIFIED.
- AT SHEARWALLS, SEE ②

- NOTE:
- THIS DETAIL APPLIES TO ALL COLUMNS WHERE WALL HAS PLYWOOD SHEATHING. SOME LOCATIONS ARE CALLED OUT ON PLANS
 - ALL PLYWOOD TO BE EDGE NAILED TO EACH NAILER.
 - ALL EDGE NAILING TO BE PER SHEAR WALL SCHEDULE.
 - ALL EDGE NAILING TO BE STAGGERED PER ⑥

MARK	PLY SHEAR	"X" SPACING	"Y" SPACING
◇	PER PLAN	16"	12"

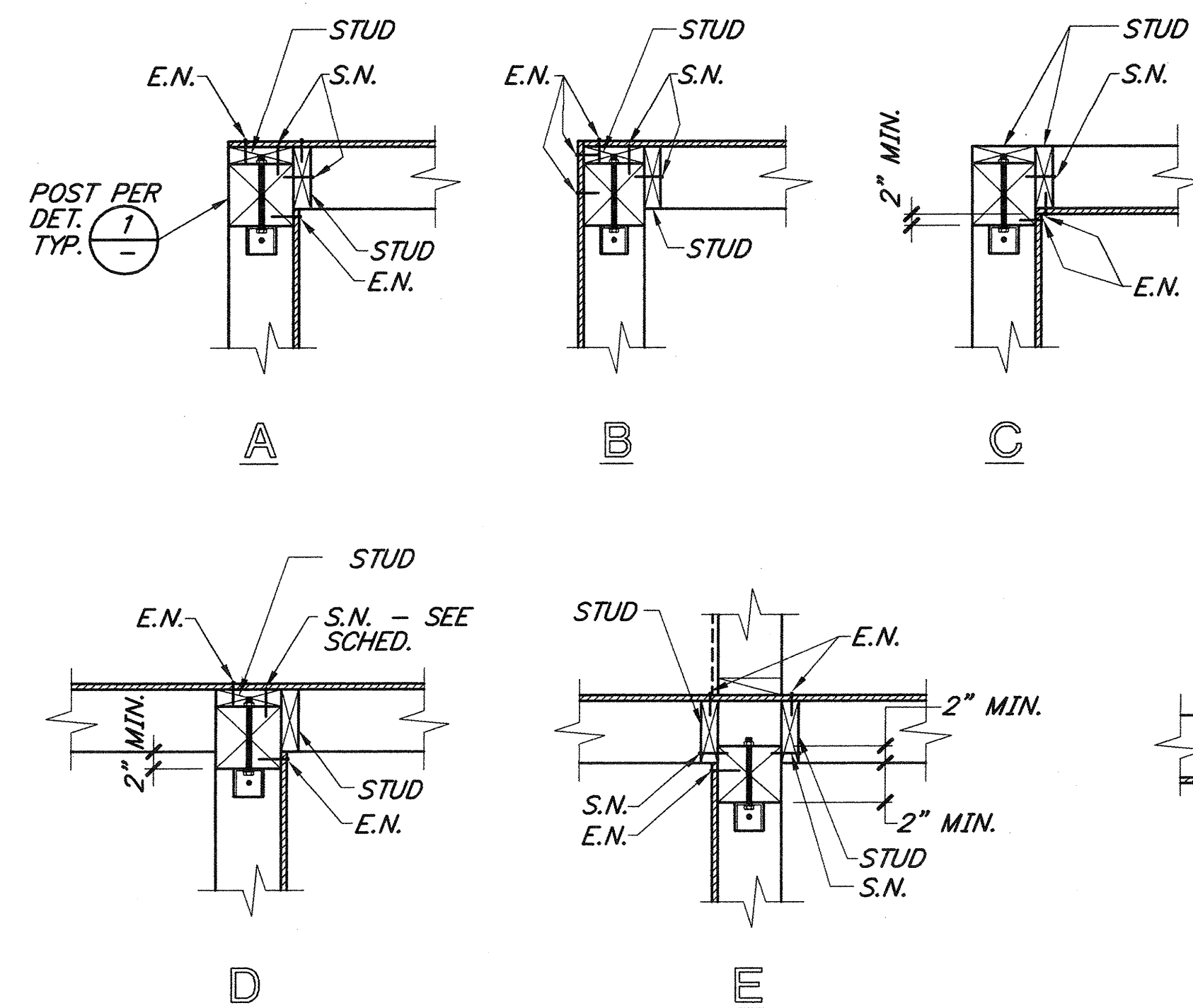
PLAN AT SHEAR WALL WITH HSS COL.

NONE 5



TYPICAL SHEAR WALL SCHEDULE

NONE 2



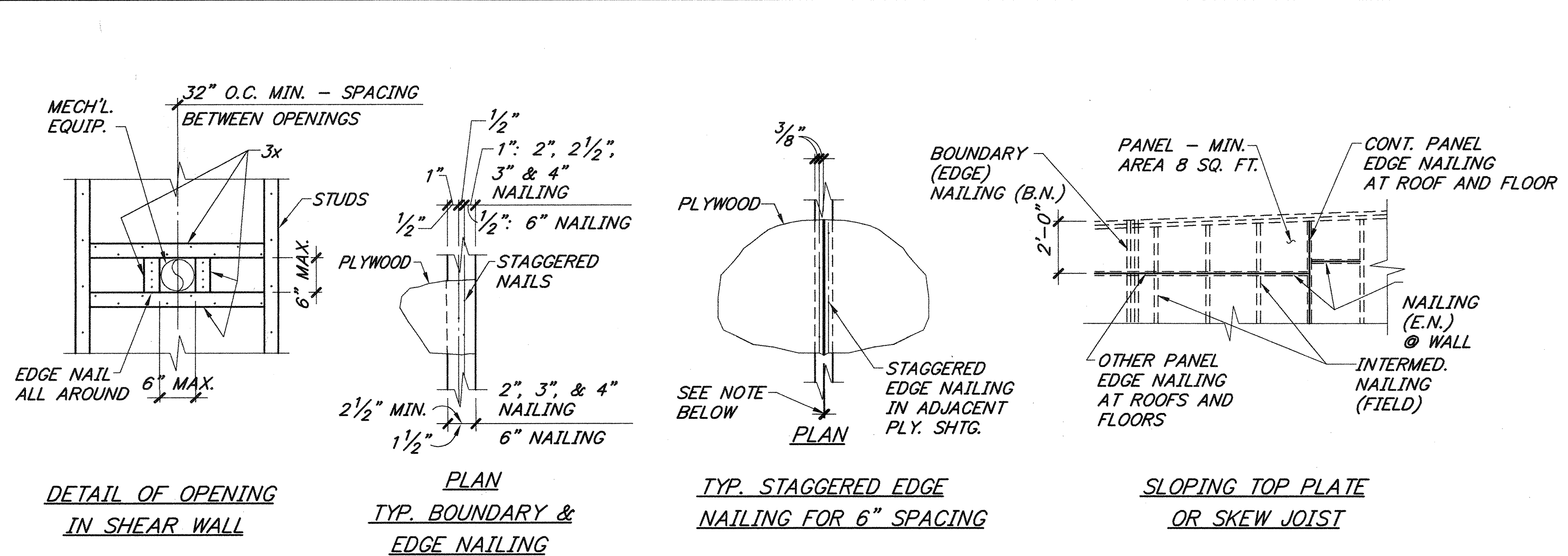
EDGE NAIL SPACING	SCHEDULE FOR SHEAR WALL STUD ATTACHMENT TO HOLDOWN POST		
	NAILED STUD	STUD W/LAG SCREW	STUD W/ THRU BOLTS
	STUD THK.	STUD THK.	STUD THK.
4" O.C.	2x	2 ROWS 16d @ 4	2x 5/8" #6 @ 16" O.C.
3" O.C. & 2" O.C.	2x	2 ROWS 16d @ 3	3x 3/4" @ 16" O.C.

S.N. - STUD NAILING, SEE SCHEDULE FOR LAG SCREWS OR THRU BOLTS ATTACHMENT ALTERNATIVES PROVIDED MIN. EDGE DISTANCE SHALL BE 2x DIAMETER.

NOTE: SEE ① FOR HOLDOWN POST AND ①/S106 FOR SAME SIZE. LARGER MEMBER GOVERNS.

TYPICAL SHEARWALL INTERSECTION DETAIL

NONE 3



DETAIL OF OPENING IN SHEAR WALL

PLAN TYP. BOUNDARY & EDGE NAILING

TYP. STAGGERED EDGE NAILING FOR 6" SPACING

SLOPING TOP PLATE OR SKEW JOIST

NOTE: CONTRACTOR TO OBTAIN ENGINEERS APPROVAL FOR LOCATION AND SPACING OF OPENING

PLYWOOD SHEAR WALL SCHEDULE						
SHEAR WALL MARK	PLYWOOD THICKNESS AND (TYP)	NO. OF SIDES	SHEAR WALL NAILING (1) NAIL SIZE AND SPACING	SILL BOLTS	MAX. SHEAR	
①	15/32 (STRUCT. I)	1	10d 6	5/8" @ 32" O.C.	340	
②	15/32 (STRUCT. I)	1	10d 4	5/8" @ 16" O.C.	510	
③	15/32 (STRUCT. I)	1	10d 3	5/8" @ 16" O.C.	665	
④	15/32 (STRUCT. I)	1	10d 2	5/8" @ 16" O.C.	870	

NOTE:

- NAILS TO BE STAGGERED AT ADJOINING PANEL EDGES.
- PROVIDE 3x BLK. @ ALL UNSUPPORTED PLYWOOD JOINTS AND EDGES.
- PROVIDE 3/8" NAILING EDGE DIST. FOR 2x BLK. @ 1/2" E. DIST. FOR 3x BLK.
- PROVIDE 1/2" MIN. SEPARATION BETWEEN THE STRUCT. PLYWOOD & CONCRETE.
- MINIMUM PANEL DIMENSION IS 1'-4". USE FULL SIZE PANELS WHERE POSSIBLE.
- ALL NAILS SHALL BE COMMON NAILS, SINKER OR BOX NAILS ARE NOT PERMITTED.
- OVER DRIVEN NAILS INTO PLYWOOD SHEATHING IS NOT ACCEPTABLE. ANY SHEATHING WITH OVER DRIVEN NAILS SHALL BE REPLACED AT CONTRACTORS EXPENSE.
- ALL STRAPS TO BE PLACED OVER TOP OF PLYWOOD.
- PROVIDE HOLDOWN FOR ALL THE MARKED SHEAR WALL AS NOTED ON PLANS. HOLDOWN, SEE DET. 1/- FOR SCHEDULE.
- PROVIDE STRAP AT ALL CORNERS OF OPENING TYPICAL.
- MINIMUM NAIL PENETRATION IN FRAMING IS 1 1/2" INCHES.
- PROVIDE 3x STUD AND 3x BLOCKING AT ADJOINING PANEL EDGES WHERE NAILING SPACING IS LESS THAN 6" O.C.

TYPICAL PLYWOOD WALL SHEATHING DETAILS

NONE 6

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Project Title:

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California 90274

KEY PLAN

BID SET 04.24.12

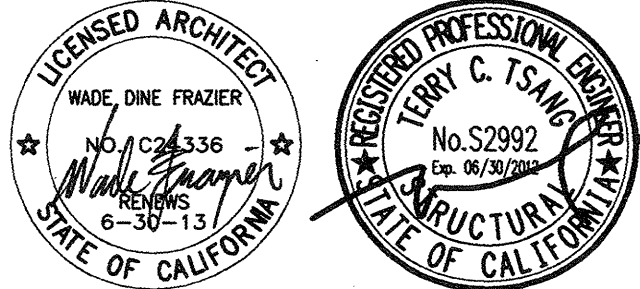
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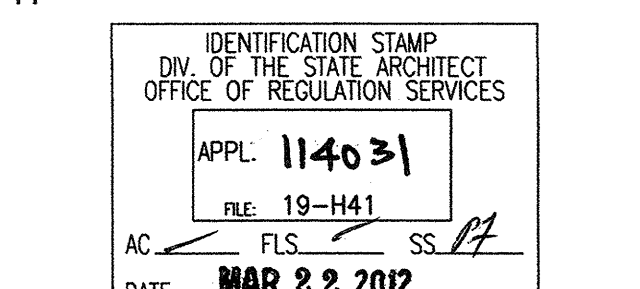
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Sheet Title:

TYPICAL DETAILS

Sheet Number:

S105

BOLT & WASHER SCHEDULE

NONE 4

