similar construction. Contractor shall submit RFI's for details such as this to Architect (Strucutral

Engineer) prior to proceeding with work.

QUALITY ASSURANCE (STRUCTURAL OBSERVATION, MATERIALS TESTING, and SPECIAL INSPECTION) Structural Observation: The Architect (Structural Engineer) of record will perform visual observation of the construction as required Cal. Admin. Code 4-333 and 4-341 in accordance with the governing code. These visual observations shall not be considered a substitute for special Coordination Responsibilities of Contractor: Notify Architect (Structural Engineer) 48 hours in advance of critical stages of construction indicated below so visits may be scheduled by Structural Observer. Failure by Contractor to meet observation schedule may require removal of subsequent Work for observation. Contractor to bear costs of removal and replacement of finished Work or framing damaged by removal process or as required for corrective action and for any associated scheduling delays. Pre-construction Meeting: Owner may coordinate and call for meeting between Architect (Structural Engineer) responsible for structural design, Structural Observer, Contractor, affected subcontractors and Special Inspector. structural observer will preside over this meeting. Purpose of meeting is to identify major structural elements and connections that affect vertical and lateral load resisting systems of structure and to review schedule of Structural Observation, Materials Testing, and Special Inspection of Project. Mill Test Reports Certifying Materials: Contractor to submit mill test reports certifying reinforcing steel, and structural steel are of identifiable tested stock to Owner, Special Inspector, Architect (Structural Engineer) and, upon request, to Governing Code Authority. Ensure materials are properly tagged for identification. If mill test reports cannot be made available or if material cannot be identified. Testing Laboratory will perform tests as directed by Architect (Structural Engineer). Contractor shall pay Testing Laboratory for costs related to tests and inspections of unidentifiable materials or materials furnished without mill test reports, materials found deficient after initial tests and inspections, or materials replacing deficient materials. Ultrasonic Examination of Heavy Rolled Shapes and Thick Plates at Proposed Welded Moment Connections: Where complete penetration groove welds occur at Groups 4 and 5 structural steel shapes, as defined in ASTM A6, and plates exceeding 2 inches thick, submit mill test reports to Architect (Structural Engineer) and, upon request, to Governing Code Authority. Mill test reports shall certify that Charpy Vnotch testing was conducted in compliance with ASTM A6, Supplementary Requirement S5, including impact test complying with ASTM A673 at frequency P with minimum average value of 20 ft.-lbs. absorbed energy at 70 degrees Fahrenheit. Weld Testing and Inspection: Testing Laboratory will submit weld test results to Owner, Contractor, Architect (Structural Engineer) and to Governing Code Authority. See Specifications for testing requirements not indicated on structural drawings. Structural Steel Welding: Apart from visual inspection and review of fabrication and erection reports of fabricator/erector's own quality control testing and inspection, Owner's Testing Laboratory will perform indicated shop and field inspection and testing. Testing Laboratory will be AWS Q.C.-1 certified and will provide inspectors for continuous inspection of steel fabrication and erection and structural welding. Shop and field testing of materials and welding will be as Ultrasonic testing is required for all (100%) partial and complete penetration welds. Test groove welding on continuity plates by ultrasonic testing after beam flange weld connection. Testing will be performed 24 hours or more after completion of welding. Weld backing removal areas and fillet welds will be subjected to magnetic particle examination. Base metal thicker than 1-1/2 inches, subjected to through thickness weld shrinkage, will be ultrasonically tested directly behind such welds 48 hours or more after completion of welding. Welds shall be visually inspected and periodically measured (15 percent Check 10 percent of fillet welds by magnetic particle (ASTM 109 method). Check 25 percent of continuity plate fillet welds and beam fillet welds (100 percent in moment zones) by magnetic particle. Ultrasonically test column flanges located at proposed welded moment connections, continuity plates, doubler plates and base plates where column flange or plate thickness exceeds 1-1/2 inches. Test for evidence of laminations, inclusions or other discontinuities in accordance with ASTM A435, straight beam ultrasonic examination of steel plates, or ASTM A898, straight beam ultrasonic examination of rolled steel structural shapes, as applicable. Test zone to include area 6 inches above and below each beam flange connection. For plates, any discontinuity causing a total loss of back reflection not contained within 3-inch diameter circle, or one-half thickness of plate, whichever is greater, will be rejected. For rolled shapes, ASTM 898, Level I criteria applies. Testing will be performed on material prior to fabrication, after fabrication, and after final welding Amperage, voltage, polarity and electrode stick out will be verified for compliance with electrode manufacturer's recommendations. 4. Special Inspection: Per DSA-103 and chapter 17A of CBC. **EARTHWORK and FOUNDATIONS** Geotechnical Report: Perform soils work complying with foundation design based on recommendations in 2013 CBC. 2. Allowable Foundation Design Values per CBC minimum Table 1806A.2 Bearing Capacity: 1,500psf. Passive Lateral Bearing Pressure: 100 psf/ft Cohesion: 130 PSF Active Pressure: 60 PSF/FT. 3. Grading, Excavations, Backfill and Compaction of Backfill: Comply with section 1804A 2013 CBC and requirements of governing code authority. 4. Preparation of Soil Under Foundations, Retaining Walls and Building Slabs on Grade: a. Excavation: Excavate existing fill, soils disturbed during demolition of existing improvements and any unsuitably loose soil encountered per Civil drawings. Foundation Excavations: Foundations are to bear on natural soil. Ensure excavations are clean, dry and free of debris or loose soil. Slope sides of excavation not less than minimum slope indicated by applicable code and requirements of governing code authority. Cast concrete directly against excavated surfaces.

Mechanical Splice: Mechanical couplers shall have current ICC report and shall have the capacity to develop 160 percent of the yield strength of the spliced bars. 8. Minimum Clearances Between Parallel Reinforcing Steel Including Distance Between Sets of Spliced Bars: 1 inch, 1 bar diameter, or 4/3 times the minimum aggregate size whichever is greater. 1-1/2 inches, 1-1/2 bar diameters, or 4/3 times the minimum aggregate size whichever is greater, at columns, piers, and pilasters only. For bundled bars, minimum clear distances between units of bundled bars shall be same as single bars except bar diameter is derived from equivalent total area 9. Minimum Concrete Coverage: Place bars as near to concrete surface as the following minimum coverages permit, unless noted otherwise: Slabs on Grade locate at center of slab Slabs Supporting Earth Above 1-1/2 inches from top Formed Concrete Exposed to Earth or Weather 1-1/2 inches (#5 and smaller); 2 inches (#6 and larger) Concrete Poured Against Earth (Unformed) Walls Above Grade, Exposed to Weather See C. above Walls Above Grade, Not Exposed to Weather 3/4 inch (#11 and smaller) 1-1/2 inches (#14 and larger) Columns (Clear to Face of Ties) 1-1/2 inches Beams (Clear to Face of Ties) 1-1/2 inches Structural Slabs (Top and Bottom) 10. Dowels between footings and vertical wall & column bars shall match the size, grade and spacing of the column up wall vertical reinforcing and be lapped with a class B lap splice, UNO. 11. Dowels at Construction Joints: Provide dowels matching size and quantity of reinforcing steel interrupted at construction joints, unless detailed otherwise. Welding: 12. Placement of Bars in Walls (unless detailed otherwise): Place vertical bars closest to wall surfaces at curtains containing vertical and horizontal bars of the same size. In curtains which vertical and horizontal bars are of different sizes or spacing, place layer with most steel area closest to near wall 13. Bars Terminating at Walls, Columns, Beams, and Foundations: Extend bars to within 2 inches (3 inches at concrete poured against earth) of far face of wall, column, beam, or foundation and provide standard hook unless detailed otherwise. 14. Bars Interrupted by Structural Steel: Extend bars to within 2 inches of steel face and provide standard hook unless detailed otherwise. 15. Welding: AWS D1.4, 2011 edition adopted by applicable code. Acceptable Reinforcing Steel for Welding: ASTM A706. If welding of reinforcing steel other than A706 is desired, submit proposed procedure, indicating conformance to Applicable Code and requirements of Governing Code Authority, to Architect (Structural Engineer) for acceptance and to Governing Code Authority for approval prior to execution. Rebar to rebar weld not allowed except where specifically indicated on plans. Provide electrode E80XX (80 ksi) where permitted. Welder Certification: As required by Governing Code Authority. See welding notes in Structural Steel Section of these notes for additional requirements. 16. Bending: Bend cold unless otherwise accepted by Architect (Structural Engineer). Do not field-bend reinforcing steel bars embedded in concrete unless otherwise accepted in writing by Architect 17. Reinforcing Steel Allowance: In addition to reinforcing steel indicated in Contract Documents, allow for an additional 2 tons of reinforcing steel to be constructed under direction of Architect (Structural Engineer) during construction. Direction will be given during multiple occasions. Reinforcing steel under this allowance will be of any size, shape and grade. Quantity of pieces and location in Project will vary. Include in this allowance fabrication and erection and necessary construction services such as shop drawing preparation, and access for inspection. Submit expenditures in writing for any part of this allowance to Architect (Structural Engineer) prior to fabrication and erection. The unused portion of this allowance shall be credited to the owner at the completion of the project. 18. Fusion welded preassembled cages are not permitted. CAST-IN-PLACE CONCRETE Applicable Standards: ACI 318 and ACI A301 except as amended in California Building Code Chapter 19A (for DSA) and as modified by supplemental requirements herein. Concrete mixing shall comply with ASTM C94. Portland Cement: ASTM C150, type II. Submit mill test with certification of compliance to Architect (Structural Engineer) Aggregates Normal Weight Concrete Aggregate: ASTM C33 for aggregates of natural sand and rock. Maximum aggregate size is 1-1/2 inches at foundations and slabs on grade and 1 inch Light Weight Aggregate for Structural Concrete: ASTM C330, expanded shale light weight Minimum 28-Day Concrete Compressive Strengths and Types: Compressive Strength and Max. W/C Location in Structure ype of Concrete Concrete Unless Otherwise Indicated on 4000 psi normal weight (145 pcf) Structural Drawings Footings and Grade Beams 4000 psi normal weight (145 pcf) Concrete Walls 5000 psi normal weight (145 pcf) Concrete Slabs on Grade 3000 psi normal weight (145 pcf) Equipment Curb/Pad Over Metal Deck 4000 psi normal weight (145 pcf) Concrete fill on Metal Deck 4000 psi light weight (115 pcf) 5. Slump: Per ACI 301, CH. 4 and CBC section 1704A.4. 6. All concrete above grade, including, slab on grade, deck fill, wall, topping slab, stair landing and tread shall have 1.5 pounds of 1 1/2" long fibrous reinforcing per cubic yard of concrete. 7. Lean Concrete: Where specifically indicated, containing 2 sacks of cement per cubic yard of concrete. Use only where specifically called for. 8. Non-shrink Grout: ASTM C109, cementitious, non-metallic attaining a compressive strength of 9. Concrete Mix Design Submittal: Prior to ordering concrete, submit for each compressive strength and type of concrete required designed, signed, and sealed by a registered Civil or Structural Engineer in State of California to Architect (Structural Engineer), Special Inspector and to Governing Code Authority complying with California Building Code, Chapter 19A. 10. Construction Joint: Roughen surface to 1/4-inch amplitude. Clean, remove laitance, thoroughly wet and remove standing water before placing new concrete. Submit to Architect (Structural Engineer) at least 14 days prior to placing concrete indicating locations of construction joints and extent of pours. Place joints at locations to minimize effects of

shrinkage as well as being placed at points which least impair strength of structure. Provide dowels

a. Pipes, Sleeves, Conduits, and Ducts: Not permitted embedded or penetrating concrete

except where structural walls are laid flush with column or beam faces, unless detailed otherwise.

13. Curing: Maintain concrete above 50 degrees Fahrenheit and in a moist condition for a minimum of

15. The maximum water-soluble chloride ION (CI) content in concrete by percentage of weight cement

spread footings, columns, walls or concrete cast over metal decking, except as shown in

11. Embedments and Penetrations in Concrete: No penetration through structural concrete is

(Structural Engineer). Do not cut any reinforcing

14. No more than one class of concrete shall be on site at one time.

permitted unless shown in these drawings or specifically accepted in writing by Architect

12. Chamfered Corners: Provide 3/4-inch chamfer at exposed corners of columns, beams and walls

7 days after placement unless otherwise accepted by Architect (Structural Engineer).

REINFORCING STEEL

2. Wire and Spiral Reinforcing:

inspector after installation.

Reinforcing Steel: All bars shall be deformed.

avoid continuous laps.

Spiral reinforcing: ASTM A615.

Reinforcing shall be kept clean and free of rust.

Engineer) prior to developing shop drawings.

All bars unless indicated otherwise: ASTM A615, Grade 60

Additional Requirements for Bars, Excluding Ties, for vertical bars in Shear Walls: No

additional requirements if ASTM A706, Grade 60 bars used. ASTM A615, Grade 60 bars

are permitted provided actual yield strength based on mill tests does not exceed specified

yield strength by more than 18,000 psi (retests shall not exceed this value by more than an

additional 3,000 psi) and ratio of actual ultimate tensile stress to actual yield stress is not

Smooth welded wire fabric (W.W.F.): ASTM A1064, Fy =65 ksi, flat sheets only - do not use

rolled mesh. Lap 1-1/2 wire spaces (1 foot minimum). Offset laps in adjacent sheets to

Deformed wire (D4 and larger only): ASTM A1064, Fy =65 ksi

3. Reinforcing shall be placed in accordance with the American Concrete Institute Standard 318

4. Provide all accessories needed to support reinforcing in the positions shown in the drawings.

Shop Drawings: ACI 315, Part B. Show reinforcing steel placement including sizes, quantities,

and concrete. All bars shall be marked so that they can easily be identified by the project

5. Lap Splices: Provide Class B splices unless indicated otherwise. Splice bars only at locations

indicated. If additional splice locations are proposed, promptly notify Architect (Structural

vertical bars except at horizontal supports such as floor and roof diaphragms.

spacing, clearances, splice locations, lap lengths, and concrete coverage's and submit to

Chairs and spacers for reinforcing shall be non-ferrous of plastic coated when resting on exposed

Architect (Structural Engineer). Promptly notify Architect (Structural Engineer) prior to developing

encountered. Notify Special Inspector of adjustments made from approved Contract Documents

which are indicated on accepted shop drawings that facilitate field placement of reinforcing steel

Splices in Walls: Locate splices in horizontal bars at well-staggered locations. Do not splice

shop drawings if insufficient clear distances between reinforcing steel and other congestion is

(ACI318) and Concrete Reinforcing Steel Institute's (CRSI) "Manual of standard practice".

Bars to be welded: ASTM A706, Grade 60

to be certified by manufacturer. Substituting drill and epoxy anchors for cast-in-place reinforcing embedments will not be accepted. Mechanical Anchors: Simpson strong bolt 2 carbon steel expansion anchors complying with ICC-ES Evaluation Report No. 3037. Where anchors are exposed to weather anchors shall be Welded Shear Studs: Nelson 3SL flux filled, headed stud anchors, 60,000 psi minimum ultimate tensile strength, automatically end welded in field conforming to ASTM A108 and complying with ICC-ES Evaluation Report No. 2856. Welded Deformed Anchors: Nelson D2L, cold rolled, deformed steel reinforcing bars conforming to ASTM A496 and complying with ICC-ES Evaluation Report No. 2907. Fasteners: Powder Actuated Fasteners: Hilti Low-velocity Powder Actuated Drive, 0.157" diameter (X-U), complying with ICC ES Report No. 2269. Provide appropriate washer between fastener head and light gauge metal or wood surface. (All shot pins shall be of this kind) Shot pins shall not be used @ PT slab or beams. Self-Drilling Metal Screws (Indicated "Screws" on Drawings): Pro-Twist Marker 8 Darts screw complying with current ICC ES Evaluation Report ER-1408. Concrete screws: Simpson Titen HD complying with current ICC ES evaluation report Mansonry Screw: Hilty Kwik HUS-EZ Screw complying with current ICC ESR-3056. 3. Installation: See manufacturer's written instructions and referenced ICC-ES evaluation report. Drilling Holes in Existing Concrete or Masonry for Anchorages: Use non-pneumatic, rotary hammer tools with ANSI compliant non-rebar cutting drill bits to drill holes of proper tolerances. Locate existing rebar including prestressing and post-tensioning tendons using non-hazardous, non-destructive methods with accurate location tolerances (plus or minus 1/4-inch) prior to drilling holes to avoid cutting or damaging. Holes shall be thoroughly cleaned per manufacturer's written recommendations prior to installation of anchorages. Deleterious Materials: Keep anchorages, including holes for drill and epoxy anchors and mechanical anchors, free of dust, grease, and other materials that impair bond. 4. Provide testing per 1916A.7 STRUCTURAL STEEL Detailing, Fabrication, and Erection: AISC "Design Standard for Load and Resistance Factor Design Specification for Structural Steel Buildings", AISC "Design Standard for Specification for Structural Steel Buildings Allowable Stress Design and Plastic Design", and AISC 341-10 "Seismic Provisions for Structural Steel Buildings" except as amended in Applicable Code Chapter 22A and as modified by supplemental requirements herein. 2. Structural Steel: Provide readily identifiable structural steel in compliance with Applicable Code Section 2203A.1. Furnish structural steel complying with the following ASTM standard specifications, unless noted otherwise: Structural Steel Unless Indicated Otherwise: ASTM A992, Grade 50 Angles and Channels: ASTM A36 Plates: ASTM A572, Grade 50 ASTM A53, Grade B (35 ksi) Rectangular Tubes: ASTM A500, Grade B (46 ksi ASTM A500, Grade B (42 ksi Round HSS Anchor Bolts: ASTM F1554, grade 55 (weldable) Holes for Bolted Connections and Anchor Bolts: AISC "standard" holes limited to 1/16-inch larger in diameter than nominal bolt diameter, unless noted otherwise. High Strength Bolts, Nuts and Washers: AISC "Specification for Structural Joints Using ASTM Hardened Washers: ASTM F436, under nuts except where plate washers are used. Provide beveled washers where joint face slope is greater than 1:20. Tightening: Snug tight for all high strength bolts except tighten A325-SC and A490-SC bolts to at least the minimum proper tension according to AISC Specification. All bolts parts of "SLRS" shall be "SC" type bolts. Applicable Welding Standard: Applicable Code and latest adopted edition of AWS D1.1 including, but not limited to, the following: Section 6.4 for qualified welders. Section 4.2 and AISC 360-10 Specification Section J2-7 for jumbo sections for preheat and interpass temperature requirements. Section 4, Parts 8c and 8d technique for arc welding Section 6 and Section 8. Part D. for inspection B. Pre-qualified and Non Pre-qualified Welds: Welds shall be pre-qualified in compliance with Applicable Welding Standard. Where non pre-qualified welds are to be used, qualify by test and procedure qualification test record complying with Applicable Welding Standard C. Work performed by Welders and Inspectors: Adhere to approved Welding Procedure Specification (WPS). Each welder and inspector shall retain a copy of WPS. D. Pre-construction Meeting: Conduct to include Architect (Structural Engineer), fabricator, erector, Contractor and inspectors to discuss Welding Procedure Specification (WPS). Welding Procedure Specification (WPS): Fabricator/erector to develop WPS in compliance with Applicable Welding Standard. Submit to Architect (Structural Engineer) for acceptance and Governing Code Authority for approval prior to fabrication. WPS submittal to include the following: Welding manufacturers' specifications. Information required by Applicable Code, Contract Documents and any other information necessary to produce welds that are in compliance with Applicable Welding Standard. Detailed sequence of weld sketches addressing effects of welding heat for welds at joints and within seismic frame assemblies as a whole. Plan sequence of erection and welding to minimize locked in stresses and distortion considering effects of welding heat. Procedures submitted shall result in completed connections which comply with design intent of structural drawings. No deviation from structural drawings is permitted unless otherwise accepted by Architect (Structural Engineer) and approved by Governing Code Authority. Welding parameters recommended by electrode manufacturer. List of applicable base metal types and thicknesses. Welding joint sketches including joint type, weld type, joint geometry, and applicable dimensions. Individual weld passes shall be identified in sketches and numbered to identify the sequence of their deposition. Sketches shall identify the maximum layer thicknesses and bead widths. In no case shall layer thickness exceed 1/4-inch, nor shall maximum bead width exceed 5/8-inch. Applicable welding process. Position of welding. List of filler metal per Applicable Welding Standard and electrode specification and classification. Include details showing shielding material to be used. Minimum preheat requirements, interpass temperatures and post weld heat treatment. Minimum specified preheat shall meet requirements of AWS D1.1, table 4.3, and AISC 360-10 Section J2-7 requirements for jumbo sections List of applicable electrical characteristics for process employed. Clearly indicate specific values required for each welding pass. These electrical characteristics shall include at a Electrode diameter Type of current and acceptable ranges of current measured in amperage. For wire feed processes, indicate manufacturers' recommended melt-off rate, deposition rate, and wire feed Voltage (for all processes). Actual field condition travel speed and manufacture's data for travel speed. Electrode extension (stick out) for wire feed processes. Amperage, voltage and electrode extension (as applicable) shall be within filler metal manufacturer's recommendations (compare to AWS D1.1, Section 4.6.2). Electrode manufacturer's technical information, with identification number listed, and welding parameter recommendations F. Welding Electrodes (Filler Metal): E70XX (70 ksi), unless indicated otherwise. Provide filler metal with Charpy V-notch toughness of 20 ft/lbs average at -20 degrees Fahrenheit at complete penetration groove welds. Use low-hydrogen electrodes only. G. Welding Toughness Requirements: Certify conformance to Charpy V-notch toughness requirements with tests by an independent testing laboratory for each AWS classification, manufacturer and trade name. Testing procedures shall be in accordance to Applicable Welding Standard and 341-05 AISC Seismic Provisions, Appendix X. H. Fabricators: Perform shop welds by fabricators approved by DSA. i. Welder Qualification: Welders, regardless if Work is performed in shop or in field, shall be qualified for the Work they will be doing and shall have certifications current and acceptable to Governing Code Authority. ii. Special inspection shall be required for all welding, as required by governing code authority. J. Welds Exposed to View: Faces of fillet welds exposed to view shall have as-welded surfaces that are reasonably smooth and uniform. No finishing or grinding shall be required, except where clearances or fit of other items may so necessitate. Partial and full penetration welds exposed to view shall be ground smooth and flush with finish surface of steel. Remove backup bars and weld tabs. Fill holes with weld metal or body solder and smooth by grinding or filing K. Groove Preparation: Clean groove preparation thermal cuts by grinding. Termination of Welds: Terminate at joint ends in a manner that ensures sound welds. Use extension bars and run-off tabs whenever necessary. M. Hand-held Calibrated Amp and Volt Meters: To be used by fabricator, erector and inspectors to assure proper amperage and voltage of welding process. Measure amperage and voltage at arc. Verify travel speed and electrode stick-out in compliance with electrode manufacturer's recommendations and with approved WPS Storage of Electrodes: Adhere to Section 4.5.2 of AWS D1.1. Weld each flange of moment frame beam to column connections in one continuous process without cooling below pre-heat temperature Welding of ASTM A913 Materials: Perform according to requirements of latest edition of AWS standard, structural drawings and specifications, whichever is more stringent. Q. Minimum Fillet Weld Size: Where minimum fillet weld size, as stipulated by AISC 360-10 Section J2 and Table J2.4, exceeds fillet weld size indicated on structural drawings, use AISC stipulated size. Minimum Groove or Butt Weld Size: Provide complete penetration unless indicated otherwise. Weld Length: Length of welds shown are net effective lengths. Where length of weld is not indicated. provide weld full length of joint. Shop Drawings: Submit To Architect (Structural Engineer) for review and, upon request, to Governing Code Authority. Include sequence of erection procedures from approved WPS: Moment Connections: Orient flange stiffener plates and cap plates used in moment connections so that rolling direction of plate is parallel with direction of principal stress. Horizontal Members: Place natural camber up. Filler Plates: Provide at splices of parts having more than 1/8-inch difference in thickness. Filler plates to match grade of material spliced. 8. Cleaning: After fabrication, clean steel surfaces free of rust, loose mill scale, and oil. 9. Exposure to Soil: Encase structural steel in lean concrete with 4-inches concrete cover where exposed to soil. 10. Exposure to Weather: All structural steel (including connection elements) exposed to weather shall be galvanized. Coordinate finishes with architect at AESS. 11 Structural Steel Allowance: In addition to the steel shown or implied in this document, allow for an additional 2 tons of structural steel to be constructed at the direction of the Structural Engineer during construction. The allowed steel may be of any shape or sizes, including plates, wide flanges, tubes, pipes, channels, angles, and/or any other structural shapes. The number of pieces may vary. The locations of applications may vary. Direction may be given in multiple occasions during construction. The allowance should include all fabrication and construction related services, such as shop drawings, shop preparation, field erection and coordination, bolted connections and field welding. Expenditure of any part of this allowance shall be approved in writing by the Structural Engineer prior to any fabrication and erection.

12. Heavy sections must comply with AISC 360-10 Section 3.1 for Charpy V-notch.

13. See quality assurance note C.4 for non-destructive testing

G. PROPRIETARY ANCHORAGES and FASTENERS

Anchorages:

ROUGH CARPENTRY Structural Lumber: Grade marked Douglas Fir-Larch structural lumber complying with Standard Grading Rules No. 17 (2004) of the West Coast Lumber Inspection Bureau. Provide air-dry lumber with 19 percent maximum moisture content. Drill and Epoxy Anchors: HILTI HIT-RE 500 S-D adhesive system using threaded steel rods conforming to ASTM A193, grade 105, or reinforcing steel conforming to ASTM A615, grade Classifications and Grades: 60, or ASTM A706, grade 60, complying with ICC-ES Evaluation Report No. 2322. Installers Rafters and Joists Larger Than 2x4 2x4 Joists and Rafters 4x Beams, Headers and Stringers Beams, Headers and Stringers Larger Than 4x Posts Larger Than 4x Studs, Plates and Blocking in bearing or shear walls 2" to 4" thick, 2" and wider 3. Plywood: U.S. Product Standard PS 1-07 and classified as Exposure 1. Each sheet of plywood shall be identified with appropriate trademark of the American Plywood Association. 4. Pressure Treat Structural Lumber Bearing on Concrete or Masonry: See Specifications. Provide hot dipped galvanized or stainless steel fasteners and hardware connectors for fasteners and connectors in contact with pressure treated structural lumber. 5. Nails: Common nails with dimensional properties complying with ASTM F1667. Install nails in compliance with CBC Chapter 23, including Table 2304.9.1 (repeated below). 6. Bolts: ASTM A307 bolts with standard cut washer under bolt head and nut. Provide holes for bolts 1/32 to 1/16 inch larger than nominal bolt diameter. Re-tighten bolts prior to application of sheathing or finish. 7. Anchor Bolts: ASTM F1554, Grade 55. 8. Lag Screws: ANSI/ASME Standard B18.2.1-2010 including Appendix I for lag screw dimensions. Pre-drill all holes. Hole at shank portion to match diameter of shank. Holes at threaded portion to be 40-70 percent of shank diameter and equal to length of threaded portion. Use soap and lubricants to facilitate installation. Driving with hammer is not permitted. 9. Wood Screw: ANSI/ASME Standard B18.6.1 for wood screw dimensions. Driving with hammer is 10. Plate Washers: Provide under heads or nuts of bolts (including anchor bolts at sill plates) and lag screws per when anchoring wood. 11. Wood Hardware Connectors: Manufactured by Simpson Strong-Tie Company, Inc. complying with ICC-ES Evaluation Report No's ESR-2105, ESR-2549, ESR-2553, ESR-2604, ESR-2615 ESR-3096 and NER 209. Install connectors using fasteners in accordance with manufacturer's written instructions. For connectors requiring nails, use common nails unless shorter nails (sinkers) are specifically indicated. 12. Notching or Cutting Structural Lumber: Not permitted unless specifically detailed or indicated. 13. Lateral Support for Beams, Rafters and Joists: Full Depth 2 inches thick continuous solid blocking shall be proved at 8 feet on center or midspan, whichever is less. 14. Do not suspend ceilings, soffits, sprinklers, piping, mechanical ducts, nor any other element from 2x4 roof framing unless specifically detailed. 15. Provide 4x or 3 1/2" min. thick framing members at fire sprinkler lateral and/or longitudinal bracing attachment location. Coordinate with fire sprinkler drawings for locations of pipe bracing required. NAILING SCHEDULE (PORTION OF CBC TABLE 2304.9.1) 1. All nails are common nails unless written acceptance by Architect (Structural Engineer) is Joist to sill or girder, toenail Bridging to joist, toe nail each end 1"x6" subfloor or less to each joist, face nail Wider than 1"x6" subfloor to each joist, face nail 2" subfloor to joist or girder, blind and face nail Sole plate to joist or blocking, typical face nail Sole plate to joist or blocking, at braced wall panels 3-16d per 16" Top plate to stud, end nail Stud to sole plate Double studs, face nail Doubled top plates, typical face nail Doubled top plates, lap splice Blocking between joists or rafters to top plate, to Rim joist to top plate, toe nail Top plates, laps and intersections, face nail Continuous header, two pieces Ceiling joist to plate, toe nail Continuous header to stud, toe nail Ceiling joists, laps over partitions, face nail Jelling joists to parallel ratters, face hall Rafter to plate, toe nail 1" brace to each stud and plate, face nail 1"x8" sheathing or less to each bearing, face nail Wider than 1"x8" sheathing to each bearing, face nail 3-8d 2" planks Built-up corner studs Built-up girder and beams STRUCTURAL SCOPES BLDG. A: SEISMIC UPGRAGE OF EXISTING LATERAL FORCE RESISTING SYSTEM AT SECOND FLOOR. NEW PLYWOOD SHEATHING AND HOLDOWNS FOR SHEARWALLS ARE INSTALLED TO ACCOMMODATE ARCHITECTURAL REMODELING. TWO NEW STRUCTURAL STEEL STAIR SYSTEMS WITH CONCRETE TREADS THAT ARE SUPPORTED BY A STEEL CANTILEVER COLUMN. EXISTING MECHANICAL ROOFTOP UNITS TO BE REPLACED WITH NEW UNITS. EXISTING METAL DECK DIAPHRAGM IS REPLACED WITH NEW STEEL ANGLE CROSS-BRACING BLDG 02: NO WORK.

(%) 48. (6) IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT APPL. #: 01-116137 DATE FEB 0 2 FILE NUMBER: 43-H10 LIBRA SCHOOL MPROVE

(0) >=

Size Classification

Beams and Stringers

4" thick, 4" and wider

Posts and Timbers

2" to 4" thick, 2" and wider

2" to 4" thick, 2" and wider

16d @ 6" o/c

16d @ 24" o/c

16d @ 16" o/c

8d @ 6" o/c

3-8d

4-8d, toe nail or 2-16d, end nail

16d @ 16" o/c along each edge

20d @ 32" o/c at top and bottom and

staggered 2-20d at ends and at each

2-16d at each bearing

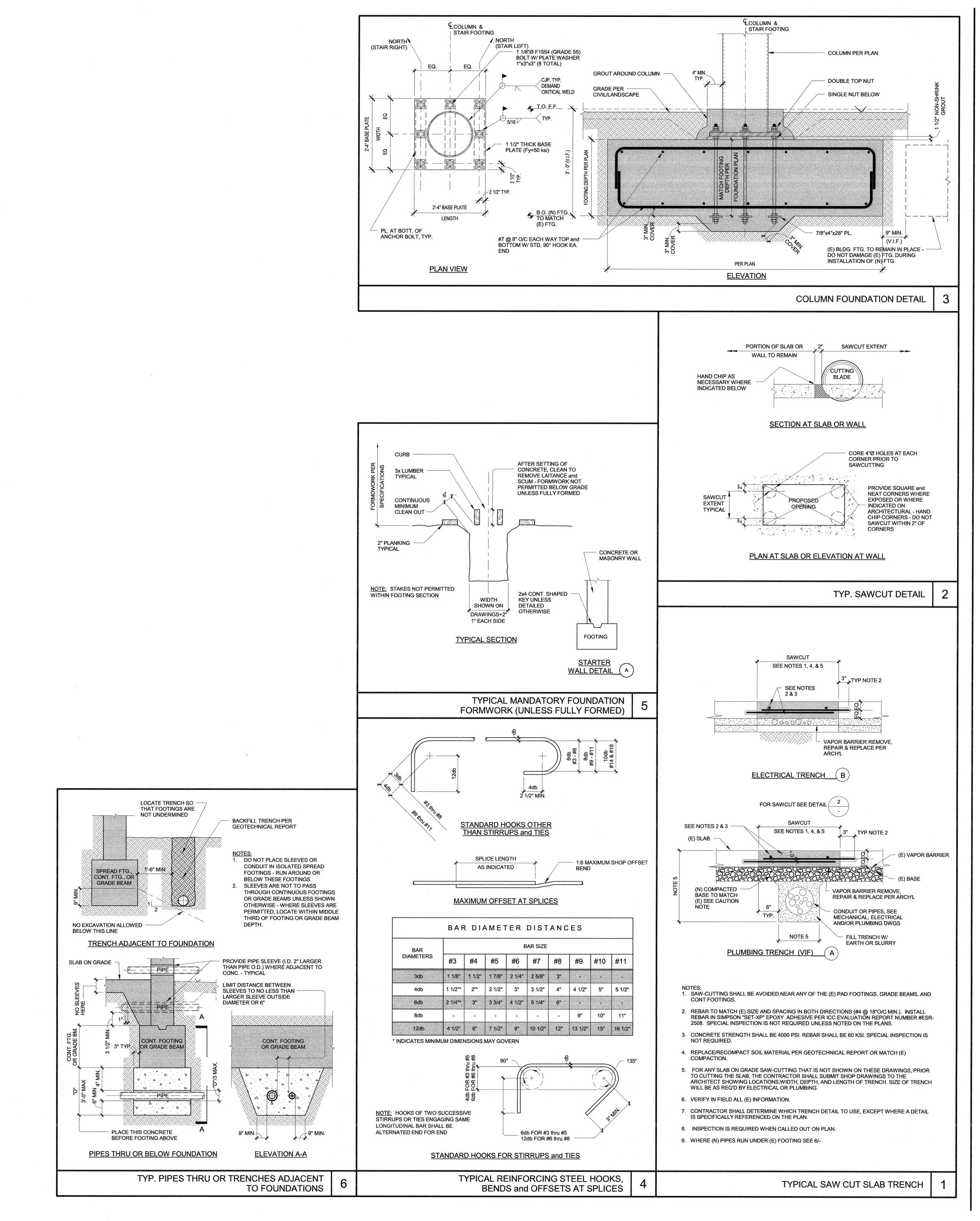
2" to 4" thick, 2" and wider

Job. No. Checked by

GENERAL NOTES

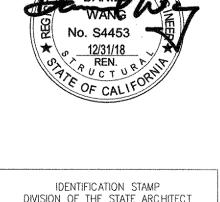
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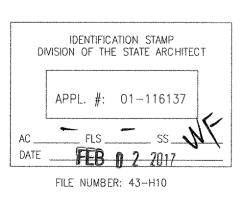
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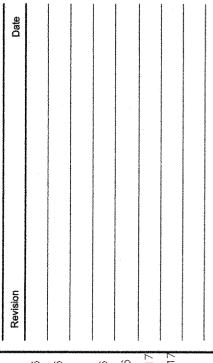


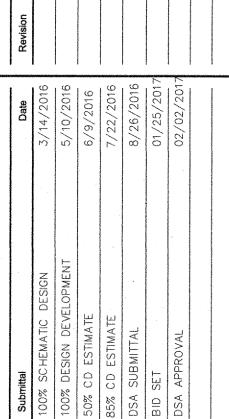








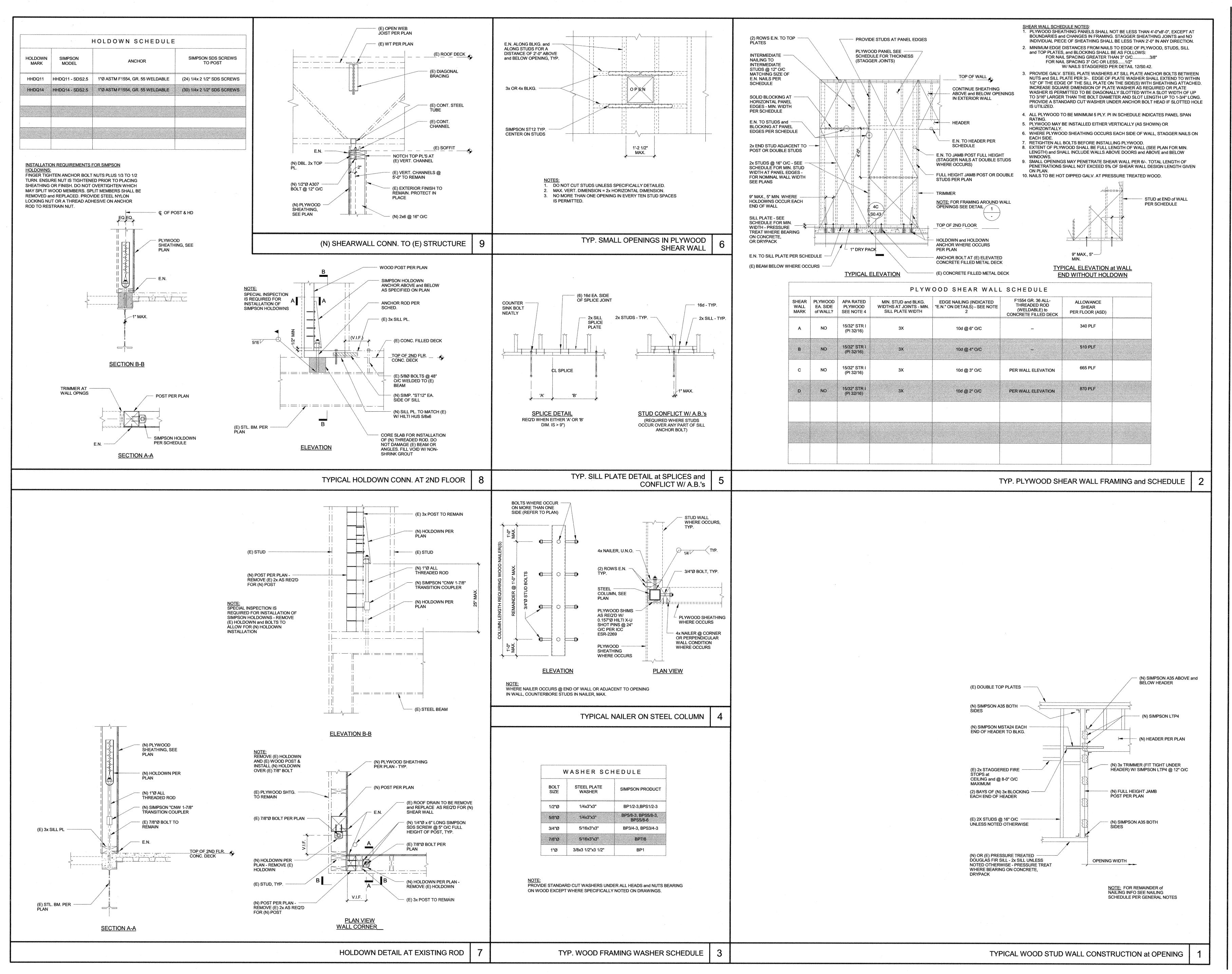




Job. No. 1524810 Date 02/02/2017 Checked by Scale As indicated

TYPICAL DETAILS

S0.11

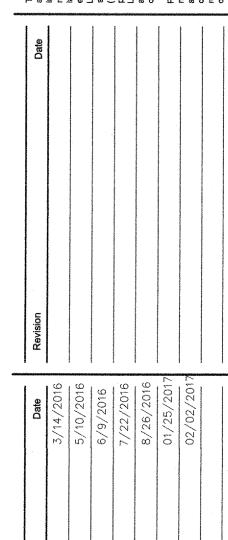


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IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT APPL. #: 01-116137 FILE NUMBER: 43-H10



HIGH SCHOOL - LIBRA SITE IMPROVEMENTS GROVE ODEL &



Job. No. 1524810 02/02/2017

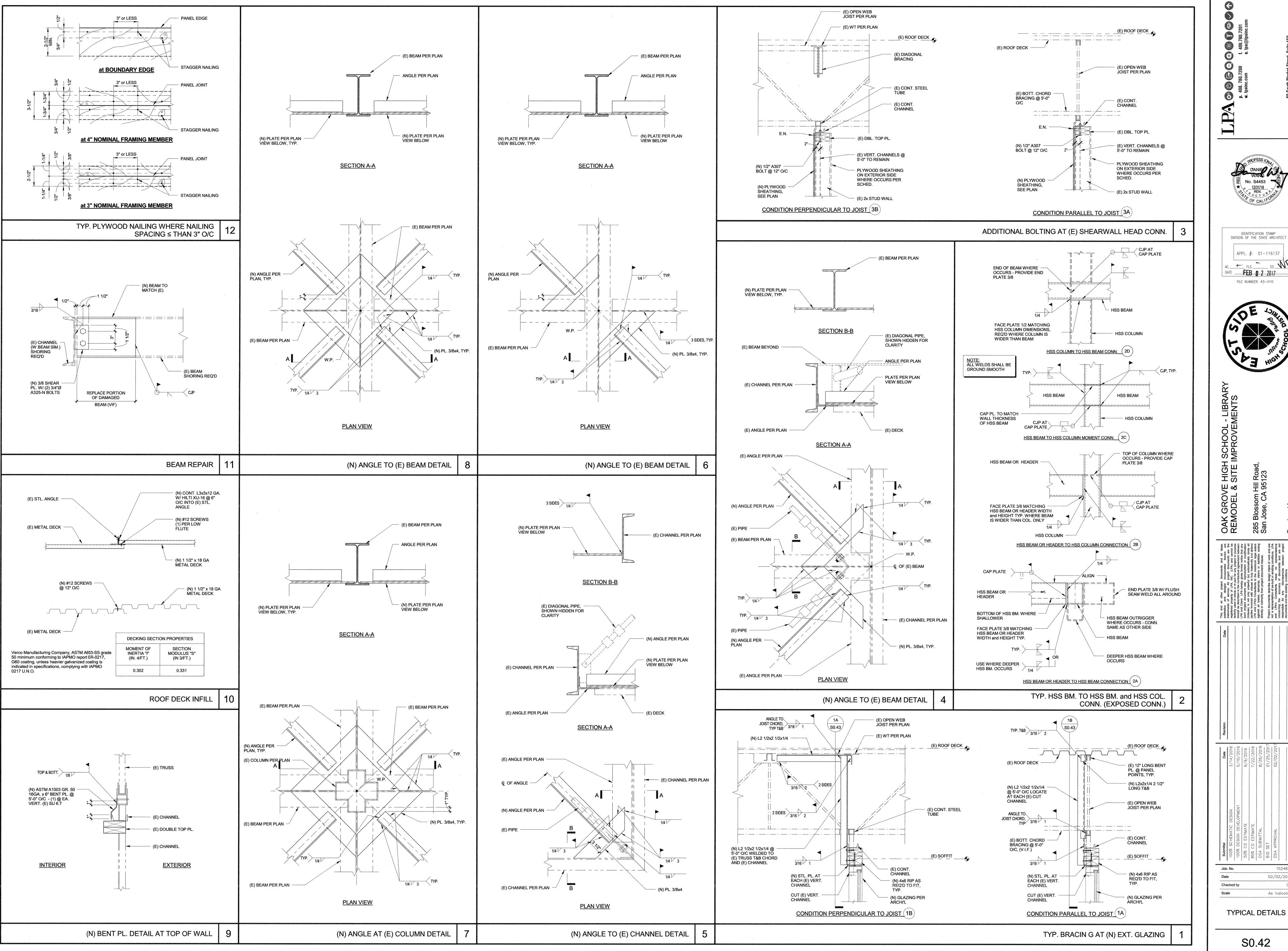
DW

As indicated TYPICAL WOOD

FRAMING DETAILS

Checked by

S_{0.41}

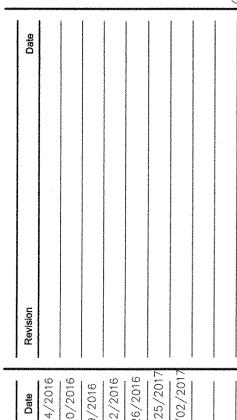


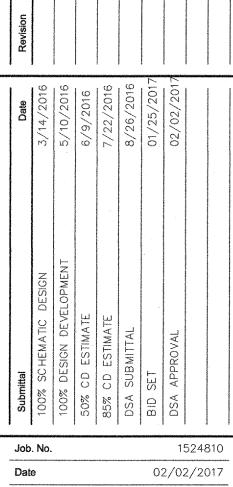
408 (F) -- 0 (a)

IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT APPL. #: 01-116137 DATE ___FEB__0_2_2017_ FILE NUMBER: 43-H10



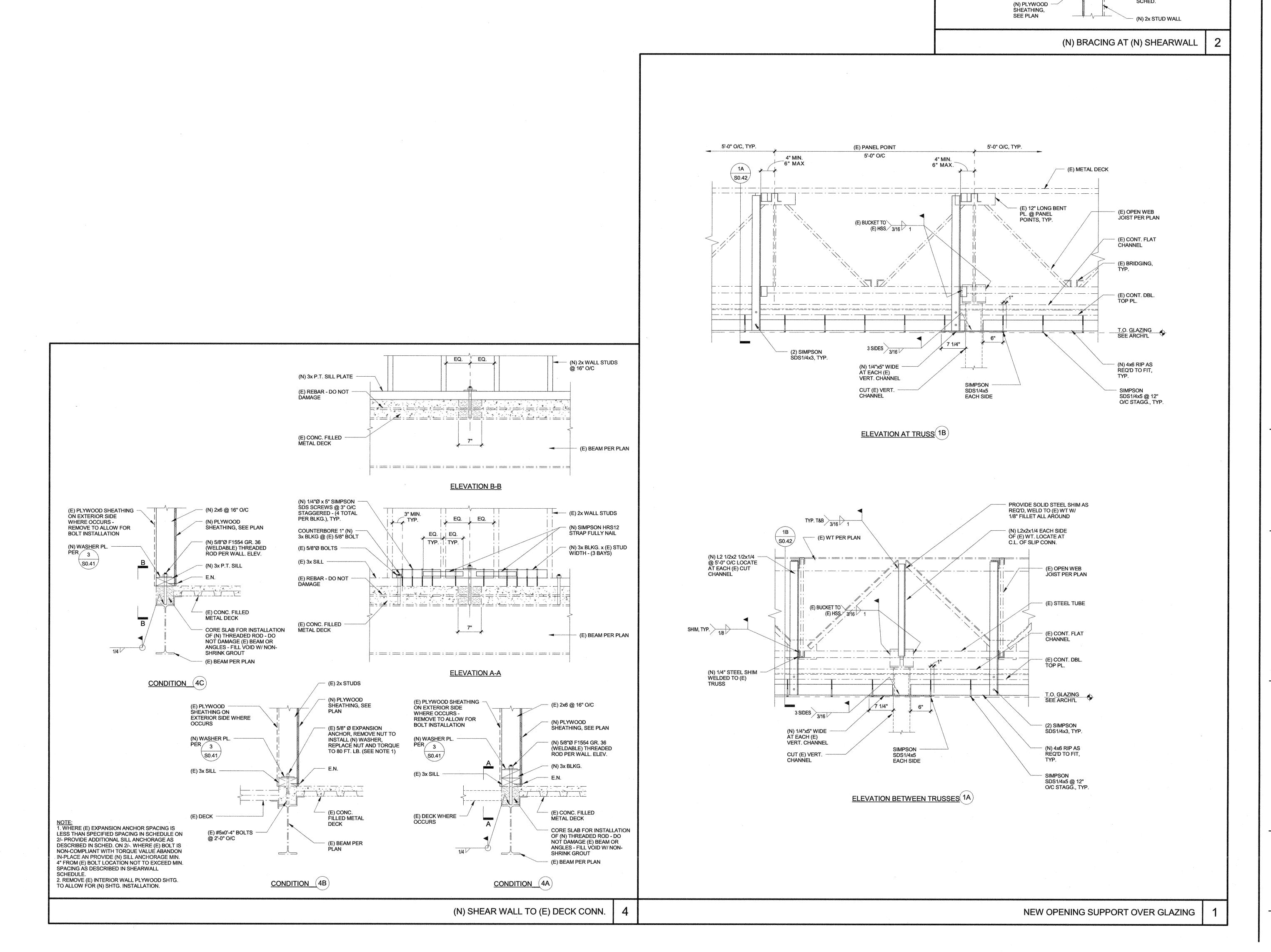


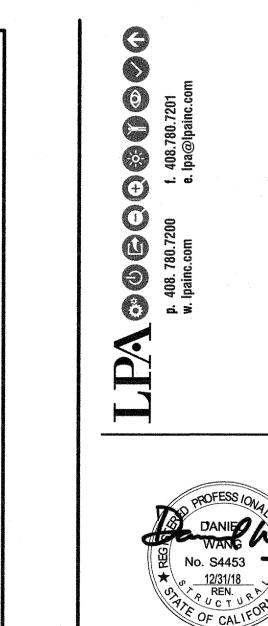




As indicated

S_{0.42}





IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT

APPL. #: 01-116137

FILE NUMBER: 43-H10

Job. No.

Checked by

Date

Scale

1524810

02/02/2017

1" = 1'-0"

TYPICAL DETAILS

S_{0.43}

(E) OPEN WEB JOIST PER PLAN

(E) WT PER PLAN

ANGLE TO JOIST CHORD, TYP T&B 3/16

(N) L2 1/2x2 1/2x1/4 @ 5'-0" O/C WELDED TO

(E) TRUSS T&B CHORD AND (E) CHANNEL

(E) ROOF DECK

(E) DIAGONAL BRACING

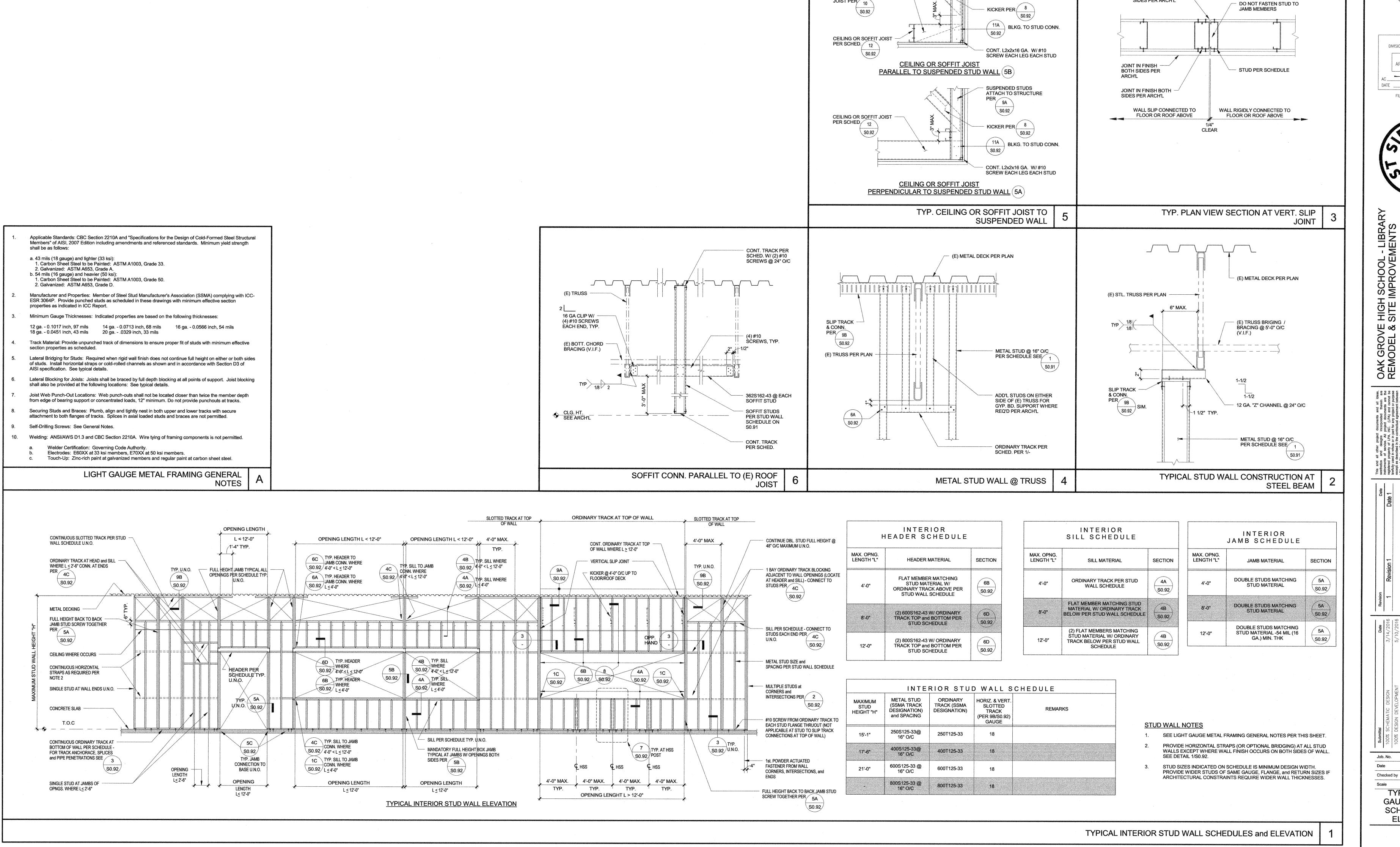
(E) CONT. STEEL

(E) CONT. CHANNEL

(E) DBL. TOP PL.

PLYWOOD SHEATHING ON EXTERIOR SIDE WHERE OCCURS PER

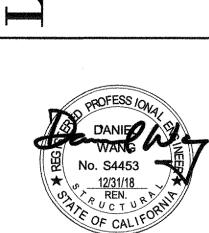
SCHED.



408.7 (3)

IDENTIFICATION STAMP

DIVISION OF THE STATE ARCHITECT



ATTACH TO STRUCTURE

JOINT IN FINISH BOTH -

SIDES PER ARCH'L

SOLID BLOCKING TO MATCH DEPTH, SIZE and GAUGE OF

JOIST @ 16" O/C - ATTACH TO

JOIST PER 10

1524810

02/02/2017

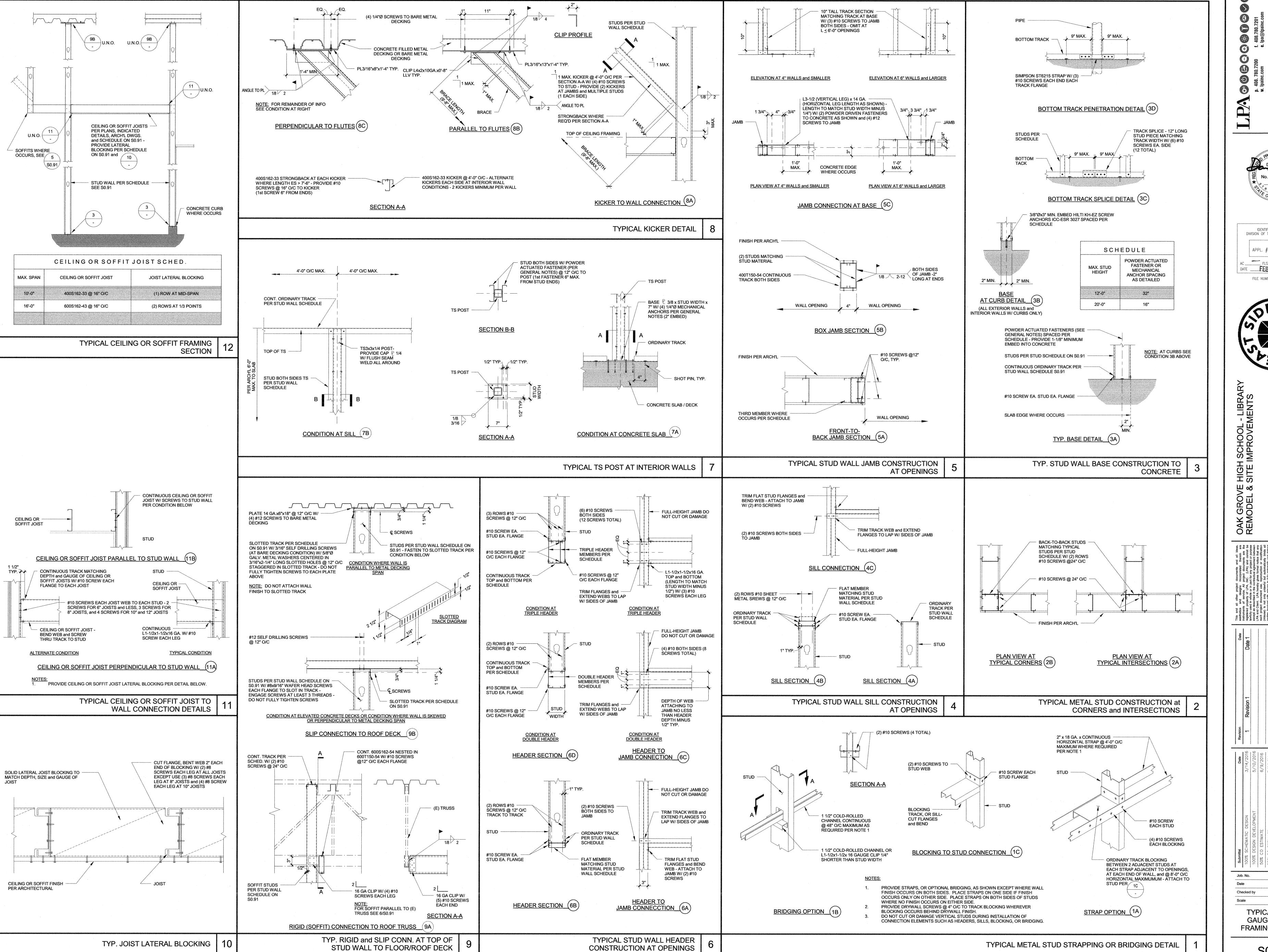
As indicated

S0.91

TYPICAL LIGHT

GAUGE FRAMING

SCHEDULES and **ELEVATIONS**





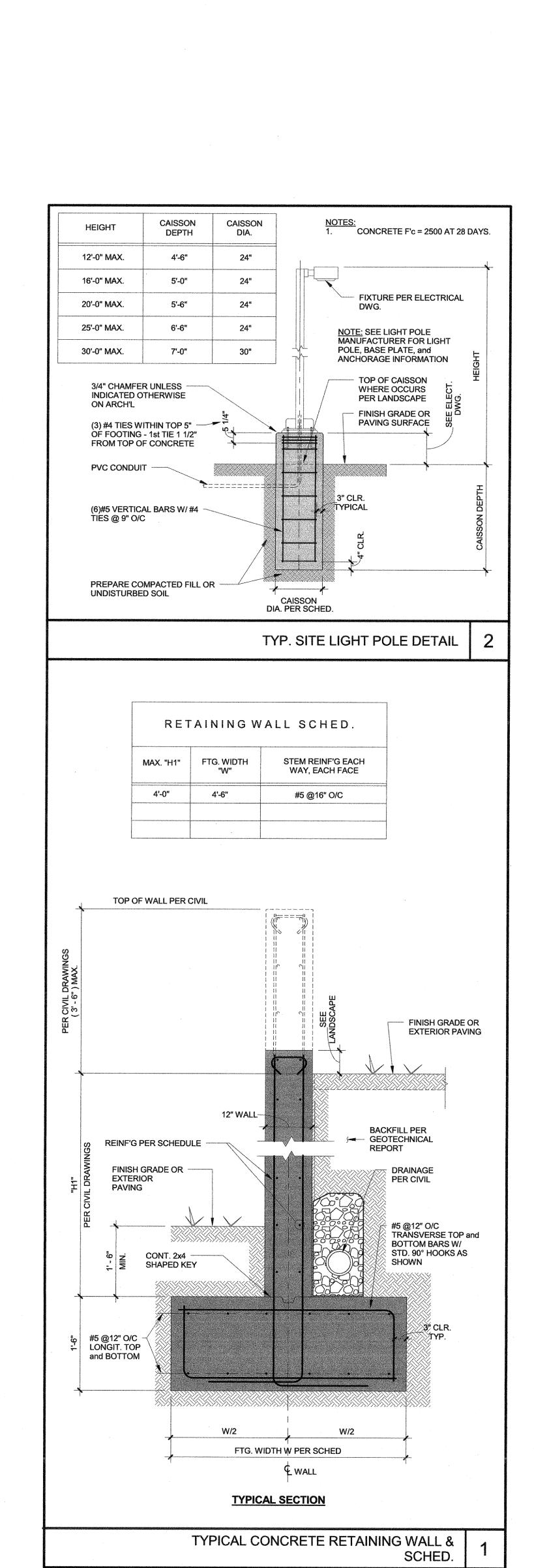
IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT APPL. #: 01-116137 CI C DATE FEB 0 2 2017 FILE NUMBER: 43-H10

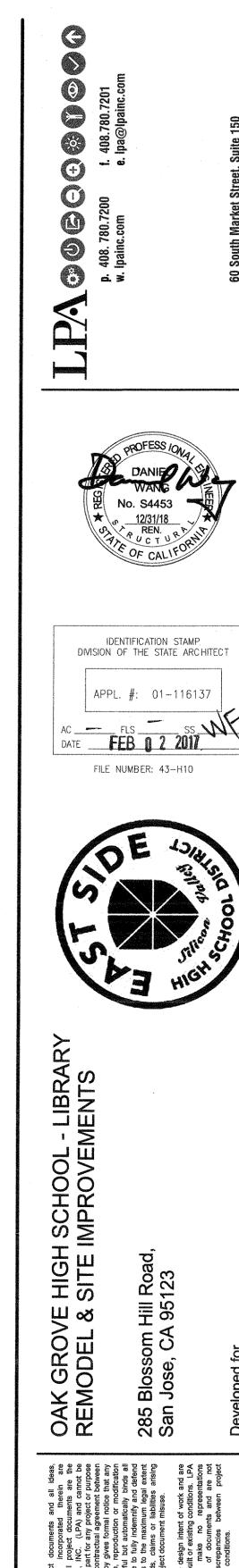


1524810 02/02/2017 As indicated

TYPICAL LIGHT GAUGE METAL FRAMING DETAILS

S0.92



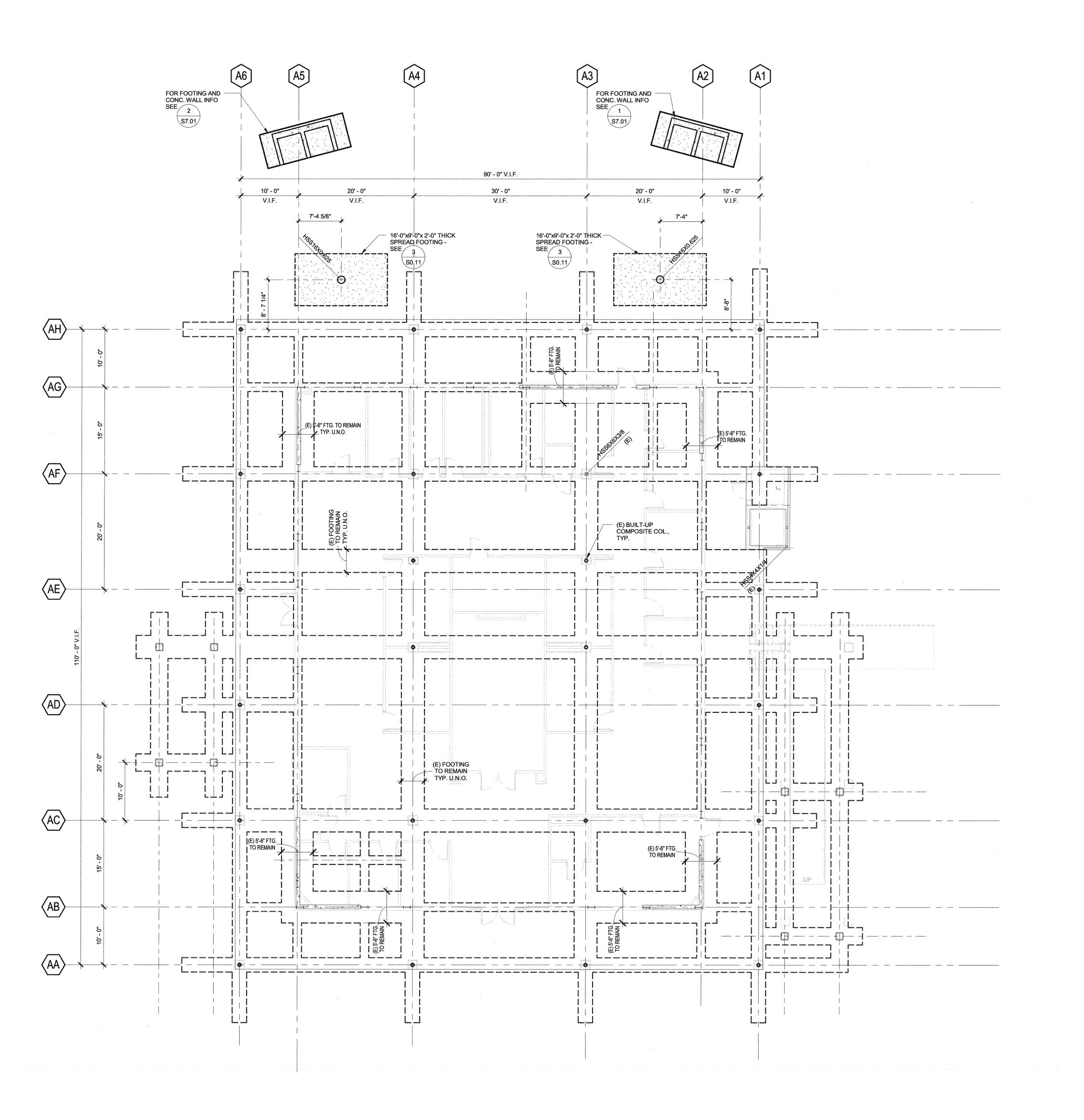


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S1.01

TYP. SITE DETAILS

As indicated



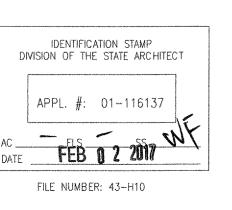
FOUNDATION PLAN NOTES

- 1. FOR GENERAL NOTES SEE S0.01 and TYPICAL DETAILS SEE S0 SERIES SHEETS.
- 2. SEE ARCHITECTURAL DRAWINGS FOR TOP OF CONCRETE SLAB ON GRADE ELEVATIONS, DEPRESSIONS, SLOPES, OPENINGS, DRAINS, TRENCHES, PADS, and CURBS; SLAB EDGE LOCATIONS; WALL OVERALL DIMENSIONS; and LOCATIONS OF OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS.
- CENTER COLUMNS ON GRID LINES UNLESS INDICATED OTHERWISE. CENTER SPREAD FOOTINGS and CONTINUOUS FOOTINGS ON COLUMNS UNLESS INDICATED OTHERWISE.

PRIOR TO COMMENCEMENT OF NEW CONSTRUCTION, CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, IN CASE OF DISCREPANCIES FROM THIS DOCUMENT COORDINATE WITH ARCHITECTURAL/STRUCTURAL ENGINEER PRIOR TO COMMENCING ANY CONSTRUCTION. CONSTRUCTION DOCUMENT MAY BE REVISED TO ACCOMMODATE CONDITION AS REQUIRED.

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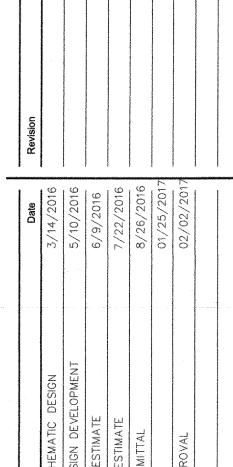




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| Name |

Scale 1/8" = 1

BLDG A

FOUNDATION

PLAN

S2.00



- 1. FOR GENERAL NOTES SEE S0.01 and TYPICAL DETAILS SEE S0 SERIES SHEETS.
- 2. VERIFY IN FIELD ALL (E) FRAMING, DIMENSIONS, CONDITIONS, ETC..
- 3. SEE ARCHITECTURAL DRAWINGS FOR DRAINS, OVERALL WALL DIMENSIONS and LOCATIONS OF OF OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS.
- 4. DO NOT CUT ANY (E) FRAMING MEMBERS EXCEPT AS SHOWN ON DETAILS.
- 5. PLUMBING CUTS MUST BE PRECISE AND MINIMUM. DO NOT CUT and/or DAMAGE EXISTING FRAMING
- REMOVE, REPAIR and REPLACE (E) ROOFING, INSULATION, FIREPROOFING, ETC. AS REQUIRED FOR (N) CONSTRUCTION PER ARCHITECTURAL

PRIOR TO COMMENCEMENT OF NEW CONSTRUCTION, CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, IN CASE OF DISCREPANCIES FROM THIS DOCUMENT COORDINATE WITH ARCHITECTURAL/STRUCTURAL ENGINEER PRIOR TO COMMENCING ANY CONSTRUCTION. CONSTRUCTION DOCUMENT MAY BE REVISED TO ACCOMMODATE CONDITION AS REQUIRED.

LEGEND

— — — EXISTING FRAMING MEMBERS (V.I.F.)

NEW FRAMING MEMBERS

INDICATES STEEL COLUMN - PROVIDE NAILERS ON SIDES OF STEEL COLUMNS WHERE ADJACENT TO STUD WALLS PER 4/S0.41

INDICATES PLYWOOD SHEATHING AT SHEAR WALL WHERE OCCURS INDICATES SHEAR WALL HORIZONTAL DESIGN LENGTH. ACTUAL LENGTH OF WALL MAY EXCEED, BUT SHALL NOT BE LESS THAN, THE LENGTH SHOWN INDICATES SHEAR WALL MARK - FOR SHEAR WALL CONSTRUCTION SEE

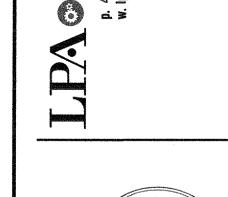
2/S0.41 - PROVIDE SHEAR WALL TYPE "A" CONSTRUCTION at EXTERIOR SIDES OF ALL PERIMETER WALLS and FURRED -OUT WALLS UNLESS NOTED OTHERWISE INCLUDING PORTION OF WALL ABOVE and BELOW OPENINGS -VERTICAL EXTENT FOR SHEAR WALLS INDICATED ON THIS PLAN IS FROM SLAB ON GRADE UP TO BOTTOM OF ROOF OR TOP OF PARAPET/SCREEN

> INDICATES (N) STRUCTURAL LOAD BEARING, SHEAR, OR PERIMETER WOOD STUD WALL - CONSTRUCT PER 1/S0.41 - DO NOT SPLICE STUDS UNLESS

SPECIFICALLY DETAILED OR INDICATED INDICATES INTERIOR, NON-BEARING WOOD STUD WALL ABOVE -CONSTRUCT PER DETAILS S0.91 and S0.92 and ARCHITECTURAL

INDICATES EXTERIOR 2x WOOD STUD WALL TO REMAIN

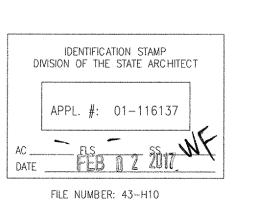
DRAWINGS



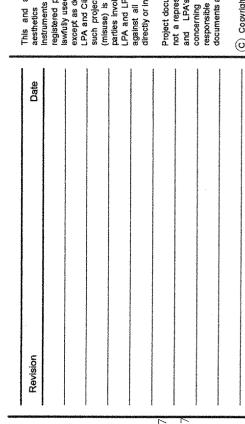
408.

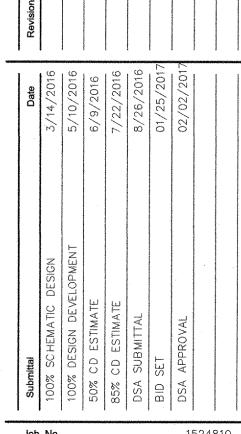
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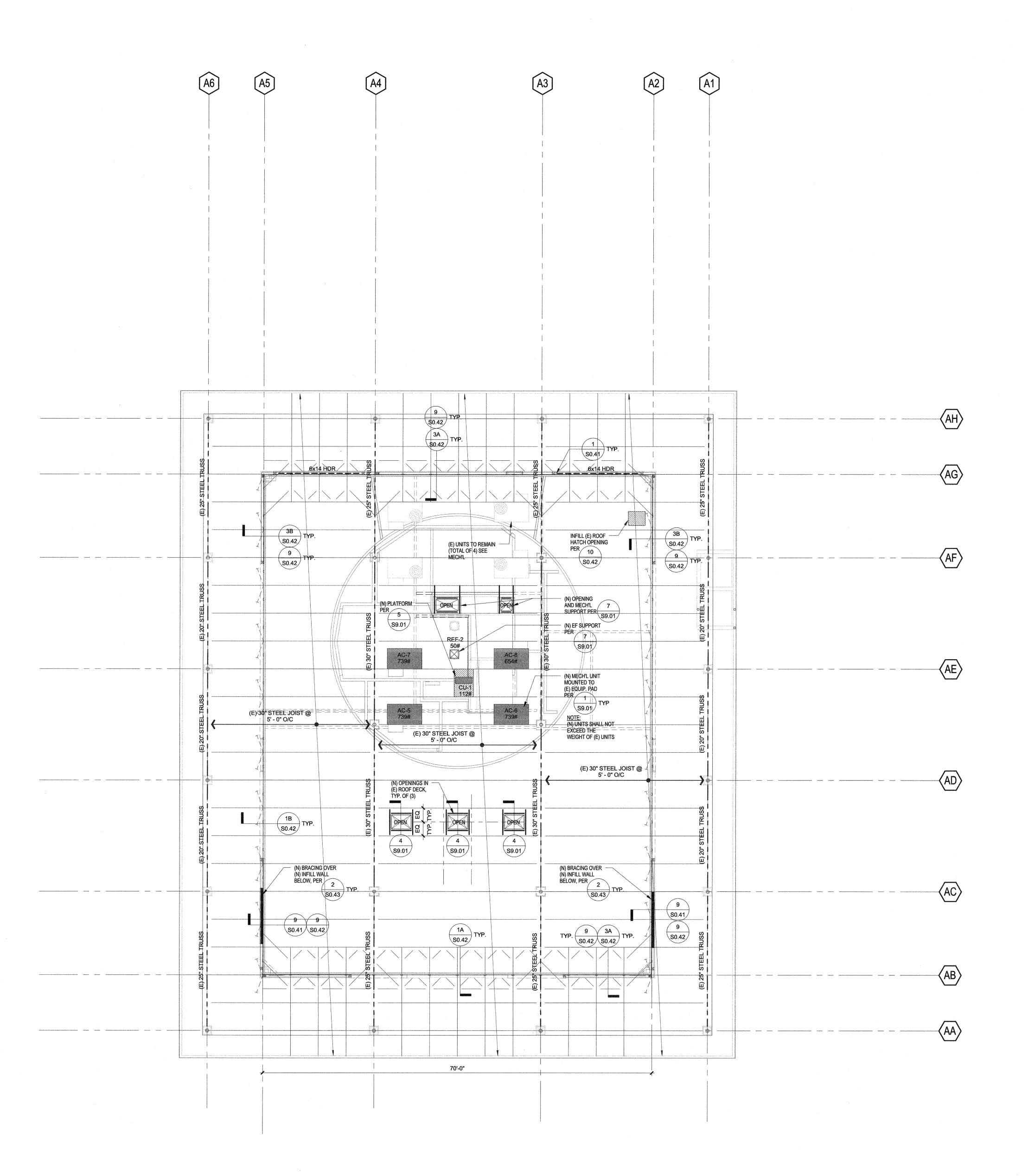




1524810 02/02/2017 DW 1/8" = 1'-0"

KEY PLAN

BLDG A SECOND FLOOR FRAMING PLAN





- 1. FOR GENERAL NOTES SEE S0.01 and TYPICAL DETAILS SEE S0 SERIES SHEETS.
- 2. VERIFY IN FIELD ALL (E) FRAMING, DIMENSIONS, CONDITIONS, ETC..
- 3. SEE ARCHITECTURAL DRAWINGS FOR DRAINS, OVERALL WALL DIMENSIONS and
- LOCATIONS OF OF OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS.

 4. DO NOT CUT ANY (E) FRAMING MEMBERS EXCEPT AS SHOWN ON DETAILS.
- DO NOT CUT ANY (E) FRAMING MEMBERS EXCEPT AS SHOWN ON DETAILS.
 PLUMBING CUTS MUST BE PRECISE AND MINIMUM. DO NOT CUT and/or DAMAGE
- EXISTING FRAMING
 REMOVE, REPAIR and REPLACE (E) ROOFING, INSULATION, FIREPROOFING, ETC. AS REQUIRED FOR (N) CONSTRUCTION PER ARCHITECTURAL

PRIOR TO COMMENCEMENT OF NEW CONSTRUCTION, CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, IN CASE OF DISCREPANCIES FROM THIS DOCUMENT COORDINATE WITH ARCHITECTURAL/STRUCTURAL ENGINEER PRIOR TO COMMENCING ANY CONSTRUCTION. CONSTRUCTION DOCUMENT MAY BE REVISED TO ACCOMMODATE CONDITION AS REQUIRED.

LEGEND

EXISTING FRAMING MEMBERS (V.I.F.)

NEW FRAMING MEMBERS

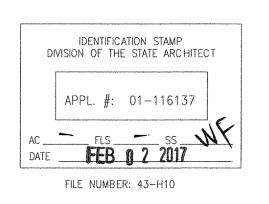
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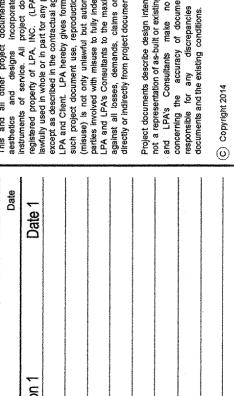
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CAK GROVE HIGH SCHOOL - LIBH REMODEL & SITE IMPROVEMENT 285 Blossom Hill Road, San Jose, CA 95123



 ubmittal
 Date
 Revision

 0% SCHEMATIC DESIGN
 3/14/2016
 1

 0% DESIGN DEVELOPMENT
 5/10/2016
 1

 1% CD ESTIMATE
 7/22/2016
 2/22/2016

 5A SUBMITTAL
 8/26/2017

 5A APPROVAL
 02/02/2017

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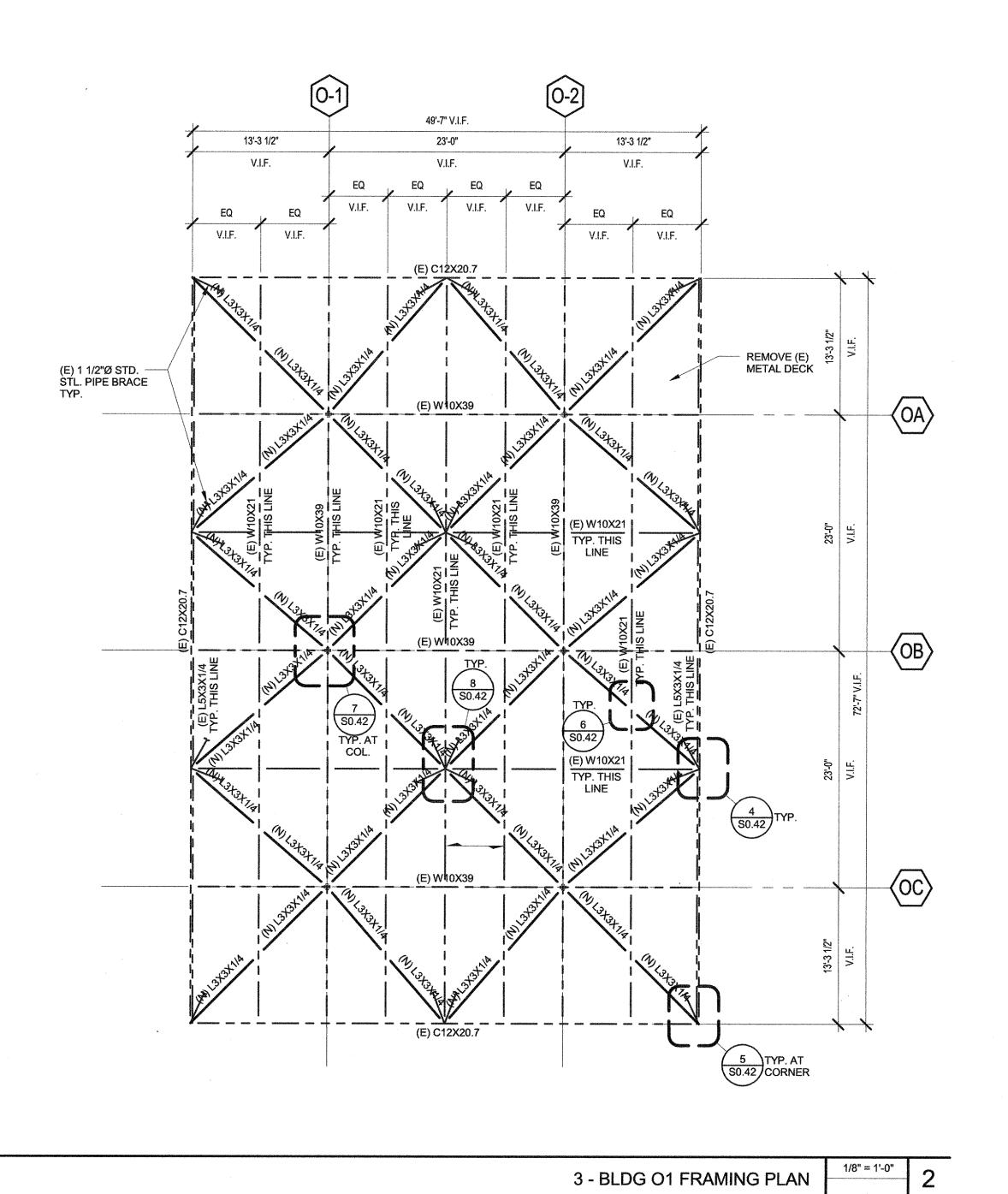
Scale 1/8" = 1'-0"

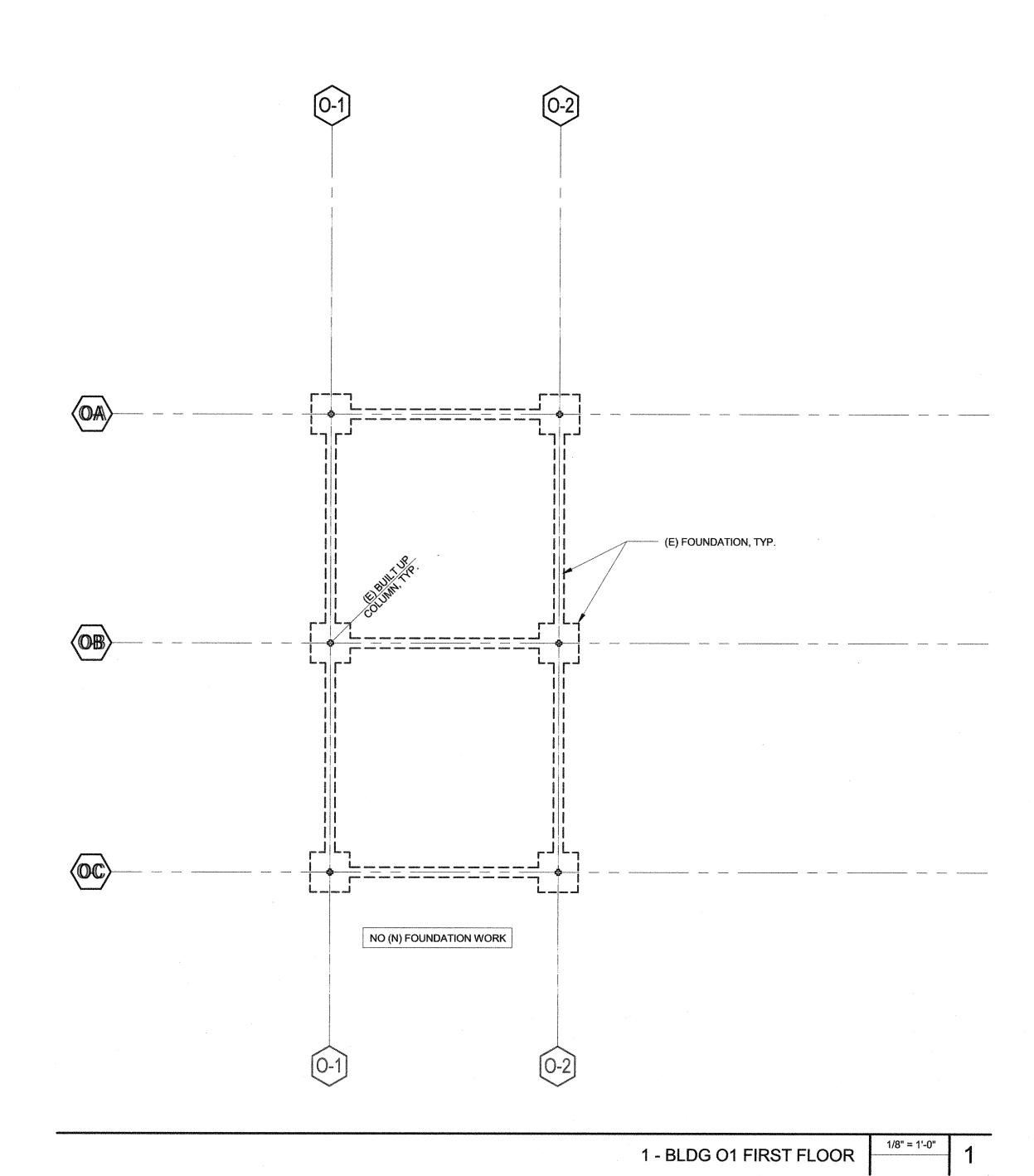
BLDG A ROOF

BLDG A ROOF FRAMING PLAN

S2.02

KEY PLAN





FRAMING PLAN NOTES

1. FOR GENERAL NOTES SEE S0.01 and TYPICAL DETAILS SEE S0 SERIES SHEETS.

2. VERIFY IN FIELD ALL (E) FRAMING, DIMENSIONS, CONDITIONS, ETC..

 SEE ARCHITECTURAL DRAWINGS FOR DRAINS, OVERALL WALL DIMENSIONS and LOCATIONS OF OF OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS.

4. DO NOT CUT ANY (E) FRAMING MEMBERS EXCEPT AS SHOWN ON DETAILS.

5. REMOVE, REPAIR and REPLACE (E) ROOFING, FIREPROOFING, ETC. AS REQUIRED FOR (N) CONSTRUCTION PER ARCHITECTURAL

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3. VERIFY CONDITION OF EXISTING BOLTS.

CONNECTIONS EXPOSED TO WEATHER.

GENERAL NOTE FOR SURFACE PREPERATION AND REPAIR OF EXISTING CANOPY
STRUCTURE:

1. CLEAN RUST ON EXISTING STRUCTURAL MEMBERS AND CONNECTIONS BY WIRE
BRUSHING TO MEET SSPC-SP2 REQUIREMENTS

2. VERIFY THE CONDITION OF EXISTING STEEL BEAMS AND SHEAR PLATES.

a. IF REMAINING THICKNESS IS LESS THAN 90% OF ORIGINAL THICKNESS,
PROVIDE REPAIR PER 11/S0.42.

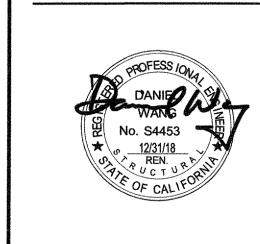
a. IF EXISTING BOLT OUTER DIAMETER IS LESS THAN 95% OF ORINIAL DIAMETER REPLACE BOLT TO MATCH EXISTING.
b. REPLACE ALL RUSTED NUTS.
4. APPLY 2-COAT OF INORGANIC ZINC PRIMER AS RUST INHIBITOR OVER ALL STEEL AND

LEGEND

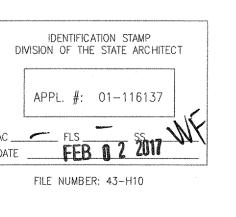
— EXISTING FRAMING MEMBERS (V.I.F.)

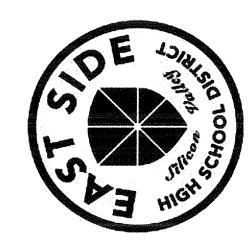
NEW FRAMING MEMBERS

KEY PLAN

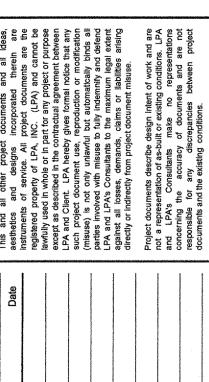


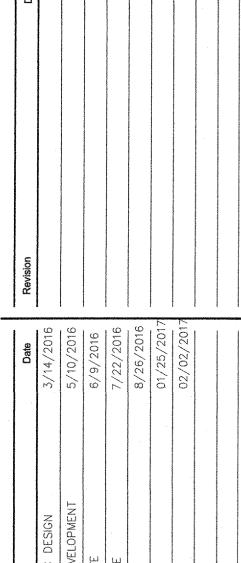
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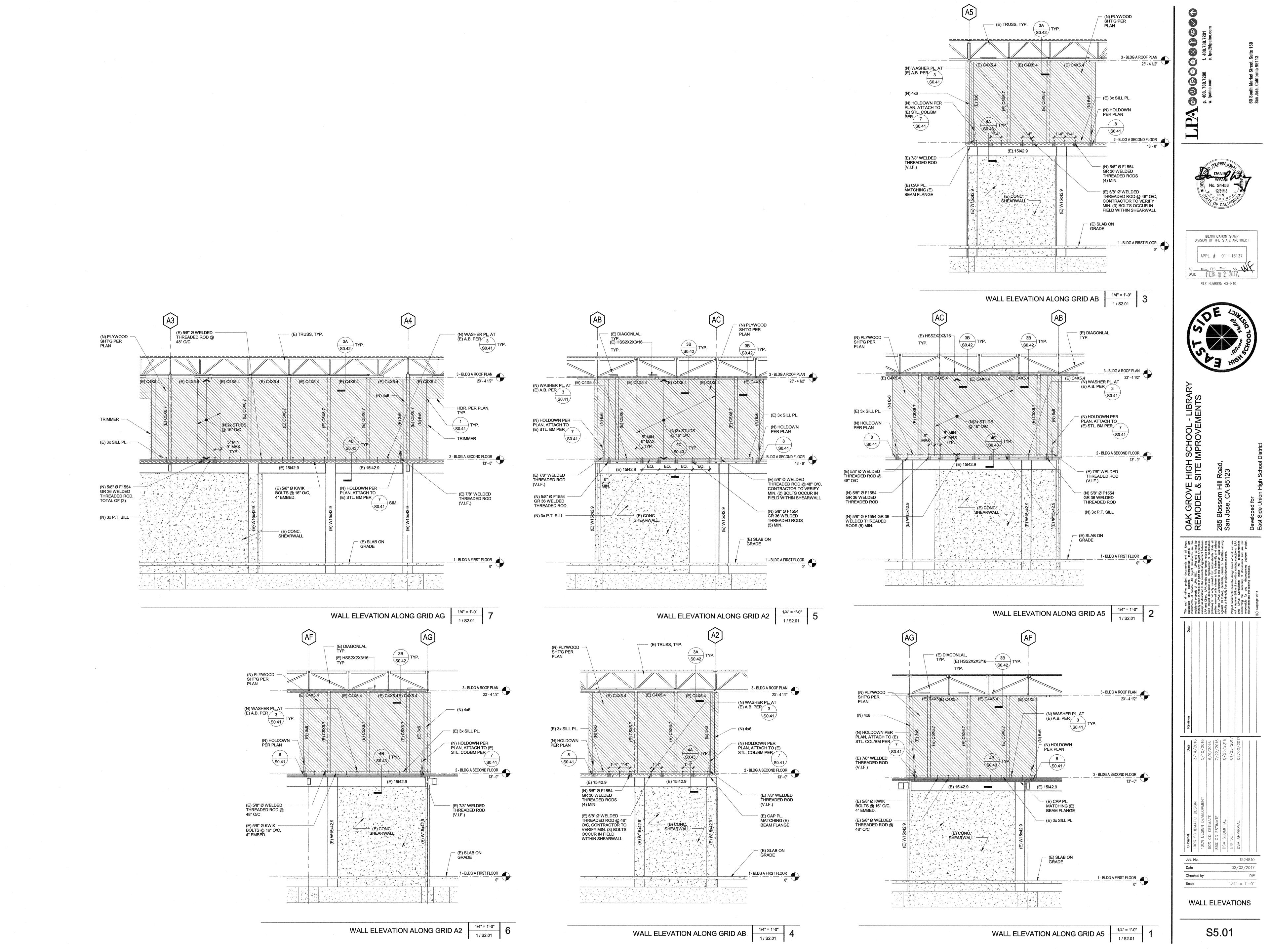




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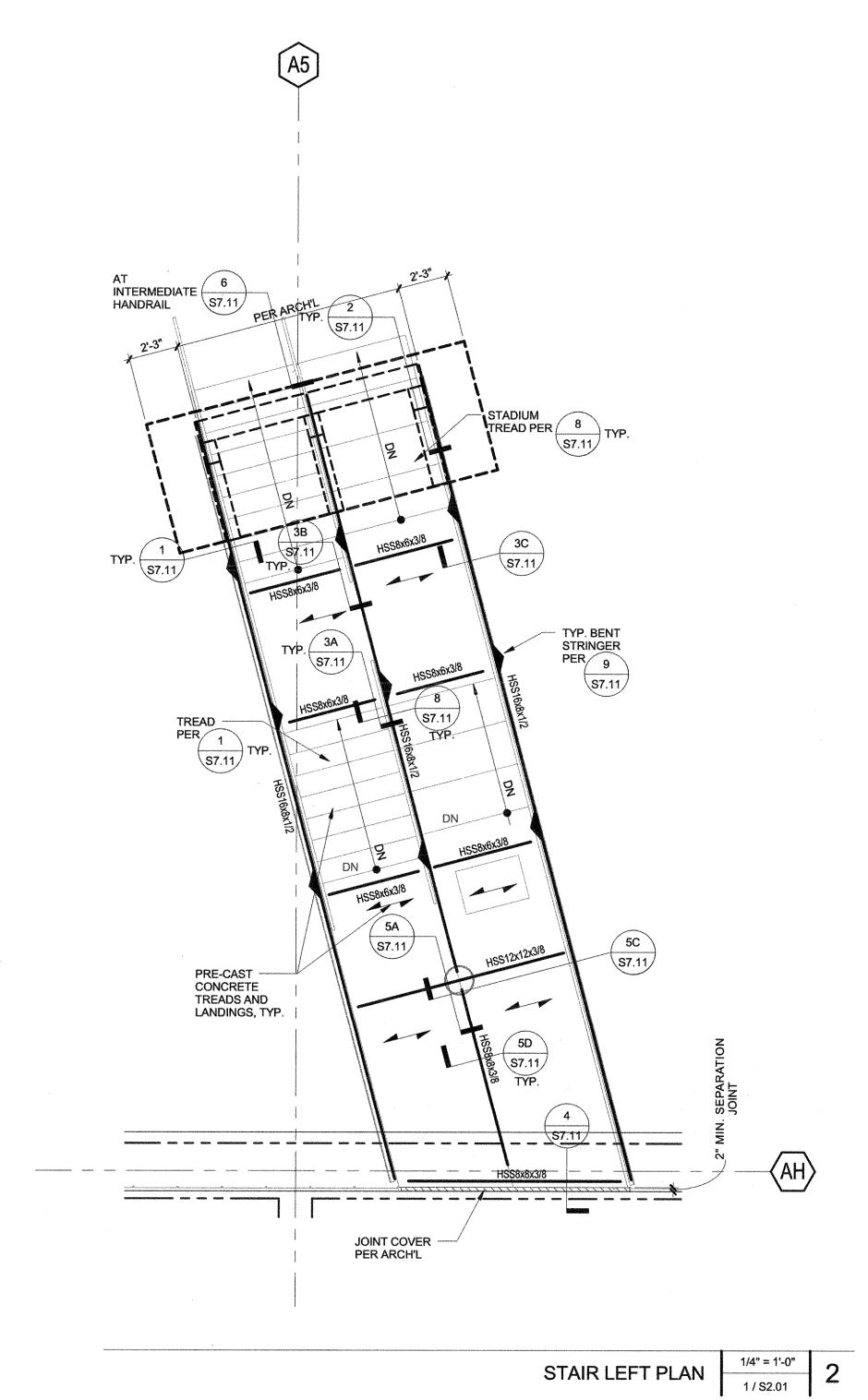
Job. No. 02/02/2017 DW Checked by As indicated

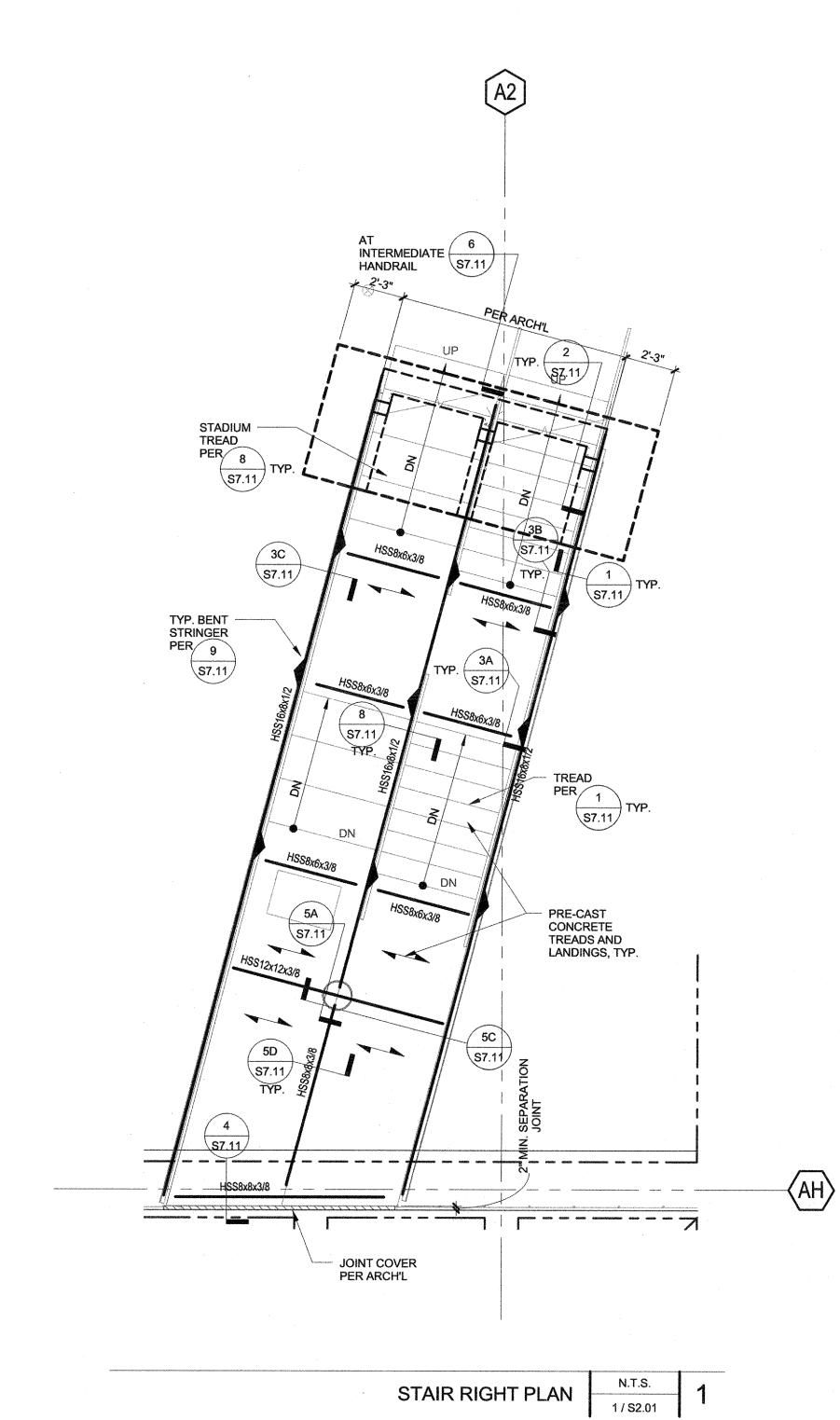
STAIR FRAMING PLANS

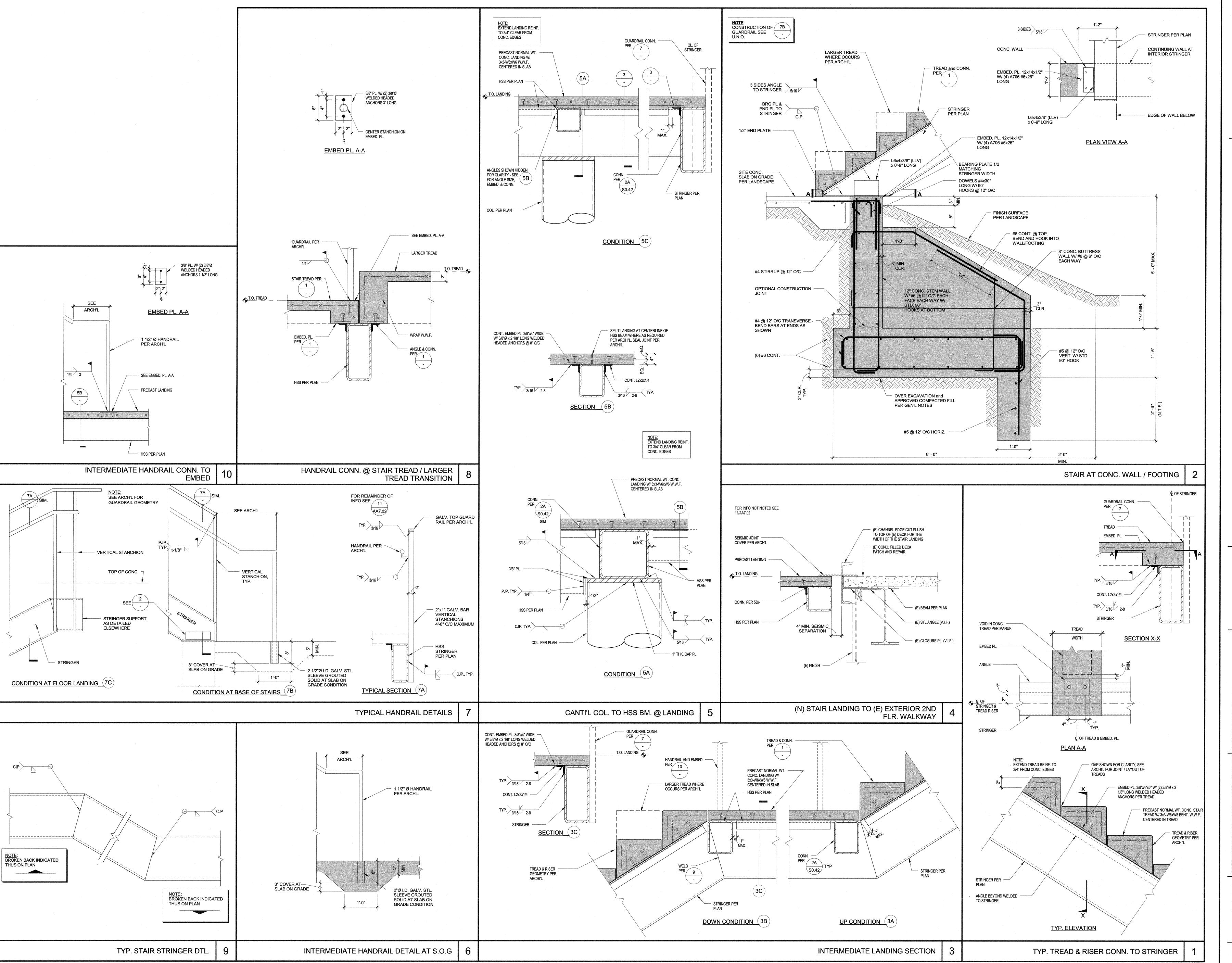
S7.01

STAIR FRAMING PLAN NOTES

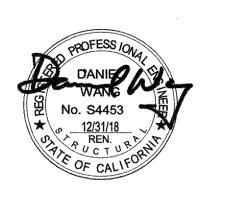
- FOR GENERAL NOTES and TYPICAL DETAILS SEE S1 SERIES SHEETS.
- 2. SEE ARCHITECTURAL FOR STEEL STAIRS GEOMETRY.
- 3. CONSTRUCT TREAD/RISERS PER ARCHITECTURAL and DETAIL 1/S7.11.
- 4. MITER STRINGERS AT CORNERS and CHANGES IN PLANE and PROVIDE COMPLETE PENETRATION GROOVE WELDS ALL AROUND WITH ALL WELD SURFACES GROUND SMOOTH.
- SEE ARCHITECTURAL and DETAIL 7/S7.11 FOR GUARDRAIL CONSTRUCTION.

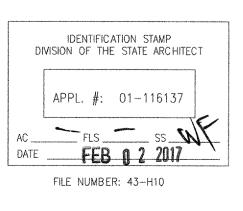




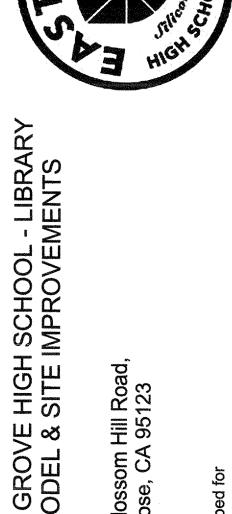


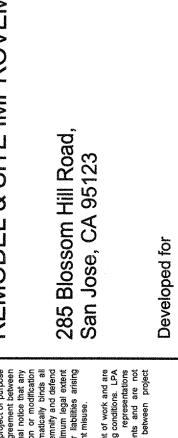
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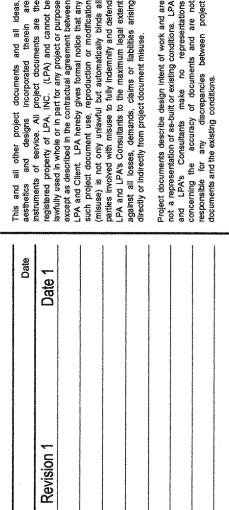


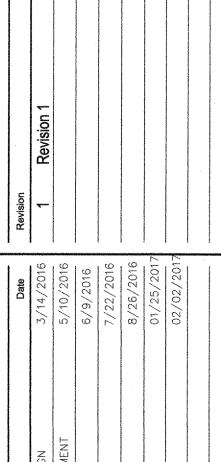


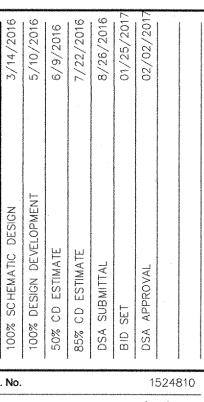








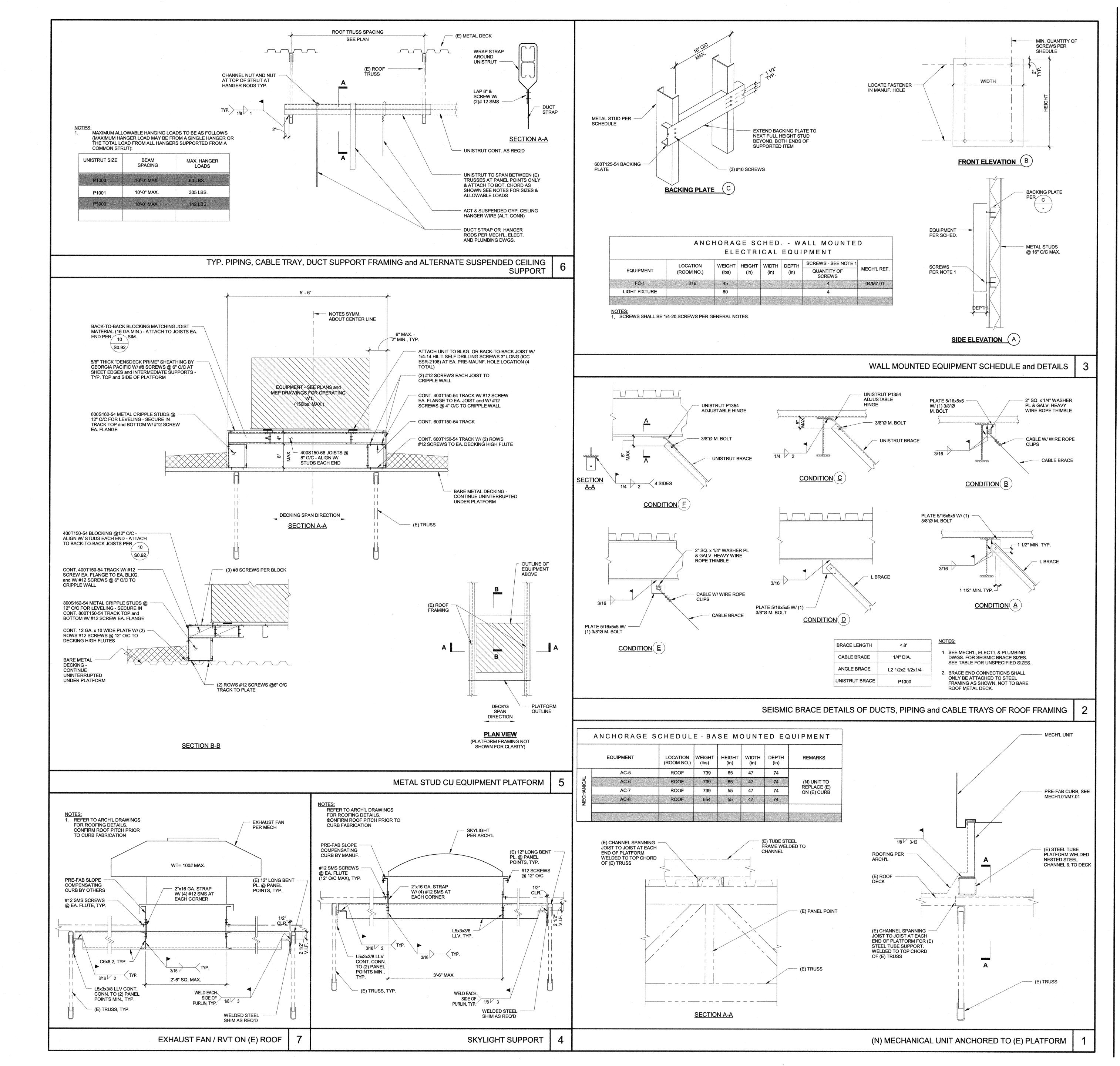




Job. No. 02/02/2017 Checked by Scale As indicated

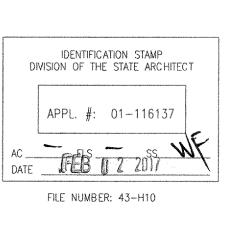
TYPICAL STAIR **DETAILS**

S7.11



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 Submittal
 Date
 Revision

 100% SCHEMATIC DESIGN
 3/14/2016
 1

 100% DESIGN DEVELOPMENT
 5/10/2016
 1

 50% CD ESTIMATE
 6/9/2016
 1

 85% CD ESTIMATE
 8/26/2016
 1

 DSA SUBMITTAL
 8/26/2017
 1

 BID SET
 01/25/2017
 1

 DSA APPROVAL
 02/02/2017
 1

TYP. EQUIPMENT ANCHORAGE DETAILS

S9.01