3. EDGE DISTANCES SHALL BE MAINTAINED. SHINERS SHALL BE REPLACED. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER, OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.

4. MACHINE NAILING IS NOT PERMITTED FOR PLYWOOD 5/16" OR LESS IN THICKNESS.

P. GLUE-LAMINATED WOOD MEMBERS:

1. THE MANUFACTURE OF STRUCTURAL GLUE-LAMINATED TIMBER SHALL COMPLY WITH SECTION 2303.1.3 OF THE BUILDING CODE. WORKMANSHIP SHALL BE IN CONFORMANCE WITH ANSI/AITC STANDARD A 190.1 AND ASTM D 3737. ALL BEAMS SHALL BEAR THE APA/EWS OR AITC TRADEMARK INDICATING CONFORMANCE.

2. GLUE-LAMINATED MEMBERS SHOWN ON THESE PLANS ARE FOR DRY SERVICE CONDITIONS OF USE, DEFINED BY MOISTURE CONTENT OF MEMBER REMAINING BELOW 16% IN SERVICE, EXCEPT WHERE EXPOSED. THE EXPOSED GLULAM MEMBERS SHALL HAVE WET-USE ADHESIVES AND BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVATIVES ASSOCIATION (AWPA) STANDARD C28.

3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING THE SIZE, LENGTH, CAMBER AND LOCATIONS OF THE GLUE-LAM BEAMS TO THE STRUCTURAL ENGINEER FOR APPROVAL. NO CUTTING OR NOTCHING OF GLUE-LAM BEAMS IS ALLOWED

4. PRIOR TO INSTALLATION, SUPPLIER SHALL PROVIDE AN AITC CERTIFICATE OF COMPLIANCE FOR GLUE-LAMINATED WOOD MEMBERS TO THE BUILDING OFFICIAL.

5. LUMBER SHALL BE DOUGLAS FIR, WCLIB GRADING AND DRESSING RULES AND WCLA SPECIFICATIONS FOR STRUCTURAL LAMINATED DOUGLAS FIR TIMBER. STRUCTURAL GLUE-LAMINATED TIMBER SHALL CONFORM TO AITC STANDARD A 190.1 AND ASTM D 3737, DESIGN AND MANUFACTURE OF STRUCTURAL GLUED-LAMINATED TIMBER, AND SHALL BE OF INDUSTRIAL GRADE WHERE HIDDEN FROM VIEW AND ARCHITECTURAL GRADE WHERE VISIBLE, WITH ENDS SEALED UNLESS OTHERWISE NOTED.

6. GLUE-LAM BEAMS SHALL BE OF DF/DF INDUSTRIAL GRADE 24F-V4 AT SIMPLE SPAN MEMBERS, AND 24F-V8 AT CONTINUOUS AND CANTILEVERED MEMBERS, (Fb=2400 psi, Fc=1650 psi, Fv=265 psi, AND E=1.8E6 psi FOR FLEXURAL), U.O.N. ON THE DRAWINGS. TENSION LAMINATION REQUIRED AT TOP AND BOTTOM OF ALL CANTILEVERED GLU-LAM BEAMS.

4. ADHESIVE ANCHORS FOR INSTALLATION IN SOLID NORMAL-WEIGHT CONCRETE SHALL BE HILTI HIT HY200 (ICC #ESR-3187). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC308 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE

5. ADHESIVE ANCHORS FOR INSTALLATION IN CONCRETE MASONRY SHALL BE HILTI HIT HY270 (ICC #ESR-4143). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH EVALUATION ACCEPTANCE CRITERIA AC58 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.

6. ANCHORS SHALL BE OF THE TYPE, DIAMETER, AND MINIMUM DIMENSIONAL REQUIREMENTS (EMBEDMENT, SPACING AND EDGE DISTANCE) AS INDICATED ON THE DRAWINGS.

7. ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH DRILLING EQUIPMENT OF THE TYPE REQUIRED IN THE MANUFACTURER'S PUBLISHED EVALUATION REPORT. HOLES SHALL BE CLEANED IN CONFORMANCE WITH THE ANCHOR MANUFACTURER'S INSTRUCTIONS.

8. WHEN INSTALLING ANCHORS IN EXISTING REINFORCED CONCRETE OR MASONRY, AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.

N. ROUGH CARPENTRY:

1. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

2. FRAMING LUMBER SHALL BE DOUGLAS FIR LARCH, GRADE-MARKED BY THE WCLIB OR WWPA AS FOLLOWS, U.O.N:

BEAMS & HEADERS WIDER THAN 4x	SELECT STRUCTURAL
4x BEAMS & HEADERS	NO. 1
PURLINS	NO. 1
SUBPURLINS	NO. 2
2x JOISTS & RAFTERS	NO. 2
PLATES & SILLS	NO. 2
LEDGERS & NAILERS	NO. 2
BLOCKING	NO. 2
POSTS	NO. 1
STUDS (EXTERIOR & BEARING)	NO. 2

3. THE MOISTURE CONTENT OF DIMENSION LUMBER SHALL NOT EXCEED 19 PERCENT AT THE TIME OF INSTALLATION, U.O.N.

4. THE MOISTURE CONTENT OF DIMENSION LUMBER THAT SUPPORTS MORE THAN TWO LEVELS ABOVE SHALL NOT EXCEED 15 PERCENT AT THE TIME OF INSTALLATION.

5. SILLS, PLATES AND OTHER MEMBERS IN DIRECT CONTACT WITH CONCRETE OR MASONRY THAT IS INDIRECT CONTACT WITH EARTH SHALL BE PRESSURE TREATED.

6. SHEATHING SHALL BE APA-RATED STRUCTURAL USE PANELS CONFORMING TO PRODUCT STANDARD PS 1 FOR PLYWOOD OR PS 2 FOR ORIENTED STRAND BOARD (OSB).

7. FRAMING HARDWARE IS INDICATED AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY. ALTERNATIVELY, USP STRUCTURAL CONNECTORS BY MITEK BUILDING PRODUCTS MAY BE SUBSTITUTED WHEN APPROVED IN WRITING BY THE ENGINEER PRIOR TO DELIVERY TO THE JOBSITE. REQUEST FOR APPROVAL OF ALTERNATE MANUFACTURERS PRODUCTS SHALL INCLUDE AN ITEM-BY-ITEM COMPARISON OF LOAD-CARRYING CAPACITIES BETWEEN THE PROPOSED SUBSTITUTE PRODUCTS AND THE SPECIFIED PRODUCTS.

8. NAILS SHALL BE COMMON WIRE CONFORMING TO THE FOLLOWING PROPERTIES. NAILS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED, U.O.N.

DRAWING DESIGNATION	SHANK DIAMETER	MIN. PENETRATION
6d	0.113 IN	1-3/8 IN
8d	0.131 IN	1-9/16 IN
10d	0.148 IN	1-13/16 IN
16d	0.162 IN	2 IN

9. NAILING SHALL CONFORM TO TABLE 2304.10.1 OF THE BUILDING CODE, U.O.N.

10. NAIL HOLES SHALL BE PRE-DRILLED WHERE NECESSARY TO PREVENT SPLITTING.

11. BOLTS AND LAG SCREWS SHALL HAVE 1 DIA. MIN. DISTANCE TO THE END OF THE MEMBER AND 4 DIA. MIN. DISTANCE TO THE EDGE OF THE MEMBER, U.O.N.

12. BOLT HOLES IN WOOD SHALL BE DRILLED 1/32" IN DIAMETER LARGER THAN THE NOMINAL BOLT DIAMETER. RETIGHTEN ALL NUTS PRIOR TO CLOSING IN.

13. LAG SCREWS SHALL BE PRE-DRILLED TO A DIAMETER OF 60 TO 75 PERCENT OF THE SHANK DIAMETER. LAG SCREWS SHALL BE INSTALLED BY TURNING WITH A WRENCH. DRIVING OF LAG SCREWS IS PROHIBITED.

14. BOLT AND LAG SCREW HEADS AND NUTS AGAINST WOOD SHALL BE INSTALLED WITH STANDARD CUT WASHERS AGAINST THE WOOD, U.O.N.

15. BEAMS, JOISTS, RAFTERS, ETC. SHALL BE INSTALLED WITH THE CROWN SIDE UP.

16. JOISTS, HEADERS, BEAMS, AND RAFTERS SHALL HAVE A MINIMUM SOLID LEVEL BEARING OF 1.5 INCHES AT EACH END, U.O.N.

17. FULL-HEIGHT BRIDGING FOR JOISTS SHALL COMPLY WITH SECTION 2308.4.2.3 OF THE BUILDING CODE, U.O.N.

18. DOUBLE FLOOR JOISTS SHALL BE LOCATED UNDER PARALLEL PARTITIONS, U.O.N.

19. CUTTING, NOTCHING OR DRILLING OF JOISTS OR RAFTERS SHALL BE PERMITTED ONLY AS DETAILED OR APPROVED IN WRITING BY THE ENGINEER AND SHALL COMPLY WITH SECTION 2308.4.2.4 OF THE BUILDING CODE, U.O.N.

20. CUTTING, NOTCHING OR DRILLING OF BEAMS OR PURLINS SHALL BE PERMITTED ONLY AS DETAILED OR APPROVED IN WRITING BY THE ENGINEER.

21. DOUBLE TOP PLATES OF STRUCTURAL STUD WALLS SHALL BE TWO PIECES, SAME SIZE AS STUDS, LAPPED 4'-0" MINIMUM WITH NOT LESS THAN 10-16d NAILS AT EACH LAP, SPACED AT 4" OC MAXIMUM, U.O.N.

22. NOT LESS THAN THREE (3) STUDS SHALL BE INSTALLED AT EVERY CORNER OF AN EXTERIOR OR INTERIOR BEARING WALL.

23. STUDS SHALL HAVE FULL BEARING ON SILL AND TOP PLATES.

24. FULL-DEPTH BLOCKING FOR STUDS SHALL COMPLY WITH SECTION 2308.5.7.

25. CUTTING, NOTCHING OR DRILLING OF STUDS SHALL BE PERMITTED ONLY AS DETAILED OR APPROVED IN WRITING BY THE ENGINEER AND SHALL COMPLY WITH 2308.5.9 AND 2308.5.10 OF THE BUILDING CODE, U.O.N.

26. CUTS AND HOLES IN PRESSURE TREATED LUMBER SHALL BE TREATED PER AWPA M 84.

O. MACHINE APPLIED NAILING:

1. THE USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL OF THE PROJECT ENGINEER. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE.

2. NAIL HEADS SHALL NOT PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER.

4. REINFORCING BAR LAP SPLICES SHALL BE:
CLASS B. (18" MIN.) FOR CONCRETE, U.O.N.
65 BAR DIA. (24" MIN.) FOR MASONRY, U.O.N.

5. DETAILS OF REINFORCEMENT SHALL COMPLY WITH THE PROVISIONS OF ACI 318.

6. WHERE HOOKS ARE ILLUSTRATED AS 90-DEGREE HOOKS, 180-DEGREE HOOKS MAY BE USED IN LIEU OF 90-DEGREE HOOKS.

7. REINFORCING BAR LAP SPLICES SHALL NOT BE PERMITTED IN MOMENT FRAMES OR SHEAR WALLS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER IN WRITING.

8. REINFORCING BARS FOR CONCRETE SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM COVER:

CONC. CAST AGAINST EARTH	3"
FORMED CONC. EXPOSED TO EARTH / WEATHER	
#5 OR SMALLER	1-1/2"
#6 OR LARGER	2"
SLABS (#11 AND SMALLER)	3/4"
BEAMS & GIRDERS	1-1/2"
PRECAST PANELS	3/4"
C.I.P. WALLS	1-1/2"
COLUMN TIES	1-1/2"

9. #3 SPACER TIES SHALL BE INSTALLED AT 30" ON CENTER IN BEAMS AND FOOTINGS TO SECURE REINFORCING BARS IN PLACE, U.O.N.

10. REINFORCEMENT SUPPORTS SHALL BE MANUFACTURED OF NONCORROSIVE MATERIAL

J. CONCRETE MIX REQUIREMENTS:

1. READY MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C 94.

2. CEMENT SHALL CONFORM TO ASTM C 150 TYPE II/V, LOW ALKALI.

3. FLYASH SHALL CONFORM TO ASTM C 618, CLASS F. FLYASH SHALL BE LIMITED TO NO MORE THAN 20% OF THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS IN THE CONCRETE, U.O.N.

4. CEMENT FOR SHRINKAGE-COMPENSATING CONCRETE SHALL CONFORM TO ASTM C 845. ALTERNATIVELY, WHEN APPROVED IN WRITING BY THE ENGINEER, SHRINKAGE COMPENSATING CONCRETE MAY BE ACHIEVED BY USE OF A SHRINKAGE-REDUCING CHEMICAL ADMIXTURE.

5. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C 33.

6. NORMAL WEIGHT CONCRETE SHALL HAVE A MAXIMUM DRY DENSITY OF 150 pcf.

7. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND APPROVED BY THE ENGINEER. MIX DESIGN IN ACCORDANCE WITH ACI 301, ARTICLE 4.2.3 SHALL BE USED TO PROPORTION CONCRETE.

8. MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS, MAXIMUM SLUMPS, AND MAXIMUM WATER/CEMENT RATIOS SHALL BE AS FOLLOWS:

DESCRIPTION	MIN 28 DAY f'c	SLUMP	MAX W/C RATIO
CAST-IN-PLACE DEEP FOUNDATIONS	2.5 KSI	4" +/- 1"	0.52
SHALLOW FOUNDATIONS	2.5 KSI	4" +/- 1"	0.52
SLAB ON GRADE	2.5 KSI	4" +/- 1"	0.45
OTHER CONCRETE	2.5 KSI	4" +/- 1"	0.50

9. ADMIXTURES SHALL BE APPROVED IN ADVANCE. ADMIXTURES CONTAINING CHLORIDE OR CHLORIDE SALTS SHALL NOT BE USED EXCEPT WHERE APPROVED IN WRITING BY THE ENGINEER.

10. SLUMPS INDICATED ARE PRIOR TO PLASTICIZER ADDITIVES.

11. CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED

K. STRUCTURAL STEEL:

1. STRUCTURAL STEEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 22 OF THE BUILDING CODE, AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

3. STRUCTURAL STEEL STRENGTHS AND GRADES SHALL BE AS FOLLOWS, U.O.N.

DESCRIPTION	YIELD Fy,ksi	ASTM GRADE
WF AND WT SHAPES	50 ksi	A992, GR 50
OTHER ROLLED SHAPES	36 ksi	A36
RECTANGULAR HSS SECTIONS	46 ksi	A500, GR B
ROUND HSS SECTIONS	42 ksi	A500, GR B
STRUCTURAL PIPE SECTIONS	35 ksi	A53, GR B
PLATES IN FRAMES	50 ksi	A572, GR 50
OTHER PLATES	36 ksi	A36

4. HOLLOW STRUCTURAL STEEL (HSS) MEMBERS SHALL BE SEAL WELDED IN DRY CONDITION IN THE SHOP. PROVIDE WEEP HOLES AT THE LOW END OF ALL HOLLOW MEMBERS IN EXTERIOR CONDITIONS, AND SEAL WELD AROUND ALL MATING SURFACES IN EXTERIOR CONDITIONS WHETHER COVERED OR OPEN. CONCEAL WELD SEAM FROM VIEW WHERE PRACTICAL.

5. ANCHOR RODS SHALL CONFORM TO ASTM F 1554, GRADE 55, UNLESS OTHERWISE NOTED. NUTS FOR ANCHOR RODS SHALL CONFORM TO ASTM A 563, GRADE A HEX (HEAVY HEX WHERE ANCHOR ROD DIAMETER IS GREATER THAN 1 1/2").

6. MAIN MEMBERS SHALL HAVE HIGH STRENGTH BOLTS CONFORMING TO AISC SPECS FOR ASTM A 325N BOLTS, U.O.N. OTHER BOLTS SHALL CONFORM TO ASTM A 307. NUTS FOR HIGH STRENGTH BOLTS SHALL BE HEAVY HEX GRADE C CONFORMING TO ASTM A 563.

7. TIGHTEN ASTM A 325N BOLTS TO "SNUG-TIGHT" CONDITION PER AISC SPECIFICATION FOR STRUCTURAL JOINTS. TEST ASTM A 325C BOLTS WITH A CALIBRATED WRENCH UNLESS LOAD INDICATOR BOLTS ARE USED.

8. FIRE PROTECTION FOR STRUCTURAL STEEL SHALL BE AS REQUIRED BY CHAPTER 6 OF THE BUILDING CODE. SPRAY-APPLIED FIRE PROTECTION ON STRUCTURAL STEEL SHALL BE MONOKOTE MK6/HY AS MANUFACTURED BY GCP APPLIED TECHNOLOGIES, INC. (UL #ER 4339-02).

L. DRYPACK / NON-SHRINK GROUT:

1. NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 8,000 psi IN ACCORDANCE WITH ASTM C 109.

2. NON-SHRINK GROUT SHALL BE INSTALLED UNDER A COLUMN BASE PLATE AFTER THE COLUMN HAS BEEN PLUMBED AND PRIOR TO PLACING CONCRETE FILL ON THE STRUCTURE.

M. POST-INSTALLED ADHESIVE ANCHORS:

1. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

2. ADHESIVE ANCHOR INSTALLERS SHALL BE TRAINED BY A QUALIFIED REPRESENTATIVE OF THE ADHESIVE MANUFACTURER ON THE PROPER PROCEDURES AND TECHNIQUES FOR INSTALLATION.

3. ADHESIVE SHALL BE STORED ON THE JOBSITE IN A COOL, DRY LOCATION IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS.

11. LOADS TO THE BUILDING EXCEEDING THE LOADS INDICATED ON THE PLANS, OR ANY LOADS EXCEEDING 400 POUNDS THAT ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE REPORTED TO THE ENGINEER.

E. TEMPORARY WORK AND SITE SAFETY:

1. THE STRUCTURAL DRAWINGS SHOW THE REQUIREMENTS FOR THE COMPLETED STRUCTURE ONLY. TEMPORARY WORKS REQUIRED TO COMPLETE THE CONSTRUCTION PROCESS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE DESIGN OR FIELD VERIFICATION OF TEMPORARY AND ANCILLARY WORK.

2. THE RESPONSIBILITY FOR SAFETY IN AND AROUND THE JOBSITE SHALL BEAR ON THE CONTRACTOR. PROPER AND SAFE METHODS OF CONSTRUCTION SHALL BE EMPLOYED AT ALL TIMES INCLUDING THE STABILIZING OF INCOMPLETE STRUCTURES, FORMWORK, SHORING, RESHORING, FALSEWORK, PLATFORMS, SCAFFOLDING, BARRIERS, WALKWAYS, ETC. AND INCLUDING CONTROL OF THE INTENSITY, DURATION AND LOCATION OF CONSTRUCTION LOADS.

3. THE RESPONSIBILITY FOR THE DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING, UNDERPINNING, AND SHORING REQUIRED TO SAFELY RETAIN ALL GRADES AND STRUCTURES SHALL BEAR ON THE CONTRACTOR.

4. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON A STRUCTURE. LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD INDICATED. WHERE THE STRUCTURE HAS NOT ATTAINED FINAL DESIGN STRENGTH, ADEQUATE SHORING AND OR BRACING SHALL BE INSTALLED.

F. DEMOLITION:

1. THE RESPONSIBILITY FOR NECESSARY SHORING OR BRACING OF THE EXISTING STRUCTURE DURING DEMOLITION PROCEDURES SHALL BEAR ON THE CONTRACTOR.

2. DEVIATIONS FROM EXISTING CONDITIONS AS INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE RESOLVED WITH THE ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION WORK.

3. RESPONSIBILITY FOR COORDINATION OF DEMOLITION WORK WITH THE BUILDING OFFICIAL AND OTHER GOVERNING AUTHORITIES SHALL BEAR ON THE CONTRACTOR. EXITS SHALL BE MAINTAINED AS REQUIRED FOR SAFE LEGAL OPERATION OF THE FACILITY.

4. ELEMENTS THAT WILL NOT BE DEMOLISHED SHALL BE PROTECTED FROM DAMAGE.

5. SAW CUT LINES SHALL BE TRUE AND NEAT. CORNERS SHALL NOT BE OVER CUT.

6. THESE STRUCTURAL DRAWINGS DO NOT INDICATE THE PHASING OF DEMOLITION. THE RESPONSIBILITY FOR THE SCHEDULING AND COORDINATION OF THE WORK SHALL BEAR ON THE CONTRACTOR. WORK SHALL BE COORDINATED TO LEAST IMPACT THE OPERATION OF THE EXISTING FACILITY.

G. FOUNDATION:

1. THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL INVESTIGATION REPORT SHALL BE FOLLOWED:

BY: KRAZAN & ASSOCIATES, INC.
DATED: JAN 4, 2017
PROJECT NO: 022-16131

2. DEVIATIONS IN GEOTECHNICAL CONDITIONS FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE STRUCTURAL AND GEOTECHNICAL ENGINEERS IN A TIMELY MANNER.

3. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

4. THE MAXIMUM ALLOWABLE SOIL BEARING PRESSURE SHALL BE 2500 psf. THE RESULTING ALLOWABLE BEARING VALUE MAY BE INCREASED BY 1/3 FOR WIND AND SEISMIC LOAD CASES.

5. THE EXPANSION INDEX HAS BEEN DETERMINED TO BE 50 OR LESS AND NO SPECIAL DESIGN RECOMMENDATIONS ARE REQUIRED.

6. FOOTING AND UTILITY TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED IN LAYERS SUBJECT TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER. FLOODING WILL NOT BE PERMITTED.

7. LOOSE SOIL AND FILL MATERIAL SHALL BE COMPACTED ACCORDING TO THE REQUIREMENTS OF THE SOILS REPORT.

8. COMPACTION TEST REPORTS FOR FILL BY A QUALIFIED TESTING LAB SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER, GEOTECHNICAL ENGINEER AND BUILDING OFFICIAL PRIOR TO REQUESTING FOUNDATION INSPECTION.

9. FOOTING DEPTHS INDICATED ON THE STRUCTURAL DRAWINGS ARE BELIEVED TO BE IN SUITABLE BEARING MATERIALS AND ARE INDICATED FOR COST ESTIMATING PURPOSES ONLY. THE GEOTECHNICAL ENGINEER MAY REQUIRE FOUNDATION DEPTHS TO BE INCREASED. THE RESPONSIBILITY FOR CONFORMING TO THE GEOTECHNICAL REPORT RECOMMENDATIONS REGARDING DEPTH OF FOOTINGS SHALL BEAR ON THE CONTRACTOR.

10. FOOTING ELEVATIONS SHALL BE LOCATED SUCH THAT THEIR BEARING IS A MINIMUM HORIZONTAL DISTANCE AS RECOMMENDED WITHIN THE GEOTECHNICAL REPORT.

11. ANCHOR BOLTS, DOWELS AND HOLD-DOWN ANCHORS SHALL BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION.

12. SHORING SHALL BE INSTALLED AT THE TOP OF RESTRAINED RETAINING WALLS PRIOR TO BACKFILLING. SHORING SHALL REMAIN IN PLACE UNTIL THE PERMANENT STRUCTURAL SUPPORTING MEMBERS ARE IN PLACE. FOR CONCRETE SUPPORTING MEMBERS, SHORING TO REMAIN IN PLACE FOR A MINIMUM OF 7 DAYS AFTER CONCRETE PLACEMENT.

H. WELDING:

1. WELDING OF STRUCTURAL STEEL SHALL BE PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE WITH THE PROVISIONS OF THE AMERICAN WELDING SOCIETY (AWS) D1.1. ELECTRODE FILLER MATERIAL SHALL BE A MINIMUM OF E70XX U.O.N

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

3. WELDING ELECTRODES FOR THE SHIELDED METAL-ARC WELDING (S.M.A.W.) PROCESS AND WELDING ELECTRODES SHALL CONFORM TO AWS A5.1 "SPECIFICATION FOR CARBON STEEL ELECTRODES FOR SHIELDED METAL ARC WELDING."

4. WELDING ELECTRODES FOR THE FLUX CORED ARC WELDING (F.C.A.W.) PROCESS AND WELDING ELECTRODES SHALL CONFORM TO AWS A5.20 "SPECIFICATION FOR CARBON STEEL ELECTRODES FOR FLUX CORED ARC WELDING."

5. WELDS SHALL HAVE A WELD CONTROLLED SEQUENCE AND TECHNIQUE IN ORDER TO MINIMIZE SHRINKAGE STRESSES AND DISTORTION.

I. REINFORCING STEEL:

1. DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL BE PREFORMED IN ACCORDANCE WITH ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

3. REINFORCING BARS SHALL CONFORM TO ASTM A 615, GRADE 60, U.O.N.

STRUCTURAL NOTES

A. BASIS OF DESIGN:

1. THE STRUCTURAL DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH THE 2016 CALIFORNIA BUILDING CODE (CBC).

2. LIVE LOADS (MAY BE REDUCED IN ACCORDANCE WITH THE BUILDING CODE)

ROOF	20 psf
FLOOR	
CLASSROOM	40 psf
HALLWAY	15 psf
PARTITION LOADING OTHER THAN AT GRADE LEVEL	15 psf

3. SEISMIC DESIGN DATA

RISK CATEGORY	II
SEISMIC IMPORTANCE FACTOR	$I_E = 1.0$
MAPPED SPECTRAL ACCELERATION	$S_S = 1.5$
MAPPED SPECTRAL ACCELERATION	$S_1 = 0.6$
SITE CLASS	D
SITE COEFFICIENT	$F_a = 1$
SITE COEFFICIENT	$F_v = 1.5$
DESIGN SPECTRAL ACCELERATION	$S_{DS} = 1$
DESIGN SPECTRAL ACCELERATION	$S_{D1} = 0.6$
SEISMIC DESIGN CATEGORY	D
PARTITION LOADING AT FLOORS	10 psf
PARTITION LOADING AT ROOFS	5 psf
ANALYSIS PROCEDURE USED	EQUIV LATERAL FORCE
SEISMIC FORCE RESISTING SYSTEM	Wood Shear Walls
RESPONSE MODIFICATION FACTOR	R = 6
SYSTEM OVERSTRENGTH FACTOR	$\Omega = 3$
DEFLECTION AMPLIFICATION FACTOR	$C_d = 4$
REDUNDANCY FACTOR	$\rho = 1.0$
SEISMIC RESPONSE COEFFICIENT	$C_S = 0.154$
DESIGN BASE SHEAR	V = 21k (ASD)

B. DEFERRED APPROVALS:

1. THE FOLLOWING COMPONENTS REQUIRE DEFERRED APPROVAL BY THE BUILDING OFFICIAL. STRUCTURAL CALCULATIONS AND DRAWINGS SIGNED AND SEALED BY A CALIFORNIA REGISTERED CIVIL ENGINEER SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR REVIEW AND TO THE BUILDING OFFICIAL FOR PERMIT.
A. STRUCTURAL WOOD PANEL WEB JOISTS
B. MICROPILE FOUNDATIONS

2. IN ADDITION TO THE SEAL OF THE RESPONSIBLE ENGINEER, DEFERRED SUBMITTAL PACKAGES SHALL BEAR THE SHOP DRAWING APPROVAL STAMPS OF THE ARCHITECT, ENGINEER AND THE GENERAL CONTRACTOR PRIOR TO BUILDING DEPARTMENT SUBMITTAL.

3. PLANS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED IN A TIMELY MANNER THAT ALLOWS A MINIMUM OF 30 WORKING DAYS FOR INITIAL PLAN REVIEW BY THE BUILDING OFFICIAL. ALL COMMENTS RELATED TO THE DEFERRED SUBMITTAL MUST BE ADDRESSED TO THE SATISFACTION OF THE PLAN CHECK DIVISION PRIOR TO PERMIT APPROVAL OF THE SUBMITTAL ITEMS.

4. DEFERRED SUBMITTAL ITEMS SHALL NOT BE FABRICATED PRIOR TO APPROVAL BY THE BUILDING OFFICIAL OF THE CALCULATIONS AND DRAWINGS.

C. SUBMITTALS:

1. THE CONTRACTOR SHALL MAKE SUBMITTALS PRIOR TO FABRICATION AS REQUIRED BY THE WRITTEN SPECIFICATIONS AND SHALL INCLUDE AS A MINIMUM THE FOLLOWING SUBMITTALS:
A. CONCRETE MIX DESIGNS.
B. STRUCTURAL STEEL DRAWINGS
C. GLU-LAM BEAMS DRAWINGS.
D. FOUNDATION PILE DRAWINGS.

2. THE FOLLOWING SUBMITTALS ARE NOT REQUIRED FOR STRUCTURAL REVIEW:
A. SHORING AND BRACING.
B. PICK-UP INSERTS.
C. WINDOW MULLIONS
D. UNSPLICED REBAR AT SLAB-ON-GRADE AND FOOTINGS
E. FORMWORK.
F. STRUCTURAL STEEL MILL REPORTS.
G. WELDER CERTIFICATIONS
H. WWF FOR CONCRETE OVER STEEL DECK.

3. STEEL REINFORCING LISTS AND QUANTITIES AND LENGTHS OF ALL MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE COMPLIANCE WITH THE PLANS. ENGINEER WILL NOT REVIEW.

4. SUBMITTALS MADE TO THE ENGINEER FOR REVIEW SHALL BE STAMPED AND SIGNED BY THE CONTRACTOR INDICATING THE CONTRACTORS PRIOR REVIEW AND THAT THE SUBMITTAL IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

5. SUBMITTALS SHALL BE MADE IN ELECTRONIC (PDF) FORMAT. SUBMITTALS WILL BE PROCESSED AND RETURNED ELECTRONICALLY.

D. GENERAL:

1. SPECIFIC NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

2. THE REQUIREMENTS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE STRUCTURAL BUILDING INFORMATION MODEL. THE STRUCTURAL BUILDING INFORMATION MODEL SHALL NOT BE RELIED ON FOR UNDERSTANDING CONSTRUCTION REQUIREMENTS.

3. WHERE NO DETAILS ARE SHOWN, OR NOTED IN ANY PART OF THE WORK THE DETAILS FOR OTHER SIMILAR WORK SHALL APPLY

4. DETAILS IDENTIFIED AS TYPICAL, SHALL APPLY IN ESTIMATING AND CONSTRUCTION TO EVERY LIKE CONDITION WHETHER OR NOT THE REFERENCE IS REPEATED.

5. THE STRUCTURAL DRAWINGS AND STRUCTURAL BUILDING INFORMATION MODEL SHALL NOT BE SCALED. COORDINATE DIMENSION, ELEVATION, SLOPE AND DRAINAGE REQUIREMENTS WITH THE ARCHITECTURAL DRAWINGS.

6. STANDARDS REFERENCED ON THE STRUCTURAL DRAWINGS REFER TO THE EDITION APPLICABLE UNDER THE APPLICABLE BUILDING CODE.

7. THE RESPONSIBILITY FOR THE REVIEW AND COORDINATION OF DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF RELATED CONSTRUCTION SHALL BEAR ON THE CONTRACTOR. DISCREPANCIES THAT EXIST SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN A TIMELY MANNER, PRIOR TO START OF RELATED CONSTRUCTION.

8. WORK PERFORMED IN CONFLICT WITH THE STRUCTURAL DRAWINGS OR APPLICABLE BUILDING CODE REQUIREMENTS SHALL BE CORRECTED AT THE EXPENSE OF THE CONTRAC

3. A CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION MUST BE SUBMITTED BY THE FABRICATOR TO THE SPECIAL INSPECTION OR TESTING AGENCY PRIOR TO FABRICATION, AND SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO ERECTION OF PREFABRICATED COMPONENTS.

4. SPECIAL INSPECTION SHALL INCLUDE VERIFICATION THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO THE APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS.

5. SPECIAL INSPECTION SHALL INCLUDE REVIEW OF THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE REQUIREMENTS OF THE BUILDING CODE.

STATEMENT OF SPECIAL INSPECTIONS AND TESTING

DESCRIPTION OF TYPE OF INSPECTION REQUIRED, REFERENCE DETAIL	CONTINUOUS	PERIODIC	REFERENCE
SOIL			
SOIL MATERIAL BELOW FOUNDATIONS FOR ADEQUACY TO ACHIEVE DESIGN BEARING CAPACITY		X	
EXCAVATIONS EXTEND TO PROPER DEPTH AND BEARING STRATA		X	
CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIAL		X	
SUBGRADE AND SITE PREPARATION PRIOR TO PLACEMENT OF CONTROLLED FILL		X	
PLACEMENT AND COMPACTION OF CONTROLLED FILL; INCLUDING RELATIVE DENSITY	X		
SOIL EXPANSION TEST RESULTS; INCLUDING EXPANSION INDEX, RECOMMENDATIONS FOR FOUNDATION AND FLOOR SLAB DESIGN		X	
CAST-IN-PLACE DEEP FOUNDATIONS			
DRILLING OPERATION AND RECORD-KEEPING FOR EACH ELEMENT	X		FOOTNOTE 1
ELEMENT PLACEMENT LOCATION AND PLUMBNESS	X		
CONCRETE			
SHAPE, LOCATION AND DIMENSION OF CONCRETE FORMWORK PRIOR TO PLACEMENT OF REINFORCING		X	
PLACEMENT OF REINFORCING STEEL PRIOR TO CLOSING OF FORMS OR DELIVERY OF CONCRETE		X	
PLACEMENT OF CAST-IN ANCHORS PRIOR TO CLOSING OF FORMS OR DELIVERY OF CONCRETE		X	
CONCRETE MIX VERIFICATION AT TIME OF DELIVERY		X	
APPLICATION TECHNIQUES OF CONCRETE PLACEMENT	X		
SAMPLING OF FRESH CONCRETE	X		FOOTNOTES 2 & 3
TESTING OF CONCRETE STRENGTH FOR CONFORMANCE WITH THE CONSTRUCTION DRAWING REQUIREMENTS		X	FOOTNOTES 2 & 3
TESTING OF CONCRETE DRYING SHRINKAGE FOR CONFORMANCE WITH THE CONSTRUCTION DRAWING REQUIREMENTS		X	FOOTNOTES 2 & 3
MAINTENANCE OF REQUIRED CURING TEMPERATURE AND TECHNIQUES		X	
STRUCTURAL STEEL			
STRUCTURAL STEEL MATERIAL		X	
ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL IN ACCORDANCE WITH AISC 360, SECTION N5.7		X	
STRUCTURAL STEEL FRAMING, BRACING AND CONNECTIONS CONFIGURATION IN ACCORDANCE WITH AISC 360, SECTION N5.7		X	
WELDING OF STRUCTURAL STEEL			
QUALITY ASSURANCE INSPECTIONS PRIOR TO WELDING IN ACCORDANCE WITH AISC 360, SECTION N5.4 AND TABLE N5.4-1			FOOTNOTE 4
QUALITY ASSURANCE INSPECTIONS DURING WELDING IN ACCORDANCE WITH AISC 360, SECTION N5.4 AND TABLE N5.4-2			FOOTNOTE 4
QUALITY ASSURANCE INSPECTIONS AFTER WELDING IN ACCORDANCE WITH AISC 360, SECTION N5.4 AND TABLE N5.4-3			FOOTNOTE 4
NONDESTRUCTIVE TESTING AFTER WELDING IN ACCORDANCE WITH AISC 360, SECTION N5.5			FOOTNOTE 4
POST-INSTALLED ANCHORS			
INSTALLATION OF MECHANICAL ANCHORS		X	FOOTNOTE 5
JOBSITE STORAGE OF ADHESIVE PRIOR TO INSTALLATION FOR CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS		X	FOOTNOTE 5
INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTALLY OR UPWARDLY-INCLINED ORIENTATIONS	X		FOOTNOTE 5
INSTALLATION OF ADHESIVE ANCHORS IN DOWNWARD VERTICAL ORIENTATIONS		X	FOOTNOTE 5
STRUCTURAL WOOD			
SHEAR WALL ASSEMBLY WHERE REQUIRED NAIL SPACING OF THE SHEATHING IS 4 INCHES OR CLOSER		X	FOOTNOTE 6
DIAPHRAGM ASSEMBLY WHERE REQUIRED NAIL SPACING OF THE SHEATHING IS 4 INCHES OR CLOSER		X	FOOTNOTE 6

FOOTNOTES FOR STATEMENT OF SPECIAL INSPECTIONS:

1. AT TIME OF ELEMENT DRILLING, RECORD THE FOLLOWING:
   A. ELEMENT DIAMETER
   B. BELL DIAMETER (IF APPLICABLE)
   C. ELEMENT LENGTH AND EMBEDMENT INTO FORMATIONAL MATERIAL (IF APPLICABLE)
   D. DETERMINE ADEQUATE END BEARING STRATA TO ACHIEVE DESIGN CAPACITY

2. AT TIME OF CONCRETE SAMPLING:
   A. FABRICATE SPECIMENS FOR STRENGTH TESTS
   B. FABRICATE SPECIMENS FOR DRYING SHRINKAGE TESTS WHERE REQUIRED
   C. PERFORM SLUMP AND AIR CONTENT TESTS
   D. DETERMINE CONCRETE TEMPERATURE

3. TEST SPECIMENS SHALL BE MADE FOR EACH SEPARATE CONCRETE MIX USED. AS A MINIMUM SPECIMENS SHALL BE TAKEN FOR EACH 150 CUBIC YARDS, OR PORTION THEREOF AND SHALL BE TAKEN AT LEAST ONCE PER DAY.

4. SEE REFERENCED SECTION AND / OR TABLE IN AISC 360 FOR INSPECTION PROCEDURES NOTED AS OBSERVE (O), OR PERFORM (P).

5. SPECIAL INSPECTION FOR POST-INSTALLED ANCHORS SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED IN THE EVALUATION APPROVAL FOR THE SPECIFIC PRODUCT.

6. INSPECT THE FOLLOWING RELATING TO SHEAR WALLS AND DIAPHRAGMS:
   A. FRAMING MEMBER MATERIAL AND SIZE.
   B. FASTENING OF FRAMING TO SUPPORTING ELEMENTS, INCLUDING NAILING, SCREWING, BOLTING AND HOLD-DOWNS.
   C. DRAG-STRUTS, INCLUDING FRAMING MEMBER MATERIAL, SIZE AND CONNECTIONS.
   D. SHEATHING THICKNESS, GRADE AND ATTACHMENT TO FRAMING MEMBERS, BOUNDARY MEMBERS AND DRAG-STRUTS.

STRUCTURAL NOTES CONT.

SPECIAL INSPECTION AND TESTING PROGRAM

A. GENERAL:

1. NOTICE TO THE APPLICANT, OWNER, OWNER'S AGENT, ARCHITECT OR ENGINEER OF RECORD:
   BY USING THESE PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION OR INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF THE BUILDING OFFICIAL FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND AS REQUIRED BY CALIFORNIA CONSTRUCTION CODES.

2. NOTICE TO THE CONTRACTOR, BUILDER, INSTALLER, SUBCONTRACTOR OR OWNER-BUILDER:
   BY USING THESE PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION OR INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU ACKNOWLEDGE THAT YOU ARE AWARE OF THE REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS. YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF THE BUILDING OFFICIAL FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND AS REQUIRED BY CALIFORNIA CONSTRUCTION CODES.

3. THE OWNER OR OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY SPECIAL INSPECTION AND TESTING AGENCIES TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS.

4. SPECIAL INSPECTION SHALL BE PERFORMED IN ADDITION TO INSPECTION BY THE BUILDING OFFICIAL AS REQUIRED IN SECTION 110 OF THE BUILDING CODE. SPECIAL INSPECTION SHALL NOT BE A SUBSTITUTE FOR INSPECTION BY THE BUILDING OFFICIAL.

5. WHEN WORK IN MORE THAN ONE CATEGORY OF WORK REQUIRING SPECIAL INSPECTION OR TESTING IS TO BE PERFORMED SIMULTANEOUSLY, OR THE GEOGRAPHIC LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE OBSERVED IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS AND SECTION 1704 OF THE BUILDING CODE, IT SHALL BE THE SPECIAL INSPECTION AGENCY'S RESPONSIBILITY TO EMPLOY A SUFFICIENT NUMBER OF INSPECTORS TO ASSURE THAT THE REQUIRED WORK IS INSPECTED.

6. THE SPECIAL INSPECTION AGENCY SHALL BE APPROVED BY THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
   EXCEPTIONS:
   A. SOILS INSPECTIONS SHALL BE PERFORMED BY THE GEOTECHNICAL ENGINEER OF RECORD.
   B. SMOKE CONTROL SYSTEM INSPECTIONS SHALL BE PERFORMED BY THE MECHANICAL ENGINEER OF RECORD.
   C. WHEN THIS REQUIREMENT FOR AGENCY APPROVAL IS WAIVED BY THE BUILDING OFFICIAL.

7. THE CONSTRUCTION MATERIALS TESTING AGENCY SHALL BE APPROVED BY THE BUILDING OFFICIAL FOR THE TESTING OF MATERIALS, SYSTEMS, COMPONENTS AND EQUIPMENT.

8. PRIOR TO THE START OF CONSTRUCTION, THE SPECIAL INSPECTION AND TESTING AGENCIES SHALL SUBMIT DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.

9. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF THE MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR WIND- OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A STATEMENT OF RESPONSIBILITY TO THE OWNER (OR OWNER'S DESIGNATED AGENT) AND BUILDING OFFICIAL PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND TESTING.

10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE SPECIAL INSPECTION OR TESTING AGENCIES AT LEAST ONE WORKING DAY PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION.

11. WORK REQUIRING SPECIAL INSPECTION OR TESTING THAT IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL IS SUBJECT TO REMOVAL OR EXPOSURE AT THE CONTRACTOR'S EXPENSE.

B. REQUIRED REPORTS:

1. A SOILS INSPECTION REPORT, SIGNED, STAMPED AND DATED BY THE GEOTECHNICAL ENGINEER OF RECORD, SHALL BE SUBMITTED TO AND APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION OR THE PLACEMENT OF FOUNDATION CONCRETE. THE REPORT SHALL STATE THAT:
   A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
   B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
   C. THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.

2. THE SPECIAL INSPECTION AGENCY SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.

3. SPECIAL INSPECTION REPORTS SHALL INDICATE WHETHER THE WORK INSPECTED WAS, OR WAS NOT PERFORMED IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

4. THE CONSTRUCTION MATERIALS TESTING AGENCY SHALL FURNISH REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.

5. MATERIAL TESTING REPORTS SHALL INDICATE WHETHER THE TESTED MATERIALS CONFORM, OR DO NOT CONFORM, TO THE REQUIREMENTS OF THE APPROVED CONSTRUCTION DOCUMENTS.

6. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

7. IF DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK.

8. A FINAL REPORT DOCUMENTING THE REQUIRED SPECIAL INSPECTIONS, MATERIAL TESTING AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON, PRIOR TO THE START OF WORK, BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL.

C. OFF-SITE FABRICATION:

1. SPECIAL INSPECTION AND TESTING IS REQUIRED FOR THE OFF-SITE FABRICATION OF STRUCTURAL LOAD-BEARING OR LATERAL LOAD RESISTING MEMBERS AND REINFORCING ASSEMBLIES, UNLESS THE FABRICATION IS PERFORMED BY AN APPROVED FABRICATOR.

2. AN APPLICATION FOR OFF-SITE FABRICATION MUST BE SUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL PRIOR TO COMMENCING ANY FABRICATION WORK REQUIRING SPECIAL INSPECTION OR TESTING.

REVISIONS

DATE/DELTA	REMARKS

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REGISTERED STRUCTURAL ENGINEER
NO. 4596
EXP. 6/30/19
STATE OF CALIFORNIA

SIGNED: 5/16/2019
JOB NO: 181257

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SHEET TITLE:

STRUCTURAL NOTES

SUB DATE

BID DATE

DATE:	05/08/19
DRAWN BY:	AC
JOB NO:	181257
CHECKED BY:	CMH

SHEET NUMBER:

S0.2

CONC. f'c=3000 PSI						CONC. f'c=4000 PSI						CONC. f'c=5000 PSI						CONC. f'c=6000 PSI					
BAR	SPLICE		DEVELOPMENT			BAR	SPLICE		DEVELOPMENT			BAR	SPLICE		DEVELOPMENT			BAR	SPLICE		DEVELOPMENT		
SIZE	TOP	OTHER	TOP	OTHER	HOOKED	SIZE	TOP	OTHER	TOP	OTHER	HOOKED	SIZE	TOP	OTHER	TOP	OTHER	HOOKED	SIZE	TOP	OTHER	TOP	OTHER	HOOKED
3	29	22	22	17	8	3	25	20	19	15	7	3	22	17	17	13	6	3	21	16	16	12	6
4	38	29	29	22	11	4	33	25	25	19	9	4	30	22	23	17	8	4	27	21	21	16	8
5	47	36	36	28	14	5	40	31	31	24	12	5	36	29	28	22	11	5	34	26	26	20	10
6	56	43	43	33	16	6	48	38	37	29	14	6	44	34	34	26	13	6	40	31	31	24	12
7	82	62	63	48	19	7	70	55	54	42	17	7	64	49	49	38	15	7	59	44	45	34	14
8	94	72	72	55	22	8	81	62	62	48	19	8	73	56	56	43	17	8	66	51	51	39	15
9	103	81	81	62	25	9	91	70	70	54	21	9	82	63	63	48	19	9	74	57	57	44	17
10	118	91	91	70	28	10	103	79	79	61	24	10	92	70	71	54	22	10	83	65	64	50	20
11	131	101	101	78	31	11	115	87	87	67	27	11	101	78	78	60	24	11	92	72	71	55	22

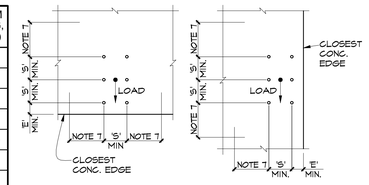
NOTES:
1. SCHEDULE VALUES FOR DEVELOPMENT ARE BASED ON ACI 318, SECTION 25.4.2 AND 25.4.3 FOR GRADE 60 BARS.
2. SCHEDULE VALUES FOR SPLICES ARE BASED ON ACI 318, SECTION 25.5.2 FOR CLASS B SPLICES
3. CLEAR SPACING BETWEEN BARS BEING SPLICED OR DEVELOPED SHALL BE 2 BAR DIAMETERS (MIN.)
4. CONCRETE CLEAR COVER OVER BARS BEING DEVELOPED SHALL BE 1 BAR DIAMETER (MIN.)
5. DEVELOPMENT AND SPLICE LENGTHS ARE GIVEN IN INCHES.
6. TOP BARS ARE STRAIGHT HORIZONTAL BARS LOCATED SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS PLACED BELOW.
7. OTHER BARS ARE STRAIGHT HORIZONTAL BARS LOCATED SUCH THAT 12 INCHES OR LESS OF FRESH CONCRETE IS PLACED BELOW OR STRAIGHT VERTICAL BARS.
8. HOOKED BARS ARE VERTICAL OR HORIZONTAL BARS TERMINATING WITH STANDARD HOOKS THAT COMPLY WITH DETAIL 3/-

REBAR SPLICE AND DEVELOPMENT IN NORMAL WEIGHT CONCRETE, U.O.N.

1200-01

1

ANCHOR SIZE	REBAR SIZE	EMBED DEPTH (UON)	MINIMUM CONC THICK, 'T' (UON)	MINIMUM EDGE DIST, 'E' (UON)	MINIMUM SPACING, 'S' (UON)
3/8" DIA.	#3	3"	4 1/4"	2 1/4"	4 1/2"
1/2" DIA.	#4	4"	5 1/4"	3"	6"
5/8" DIA.	#5	5"	6 1/4"	3 3/4"	7 1/2"
3/4" DIA.	#6	6"	7 1/2"	4 1/2"	9"
7/8" DIA.	#7	7"	8 3/4"	5 1/4"	10 1/2"
1" DIA.	#8	8"	10"	6"	12"
N/A	#9	9"	11 1/4"	6 3/4"	13 1/2"
1 1/4" DIA.	#10	10"	12 1/2"	7 1/2"	15"



CONCRETE EDGE PERPENDICULAR TO DIRECTION OF LOAD

CONCRETE EDGE PARALLEL TO DIRECTION OF LOAD

NOTES:
1. SPECIAL INSPECTION IS REQ'D FOR INSTALLATION OF ANCHORS, U.O.N.
2. ADHESIVE SHALL BE HILTI HIT-RE-500-SD (ICC #ESR-2322)
3. THREADED ROD ANCHORS SHALL BE ISO 898-1 CLASS 5.8, ASTM A193 B7 OR ASTM F593, CW STAINLESS
4. REINF. STEEL ANCHORS SHALL BE ASTM A615 OR ASTM A706 GRADE 60
5. HOLES SHALL BE DRILLED INTO DRY CONCRETE WITH A HAMMER DRILL AND CARBIDE BIT
6. CONCRETE SHALL BE NORMAL WEIGHT f'c SHALL BE 3000 PSI, MIN.
7. UNLESS OTHERWISE NOTED, THE ANCHOR (OR ANCHOR GROUP) SHALL BE NO CLOSER TO THE CONCRETE EDGE ON THREE SIDES THAN THE LARGER OF:
   A) 12 ANCHOR DIAMETERS, OR
   B) 15 TIMES THE ACTUAL DISTANCE TO THE CLOSEST EDGE
8. ANCHORS SHALL BE INSTALLED IN TEMPERATURE RANGE 'A', AS DEFINED BY THE ICC APPROVAL
   MAX. SHORT-TERM TEMP = 110°F;
   MAX LONG TERM TEMP = 80°F

ADHESIVE ANCHOR SCHEDULE

1200-02

2

WASHER SCHEDULE

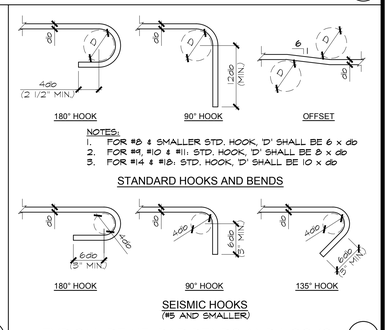
BOLT	MALLEABLE IRON WASHER	HEAVY PLATE WASHER *	STANDARD CUT WASHER
1/2" DIA.	2 1/2" DIA. x 1/4"	2" x 2" x 3/16"	1 3/8" DIA.x 3/32"
5/8" DIA	2 3/4" DIA.x 5/16"	2 1/2" x 2 1/2" x 1/4"	1 3/4" DIA. x 1/8"
3/4" DIA	3" DIA. x 7/16"	2 3/4" x 2 3/4" x 5/16"	2" DIA. x 5/32"
7/8" DIA	3 1/2" DIA.x 7/16"	3" x 3" x 5/16"	2 1/4" DIA. x 11/64"
1" DIA.	4" DIA. x 1/2"	3 1/2" x 3 1/2" x 3/8"	2 1/2" DIA. x 11/64"

* SIMPSON 'BP' BEARING PLATE

NOTE:
1. USE STANDARD CUT WASHER FOR ALL BOLTS, U.N.O.
2. HEAVY PLATE WASHERS ARE REQUIRED @ SILL PLATE TO FOUNDATION AT SHEATHED WALLS

TYP. WASHER SCHEDULE

8



NOTES:
1. FOR #3 & SMALLER STD. HOOK, 'D' SHALL BE 6 x db
2. FOR #4, #10 & #11: STD. HOOK, 'D' SHALL BE 8 x db
3. FOR #14 & #18: STD. HOOK, 'D' SHALL BE 10 x db

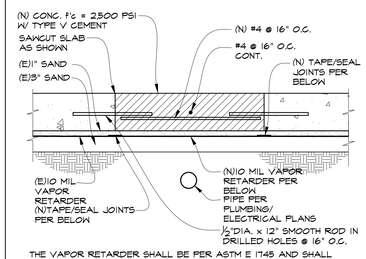
STANDARD HOOKS AND BENDS

SEISMIC HOOKS (#3 AND SMALLER)

TYPICAL REINF. BAR BENDS AND HOOKS

1200-08

3



THE VAPOR RETARDER SHALL BE PER ASTM E 1745 AND SHALL HAVE A PERMANENCE (WATER VAPOR TRANSMISSION RATE) OF LESS THAN 0.3 PERMS, AS DETERMINED BY ASTM E 96

ALL LAPS AND SEAMS SHALL BE OVELAPPED 6" MIN. ALL JOINTS AND PENETRATIONS SHALL BE SEALED WITH THE MANUFACTURE'S RECOMMENDED ADHESIVE AND WITH PRESSURE SENSITIVE TAPE.

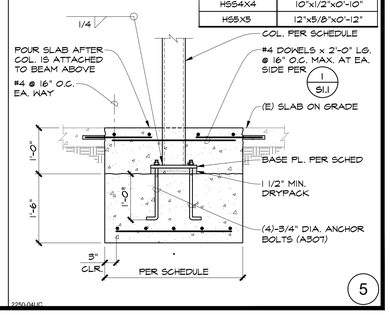
TYP. SLAB PATCH

SR2-017

4

SCHEDULE

COL. SIZE	BASE PL. SIZE
HSS4X4	10"x1/2"x0'-10"
HSS5X5	12"x5/8"x0'-12"



2250.04.IC

5

REVISIONS

DATE/DELTA	REMARKS

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REGISTERED STRUCTURAL ENGINEER
NO. 4595
EXP. 6/30/19
STATE OF CALIFORNIA

SIGNED: 5/16/2019
JOB NO: 181257

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SHEET TITLE:

TYPICAL DETAILS

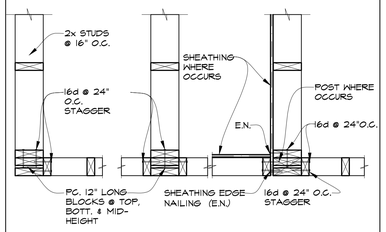
SUB DATE

BID DATE

DATE:	05/08/19
DRAWN BY:	AC
JOB NO:	181257
CHECKED BY:	CMH

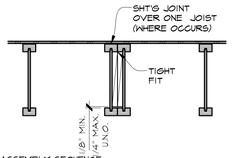
SHEET NUMBER:

S1.1

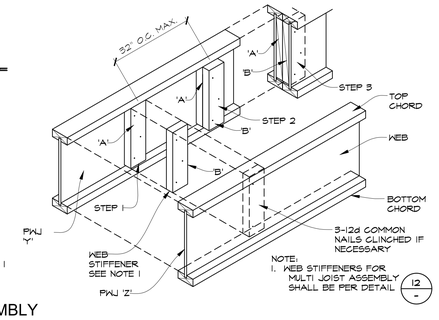


PLAN VIEW

TYP. STUD WALL INTERSECTIONS (16)

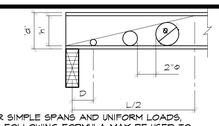


ASSEMBLY SEQUENCE
STEP 1 - NAIL BLOCKS 'A' TO FACE OF WEB ON JOIST 'Y' ONLY. BACK WEB DURING NAILING TO PREVENT DAMAGE TO WEB-CHORD CONNECTION.
STEP 2 - NAIL BLOCK 'B' TO BLOCK 'A'.
STEP 3 - NAIL THRU WEB OF JOIST 'Z' TO BLOCKS 'A' AND 'B'. REPEAT STEPS 1 THRU 3 IF MORE THAN TWO JOISTS ARE TO BE JOINED.



NOTE:
1. WEB STIFFENERS FOR MULTI JOIST ASSEMBLY SHALL BE PER DETAIL 12/-

TYPICAL MULTI-JOIST ASSEMBLY (6)



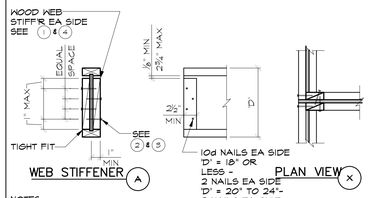
FOR SIMPLE SPANS AND UNIFORM LOADS, THE FOLLOWING FORMULA MAY BE USED TO DETERMINE HOLE SPACING REQUIREMENTS $s = \frac{L\phi}{2h}$

WHERE:
D = DISTANCE IN FEET FROM CENTERLINE OF SUPPORT TO CENTERLINE OF HOLE.
L = BEAM SPAN IN FT. FROM CENTERLINE OF SUPPORT TO SUPPORT
ϕ = HOLE DIAMETER, IN INCHES
h = WEB DEPTH, IN INCHES

NOTES:
SQUARE HOLES = THE SIDES OF SQUARE HOLES SHALL NOT EXCEED THREE FOURTHS OF THE MAXIMUM ROUND HOLE DIAMETER.

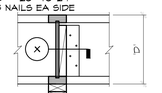
MULTIPLE HOLES = WHERE MORE THAN ONE HOLE IS NECESSARY THE DISTANCEBETWEEN HOLES MUST EXCEED TWICE. THE DIAMETER OF THE LARGEST ROUND HOLE OR TWICE THE SIDE OF THE LARGEST SQUARE HOLE.

TYPICAL HOLES IN PLYWOOD WEB DISTANCE (1)



WEB STIFFENER (A)

NOTES:
1. D.F. NO. 2 OR BETTER
2. USE 10d COMMON NAILS
3. CLINCH NAILS AT 3X NOMINAL CHORDS OR USE 10d x 2 1/8" LONG
4. TO PREVENT DAMAGE TO JOISTS, DO NOT NAIL AGAINST WEB W/OUT PROPER BACKING.



BLOCKING PANEL (B)

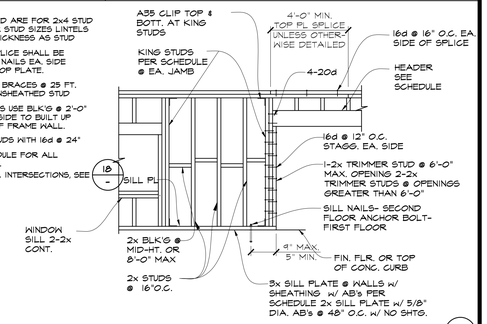
TYPICAL PLYWOOD WEB JOIST WEB STIFFENER (12)

HEADER SCHEDULE *	
HEADER	SPAN
4 x 6	UP TO 6'-0"
4 x 8	6'-1" TO 8'-0"
4 x 10	8'-1" TO 10'-0"

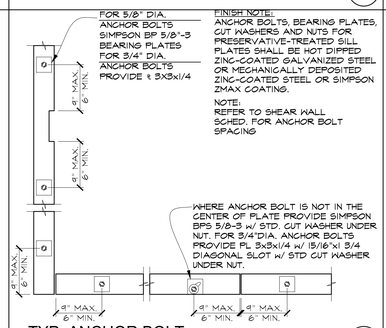
* UNLESS NOTED OTHERWISE ON FRAMING PLAN

KING STUD SCHEDULE *	
OPENING SIZE	NUMBER OF KING STUDS
UP TO 6'-0"	2
6'-1" TO 10'-0"	3
10'-1" TO 14'-0"	4

NOTES:
1. HEADERS SCHEDULED ARE FOR 2x4 STUD WALL FOR LARGER STUD SIZES LINTELS SHALL BE SAME THICKNESS AS STUD WIDTH.
2. DOUBLE TOP PL SPLICE SHALL BE 4'-0" MIN. w/ 8-16d NAILS EA. SIDE OF BUTT JOINT IN TOP PLATE.
3. INSTALL 1x6 LET IN BRACES @ 25 FT. O.C. MAX. IN ALL UNSHEATHED STUD WALLS.
4. AT BUILT UP LINTELS USE BLK'G @ 2'-0" O.C. w/ 2-16d EA. SIDE TO BUILT UP LINTEL TO WIDTH OF FRAME WALL.
5. INTERNAIL KING STUDS WITH 16d @ 24" O.C.
6. SEE NAILING SCHEDULE FOR ALL OTHER CONDITIONS.
7. FOR TYPICAL WALL INTERSECTIONS, SEE 18/-



TYP. STUD WALL FRAMING (2)



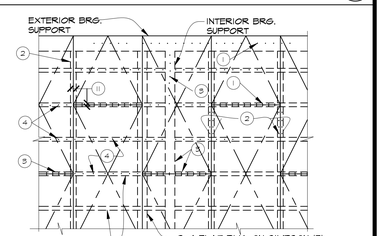
FINISH NOTE:
ANCHOR BOLTS, BEARING PLATES, CUT WASHERS AND NUTS FOR PRESERVATIVE-TREATED SILL PLATES SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL OR MECHANICALLY DEPOSITED ZINC-COATED STEEL OR SIMPSON ZMAX COATING.

NOTE:
REFER TO SHEAR WALL SCHED. FOR ANCHOR BOLT SPACING

TYP. ANCHOR BOLT & WASHER PLACEMENT (13)

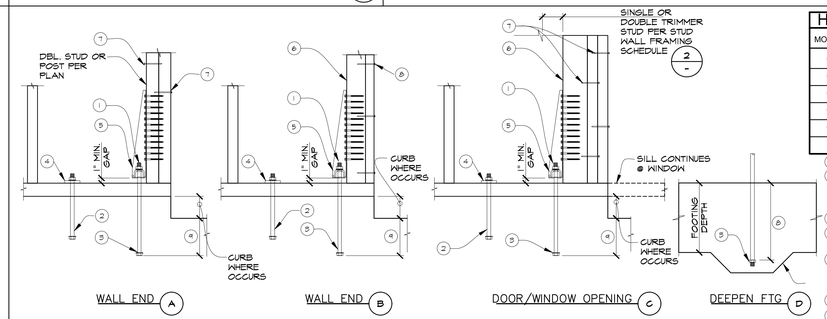
NOTES
1. BOUNDARY NAILING (B.N.) AT PERIMETER 2 ROWS @ INT. SHEAR WALLS & AT STRUTS.
2. NAILING AT CONTINUOUS PANEL EDGES (C.N.)= B.N.
3. EDGE NAILING (E.N.) @ ALL EDGES OF ALL SHEATHING SHEETS AND AT BEARING SUPPORTS.
4. INTERIOR NAILING (F.N.) 12" O.C. TYPICAL @ ROOF. 10" O.C. TYPICAL @ FLOOR.
5. SEE PLAN FOR SHEATHING THICKNESS AND NAILING SCHEDULE NAILS SHALL BE STAGGERED WHERE NAILS ARE SPACED 2" OR 2 1/2" O.C..
6. LONG DIMENSION OF SHEATHING SHALL RUN ACROSS JOIST OR RAFTERS.
7. MINIMUM EDGE DISTANCE FOR NAILS SHALL BE 3/8".
8. MINIMUM SIZE OF SHT'G SHEET SHALL BE: 2'-0"x4'-0"
9. MACHINE APPLIED NAILING: NAILS SHALL NOT BE OVERDRIVEN. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM EDGE DISTANCE IS NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.
10. MINIMUM NAIL SIZES:

SHTG. THICKNESS	MIN. LENGTH	MIN. DIAMETER	WIRE GA.
1/2"	2 1/8"	.148"	9
5/8"	2 1/4"	.148"	9
3/4"	2 3/8"	.148"	9



MINIMUM SIZE FRAMING MEMBER @ SHEATHING EDGE - SEE NAILING SCHEDULE.
2" SOLID BLK'G MAY BE SUBSTITUTED AS CROSS BRIDGING.
AT FLOOR SHEATHING: PROVIDE CONSTRUCTION ADHESIVE/GLUE BETWEEN SHEATHING AND ALL FRAMING MEMBERS.

TYP. FLOOR SHEATHING LAYOUT (3)

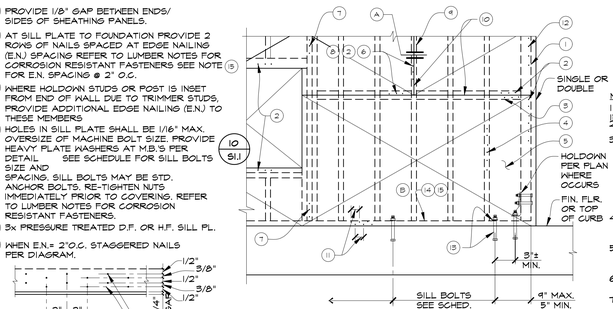


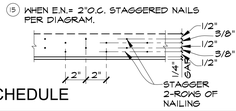
HOLDOWN SCHEDULE (SIMPSON MANUF.)			
MODEL NO.	SIDE SCREWS	ANCHORAGE DIAMETER 'd'	EMBEDMENT 'L'
HDU2	6-SDS 1/4"X2 1/2"	5/8"	18"
HDU4	10-SDS 1/4"X2 1/2"	5/8"	18"
HDU5	14-SDS 1/4"X2 1/2"	7/8"	18"
HDU8	20-SDS 1/4"X2 1/2	7/8"	18"
HDU11	30-SDS 1/4"X2 1/2	1"	24"

1. HOLDOWN PER PLAN.
2. TYPICAL HEX HEAD BOLT OR 'L' BOLT PER SHEARWALL SCHED 5/-
3. HEX HEAD BOLT OR THREADED ROD W/ NUT.
4. HEAVY PLATE WASHER PER SCHEDULE 10/S1.1
5. NUT & WASHER REQUIRED. ANCHOR BOLT SHOULD BE FINGER-TIGHT. JUST PRIOR TO CLOSING IN RE-TIGHTEN TO PLUS 1/3 TO 1/2 TURN WITH A HAND WRENCH. IMPACT WRENCH SHOULD NOT BE USED
6. POST PER PLAN
7. 16d @ 12" O.C. STAGGERED
8. EMBEDMENT 'L'
9. DEEPEN FOOTING AS REQ'D FOR MIN 4" CONC. COVERAGE

TYP. HOLDOWN SCHEDULE (4)

1. 2-2x STUD OR POST
2. EDGE NAILING ALL EDGES, ALL SHEETS SEE SCHED. E.N.
3. 3x SOLID BLOCKING (TYP.) SEE FOR EDGE SPACINGS.
4. FIELD NAILING TYP. (F.N.) 12" O.C.
5. PLYWOOD OR APA SHEATHING(OSB). SEE SCHEDULE.
6. NAILS SHALL BE STAGGERED WHERE NAILS ARE SPACED AT 2" O.C.
7. EDGE NAILING FULL HEIGHT OF KING STUDS OR POST ADJACENT OPENINGS
8. SHEATHING PANELS MAY BE LAYED VERTI- CALLY OR HORIZONTALLY. PANEL JOINTS SHALL BE EITHER STAGGERED VERTICALLY OR HORIZONTALLY WHEN MORE THAN ONE PANEL HIGH OR WIDE.
9. PROVIDE 3x STUD @ PANEL SPLICES. SEE DETAIL (A) FOR EDGE SPACINGS.
10. PROVIDE 1/8" GAP BETWEEN ENDS/ SIDES OF SHEATHING PANELS.
11. AT SILL PLATE TO FOUNDATION PROVIDE 2 ROWS OF NAILS SPACED AT EDGE NAILING (E.N.) SPACING REFER TO LUMBER NOTES FOR CORROSION RESISTANT FASTENERS SEE NOTE 15 FOR E.N. SPACING @ 2" O.C.
12. WHERE HOLDOWN STUDS OR POST IS INSET FROM END OF WALL DUE TO TRIMMER STUDS, PROVIDE ADDITIONAL EDGE NAILING (E.N.) TO THESE MEMBERS
13. HOLES IN SILL PLATE SHALL BE 1/16" MAX. OVERSIZE OF MACHINE BOLT SIZE. PROVIDE HEAVY PLATE WASHERS AT M.B.'S PER DETAIL 10/S1.1 SEE SCHEDULE FOR SILL BOLTS SIZE AND SPACING. SILL BOLTS MAY BE STD. ANCHOR BOLTS. RE-TIGHTEN NUTS IMMEDIATELY PRIOR TO COVERING. REFER TO LUMBER NOTES FOR CORROSION RESISTANT FASTENERS.
14. 3x PRESSURE TREATED D.F. OR H.F. SILL PL.
15. WHEN E.N.= 2"O.C. STAGGERED NAILS PER DIAGRAM.





TYP. SHEARWALL SCHEDULE

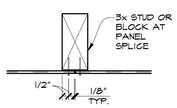
MINIMUM NAIL SIZES:

SHEATHING THICKNESS	MIN. LENGTH	MIN. DIAMETER	WIRE GA.
15/32" w/ 10d	2 1/4"	.148"	9

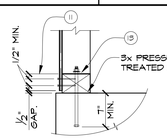
NOTES:
1. RETIGHTEN SILL BOLT NUTS BEFORE CLOSING 1/2
2. MIN. SHEATHING SIZE = 24"
3. MACHINE APPLIED NAILING: NAILS SHALL NOT BE OVER- DRIVEN. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM EDGE DISTANCE IS NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY. NAILS SHALL NOT HAVE "CLIPPED" HEADS. NAILING USING "CLIPPED" HEADS WILL BE DEEMED UNSATISFACTORY.
4. NAILS SHALL BE PLACED NOT LESS THAN 1/2 INCH IN FROM PANEL EDGE OR FRAMING MEMBER EDGE. SEE (A) DETAIL
5. WHERE SHEATHING IS APPLIED TO BOTH SIDES OF WALL, THE VERTICAL PANEL SPLICE LOCATIONS SHALL BE STAGGERED.
6. TYPICAL SILL PLATE ANCHOR BOLTS MAY BE MACHINED BOLTS OR STD ANCHOR BOLTS
7. WHERE EXISTING FOUNDATION OCCURS, EPOXY BOLTS MAY BE USED AS TYPICAL SILL PL ANCHORS

* SEE PLANS FOR SILL BOLTING & SILL NAILING @ WALLS WITH SHEATHING EA. SIDE.

SHEARWALL				
MARK	PLYWOOD/ APA SHEATHING	E.N.	SILL BOLTS	SILL NAILS
1	15/32" STR. 1	10d @ 6" O.C.	5/8" DIA. M.B. @ 48" O.C.	16d @ 6" O.C.
2	15/32" STR. 1	10d @ 4" O.C.	5/8" DIA. M.B. @ 32" O.C.	16d @ 4" O.C.



EDGE SPACING (A)



GAP AT BOTTOM (B)

TYP. SHEARWALL SCHEDULE (5)

REVISIONS

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NO. 4596
EXP. 6/30/19
STATE OF CALIFORNIA

SIGNED: 5/16/2019
JOB NO: 181257

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SHEET TITLE:

TYPICAL DETAILS

SUB DATE

BID DATE

DATE: 05/08/19
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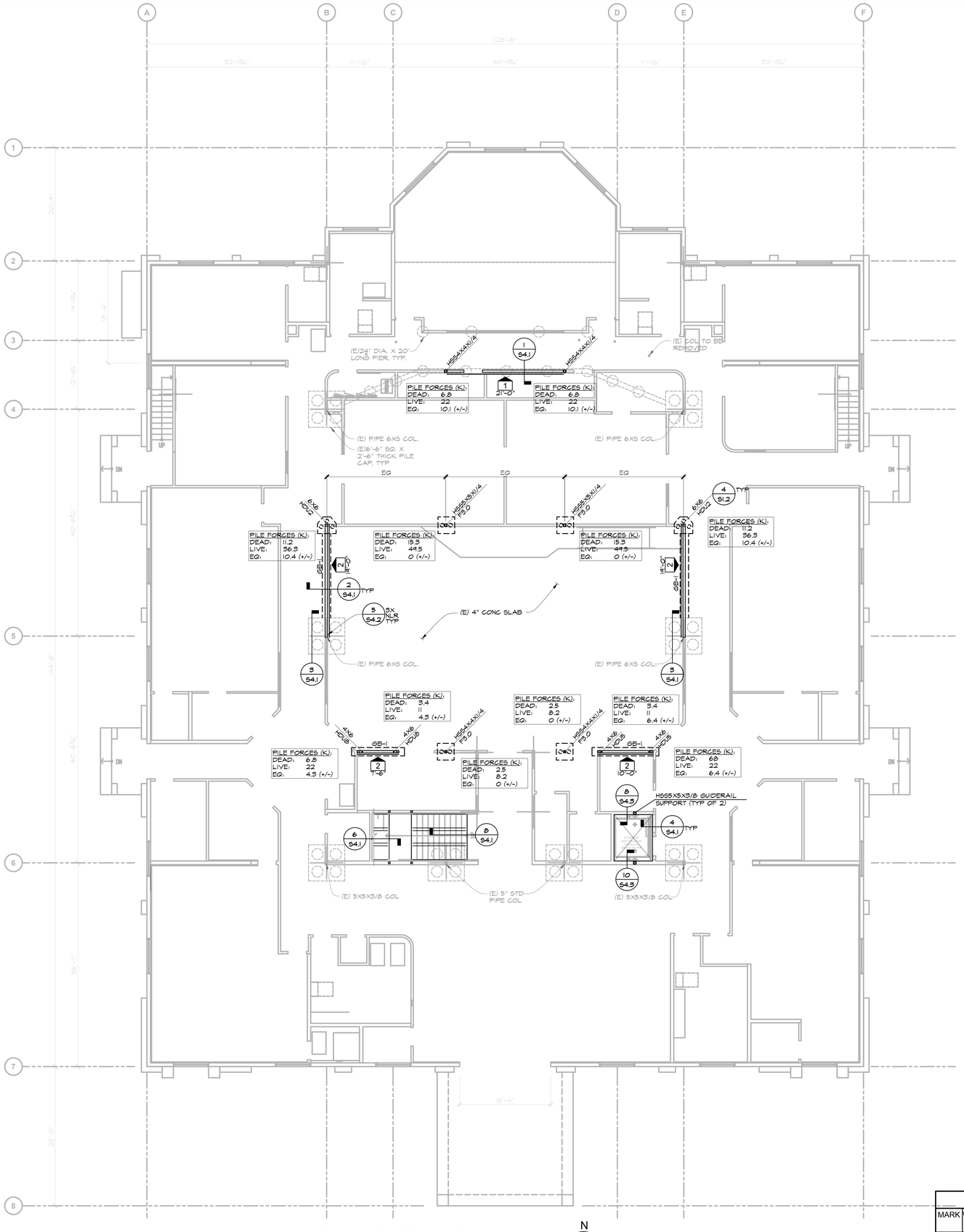
S1.2



NOTES:

1. TOP OF CONC. SLAB = 0'-0" (ASSUMED), U.O.N.
2. VERIFY ALL DIMENSIONS WITH ARCH'L DRAWINGS. SEE ARCH FOR DIMENSIONS NOT SHOWN.

LEGEND:

- (E) FOUNDATION
- X'-X" / 1 — MINIMUM LENGTH OF SHEAR WALL REQD; WOOD SHEARWALL TYPE PER 5/S1.2
- HD2.2 — INDICATES HOLDOWN PER TYP DETAILS
- INDICATES 2X6 STUDS @ 16"OC SEE 2/S1.2
- GB-1 — GRADE BEAM PER SCHEDULE BELOW
- HSS4X4X1/4 — COLUMN AND BASEPLATE PER 5/S1.1
- PILE FORCES (K): DEAD: 6.8 LIVE: 22 EQ: 6.4 (+/-) — INDICATES DESIGN-BUILD FORCES AT FOOTING LOCATION

FOOTING SCHEDULE			
TYPE	SIZE W x L x D	REINFORCEMENT	DETAIL
F3.0	3'-0"x3'-0"x2'-0"	(4)-#5 EA. WAY T&B	5/S1.1

GRADE BEAM SCHEDULE									
MARK	WIDTH	DEPTH	TOP REINF.		BOTTOM REINF.		TRANSVERSE REINF.	TIE REINF.	DETAIL
			CONT.	SHORT	CONT.	SHORT			
GB-1	1'-6"	2'-0"	(2)-#5	-	(3)-#5	-	-	#4 @ 18"	

FOUNDATION PLAN

SCALE: 1/8"=1'-0"

N

REVISIONS

DATE/DELTA	REMARKS

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SHEET TITLE:

FOUNDATION PLAN

SUB DATE

BID DATE

DATE: 05/08/19
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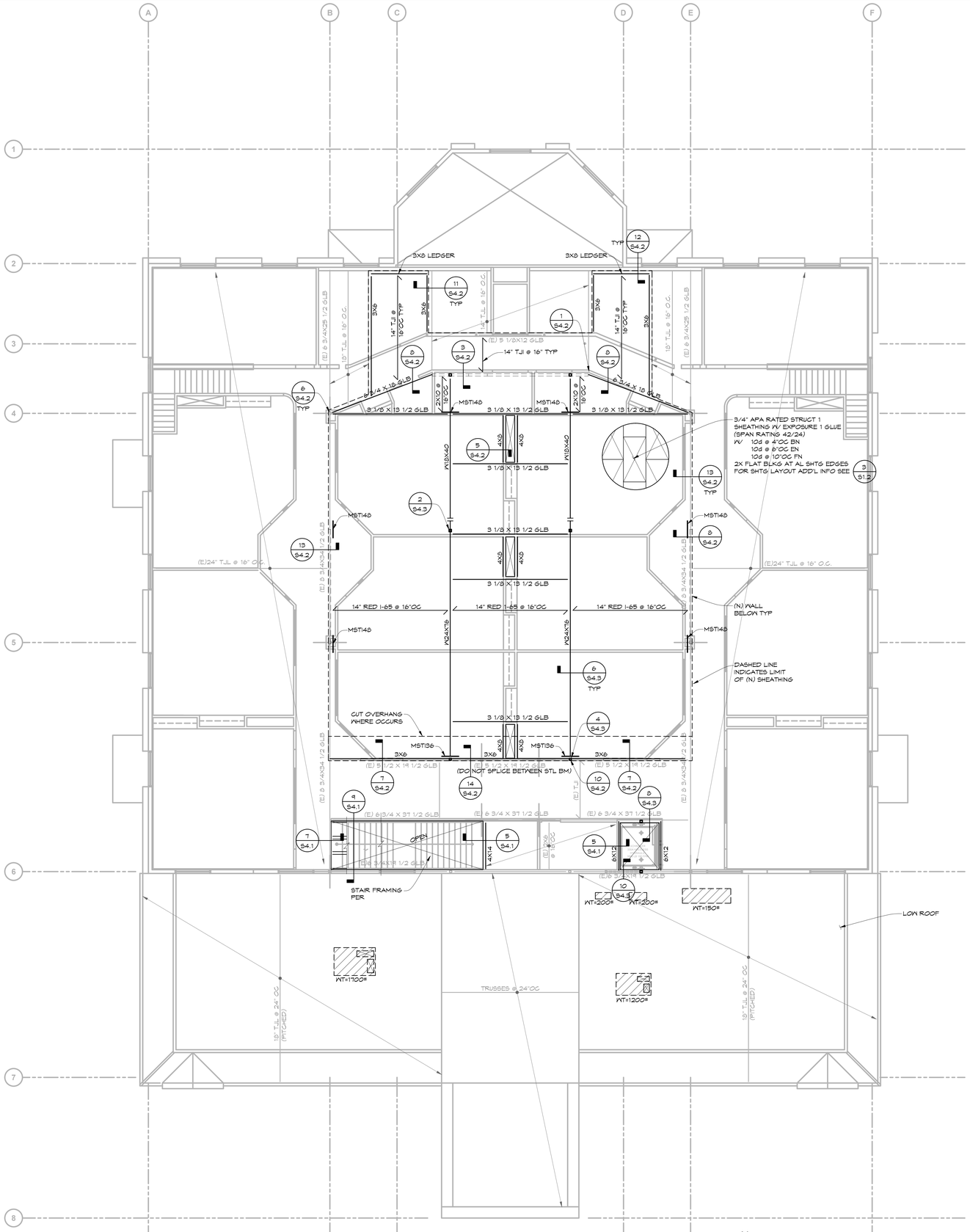
SHEET NUMBER:

S2.1



SECOND FLOOR & LOW ROOF FRAMING PLAN

SCALE: 1/8"=1'-0"

N

NOTES:

1. VERIFY ALL DIMENSIONS & ELEVATIONS W/ ARCHITECTRUAL DRAWING.
2. REFER TO ARCH'L DRAWINGS FOR TOP OF SHEATHING ELEVATIONS.
3. C = 1/2" DESIGNATES CAMBER OF BEAM AT MIDSPAN.
4. PLYWOOD WEB JOIST (PWJ) INDICATED ON PLAN SHALL BE REDBUILT TYP I-65 (ICC ESR #2894), UON.

LEGEND:

- WOOD POST
- SPAN INDICATOR
- W18X40 — BEAM SIZE
- COLUMN SPLICE PER 1 S4.3
- INDICATES MECHANICAL UNIT LOCATION. SEE PLAN FOR MAX WEIGHT SUPPORT FRAMING AND ANCHORAGE. PER 9 S4.2

REVISIONS

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SHEET TITLE:

SECOND FLOOR & LOW ROOF FRAMING PLAN

SUB DATE

BID DATE

DATE:	05/08/19
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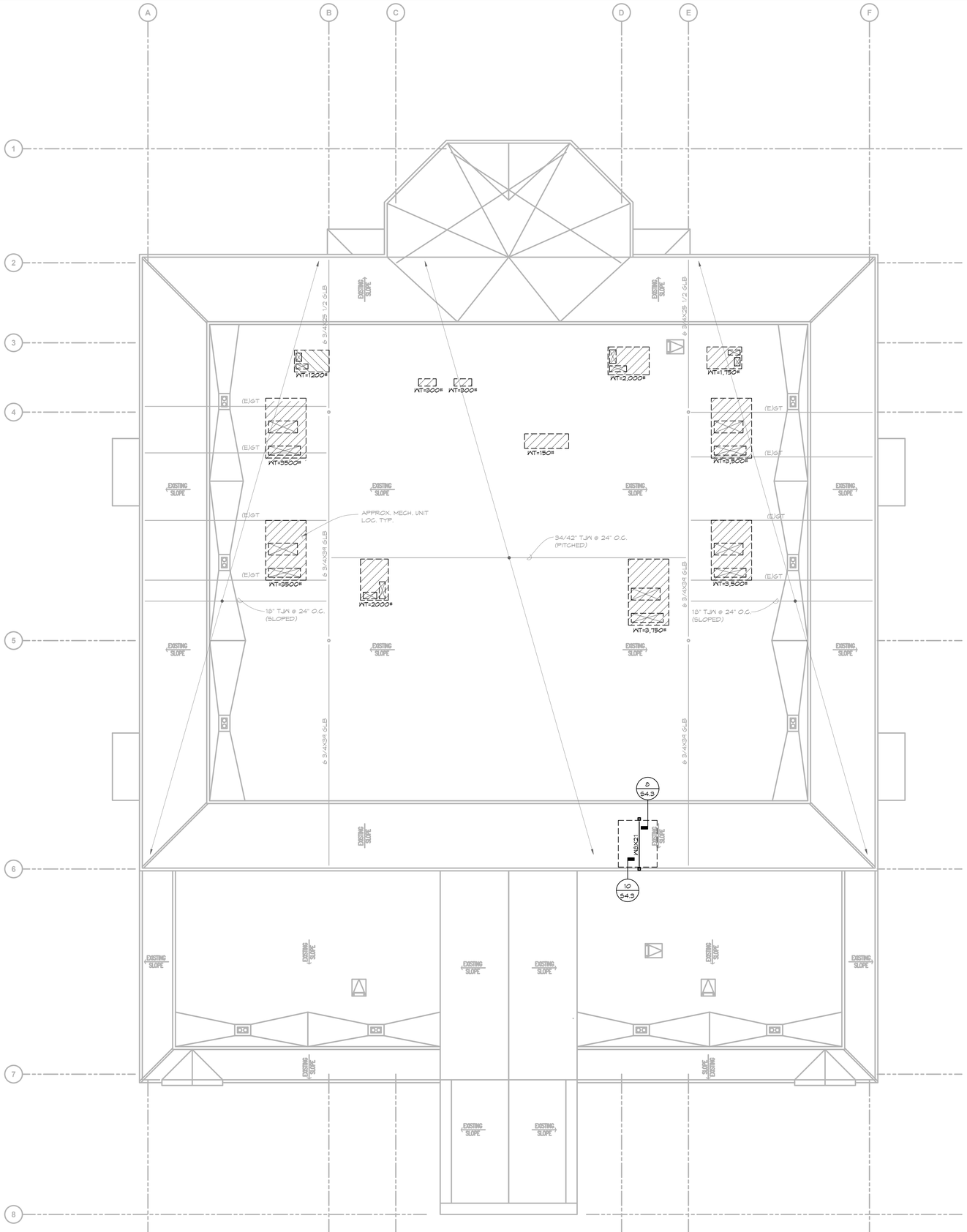
JOB NO:	181257
CHECKED BY:	CMH

SHEET NUMBER:

S2.2



NOTES:

1. VERIFY ALL DIMENSIONS AND ELEVATIONS W/ ARCH DWGS.
2. EXISTING UNITS TO BE REPLACED WITH NEW UNITS OF EQUAL OR LESSER WEIGHT.
3. CONTRACTOR TO COORDINATE OPENGS W/ ROOF FRAMING. DO NOT CUT (E) ROOF JOISTS.

LEGEND:

INDICATES MECHANICAL UNIT LOCATION. SEE PLAN FOR MAX WEIGHT. SUPPORT FRAMING AND ANCHORAGE PER 9/S4.2

ROOF FRAMING PLAN

SCALE: 1/8"=1'-0"

REVISIONS

DATE/DELTA	REMARKS

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SHEET TITLE:

ROOF FRAMING PLAN

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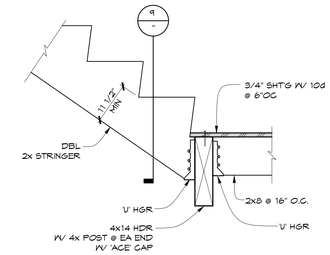
JOB NO:	181257
CHECKED BY:	CMH

SHEET NUMBER:

S2.3



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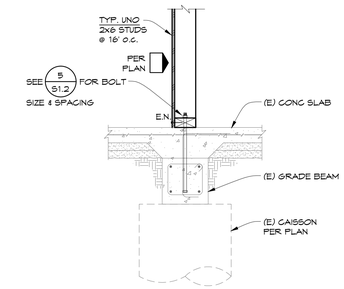

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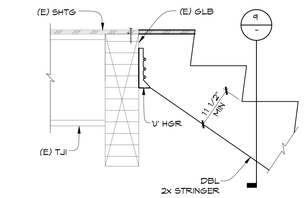

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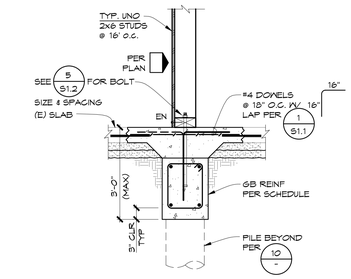

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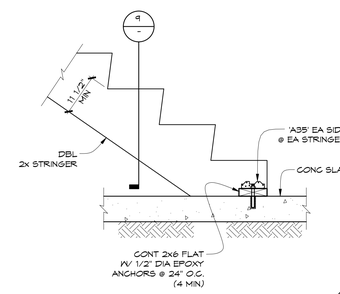

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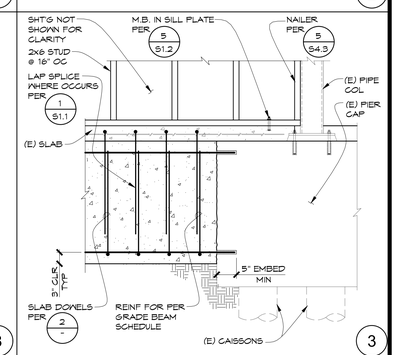

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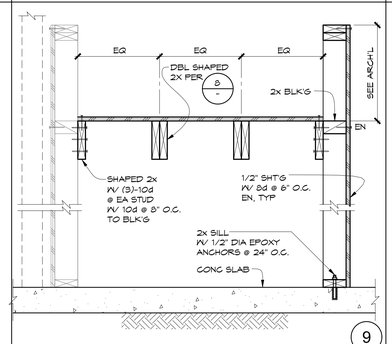

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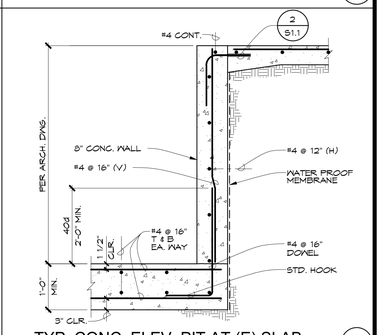
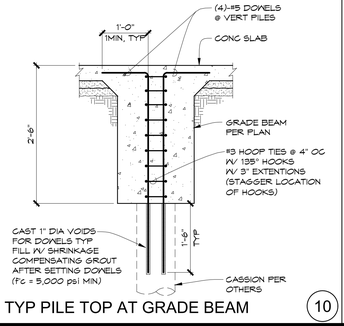


TYP. CONC. ELEV. PIT AT (E) SLAB

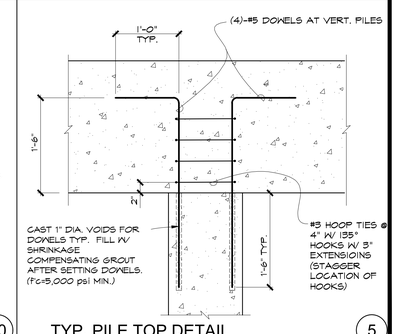
3000-04UC

4



TYP PILE TOP AT GRADE BEAM

10



TYP. PILE TOP DETAIL

TYP. PILE TOP DETAIL

5

REVISIONS

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SIGNED: 5/16/2019
JOB NO: 181257

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JOB NO:	181257
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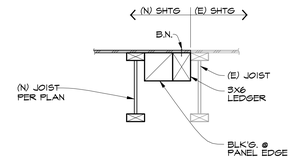
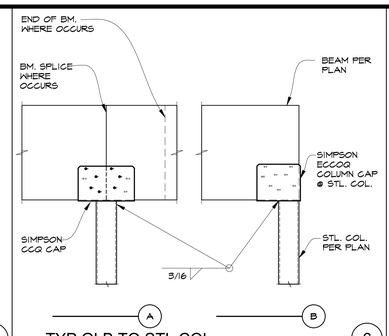
SHEET NUMBER:

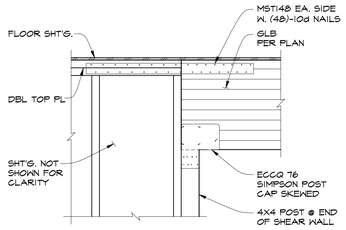
S4.1



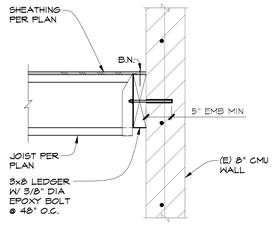
TYP (N) TO (E) SHTG (11)



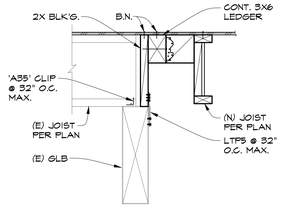
TYP GLB TO STL COL (6)



GLULAM TO SHEAR WALL (1)



TYP. TJI PERP. TO CMU (12)
1-T18



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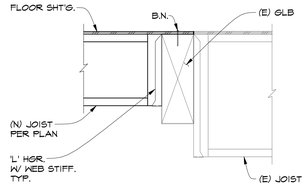

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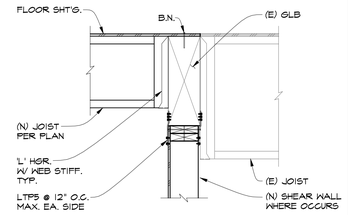

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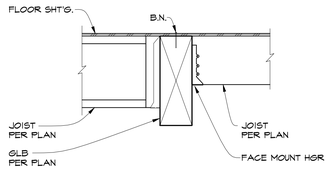
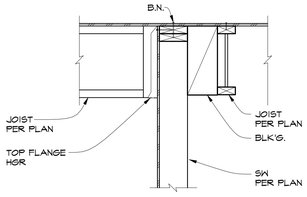


TYP. TJI PERP TO GLB (8)
1-T18



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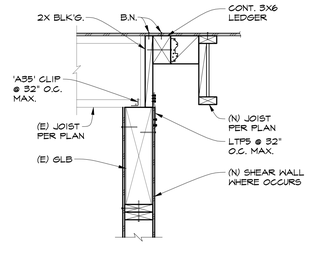
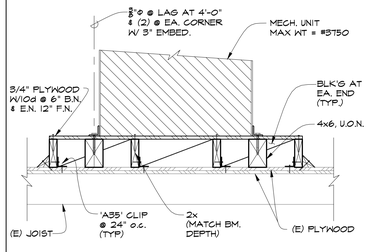
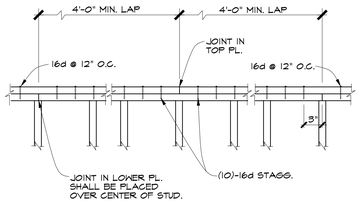
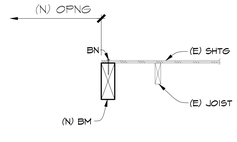




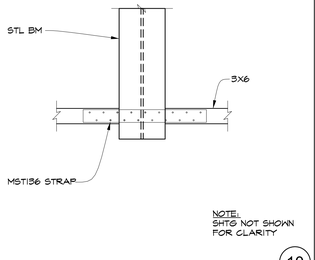
TYP. MECH. EQUIP. SUPPORT (9)
6T11005



TYP. TOP PL. JOINT SPLICE (4)
6TYP010



TYP (N) FRAMING AT OPENING



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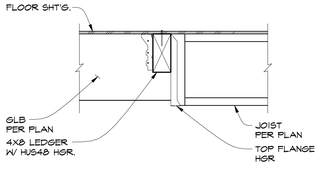

(5)

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STATE OF CALIFORNIA

SIGNED: 5/16/2019
JOB NO: 181257

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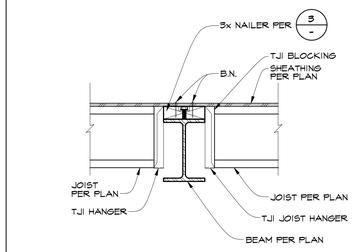
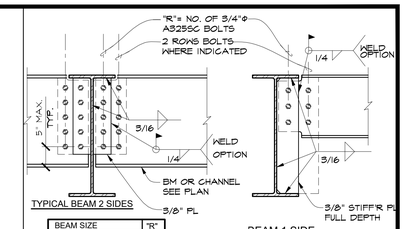
S4.2

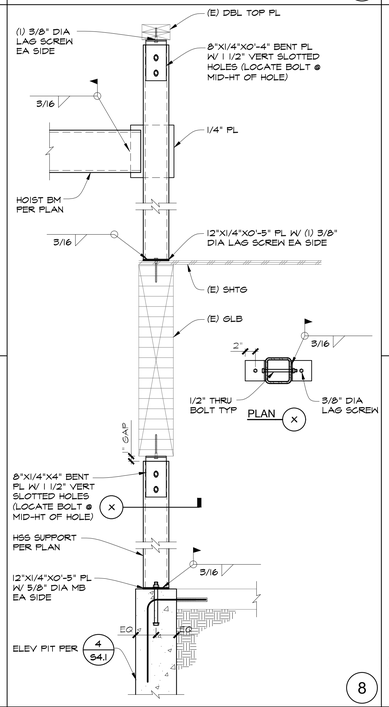


TYP TJI PERP TO STEEL BEAM 6



BEAM SIZE	"R"
MC6x,W8x,C9x,W10x	2
W12x, C12x, W14x	3
W16x	4
W18x	5
W21x	6
W24x	7
W27x	7
W30x	9

TYP. BM TO BM CONNECTION 1



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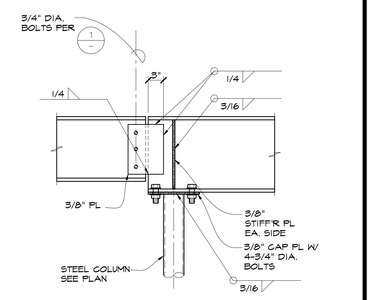

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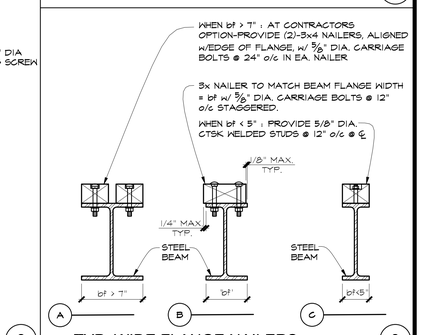
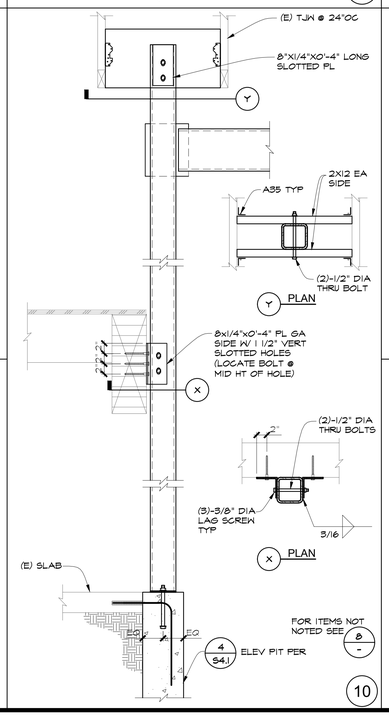


TYP. WIDE FLANGE NAILERS 3



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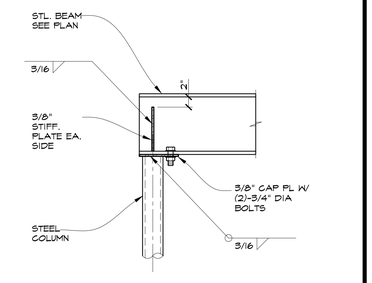

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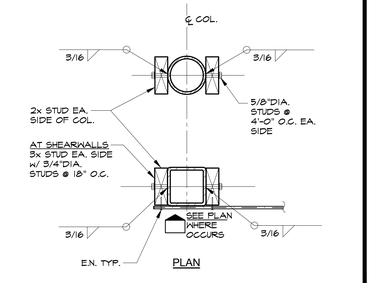

TYP. WD. STUD TO STL. COL. CONN. @ S.W. 5

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