FLOOR(S) DEAD LOAD:

Wood Floor + Wood Sleepers + 3" Topping DL = 50 PSFSteel Floor DL = 65 PSFSteel Floor + Wood Sleepers + 3" Topping DL = 107 PSF

Ct = 1.2 - Exterior Decks

LIVE LOAD(S) Residential LL = 40 PSFLL = 60 PSFDecks

WIND LOAD: BASIC WIND SPEED: V = 150 MPH (3 SEC GUST)IMPORTANCE FACTOR: I = 1.0WIND EXPOSURE: COMPONENT AND CLADDING PRESSURE: P = 30 PSF

SEISMIC: PROCEDURE: EQUIVALENT LATERAL FORCE SITE CLASS: IMPORTANCE FACTOR: I = 1.0SEISMIC DESIGN CATEGORY: D

SPECTRAL RESPONSE ACCELERATIONS: Ss = 0.826S1 = 0.274SPECTRAL RESPONSE COEF: SDS = 0.551SD1 = 0.183

BASIC SEISMIC-FORCE-RESISTING SYSTEM: LIGHT FRAME WALLS WITH WOOD SHEAR PANELS R=6.5, OMEGA=3, Cd=4

TENSION BRACED FRAMES R=3.25, OMEGA =2, Cd=3.25 INTERMEDIATE MOMENT FRAMES

R=4.5, OMEGA=3, Cd=4 Cs=-0.161

SEISMIC BASE SHEAR = 34.6 KIPS ASD NET ALLOWABLE SOIL PRESSURE = 5000 PSF, PER REPORT BY IGS DATED

SEPTEMBER 16, 2014. PROJECT NO. 01628-008

- 1. ALL DETAILS, SECTIONS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS NOTED OR SHOWN OTHERWISE. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES. GENERAL NOTES SHALL TAKE PRECEDENCE OVER THE SPECIFICATIONS.
- 2. REFER TO THE SPECIFICATIONS FOR INFORMATION NOT COVERED BY THESE GENERAL NOTES OR THE STRUCTURAL DRAWINGS.
- 3. SEE THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, DOORS, WINDOWS, NON-BEARING INTERIOR AND EXTERIOR WALLS, ELEVATIONS, SLOPES, STAIRS, CURBS, DRAINS, RECESSES, DEPRESSIONS, RAILINGS, WATERPROOFING, FINISHES, CHAMFERS, KERFS, ETC.
- 4. ALL DESIGN, CONSTRUCTION, AND INSPECTION SHALL BE IN CONFORMANCE WITH THE 2015 INTERNATIONAL BUILDING CODE.
- 5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.
- 6. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED.
- 7. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUCTION WITH THE ENTIRE SET OF CONSTRUCTION DRAWINGS. THIS MEANS THAT DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE INFORMATION THAT IS CONTAINED ON THE ARCHITECTURAL AND/OR OTHER CONSULTANTS' DRAWINGS. THE STRUCTURAL DRAWINGS MAY NOT SHOW ALL DIMENSIONS, SLOPES, ELEVATIONS, DEPRESSIONS, MECHANICAL HOUSEKEEPING PADS, ETC. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS THAT ARE SHOWN ON THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL AND/OR OTHER CONSULTANTS' DRAWINGS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED.
- 8. DRAWINGS INDICATE THE FINISHED PRODUCT. THEY DO NOT INDICATE A METHOD OF CONSTRUCTION. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH PRECAUTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, ETC.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPENSATING THE OWNER FOR ANY CHANGES MADE AS A RESULT OF A DEVIATION FROM THE CONTRACT DOCUMENTS. DEVIATION FROM THE SPECIFICATIONS, FAULTY MATERIALS, OR FAULTY WORKMANSHIP.
- 10. OPTIONS ARE FOR THE CONTRACTOR'S CONVENIENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED DESIGN CHANGES. COST ASSOCIATED WITH ANY DESIGN WORK INITIATED BY THE OPTION SHALL BE BORNE BY THE CONTRACTOR.
- 11. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE JOB SITE.
- 12. TEMPORARY SHORING AND BRACING SHALL BE PROVIDED WHEREVER NECESSARY TO SUPPORT ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED INCLUDING WIND AND SOIL LOADS. SUCH BRACING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY OR UNTIL ALL STRUCTURAL ELEMENTS ARE COMPLETE.
- 13. DURING AND AFTER CONSTRUCTION THE CONTRACTOR AND/OR OWNER SHALL KEEP LOADS ON THE STRUCTURE WITHIN THE LIMITS OF THE DESIGN LOADS.
- 14. THE GENERAL CONTRACTOR SHALL HAVE SHOP DRAWINGS REVIEWED BY THE ARCHITECT PRIOR TO THE FABRICATION OR ERECTION FOR THE FOLLOWING ITEMS: REINFORCING STEEL AND STRUCTURAL STEEL.
- 15. OBSERVATION VISITS TO THE JOB SITE BY FIELD REPRESENTATIVES OF CALDER RICHARDS CONSULTING ENGINEERS SHALL NEITHER BE CONSTRUED AS INSPECTION NOR APPROVAL OF CONSTRUCTION.
- 16. SIZES, LOCATIONS, AND ANCHORAGES OF EQUIPMENT SHALL BE VERIFIED IN THE FIELD WITH EQUIPMENT MANUFACTURERS (SUPPLIERS) PRIOR TO PLACING CONCRETE OR FABRICATING STEEL.

17. THERMAL OR MOISTURE PROTECTION, FURNISHINGS, DOORS, WINDOWS, EQUIPMENT, MECHANICAL, ELECTRICAL, FINISHES, SIDING, PANELING, AND VENEERS ARE NOT PART OF THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER.

QUALITY ASSURANCE PLAN

- 1. SPECIAL INSPECTION SHALL BE PROVIDED BY THE OWNER ACCORDING TO IBC CHAPTER 17 FOR THE ITEMS IDENTIFIED IN THIS SECTION AND ON THE CONTRACT DOCUMENTS. SEE STRUCTURAL SPECIAL INSPECTION SCHEDULE BELOW FOR ADDITIONAL INFORMATION ON STEEL, CONCRETE, MASONRY AND SOILS SPECIAL INSPECTION REQUIREMENTS.
- 2. THE NAMES AND CREDENTIALS OF SPECIAL INSPECTORS TO BE USED SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT WHEN APPLYING FOR A BUILDING
- 3. SPECIAL INSPECTION REPORTS SHALL BE DELIVERED TO THE ENGINEER OF RECORD, ARCHITECT, AND OWNER (AS REQUESTED) BI-WEEKLY OR MORE FREQUENTLY AS REQUIRED BY THE INSPECTOR OR BUILDING OFFICIAL
- 4. OFF-SITE FABRICATION: WHERE FABRICATION OF STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES ARE BEING PERFORMED ON THE PREMISES OF A FABRICATORS SHOP, SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE IN ACCORDANCE WITH IBC SECTION 1704.2.5 UNLESS THE FABRICATOR IS APPROVED ACCORDING TO IBC SECTION 1704.2.5.1
- 5. STEEL CONSTRUCTION: SPECIAL INSPECTIONS FOR STEEL ELEMENTS SHALL BE PROVIDED IN ACCORDANCE WITH IBC SECTION 1705.2, CHAPTER N OF AISC 360-10, AND CHAPTER J OF AISC 341-10.
- 6. WELDING: WELDING INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH SECTIONS N5.4 AND N5.5 OF AISC 360-10. ELEMENTS THAT ARE PART OF THE SEISMIC-FORCE-RESISTING SYSTEM SHALL ALSO BE INSPECTED ACCORDING TO SECTION J6 OF AISC 341-10.
- 7. HIGH-STRENGTH BOLTS: SPECIAL INSPECTION SHALL BE PROVIDED FOR INSTALLATION OF HIGH-STRENGTH BOLTS IN ACCORDANCE WITH SECTION N5.6 OF
- 8. CONCRETE CONSTRUCTION: SPECIAL INSPECTIONS AND VERIFICATIONS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 1705.3 AND TABLE 1705.3 OF THE IBC.
- 9. WOOD: WOOD ELEMENTS OF THE SEISMIC-FORCE-RESISTING SYSTEM IN ACCORDANCE WITH SECTIONS 1705.5 AND 1705.12.2.
- 10. SOILS: SPECIAL INSPECTION SHALL BE PROVIDED FOR PLACEMENT OF FILL IN ACCORDANCE WITH SECTION 1705.6 AND TABLE 1705.6.
- 11. EPOXY ANCHORS: PRIOR TO AND DURING EPOXY INJECTION TO ENSURE PROPER INSTALLATION AS PER MANUFACTURERS REQUIREMENTS. CONTRACTOR SHALL SUBMIT PROPOSED EPOXY MANUFACTURER'S ICC-ES REPORT TO STRUCTURAL ENGINEER PRIOR TO INSTALLATION.

QUALITY ASSURANCE - CONTRACTOR RESPONSIBILIT

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR WIND OR SEISMIC RESISTING COMPONENT LISTED IN THE QUALITY ASSURANCE PLAN SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND TO THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:

- 1. ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE QUALITY ASSURANCE PLAN.
- 2. ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
- 3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING, AND THE DISTRIBUTION OF REPORTS.
- 4. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THE POSITION(S) IN THE ORGANIZATION

STRUCTURAL OBSERVATION

CALDER RICHARDS CONSULTING ENGINEERS SHALL BE NOTIFIED BY THE CONTRACTOR 5 BUSINESS DAYS BEFORE THE COMPLETION OF THE ITEMS LISTED IN THIS SECTION SO THAT STRUCTURAL OBSERVATION MAY BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1704.6. THE OBSERVATIONS WILL BE PERFORMED AT THE DISCRETION OF CALDER RICHARDS CONSULTING ENGINEERS.

- 1. FOUNDATION
- ERECTION OF STEEL BEAMS AND DECK
- WOOD FRAMING

- 1. ALL FOOTINGS SHALL BEAR ON 2'-0" MIN INTO BEDROCK AS PER THE GEOTECHNICAL REPORT.
- 2. NO FOOTINGS SHALL BE PLACED IN WATER OR ON FROZEN GROUND.
- 3. ANY SOIL CONDITION ENCOUNTERED DURING EXCAVATION THAT IS CONTRARY TO THE CONDITIONS USED FOR DESIGN OF FOOTINGS AS OUTLINED IN THE SOILS REPORT BY IGS (DATED SEPTEMBER 16, 2014), OR ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING.
- 4. WHERE A PIPE PASSES THROUGH AN INTERIOR OR EXTERIOR FOUNDATION WALL, STEP THE FOOTING DOWN TO PASS BELOW PIPE AND THEN STEP BACK UP TO INDICATED ELEVATION. PROVIDE PIPE SLEEVE THROUGH FOUNDATION WALL
- 5. ALL FOOTING EXCAVATIONS SHALL BE EXAMINED BY A GEOTECHNICAL ENGINEER FOR VERIFICATION OF ADEQUATE BEARING CONDITIONS BEFORE PLACING

REINFORCING STEEL

- 1. ALL REINFORCEMENT SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI DETAILING MANUAL 315-99 AND ACI STANDARD 318-14
- 2. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. LAP ONE MESH TIE.
- 4. ALL REINFORCEMENT SHALL BE SECURELY TIED AND HELD IN PLACE.
- 5. PROVIDE ACCESSORIES RECOMMENDED BY THE CRSI NECESSARY TO PROPERLY SUPPORT REINFORCING AT POSITIONS SHOWN ON PLANS.

- 6. REINFORCING BARS THAT ARE TO BE WELDED, INCLUDING DEFORMED BAR ANCHORS (DBA) SHALL COMPLY WITH ASTM A706 OR ANOTHER WELDABLE GRADE AND SHALL BE WELDED IN ACCORDANCE WITH THE AWS RECOMMENDATIONS.
- 7. ALL CONTINUOUS REINFORCEMENT SHALL TERMINATE WITH A 90 DEGREE TURN OR A SEPARATE CORNER BAR. ALL SPLICES SHALL HAVE A MINIMUM LAP OR EMBEDMENT PER REINFORCING SCHEDULE.
- 8. WHERE THE LENGTH OF A BAR IS GIVEN AND IT IS TO BE HOOKED, THE HOOK SHALL BE IN ADDITION TO THE LENGTH GIVEN, UNLESS SHOWN OTHERWISE.
- 9. COVER TO MAIN REINFORCEMENT FROM ADJACENT SURFACES SHALL BE AS FOLLOWS UNLESS SHOWN OTHERWISE: A. UNFORMED SURFACES IN CONTACT WITH GROUND OR EXPOSED TO
- THE WEATHER (BOTTOM OF FOOTINGS)... B. SLABS ON GRADE FORMED SURFACES IN CONTACT WITH THE GROUND OR EXPOSED TO
- THE WEATHER (GRADE BMS, WALLS, ETC), BEAMS AND COLUMNS... D. STRUCTURAL SLABS & JOISTS NOT EXPOSED TO WEATHER OR EARTH. INTERIOR WALL SURFACES.. INTERIOR BEAMS AND COLUMNS. G. IN ALL CASES MINIMUM COVER SHALL NOT BE LESS THAN THE DIAMETER OF
- 10. PRIOR TO FABRICATION AND PLACEMENT, SHOP DRAWINGS FOR ALL REINFORCING STEEL SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER.

CONCRETE

SUSPENDED SLABS .

8"WALL

EXTERIOR FLAT WORK

- 1. CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS: FOOTINGS 3000 PSI
- FOUNDATION WALLS 4000 PSI INTERIOR SLABS ON GRADE 4000 PSI 4000 PSI SUSPENDED SLABS . EXTERIOR FLAT WORK 5000 PSI 2. THE VARIOUS CONCRETE ITEMS ARE ASSIGNED TO THE FOLLOWING EXPOSURE
- CATEGORIES AND CLASSES PER SECTION 19.3 OF ACI 318-14 FOOTINGS FO. SO. WO. CO FOUNDATION WALLS . F1, S0, W0, C0 INTERIOR SLABS ON GRADE FO, SO, WO, CO
- SEE TABLE 19.3.1.1 OF ACI 318-14 FOR EXPLANATIONS OF CATEGORIES AND CLASSES LISTED ABOVE.

..... F0, S0, W0, C0

..... F1, S0, W0, C2

#4 @ 12"

- 3. A STATEMENT OF MIX DESIGN FOR ALL CONCRETE SHALL BE SUBMITTED TO AND REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK. ALL MIX DESIGNS SHALL INCORPORATE REQUIREMENTS AND RESTRICTIONS FOUND IN SECTION 19.3 & TABLES 19.3.1.1, 19.3.2.1, AND 19.3.3.1 OF ACI 318-14. IF TWO OR MORE REQUIREMENTS ARE IN CONFLICT, THE MORE RESTRICTIVE REQUIREMENT SHALL BE FOLLOWED.
- 4. ALL CONCRETE WORK SHALL BE PLACED, CURED, STRIPPED, AND PROTECTED AS DIRECTED BY THE SPECIFICATIONS AND ACI STANDARDS AND PRACTICES.
- 5. UNLESS NOTED OTHERWISE ON THE DRAWINGS, REINFORCE CONCRETE WALLS AS FOLLOWS: HORIZ REINF

12" WALL #4 @ 12", EACH FACE #4 @ 12", EACH FACE

#4 @ 16"

- 6. DOWEL VERTICAL BARS 36 DIAMETERS INTO STRUCTURE ABOVE AND FOOTINGS BELOW. PROVIDE 90 DEGREE HOOK WHERE 36 DIAMETER IS NOT POSSIBLE. IN ADDITION, PROVIDE (2) #5 CONTINUOUS BARS TOP AND BOTTOM OF 6" AND 8" WALLS AND (2) #6 BARS TOP AND BOTTOM OF WALLS 10" OR THICKER.
- 7. BEFORE CONCRETE IS POURED CHECK WITH ALL TRADES TO ENSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, BOLTS, INSERTS, ETC, RELATIVE TO WORK. NO ALUMINUM CONDUIT NOR PRODUCT CONTAINING ALUMINUM NOR ANY OTHER MATERIAL INJURIOUS TO CONCRETE SHALL BE EMBEDDED IN CONCRETE.
- 8. PLACE (2) #5 BARS MINIMUM AROUND ALL OPENINGS IN CONCRETE (UNLESS OTHERWISE SHOWN OR NOTED) AND PROJECT 24" BEYOND CORNER OF OPENING
- 9. WHERE OPENINGS LARGER THAN 16" IN ANY DIRECTION OCCUR IN WALLS OR SLABS, PROVIDE SAME SIZE ADDITIONAL, FULL LENGTH REINFORCING AT EACH SIDE OF OPENING EQUAL TO 1/2 THE NUMBER OF BARS INTERRUPTED BY THE OPENING. SPACE ADDITIONAL BARS AT 4 x BAR DIAMETER.
- 10. CONSTRUCTION JOINTS AND CONTROL JOINTS: A. PROVIDE A CONTINUOUS TOOL-ROUGHENED SURFACE AT TOP OF ALL WALL FOOTINGS, UNLESS NOTED OTHERWISE.
- B. ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS SHALL HAVE A CONTINUOUS 2"x4" KEYWAY ALONG THE JOINT, UNLESS NOTED OTHERWISE, SEE DETAILS. C. PROVIDE REINFORCING DOWELS TO MATCH THE MEMBER REINFORCING AT THE
- JOINT, UNLESS NOTED OTHERWISE . SLABS AND BEAMS SHALL NOT HAVE JOINTS IN HORIZONTAL PLANE. CONSTRUCTION JOINTS FOR SLABS ON STEEL DECK SHALL NOT EXCEED A
- DISTANCE OF 80'-0" IN ANY DIRECTION. F. CONTROL JOINTS SHALL BE COMPLETE WITHIN 12 HOURS OF CONCRETE PLACEMENT.
- 11. ALL SLABS ON GRADE SHALL BE PLACED IN ALTERNATE PANELS WITH A MAXIMUM WIDTH OF 90 TIMES THE SLAB THICKNESS IN ANY DIRECTION. CONSTRUCTION JOINTS SHALL NOT EXCEED 125'-0" OC IN ANY DIRECTION; REFER TO TYPICAL DETAILS ON DRAWINGS. UNLESS OTHERWISE NOTED, SLABS ON GRADE SHALL BE 4" THICK AND SHALL BE REINFORCED WITH 6x6-W1.4xW1.4 WELDED WIRE
- 12. PROVIDE A #3 NOSING BAR IN ALL STAIR TREADS.
- 13. WHERE EXTERIOR SLABS ON GRADE ABUT WALLS OR COLUMNS, PROVIDE 3/8" PRE-FORMED EXPANSION JOINT WITH SEALANT.
- 14. ADMIXTURES: A. AIR-ENTRAINING ADMIXTURES (WHEN USED), SHALL COMPLY W/ ASTM C260. B. CALCIUM CHLORIDE SHALL NOT BE ADDED TO CONCRETE MIX.

STRUCTURAL STEEL

- 1. ALL STRUCTURAL STEEL AND STRUCTURAL STEEL WORK SHALL COMPLY WITH BOTH THE AISC "MANUAL OF STEEL CONSTRUCTION" CONTAINING THE SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS, INCLUDING THE "CODE OF STANDARD PRACTICES" (LATEST EDITION), AND WITH THE IBC 2015 EDITION.
- 2. ALL WIDE FLANGE STRUCTURAL STEEL SHALL BE ASTM A992 AND ALL MISCELLANEOUS SHAPES SHALL BE ASTM A36, UNLESS NOTED OTHERWISE.
- 3. STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B; YIELD STRESS = 46 KSI.
- 4. STRUCTURAL STEEL PIPE COLUMNS SHALL CONFORM TO ASTM A53, GRADE B; YIELD STRESS = 35 KSI.
- 5. USE A325 BOLTS FOR STEEL TO STEEL CONNECTIONS, F1554 GR36 FOR ANCHOR BOLTS. AND A307 BOLTS FOR ALL OTHER CONNECTIONS (UNLESS SPECIFIED OTHERWISE ON DRAWINGS). USE 3/4" DIAMETER MINIMUM.

- 6. PRIOR TO FABRICATION AND ERECTION, SHOP DRAWINGS FOR ALL STEEL ITEMS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER. THE CONTRACTOR SHALL VERIFY ALL SHOP DRAWING DIMENSIONS WITH STRUCTURAL AND ARCHITECTURAL PLANS AND DETAILS.
- 7. ALL WELDS SHALL BE MADE WITH E70XX ELECTRODES AND BY WELDERS CERTIFIED BY AWS STANDARDS WITHIN THE PAST 12 MONTHS; PROVIDE WRITTEN CERTIFICATION IF REQUESTED. ALL WELDS SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FOOT-POUND (27.1N-m) AT 0°F UNLESS NOTED OTHERWISE ON THE PLANS.
- 8. ALL HIGH-STRENGTH BOLTS SHALL BE TIGHTENED TO THE APPROPRIATE MINIMUM BOLT TENSION IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS." THE PREFERRED METHOD OF TIGHTENING IS BY USE OF "TWIST OFF TYPE TENSION CONTROL BOLT ASSEMBLIES." "DIRECT TENSION INDICATOR" AND THE TURN-OF-NUT METHOD MAY ALSO BE USED.
- 9. ALL MOMENT CONNECTIONS (SHOWN ON PLANS BY A SOLID TRIANGLE AT THE END OF THE BEAM) SHALL CONFORM TO THE IBC 2015 REQUIREMENTS FOR SPECIAL MOMENT RESISTING SPACE FRAMES (SMRSF).
- 10. MOMENT FRAME WELDS: SPECIAL WELDING PROVISIONS FOR FULL PENETRATION WELDS USED IN MOMENT FRAMES: WELDING SHALL COMPLY WITH THE REQUIREMENTS IN AMERICAN WELDING SOCIETY (AWS) D1.1 AS MODIFIED IN IBC 2015 SECTION 2204.1 AND THE
- FOLLOWING: A. ARC STRIKES, GOUGES, OR OTHER IMPERFECTIONS WITHIN OR ADJACENT TO THE JOINT SHALL BE REPAIRED OR REMOVED.
- B. PREHEAT, AND INTERPASS REQUIREMENTS AS OUTLINED IN SECTION 4.2 C. ALL WELDS FOR THE FRAME BEAM—COLUMN JOINTS SHALL BE STARTED AND ENDED ON WELD TABS WHERE PRACTICAL. ALL WELD TABS SHOULD BE REMOVED, THE AFFECTED AREA GROUND SMOOTH AND TESTED FOR DEFECTS USING THE MAGNETIC PARTICLE METHOD.
- D. BACKING BARS, IF USED, SHOULD BE REMOVED FROM THE GIRDER BOTTOM FLANGE, THE WELD ROOT BACK-GOUGED BY AIR ARCING AND AREA TESTED FOR DEFECTS USING THE MAGNETIC PARTICLE METHOD. THE WELD SHALL BE REPAIRED AND REINFORCED WITH A FILLET WELD PER AWS D1.1 E. WELD DAMS DO NOT MEET THE INTENT OF WELD TABS AND ARE NOT
- PERMITTED IN LIEU OF WELD TABS. F. FILLER METAL SHALL HAVE A MINIMUM NOTCH TOUGHNESS NOT LESS THAN 20 FOOT-POUNDS (27.1N-m) AT -20° F AND 40 FOOT-POUNDS (54.2N-m) AT 70° F AS MEASURED BY A STANDARD CHARPY V-NOTCH TEST, ASTM E 23, IN ACCORDANCE WITH THE APPLICABLE FILLER METAL SPECIFICATIONS REFERENCED IN AWS D1.1. THE NOTCH TOUGHNESS SHALL BE MEASURED AT LEAST 30 DEGREES FARENHEIT (-11 DEGREES CELSIUS) BELOW THE LOWEST AMBIENT SERVICE TEMPERATURE BUT NOT WARMER THAN 0 DEGREES FARENHEIT (-17 DEGREES CELSIUS).
- G. CRACKS, GOUGES, GROOVES AND NOTCHES WILL NOT BE PERMITTED IN THE H. ALL COMPLETE PENETRATION GROOVE WELDS CONTAINED IN JOINTS AND SPLICES SHALL BE TESTED 100 PERCENT EITHER BY ULTRASONIC TESTING
- OR BY RADIOGRAPHY 12. SPECIAL INSPECTIONS AND TESTING OF WELDS AS REQUIRED BY IBC 2015 SHALL
- 13. ALL BEAM CONNECTIONS, NOT SHOWN TO BE MOMENT CONNECTIONS AND NOT DETAILED OTHERWISE SHALL BE MADE USING AISC STEEL CONSTRUCTION MANUAL (14TH EDITION) TABLE 10-10 "SINGLE PLATE CONNECTIONS" WITH THE MAXIMUM NUMBER OF ROWS SHOWN FOR THAT BEAM.

WOOD FRAMING

BE PROVIDED BY THE OWNER.

- 1. REFER TO STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR DETAILS ADDITIONAL NOTES AND SCHEDULES PERTAINING TO PLYWOOD ROOF, FLOOR, AND SHEAR WALL DIAPHRAGMS.
- STRUCTURAL FRAMING LUMBER SHALL BE CLEARLY MARKED AND MEET THE FOLLOWING MINIMUM GRADES AS DEFINED BY THE 2015 EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION: A. 2" TO 4" THICK,
 - 5" AND WIDER: DOUGLAS FIR-LARCH (SOUTH) GRADE NO.2, UNO ON PLAN B. BEARING WALL STUDS: DOUGLAS FIR-LARCH (SOUTH)
- UP TO 8' LENGTH: NO. 2 OR BETTER OVER 8' LENGTH: NO. 2 OR BETTER
- C. POSTS AND TIMBERS: DOUGLAS FIR-LARCH (SOUTH) GRADE NO. 1 FOUNDATION GRADE REDWOOD D. SILL PLATES IN CONTACT WITH <u>OR</u> PRESSURE TREATED CONCRETE: DOUGLAS FIR-LARCH (SOUTH) GRADE NO. 1
- 3. ALL ROOF AND FLOOR JOISTS SHALL BE SUPPORTED LATERALLY AT THE ENDS AND AT EACH SUPPORT BY SOLID BLOCKING 2" THICK AND THE FULL DEPTH OF THE JOIST, EXCEPT WHERE THE END OF THE JOIST IS ATTACHED TO A HEADER OR BOND BEAM WITH METAL ANCHORS OR HANGERS.
- 4. BUILT-UP BEAMS OF 2x MEMBERS SHALL BE SPIKED TOGETHER WITH 16d SPIKES AT 12" OC, STAGGERED. USE (2) 20d COMMON NAILS AT ALL SUPPORTS.
- 5. ALL WOOD POSTS AND BUILT-UP COLUMNS SHALL RUN CONTINUOUS.
- 6. BUILT-UP COLUMNS SHALL BE SPIKED TOGETHER WITH 16d SPIKES AT 12" OC.
- 7. ALL NAILS SPECIFIED ON DETAILS OR SCHEDULED SHALL BE COMMON NAILS UNLESS NOTED OTHERWISE.
- 8. HOLES FOR NAILS, WHERE NECESSARY TO PREVENT SPLITTING, SHALL BE BORED OF A DIAMETER SMALLER THAN THAT OF THE NAILS.
- 9. ALL JOISTS AND BEAM HANGERS, FRAMING ANCHORS, STRAP TIES, AND OTHER METAL FASTENERS FOR WOOD FRAMING SHALL BE SIMPSON BRAND (OR EQUIVALENT).
- 10. UNLESS NOTED OTHERWISE, ANCHOR ALL TRUSSES, RAFTERS AND JOISTS TO SUPPORTS WITH GALVANIZED FRAMING ANCHORS.

11. CUTTING AND NOTCHING OF STUDS. IN EXTERIOR WALLS AND BEARING

- PARTITIONS, ANY WOOD STUD IS PERMITTED TO BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25% OF ITS WIDTH. CUTTING OR NOTCHING OF STUDS TO A DEPTH NOT GREATER THAN 40% OF THE WIDTH IS PERMITTED IN NONBEARING PARTITIONS SUPPORTING NO LOADS OTHER THAN THE WEIGHT OF THE PARTITION.
- 12. BORED HOLES IN STUDS. A HOLE NOT GREATER IN DIAMETER THAN 40% OF THE STUD WIDTH IS PERMITTED TO BE BORED IN ANY WOOD STUD. BORED HOLES NOT GREATER THAN 60% OF THE WIDTH OF THE STUD ARE PERMITTED IN NONBEARING PARTITIONS OR IN ANY WALL WHERE EACH BORED STUD IS DOUBLED, PROVIDED NOT MORE THAN TWO SUCH SUCCESSIVE DOUBLED STUDS ARE SO BORED.
- 13. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8" TO THE EDGE OF THE STUD.

16. DOUBLE TOP AND BOTTOM PLATES TO BE LAPPED 4'-0" AT SPLICES AND SPIKED

- 14. NAILS AND STAPLES SHALL COMPLY WITH THE REQUIREMENTS OF ASTM F 1667.
- 15. SECURE SILL PLATES TO FOUNDATIONS WITH 5/8" DIAMETER x 14" ANCHOR BOLTS @ 32" OC, UNLESS NOTED OTHERWISE.

TOGETHER WITH 16d COMMON NAILS @ 3" OC, STAGGERED.

17. BEARING WALLS, EXTERIOR WALLS, AND SHEAR WALLS SHALL BE INSTALLED AS FOLLOWS (MINIMUM): STUD HEIGHT WALL CONSTRUCTION

3x6 STUDS @ 22" OC

UP TO 14'

- 18. MAXIMUM HEIGHT OF NON-BEARING STUD WALLS SHALL BE 14' FOR 2x4 STUDS AND 20' FOR 2x6 STUDS.
- 19. SUBSTITUTIONS OF STRUCTURAL WOOD FRAMING MEMBERS FROM THOSE SHOWN ON THE STRUCTURAL DRAWINGS WILL NOT BE ACCEPTED WITHOUT PRIOR WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
- 20. ALL FASTENERS AND CONNECTORS THAT WILL BE IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL ADHERE TO THE REQUIREMENTS IN SECTION 2304.10.5 OF THE 2015 IBC.

MANUFACTURED TIMBER PRODUCTS

GLUE-LAMINATED BEAMS (GLB):

MODULUS OF ELASTICITY

UNLESS NOTED OTHERWISE, ALL GLUE-LAMINATED BEAMS SHALL BE OF DOUGLAS FIR (NORTH) AND HAVE THE FOLLOWING PROPERTIES: MIN ALLOWABLE BENDING STRESS Fb = 2400 PSI

E = 1,800,000 PSI

UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL GLUE-LAMINATED BEAMS SHALL HAVE A POSITIVE CAMBER OF AN 1800' RADIUS.

EXPOSED GLUE-LAMINATED BEAMS SHALL BE OF ARCHITECTURAL GRADE.

MIN ALLOWABLE SHEAR STRESS Fv = 265 PSI

LAMINATED VENEER LUMBER (LVL) UNLESS NOTED OTHERWISE. LVL BEAMS SHALL HAVE THE FOLLOWING PROPERTIES: MIN ALLOWABLE BENDING STRESS Fb = $2600 \text{ PSI x } (12/d)^0.136$ MIN ALLOWABLE SHEAR STRESS Fv = 285 PSIE = 1,900,000 PSIMODULUS OF ELASTICITY

PARALLEL STRAND LUMBER (PSL): UNLESS NOTED OTHERWISE, PSL MEMBERS SHALL HAVE THE FOLLOWING PROPERTIES: MIN ALLOWABLE BENDING STRESS $Fb = 2900 \text{ PSI } \times (12/D)^0.111$ MIN ALLOWABLE SHEAR STRESS Fv = 290 PSIMODULUS OF ELASTICITY E = 2,000,000 PSICOMPRESSION PARALLEL TO GRAIN Fc = 2900 PSI COMPRESSION PERPENDICULAR TO

LAMINATED STRAND LUMBER (LSL) UNLESS NOTES OTHERWISE, LSL MEMBERS SHALL HAVE THE FOLLOWING PROPERTIES: MIN ALLOWABLE BENDING STRESS Fb = $2325 \text{ PSI x } (12/D)^0.092$ MIN ALLOWABLE SHEAR STRESS Fv = 310 PSIMODULUS OF ELASTICITY E = 1,550,000 PSICOMPRESSION PARALLEL TO GRAIN Fc = 2050 PSI COMPRESSION PERPENDICULAR TO

Fc = 750 PSI

PLYWOOD DIAPHRAGMS

FACE OF STRANDS

UNLESS NOTED OTHERWISE ON THE DRAWINGS SHEATH AND NAIL ALL DIAPHRAGMS AS

FOLLOWS: WALL SHEATHING (SHEAR WALLS):

GRAIN AND PARALLEL TO WIDE

GRAIN AND PARALLEL TO WIDE

FACE OF STRANDS

1/2" APA RATED EXPOSURE 1 (32/16) OR OSB EQUIVALENT. 8d COMMON NAILS @ 3" OC TO ALL PLYWOOD PANEL EDGES, TOP AND BOTTOM WALL PLATES, END ELEMENTS, AND POSTS AT

HOLD-DOWN ANCHORS. 8d @ 12" OC TO ALL INTERMEDIATE SUPPORTS. (AS SCHEDULED) BLOCKING: 3x THICKNESS OF WALL BLOCKING AT ALL UNSUPPORTED PANEL EDGES. (AS SCHEDULED)

FLOOR SHEATHING: TYPE: 34" APA RATED EXPOSURE 1 TONGUE AND GROOVE SHEATHING GLUE AND NAIL WITH 10d GALVANIZED COMMON NAILS @ 6" OC TO NAILING:

ALL SUPPORTED PLYWOOD PANEL EDGES; TO BLOCKING OVER SHEAR

WALLS, USE 10d COMMON NAILS @ 12" OC AND GLUE TO ALL INTERMEDIATE SUPPORTS. BLOCKING: NOT REQUIRED.

LAYOUT: FACE GRAIN PERPENDICULAR TO SUPPORTS.

LAYOUT:

BLOCKING: NOT REQUIRED.

ROOF SHEATHING: TYPE: 3/4" APA RATED EXPOSURE 1 (48/24) OR OSB EQUIVALENT. 10d COMMON NAILS @ 6" OC TO ALL PLYWOOD PANEL EDGES. NAILING: BEAMS, BLOCKING OVER SHEAR WALLS, AND DIAPHRAGM BOUNDARIES

10d @ 12" OC TO ALL INTERMEDIATE SUPPORTS.

FACE GRAIN PERPENDICULAR TO SUPPORTS

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PRINT DATE 4/9/2018

RC FINAL REVIEW 1/19/20 CD DRAWINGS 2/27/2018

DRAWING REVISIONS

PERMIT REVIEW

PROJECT PHASE

SHEET TITLE

Structural Notes

SHEET NUMBER

R COMPLIANCE WITH THE APPLICAB

ROCEED IN VIOLATION OF ANY FEDER STATE, OR LOCAL REGULATIONS.

WEST COAST CODE CONSULTANTS, IN

X STRUCTURAL

ENERGY

DATE: 04/18/18

PLUMBING

BUILDING

MEM

ELECTRICAL

ACCESSIBILITY

C / P^(A)

TABLES N5.4-1 - N5.6-3. B. OTHER INSPECTIONS (AISC 341-10, TABLE J8-1) 1) RBS REQUIREMENTS IF APPLICABLE

2) PROTECTED ZONE (VERIFY NO HOLES AND UNAPPROVED ATTACHMENTS MADE BY FABRICATOR OR ERECTOR, AS APPLICABLE)

C. INSPECTION OF COMPOSITE STRUCTURES PRIOR TO CONCRETE PLACEMENT (AISC 341-10, TABLE J9-1)

1) MATERIAL IDENTIFICATION OF REINFORCING STEEL (VERIFY TYPE/GRADE) 2) DETERMINATION OF CARBON EQUIVALENT FOR REINFORCING STEEL OTHER THAN ASTM A706 3) PROPER REINFORCING STEEL SIZE,

SPACING AND ORIENTATION 4) REINFORCING STEEL HAS NOT BEEN RE-BENT IN THE FIELD

5) REINFORCING STEEL HAS BEEN TIED AND SUPPORTED AS REQUIRED 6) REQUIRED REINFORCING STEEL

CLEARANCES HAVE BEEN PROVIDED 7) COMPOSITE MEMBER HAS REQUIRED SIZE D. INSPECTION OF COMPOSITE STRUCTURES DURING

CONCRETE PLACEMENT (AISC 341-10, TABLE J9-2) 1) CONCRETE: MATERIAL IDENTIFICATION (VERIFY MIX DESIGN, COMPRESSIVE STRENGTH, MAXIMUM LARGE AGGREGATE SIZE, MAXIMUM SLUMP)

2) LIMITS ON WATER ADDED AT THE TRUCK OR PUMP 3) PROPER PLACEMENT TECHNIQUES TO LIMIT SEGREGATION

CONCRETE PLACEMENT (AISC 341-10, TABLE J9-3) 1) ACHIEVEMENT OF MINIMUM SPECIFIED CONCRETE COMPRESSIVE STRENGTH AT SPECIFIED AGE F. INSPECTION OF H PILES (AISC 341-10, TABLE J10-1)

1) PROTECTED ZONE (VERIFY NO HOLES AND UNAPPROVED ATTACHMENTS MADE BY THE RESPONSIBLE CONTRACTOR. AS APPLICABLE)

E. INSPECTION OF COMPOSITE STRUCTURE AFTER

INSPECTION OF STRUCTURAL WOOD (IBC 1705.11.2) GLUING OPERATIONS OF ELEMENTS OF THE

MAIN-SEISMIC-FORCE-RESISTING-SYSTEM NAILING, BOLTING, ANCHORING, AND OTHER FASTENING COMPONENTS WITHIN THE MAIN-SEISMIC-FORCE-RESISTING-SYSTEM. INCLUDING SHEAR WALLS. DIAPHRAGMS. DRAG STRUTS, BRACES, SHEAR PANELS, AND HOLD-DOWNS

TABLE NOTES:

(A) CONTINUOUS OR PERIODIC (C/P) REFERS TO THE FREQUENCY OF INSPECTION, WHICH MAY BE CONTINUOUS DURING THE TASK LISTED OR PERIODICALLY DURING THE LISTED TASK, AS DEFINED IN THE

SPECIAL INSPECTION FOR STEEL CONSTRUCTION (IBC 1705.2)

INSPECTION TASKS PRIOR TO WELDING (AISC 360-10, TABLE N5.4-1; AISC 341-10, TABLE J6-1)

WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE MANUFACTURER'S CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE MATERIAL IDENTIFICATION (TYPE/GRADE)

WELDER IDENTIFICATION SYSTEM(B) FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) CONFIGURATION AND FINISH OF ACCESS HOLES

FIT-UP OF FILLET WELDS

INSPECTION TASKS DURING WELDING (AISC 360-10, TABLE N5.4-2; AISC 341-10, TABLE J6-2)

WELDING TECHNIQUES

USE OF QUALIFIED WELDERS CONTROL AND HANDLING OF WELDING CONSUMABLES NO WELDING OVER CRACKED TACK WELDS **ENVIRONMENTAL CONDITIONS** WELDING PROCEDURE SPECIFICATION FOLLOWED

INSPECTION TASKS AFTER WELDING

(AISC 360-10, TABLE N5.4-3; AISC 341-10, TABLE J6-3) WELDS CLEANED SIZE, LENGTH, AND LOCATION OF WELDS WELDS MUST MEET VISUAL ACCEPTANCE CRITERIA ARC STRIKES k–AREA^(C)

BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED) REPAIR ACTIVITIES DOCUMENT ACCEPTANCE OR REJECTION OF

WELDED JOINT OR MEMBER PLACEMENT OF REINFORCING OR CONTOURING FILLET WELDS (IF REQUIRED)

INSPECTION TASKS PRIOR TO BOLTING (AISC 360-10, TABLE N5.6-1; AISC 341-10, TABLE J7-1)

MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER FASTENERS MARKED IN ACCORDANCE WITH ASTM

PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH, IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE) PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL

CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION

PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS

AND OTHER FASTENER COMPONENTS INSPECTION TASKS DURING BOLTING (AISC 360-10, TABLE N5.6-2; AISC 341-10, TABLE J7-2)

FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN

ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED JOINT BROUGHT TO THE SNUG-TIGHT CONDITIONS PRIOR TO THE PRE-TENSIONING OPERATIONS

FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING FASTENERS ARE PRE-TENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD FREE EDGES

INSPECTION TASKS AFTER BOLTING (AISC 360-10, TABLE N5.6-3; AISC 341-10, TABLE J7-3) DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED

INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT (AISC 360-10, TABLE N6.1)

PLACEMENT AND INSTALLATION OF STEEL DECK PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS

INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (IBC 1705.2.2, TABLE 1705.2.2)

MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK: A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS

B. MANUFACTURER'S CERTIFIED TEST REPORTS INSPECTION OF WELDING:

CONNECTION

A. COLD-FORMED STEEL: FLOOR AND ROOF DECK WELDS B. REINFORCING STEEL: 1) VERIFICATION OF WELDABILITY OF REINFORCING

STEEL OTHER THAN ASTM A706 2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE

AND SHEAR REINFORCEMENT 3) SHEAR REINFORCEMENT

4) OTHER REINFORCING STEEL

NON-DESTRUCTIVE TESTING OF WELDS (AISC 360-10, SECTION N5.5) CJP WELDS (RISK CATEGORY II) CJP WELDS (RISK CATEGORY III OR IV)

ACCESS HOLES (> 2" IN FLANGE OR WEB) WELDED JOINTS SUBJECT TO FATIGUE

SUPPORTING STRUCTURAL STEEL

OTHER STEEL INSPECTIONS (AISC 360-10, SECTION N5.7; AISC 341-10, TABLES J8-1 & J10-1) STRUCTURAL STEEL DETAILS ANCHOR RODS AND OTHER EMBEDMENTS

TABLE NOTES:

(A) CONTINUOUS OR PERIODIC (C/P) REFERS TO THE FREQUENCY OF INSPECTION, WHICH MAY BE CONTINUOUS DURING THE TASK LISTED OR PERIODICALLY DURING THE LISTED TASK, AS DEFINED IN THE

(B) THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE LOW-STRESS TYPE.

C) WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA, VISUALLY INSPECT THE WEB k-AREA FOR CRACKS WITHIN 3" OF THE WELD.

SPECIAL INSPECTION FOR SOILS (IBC 1705.6)

ITEM	C / P ^(A)
INSPECTION OF SOILS (IBC TABLE 1705.6)	
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	Р
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	Р
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL	С

VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE

SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED

TABLE NOTES:

DWG DRAWING

1717_01 Abbreviations

PROPERLY

(A) CONTINUOUS OR PERIODIC (C/P) REFERS TO THE FREQUENCY OF INSPECTION, WHICH MAY BE CONTINUOUS DURING THE TASK LISTED OR PERIODICALLY DURING THE LISTED TASK, AS DEFINED IN THE

TERMS AND ABBREVIATIONS (SYMBOLS, A - K)

ABBRV		ABBRV	TERM
(#)	NUMERICAL QUANTITIES		EXISTING
(117)	WHEN ENCLOSED IN	E	MODULUS OF ELASTICITY
	PARENTHESES		EACH
	1 / INCLATINE SES		EXPANSION JOINT
A/E	ARCHITECT/ENGINEER		ELEVATION
	ANCHOR BOLT		ELEVATOR
	ADDENDUM		ENGINEER
ALUM	ALUMINUM	EQ	
	APPROXIMATELY		EQUALLY SPACED
ARCH	ARCHITECT		(EQUAL SPACES)*
	(ARCHITECTURAL)*		EQUIPMENT
ASTM	AMERICAN SOCIETY FOR		EQUIVALENT
	TESTING AND MATERIALS	EST	ESTIMATE
			AND SO FORTH
B PL	BASE PLATE	EW	EACH WAY
В/В	BACK TO BACK	EXCL	EXCLUDE
BLW			EXPANSION
	BLOCKING	EXT	EXTERIOR
ВМ	BEAM		
	BOTTOM OF STEEL		FUTURE
	BOTTOM		FOUNDATION
	BEARING	FFE	FINSHED FLOOR
BTWN	BETWEEN		ELEVATION
0. 70. 0	0511750 70 0511750		FINISH (FINISHED)*
	CENTER TO CENTER	FLR	
CD	CONTRACT DOCUMENTS		FRAMING
CIP		F SE	FINISHED SLAB ELEVATION FOOTING
CJ		FIG FV	
CJ CL	CONTROL JOINT* CENTERLINE	ΓV	FIELD VERIFT
CMU	CONCRETE MASONRY UNIT	GA	GAGE
COL	COLUMN	GALV	GALVANIZED
CONC	CONCRETE	GLB	GLUED LAMINATED WOOD
CONN	CONNECTION	OLD	BEAM
CONT	CONTINUOUS (CONTINUE)*		<i>DD</i> ((4)
CONTR	CONTRACTOR	HGR	HANGER
COORD	COORDINATE	HORIZ	HORIZONTAL
CTR	CENTER		(HORIZONTALLY)*
		HSA	HEADED STUD ANCHOR
D	DEPTH	HSS	HOLLOW STRUCTURAL
d	PENNY NAIL		SECTION
DB	DECK BEARING		
DBA	DEFORMED BAR ANCHOR	1	MOMENT OF INERTIA
DBL	DOUBLE	ID	INSIDE DIAMETER
DFS	DOUGLAS FIR — SOUTH	INT	INTERIOR
DIA	DIAMETER		
DIAG	DIAGONAL	JST	JOIST
DIM	DIMENSION		
DL	DEAD LOAD		THOUSAND POUNDS
DTL	DETAIL	KIP FT	THOUSAND FOOT/POUNDS

KLF KIPS PER LINEAL FOOT **ERMS AND ABBREVIATIONS**

SCALE: NONE

SPECIAL INSPECTION FOR CONCRETE CONSTRUCTION (IBC 1705.3 & 1705.12.1)

INSPECTION OF CONCRETE CONSTRUCTION (IBC 1705.3, TABLE 1705.3) INSPECTION OF REINFORCING STEEL, INCLUDING PRE-STRESSING TENDONS, AND PLACEMENT INSPECTION OF REINFORCING STEEL WELDING IN

ACCORDANCE WITH TABLE 1705.2.2 INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE

STRENGTH DESIGN IS USED INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS(B)

VERIFYING USE OF REQUIRED DESIGN MIX AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF

INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES INSPECTION FOR MAINTENANCE OF SPECIFIED CURING

TEMPERATURES AND TECHNIQUES INSPECTION OF PRE-STRESSED CONCRETE:

A. APPLICATION OF PRE-STRESSING FORCES B. GROUTING OF BONDED PRE-STRESSING TENDONS IN THE SEISMIC FORCE-RESISTING SYSTEM

ERECTION OF PRECAST CONCRETE MEMBERS VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS

INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED

TABLE NOTES:

CONCRETE

(A) CONTINUOUS OR PERIODIC (C/P) REFERS TO THE FREQUENCY OF INSPECTION, WHICH MAY BE CONTINUOUS DURING THE TASK LISTED OR PERIODICALLY DURING THE LISTED TASK, AS DEFINED IN THE

(B) SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH ACI 355.2 OR OTHER QUALIFICATION PROCEDURES.

> TERMS AND ABBREVIATIONS (L - Z) TERM ABBRV

ABBRV SCHED SCHEDULE POUND LEFT HAND SIDE SECT SECTION LHS SQUARE FOOT (FEET)* LIVE LOAD SGL SINGLE LONG LEG HORIZONTAL SHTHG SHEATHING LONG LEG VERTICAL LONG LONGITUDINAL SIM SIMILAR LAMINATED STRAND SNOW LOAD LUMBER SOG SLAB ON GRADE LTWT LIGHTWEIGHT SPCL SPECIAL LAMINATED VENEER SPEC SPECIFICATION LUMBER SQ SQUARE STD STANDARD MAX MAXIMUM STIF STIFFENER MECH STRUCT STRUCTURE MECHANICAL (STRUCTURAL)* MFR MANUFACTURER SYMM SYMMETRICAL MIN MINIMUM MISC MISCELLANEOUS T&B TOP AND BOTTOM NOT APPLICABLE T&G TONGUE AND GROOVE NTS THRU THROUGH NOT TO SCALE TO FDN TOP OF FOUNDATION ON CENTER TOB TOP OF BEAM OUTSIDE DIAMETER TOC TOP OF CONCRETE OPNG TOF TOP OF FOOTING OPENING OPP OPPOSITE TOP OF JOIST OPT OPTIONAL TOP OF MASONRY TOM OSB ORIENTED STRAND BOARD TOP TOP OF PARAPET TOP OF STEEL TOS PERP PERPENDICULAR TOW TOP OF WALL 1 TWS PLF THREADED WELDED STUD POUNDS PER LINEAL TYP TYPICAL PSL PARALLEL STRAND LUMBER UNO UNLESS NOTED POST TENSIONED OTHERWISE QUALITY ASSURANCE VERT VERTICAL (VERTICALLY)* QUALITY CONTROL WITH (RE) REMOVE EXISTING W/O WITHOUT REINF REINFORCE (REINFORCED, WL WIND LOAD REINFORCING)* WELD (WELDED)* REQD REQUIRED WWF WELDED WIRE FABRIC

REQUEST FOR INFORMATION

ROUGH SAWN

ROOF TOP UNIT

1. * CONTEXT INDICATES WHICH ABBREVIATION TERM IS IMPLIED. CONTACT ENGINEER IF MEANING IS NOT OBVIOUS. NOT ALL ABBREVIATIONS ARE USED.

MANY ABBREVIATIONS MAY BE MADE PLURAL BY ADDING AN S SUFFIX. 4. FOR ABBREVIATIONS NOT LISTED, REFER TO THE US NATIONAL CAD STANDARD, VERSION 3.1. TERMS AND ABBREVIATIONS SECTION, OR CONTACT ENGINEER.

EXTRA STRONG

XXS DOUBLE EXTRA STRONG

PLAN REVIEW ACCEPTANCE R COMPLIANCE WITH THE APPLICAB CHANICAL CCESSIBILITY | FIRE

DATE: 04/18/18

EST COAST CODE CONSULTANTS. INC

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SEAL

PRINT DATE 2/27/2018

PROJECT PHASE RC FINAL REVIEW 1/19/201

CD DRAWINGS 2/27/2018

DRAWING REVISIONS

SHEET TITLE

Structural Notes

SHEET NUMBER



19. ALL CONTINUOUS DECK ANGLES TO BE FULL

C2/S202. ②7. AT BEAM TO COLUMN

W12x26 HIGH

₩12×26 HIGH — —

21. SEE DETAIL **C1/S201** FOR TYPICAL STEEL BEAM TO STEEL COLUMN CONNECTION.

SHEATHING WITHIN 4 FEET OF SILL PLATE.

AT EACH END SUPPORT, UNO.

SHALL BEAR ON 3x6 STUDS

24. SEE DETAIL **B1/S201** FOR CONC REINF LÁP LENGTH SPLICE SCHEDULE.

(25). WOOD SLEEPER SYSTEM W/ 3" CONCRETE TOPPING SLAB. REINF W/ #3 @ 16" OC EACH DIRECTION AT MID DEPTH.

FCx.0, FSx.0, FRx.0/y.0

xxx'-xx"

WELD ALL AROUND. D1/S201.

REINF W/ #3 @ 16" OC EACH DIRECTIÓN AT MID DEPTH.

WOOD POST CONC SLAB ON GRADE

CONC ON STEEL DECK, W/ SPAN DÍRECTION INDICATED WOOD SHEATHING W/

3" CONC TOPPING, W/ SPAN DIRECTION INDICATED BEAM OR GIRDER JOIST, PURLIN, RAFTER, OR TRUSS

S201

LOWER LEVEL FRAMING PLAN

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



SEE NOTES ON Ftg & Fdtn WOOD STUD SHEARWALL, SEE SCHEDULE **[& Lower Lv**]

SHEET NUMBER

S101

SHEET TITLE

LloydArchitects

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ABIN

SEAL

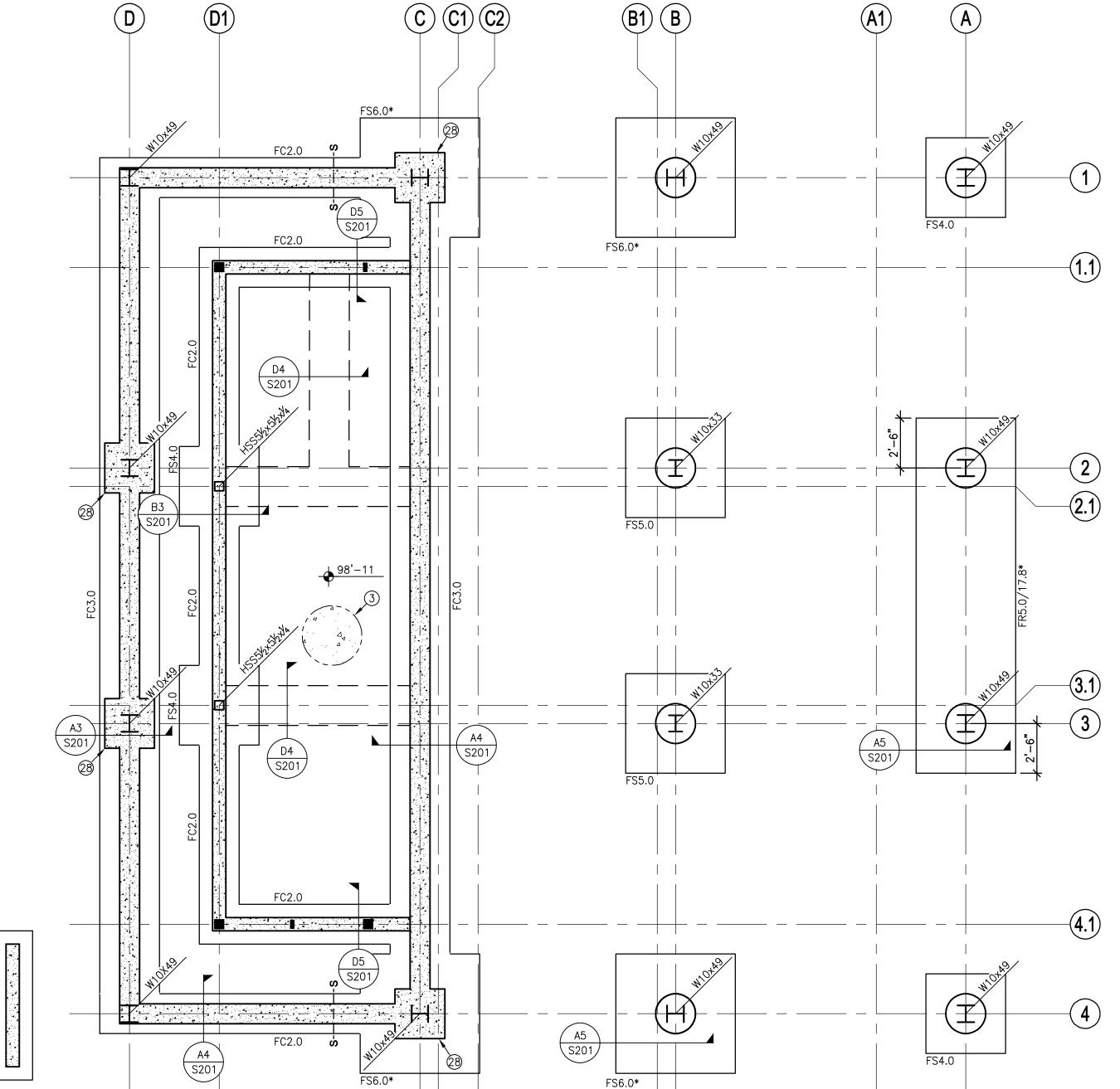
PRINT DATE

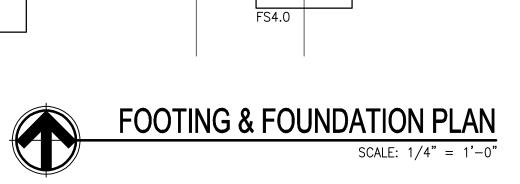
2/27/2018

PROJECT PHASE

ARC FINAL REVIEW 1/19/201 CD DRAWINGS 2/27/2018

DRAWING REVISIONS





PLAN NOTES:

CIRCLED NOTES ARE KEYED ON PLAN.

SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, TYPICAL.

1. SEE STRUCTURAL NOTES ON

SHEET S001 & S002 FOR ADDITIONAL INFORMATION. 2. TOP OF SLAB ELEVATION NOTED THUS: ** **xx'-xx"

SLOPE UNIFORMLY TO FLOOR DRAINS. 3). SLAB ON GRADE SHALL BE 4" CONCRETE OVER 4" FREE-DRAINING GRAVEL, UNO. REINFORCE SLAB WITH

FLAT SHEETS).

4. SEE PLAN FOR FOOTING TYPE. SEE SCHEDULE A1/S201 FOR FOOTING SIZE AND REINFORCEMENT.

DIMENSIONED OTHERWISE ON

6x6-W1.4xW1.4 WWF (USE

5. CENTER FOOTINGS ON WALLS AND COLUMNS UNLESS

6. SEE STRUCTURAL NOTES ON SHEET SOO1 FOR MINIMUM FROST COVER FOR ALL EXTERIOR FOOTINGS.

7. FOOTING STEP, SEE DETAIL A1/S202. STEP LOCATIONS ARE SHOWN SCHEMATICALLY ONLY. COORDINATE STEPS WITH FINISH GRADES AND FLOOR ELEVATIONS TO MAINTAIN MINIMUM FROST

8. SEE PLAN AND SECTIONS FOR TOP OF FOUNDATION WALL ELEVATIONS.

9. SEE NOTES ON SHEET **S001** FOR TYPICAL CONCRETE WALL REINFORCEMENT.

10. FOUNDATION DESIGN INFORMATION WAS OBTAINED FROM THE SOILS REPORT PREPARED BY IGS. ALL SITE PREPARATION, EXCAVATION, FILL, COMPACTION, AND PLACEMENT WORK PERFORMED SHALL COMPLY WITH RECOMMENDATIONS OUTLINED IN THE ABOVE REFERENCED

11. PROVIDE END OF WALL, CORNER, OR TEE-INTERSECTION VERTICAL BARS, SEE DETAIL A2/S202, TYPICAL. EXTEND REINFÖRCEMENT INTO CONCRETE FOUNDATION.

12. FLOOR SHEATHING SHALL BE ¾" APA RATED, STURD-I-FLOOR, EXPOSURE I PANEL INDEX #48/24, T&G. NAIL W/ 10d COMMON @ 6" OC - PANEL EDGES, AND 10d COMMON @ 12" OC -ELSEWHERE.

(13). SUSPENEDED FLOOR SLAB SHALL BE A TOTAL OF 5" THICK (WITH STEEL DECK), NORMAL WEIGHT CONCRETE (145 PCF). REINFORCE SLAB WITH 6×6-W1.4×W1.4 WWF IN ADDITION TO ANY MILD REINFORCEMENT SHOWN ON PLANS.

(14). FLOOR DECK SHALL BE 2" VERCO TYPE "W2", 22 GAUGE, PHOSPHATIZED / PAINTED. MINIMUM DECK BEARING = 2". WELD DECK TO SUPPORTING MEMBERS WITH 34"Ø PUDDLE WELDS @ 12" OC & ALL

36" OC. 15. SEE **D3/S201** FOR TYPICAL SLAB EDGE DETAIL.

DRAWINGS FOR INFORMATION

16. SEE ARCHITECTURAL/SITE

DECK FLUTES. BUTTON

PUNCH ALL DECK LAPS @

AND LOCATION OF SITE WALLS, STEPS, PLANTERS, RAMPS, 17. SEE **B1/S202** FOR TYPICAL SHEARWALL DETAIL AND SHEARWALL SCHEDULE FOR

SHEATHING AND ATTACHMENT. (18). ALL EXTERIOR SHEARWALLS ABOVE SHALL BE TYPE CONSTRUCTION, UNO.

DEVELOPMENT BUTT WELDED AT SPLICES. SEE DETAIL

20. SEE DETAIL C1/S201 FOR TYPICAL STEEL BEAM TO BEAM CONNECTION.

22. DO NOT SPLICE SHEARWALL

23. ALL BEAMS AND HEADERS

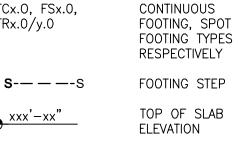
26. PROVIDE 1/2" SHEAR P W/ (3) 34" ø BOLTS. WELD ALL THREE SIDES OF SHEAR P TO

BEAM WEB W/ 1/6" FILLET WELD ALL AROUND. CONNECTION AT EXTERIOR PERIMETER WELD SHEAR F TO BEAM WEB W/ 1/4" FILLET

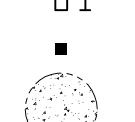
28. 30"ø PIER REINF W/ (16) #7 W/ #4 TIES @ 4" OC W/ (3) TIÉS" @ 2½" OC AT TOP, SEÉ

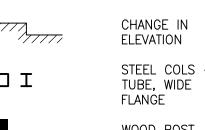
(29). 3" CONCRETE TOPPING SLAB.

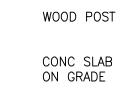
LEGEND:

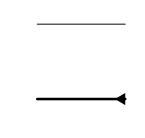


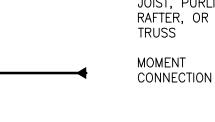
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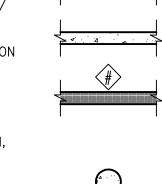


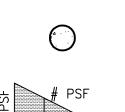












FCx.x



WALL ABOVE

CONCRETE

FOOTING &

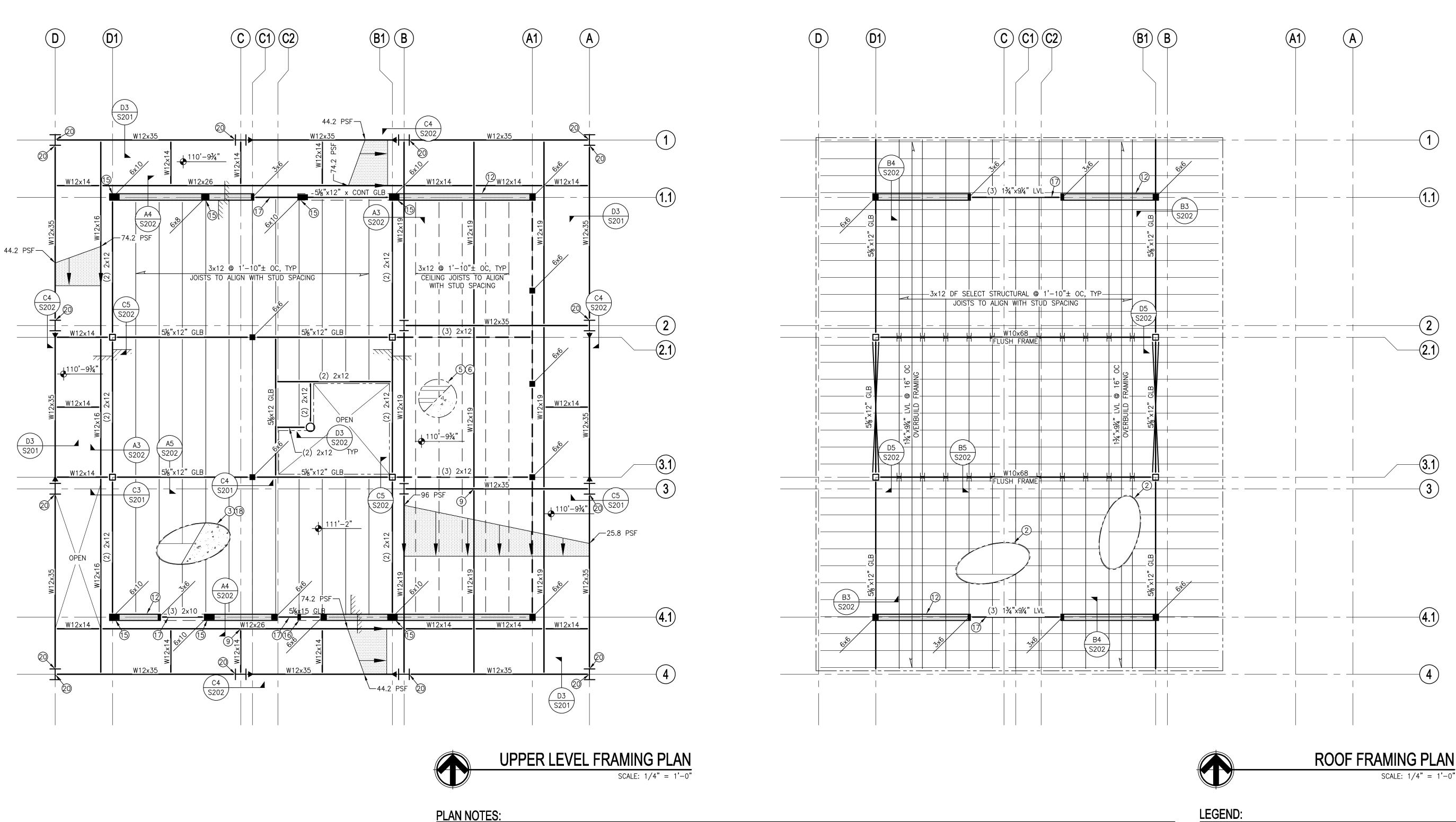
FDTN WALL

CONC WALL

BEAM







CIRCLED NOTES ARE KEYED

ON PLAN.

SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, TYPICAL. 1. SEE STRUCTURAL NOTES ON

SHEET S001 & S002 FOR

ADDITIONAL INFORMATION.

(2). ROOF SHEATHING SHALL BE 3/4" APA RATED, STRUCT II, EXTERIOR, PANEL INDEX #48/24. NAIL W/ 10d COMMON @ 6" OC – PANEL EDGES UNBLOCKED, AND 10d

COMMON @ 12" OC -

ELSEWHERE. (3). FLOOR SHEATHING SHALL BE ¾" APA RATED, STURD-I-FLOOR, EXPOSURE I PANEL INDEX #48/24, T&G. NAIL W/ 10d COMMON @ 6" OC - PANEL EDGES, AND 10d COMMON @ 12" OC -ELSEWHERE.

4. TOP OF SLAB ELEVATION XXX'-XX"
NOTED THUS: (5). SUSPENEDED FLOOR SLAB SHALL BE A TOTAL OF 5" THICK (WITH STEEL DECK), NORMAL WEIGHT CONCRETE (145 PCF). REINFORCE SLAB WITH 6x6-W1.4xW1.4 WWF IN ADDITION TO ANY MILD REINFORCEMENT SHOWN ON PLANS.

(6). FLOOR DECK SHALL BE 2" VERCO TYPE "W2", 22 GAUGE, PHOSPHATIZED / PAINTED. MINIMUM DECK BEARING = 2". WELD DECK TO SUPPORTING MEMBERS WITH 34" PUDDLE WELDS @ 12" OC & ALL DECK FLUTES. BUTTON PUNCH ALL DECK LAPS @ 36" OC.

7. SEE **D3/S201** FOR TYPICAL SLAB EDGE DETAIL.

8. ALL CONTINUOUS DECK ANGLES TO BE FULL DEVELOPMENT BUTT WELDED AT SPLICES. SEE DETAIL C2/S202.

(9). SEE DETAIL C1/S201 FOR TYPICAL STEEL BEAM TO BEAM CONNECTION.

10. SEE DETAIL C1/S201 FOR TYPICAL STEEL BEAM TO COLUMN CONNECTION.

11. SEE **B1/S202** FOR TYPICAL SHEARWALL DETAIL AND SHEARWALL SCHEDULE FOR SHEATHING AND ATTACHMENT.

12. ALL EXTERIOR SHEARWALLS SHALL BE TYPE 🕥 CONSTRUCTION, UNO.

13. DO NOT SPLICE SHEARWALL SHEATHING WITHIN 4 FEET OF SILL PLATE.

14. ALL BEAMS AND HEADERS SHALL BEAR ON 3x6 STUDS AT EACH END SUPPORT, UNO.

15. PROVIDE SIMPSON MSTC40 W/ (32) 16d SINKERS MIN BETWEEN SHEAR WALL ABOVE & POST BELOW.

16. PROVIDE (2) SIMPSON CS14 STRAPS. `END LENGTH ON BEAM TO ONLY BE 9". PROVIDE (8) 10d NAILS MIN ON 9" END AND (13) 10d NAILS MIN ON 15" END.

17. SEE **D1/S202** FOR TYPICAL HEADER EDGE ATTACHMENT.

19. SEE **A5/S203** FOR TYPICAL

WELD ALL AROUND.

(18). 3" CONCRETE TOPPING SLAB, REINF W/ #3 @ 16" OC EACH DIRECTION AT MID DEPTH.

SPLICE OF SINGLE TOP P. ②. AT BEAM TO COLUMN CONNECTION AT EXTERIOR

PERIMETER WELD SHEAR PL

TO BEAM WEB W/ 1/4" FILLET

FOR COMPLIANCE WITH THE APPLICABL X STRUCTURAL MECHANICAL PLUMBING ENERGY ELECTRICAL ACCESSIBILITY FIRE LAN REVIEW ACCEPTANCE OF DOCUM PROCEED IN VIOLATION OF ANY FEDERAL STATE, OR LOCAL REGULATIONS. MEM

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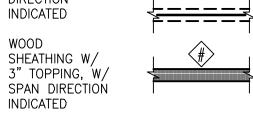
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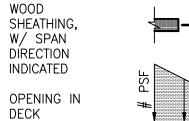
ROOF FRAMING PLAN

TOP OF SLAB xxx'-xx" ELEVATION CHANGE IN ELEVATION

OPEN

CONC ON STEEL DECK, W/ SPAN DIRECTION INDICATED





STEEL COLS -

TUBE, WIDE

WOOD POST

FLANGE

HEADER IN SNOW DRIFT DIAGRAM

BEAM OR

JOIST, PURLIN,

RAFTER, OR

CONNECTION

WALL ABOVE

WOOD STUD

SEE SCHEDULE

SHEARWALL,

ON SHEET

S202

GIRDER

TRUSS

MOMENT

BEAM

SHEET NUMBER

S102

SHEET TITLE

ਰੂUpper LvI &|

Roof Frmg

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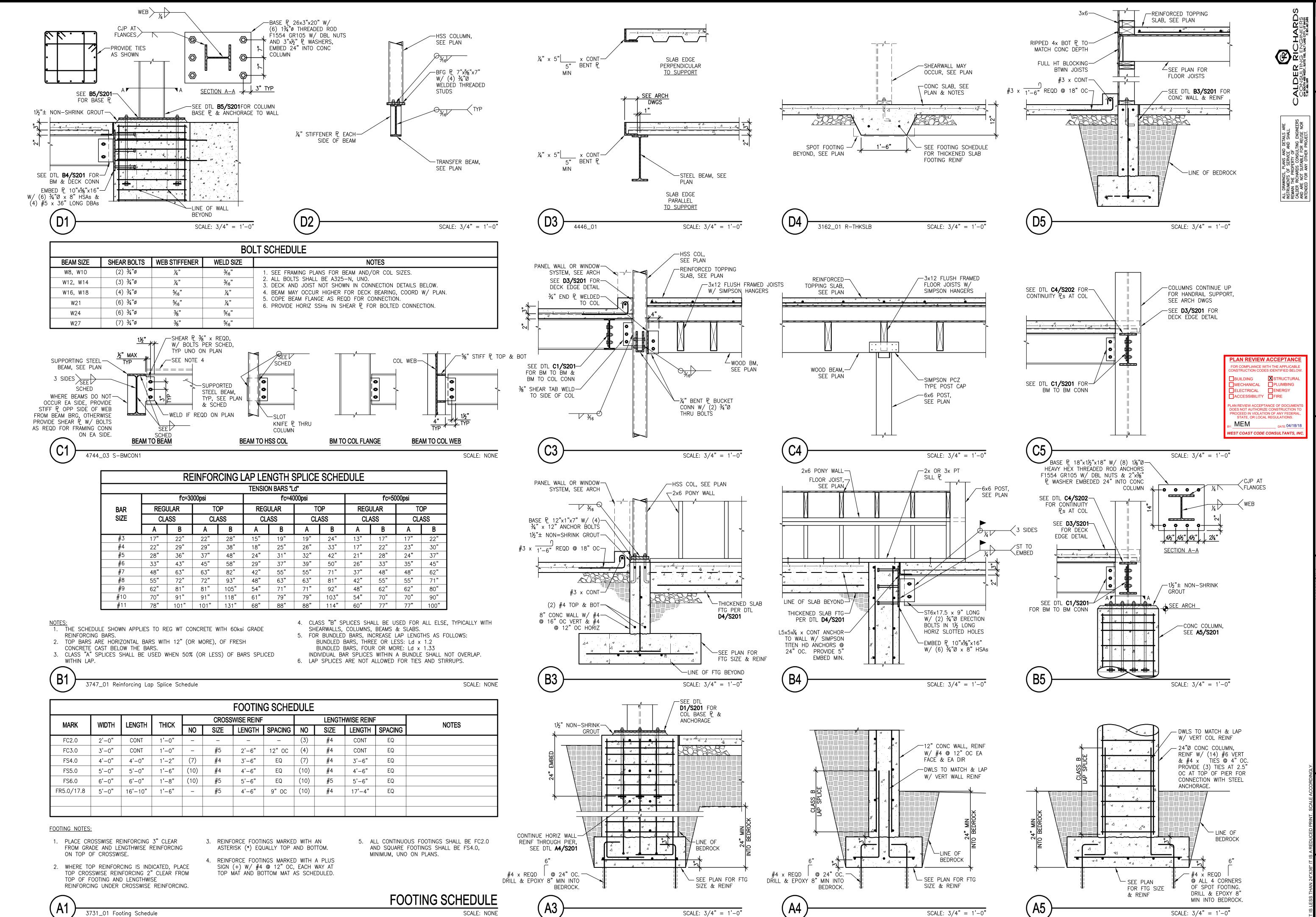
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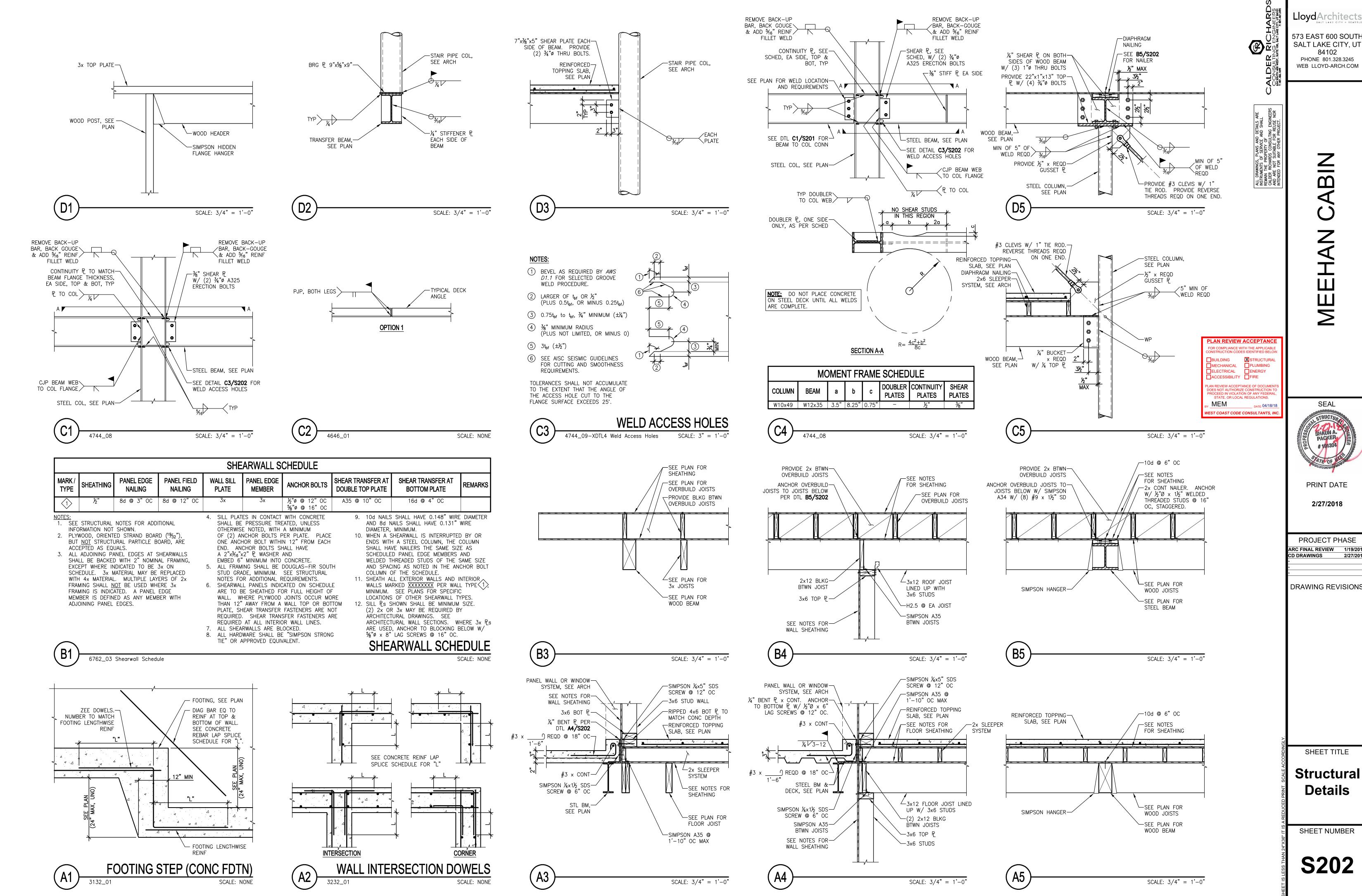
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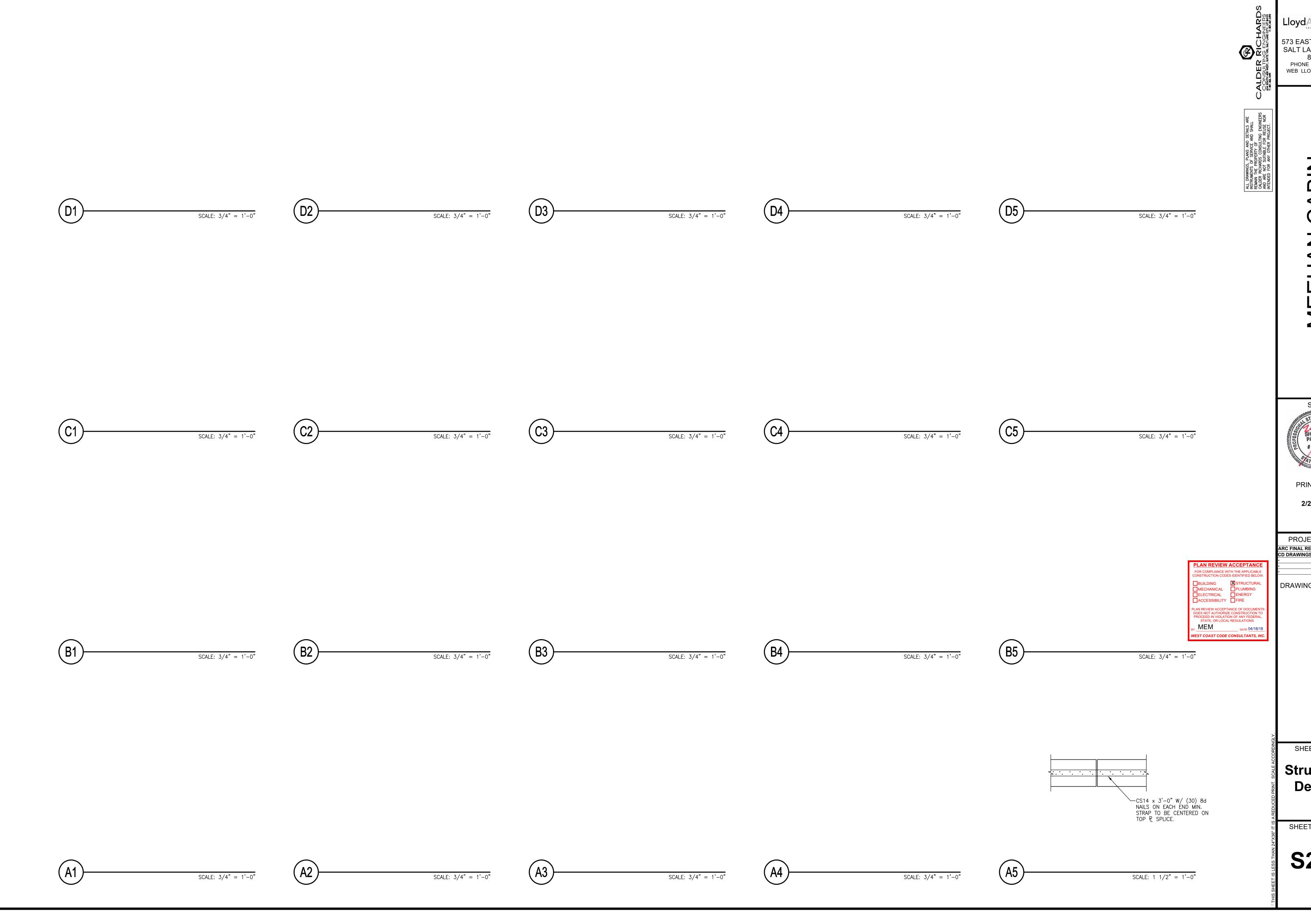
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