GENERAL CONSTRUCTION SPECIFICATION

1. THE FOLLOWING DOCUMENTS ARE THE PROPERTY OF TYNDALL ENGINEERING & DESIGN, P.A. FOR USE SOLELY FOR THIS PROJECT AND SHALL NOT BE REPRODUCED, COPIED, OR USED FOR OTHER PURPOSES WITHOUT WRITTEN PERMISSION FROM TYNDALL ENGINEERING & DESIGN, P.A.

2. THE DESIGN PROFESSIONAL WHOSE SEAL APPEARS ON THESE DRAWINGS IS THE STRUCTURAL ENGINEER OF RECORD(SER) FOR THIS PROJECT. THE SER BEARS THE RESPONSIBILITY FOR THE PRIMARY STRUCTURAL ELEMENTS AND THE PERFORMANCE OF THIS STRUCTURE. NO OTHER PARTY MAY REVISE, ALTER, OR DELETE THESE CONSTRUCTION DOCUMENTS WITHOUT WRITTEN PERMISSION FROM TYNDALL ENGINEERING & DESIGN, P.A. OR THE SER. FOR THE PURPOSES OF THESE CONSTRUCTION DOCUMENTS THE SER AND TYNDALL ENGINEERING & DESIGN, P.A. SHALL BE CONSIDERED THE SAME ENTITY.

3. THIS STRUCTURE IS ONLY STABLE IN ITS COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED TEMPORARY BRACING DURING CONSTRUCTION TO STABILIZE THE STRUCTURE. TEMPORARY SHORING AND BRACING METHODS ARE NOT THE RESPONSIBILITY OF TYNDALL ENGINEERING & DESIGN, P.A. AND ARE BEYOND THE SCOPE OF THESE DRAWINGS.

4. THE SER IS NOT RESPONSIBLE FOR CONSTRUCTION SEQUENCES, METHODS, OR TECHNIQUES IN CONNECTION WITH THE CONSTRUCTION OF THIS STRUCTURE. THE SER WILL NOT BE HELD RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CONFORM TO THE CONSTRUCTION DOCUMENTS, SHOULD ANY NON-CONFORMITIES OCCUR.

5. ANY STRUCTURAL ELEMENTS OR DETAILS NOT FULLY DEVELOPED ON THE CONSTRUCTION DRAWINGS SHALL BE COMPLETED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. THESE SHOP DRAWINGS SHALL BE SUBMITTED TO TYNDALL ENGINEERING & DESIGN, P.A. FOR REVIEW BEFORE ANY CONSTRUCTION BEGINS. SEE THE "SUBMITTALS" SECTION OF THESE SPECIFICATIONS.

6. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH AND COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, AND CIVIL DRAWINGS. THIS COORDINATION IS NOT THE RESPONSIBILITY OF THE SER. SHOULD ANY DISCREPANCIES BECOME APPARENT THE CONTRACTOR SHALL NOTIFY TYNDALL ENGINEERING & DESIGN, P.A. BEFORE ANY CONSTRUCTION BEGINS.

7. VERIFICATION OF ASSUMED FIELD CONDITIONS IS NOT THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD. THE CONTRACTOR SHALL VERIFY THE FIELD CONDITIONS FOR ACCURACY AND REPORT ANY DISCREPANCIES TO TYNDALL ENGINEERING & DESIGN, P.A. BEFORE CONSTRUCTION BEGINS.

8. THE STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR ANY SECONDARY STRUCTURAL ELEMENTS OR NON-STRUCTURAL ELEMENTS, EXCEPT FOR THE ELEMENTS SPECIFICALLY NOTED ON THE STRUCTURAL DRAWINGS.

9. THIS STRUCTURE AND ALL CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE SECTIONS OF THE INTERNATIONAL BUILDING CODE AND ANY LOCAL LAWS WHERE THE STRUCTURE IS TO BE CONSTRUCTED.

SCOPE OF STRUCTURAL ENGINEERING SERVICES

TYNDALL ENGINEERING & DESIGN, P.A. HAS PERFORMED THE STRUCTURAL DESIGN AND PREPARED THE STRUCTURAL WORKING DRAWINGS FOR THIS PROJECT. “CONSTRUCTION REVIEW” SERVICES ARE NOT ALSO A PART OF OUR CONTRACT.

PORTIONS OF THE STRUCTURAL DESIGN (AS NOTED ON THE DRAWINGS) ARE THE RESPONSIBILITY OF THE MATERIAL SUPPLIERS.

THE SER IS RESPONSIBLE FOR THE DESIGN OF THE PRIMARY STRUCTURAL SYSTEM, EXCEPT FOR THE COMPONENTS NOTED ABOVE. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR ANY SECONDARY STRUCTURAL AND NON-STRUCTURAL SYSTEMS NOT SHOWN ON THE STRUCTURAL PLANS.

THE SER HAS NOT DONE A SUBSURFACE INVESTIGATION. THE FOUNDATION DESIGN IS BASED UPON AN ASSUMED ALLOWABLE BEARING PRESSURE AS SHOWN IN THE “FOUNDATION” STRUCTURAL NOTES. THIS ALLOWABLE BEARING PRESSURE MUST BE VERIFIED BY THE CONTRACTOR OR OWNER. IF PROBLEMS ARE ENCOUNTERED, A SOILS ENGINEER SHALL BE RETAINED TO EVALUATE THE CONDITIONS AND RECOMMEND THE APPROPRIATE FOUNDATION SYSTEM.

THE SER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK; NOR WILL THE SER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

FIELD MEASUREMENTS AND THE VERIFICATION OF FIELD DIMENSIONS ARE NOT PART OF TYNDALL ENGINEERING & DESIGN, P.A.'S RESPONSIBILITY. THE CONTRACTOR MUST CHECK ALL (ASSUMED) EXISTING CONDITIONS SHOWN ON THESE DRAWINGS FOR ACCURACY AND NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCREPANCIES.

THE SER HAS ANALYZED THE NEW STRUCTURAL SLAB CONSTRUCTION FOR CONCENTRATED LOADS DUE TO VEHICLES. THE SLAB IS DESIGNED FOR UNIFORM LOADING AS NOTED IN THE “DESIGN LOADS” PORTION OF THE STRUCTURAL NOTES AND CONCENTRATED LOADS IN ACCORDANCE WITH REQUIREMENTS OF THE BUILDING CODE.

THE SER HAS NOT DESIGNED THE STRUCTURE TO SUPPORT DYNAMIC LOADS FROM VIBRATING MACHINERY OR EQUIPMENT. ALL VIBRATING EQUIPMENT AND MACHINERY MUST BE ISOLATED FROM THE STRUCTURE.

THE SER HAS NOT PREFORMED AN ANALYSIS OF THE EXISTING BUILDING STRUCTURE ADJACENT TO THE NEW STRUCTURE. THE NEW BUILDING IS DESIGNED AS AN INDEPENDENT SELF-SUPPORTING STRUCTURE.

SUBMITTALS

1. SHOP DRAWINGS AND SUBMITTALS SHALL BE SUBMITTED TO TYNDALL ENGINEERING & DESIGN, P.A. FOR REVIEW BEFORE ANY CONSTRUCTION BEGINS. THESE SUBMITTALS WILL BE REVIEWED FOR OVERALL COMPLIANCE AS IT RELATES TO THE STRUCTURAL DESIGN OF THIS PROJECT. VERIFICATION OF THE SHOP DRAWINGS FOR DIMENSIONS, OR FOR ACTUAL FIELD CONDITIONS IS NOT THE RESPONSIBILITY OF TYNDALL ENGINEER & DESIGN, P.A.

2. ALLOW ENOUGH TIME FOR SUBMITTAL REVIEW, INCLUDING TIME FOR RESUBMITTALS. TIME FOR REVIEW SHALL COMMENCE UPON TYNDALL ENGINEERING & DESIGN'S RECEIPT OF SUBMITTAL. ALLOW 15 DAYS FOR INITIAL REVIEW OF EACH SUBMITTAL AND 15 DAYS FOR REVIEW OF EACH RESUBMITTAL.

3. CONTRACTOR SHALL HIGHLIGHT, ENCIRCLE, OR OTHERWISE SPECIFICALLY IDENTIFY DEVIATIONS FROM THE CONTRACT DOCUMENTS ON SUBMITTALS.

4. CONTRACTOR SHALL REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER TRADES AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO TYNDALL ENGINEERING & DESIGN, P.A. STAMP SHALL INCLUDE NAME OF REVIEWER, DATE OF CONTRACTOR'S APPROVAL, AND STATEMENT CERTIFYING THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS.

5. WHERE PROFESSIONAL DESIGN SERVICE OR CERTIFICATIONS BY A DESIGN PROFESSIONAL ARE SPECIFICALLY REQUIRED OF THE CONTRACTOR BY THE CONTRACT DOCUMENTS, PROVIDE PRODUCTS AND SYSTEMS COMPLYING WITH SPECIFIC PERFORMANCE AND DESIGN CRITERIA INDICATED. IN ADDITION, SUBMIT COPIES OF A STATEMENT, SIGNED AND SEALED BY THE RESPONSIBLE DESIGN PROFESSIONAL, FOR EACH PRODUCT AND SYSTEM SPECIFICALLY ASSIGNED TO THE CONTRACTOR TO BE DESIGNED OR CERTIFIED BY A DESIGN PROFESSIONAL.

6. REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS LIMITED TO COMPLIANCE OF THE COMPLETED STRUCTURE WITH THE DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, QUANTITIES, PERFORMANCE, SAFETY, COORDINATION WITH OTHER WORKS, AND ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS. REVIEW DOES NOT AUTHORIZE CHANGES TO THE CONTRACT.

7. PROVIDE THE FOLLOWING SUBMITTALS FOR THIS PROJECT:

a. CAST-IN-PLACE CONCRETE
i. IN ADDITION TO THE FOLLOWING, COMPLY WITH REQUIREMENTS IN ACI 301
ii. PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED
iii. DESIGN MIXTURES FOR EACH CONCRETE MIXTURE
iv. REBAR SHOP DRAWINGS
v. SHOP DRAWINGS FOR THE DESIGN, ERECTION, AND REMOVAL OF FORMWORK, SHORES AND RESHORES PREPARED BY OR UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER. SHOP DRAWINGS, INCLUDING STRUCTURAL ANALYSIS DATA, SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION. COMPLY WITH REQUIREMENTS IN "ACI MANUAL OF CONCRETE PRACTICE".

b. STRUCTURAL STEEL
i. PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED
ii. SHOP DRAWINGS: SHOW FABRICATION OF STRUCTURAL STEEL COMPONENTS
iii. WELDING CERTIFICATES

c. UNIT MASONRY ASSEMBLIES
i. PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED

d. COLD-FORMED METAL FRAMING
i. PRODUCT DATA FOR EACH TYPE OF COLD-FORMED METAL FRAMING PRODUCT AND ACCESSORY INDICATED
ii. SHOP DRAWINGS FOR TRUSSES PREPARED BY OR UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER. SHOW FABRICATION AND INSTALLATION DETAILS FOR TRUSSES. INCLUDING LOCATION, PITCH, SPAN, CAMBER, CONFIGURATION, SPACING, AND SPLICE DETAILS AND BEARING DETAILS FOR EACH TYPE OF TRUSS REQUIRED. ALSO, INDICATE LOCATIONS OF PERMANENT BRACING REQUIRED TO PREVENT BUCKLING OF INDIVIDUAL TRUSS MEMBERS DUE TO DESIGN LOADS.
iii. PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED.

FOUNDATIONS

1. THE SCOPE OF SERVICES FOR THIS PROJECT PROVIDED BY TYNDALL ENGINEERING & DESIGN, P.A. BEGINS FROM THE BOTTOM OF THE FOUNDATION ELEMENTS. SUBSURFACE INVESTIGATIONS ARE BEYOND THE SCOPE OF THE STRUCTURAL SERVICES PROVIDED. THE FOUNDATION SYSTEM SHOWN ON THESE DRAWINGS ARE BASED UPON THE ASSUMED SOIL PROPERTIES LISTED BELOW. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, OWNER OR OWNER'S AGENT TO CONTACT TYNDALL ENGINEERING & DESIGN, P.A. IF ANY ADVERSE SOIL CONDITIONS ARE ENCOUNTERED DURING CONSTRUCTION. VERIFICATION OF THIS ASSUMED VALUE IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR, OWNER OR OWNER'S AGENT.

a. ALLOWABLE SOIL BEARING PRESSURE	2000 PSF
b. SUB GRADE MODULUS (k)	100 PCI
c. ULTIMATE FRICTION COEFFICIENT BETWEEN CONCRETE FOUNDATIONS AND SOIL	0.30
d. UNIT WEIGHT OF SOIL	120 PCF
e. AT REST EARTH PRESSURE, Ko	60 PSF/FT

2. THE BOTTOM OF ALL FOOTINGS SHALL EXTEND BELOW THE FROST LINE FOR THE REGION IN WHICH THE STRUCTURE IS TO BE CONSTRUCTED. HOWEVER, THE TOP OF FOOTING SHALL BE A MINIMUM OF 12" BELOW GRADE.

3. EXCAVATE TO INDICATED ELEVATIONS AND DIMENSIONS WITHIN A TOLERANCE OF +/- 1". IF APPLICABLE, EXTEND EXCAVATIONS A SUFFICIENT DISTANCE FROM STRUCTURES FOR PLACING AND REMOVING CONCRETE FORMWORK, FOR INSTALLING SERVICES AND OTHER CONSTRUCTION, AND FOR INSPECTIONS. DO NOT DISTURB BOTTOM OF EXCAVATION. EXCAVATE BY HAND TO FINAL GRADE JUST BEFORE PLACING CONCRETE REINFORCEMENT. TRIM BOTTOMS TO REQUIRED LINES AND GRADES TO LEAVE SOLID BASE TO RECEIVE OTHER WORK.

4. ANY FILL SHALL BE PLACED UNDER THE DIRECTION OR RECOMMENDATION OF A LICENSED PROFESSIONAL ENGINEER USING SUITABLE SOILS OR ENGINEERED FILL. PLOW, SCARIFY, BENCH, OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO FILL MATERIAL WILL BOND WITH EXISTING MATERIAL. PLACE BACKFILL AND FILL SOIL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS. COMPACT SOIL MATERIALS TO NOT LESS THAN 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D698, UNLESS A HIGHER PERCENTAGE IS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. UNDER SLABS-ON-GRADE AND STEPS, SCARIFY AND RECOMPACT TOP 12" OF EXISTING SUBGRADE AND EACH LAYER OF BACKFILL OR FILL SOIL AT 98%.

5. IT IS STRONGLY RECOMMENDED THAT A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY INSPECT AND TEST SUBGRADES AND EACH FILL OR BACKFILL LAYER, AND AT FOOTING SUBGRADES PERFORM TESTING TO VERIFY DESIGN BEARING CAPACITIES.

6. EXCAVATION FOR FOOTINGS SHALL BE LINED TEMPORARILY WITH A 6 MIL POLYETHYLENE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HOURS OF EXCAVATION.

7. CONCRETE SHALL NOT BE POURED AGAINST ANY SUB GRADE CONTAINING WATER, ICE, FROST, OR LOOSE MATERIAL

CONCRETE FLOOR AND SLABS

1. REQUIREMENTS NOTED IN THIS SECTION APPLY TO CONCRETE SLABS ON GRADE AND ELEVATED FLOOR SLABS. REFER TO THE CONCRETE SECTION OF THESE SPECIFICATIONS FOR FURTHER REQUIREMENTS.

2. CONCRETE SLABS ON GRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 302.1R-04 "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION".

3. SLABS ON GRADE DEPEND ON THE INTEGRITY OF BOTH THE SLAB AND FILL SOIL SUPPORT. PROVIDE SATISFACTORY SOIL MATERIALS UNDER SLABS ON GRADE ACCORDING TO GEOTECHNICAL ENGINEER'S WRITTEN RECOMMENDATIONS. PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS WITH HEAVY PNEUMATIC-TIRED EQUIPMENT TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING.

4. COMPACT SOIL MATERIALS AND SUBGRADE TO NOT LESS THAN 98% OF MAXIMUM DRY UNIT WEIGHT, UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

5. PROVIDE PLASTIC VAPOR RETARDER OVER THE SUBGRADE OR SUBBASE BUT UNDER THE BASE COURSE (GRANULAR FILL). VAPOR RETARDER SHALL CONFORM TO ASTM E1745, CLASS C, OR POLYETHYLENE SHEET, ASTM D4397, NOT LESS THAN 6 MILS THICK. VAPOR RETARDER MAY BE OMITTED ONLY WHEN STATED IN THE GEOTECHNICAL ENGINEER'S WRITTEN INSTRUCTIONS.

6. PROVIDE A MINIMUM OF 4" OF GRANULAR FILL DIRECTLY UNDER SLABS ON GRADE. FILL SHALL CONSIST OF A CLEAN MIXTURE OF CRUSHED STONE OR CRUSHED OR UNCRUSHED GRAVEL PER ASTM D448, SIZE 57, WITH 100% PASSING A 1-1/2" SIEVE AND 0% TO 5% PASSING A #8 SIEVE.

7. REINFORCE CONCRETE SLABS ON GRADE WITH WELDED WIRE FABRIC REINFORCEMENT (FABRIC) AS INDICATED. WELDED WIRE REINFORCEMENT SHALL BE SUPPLIED IN FLAT SHEETS AND INSTALLED IN LONGEST PRACTICAL LENGTHS ON BAR SUPPORTS SPACED TO MINIMIZE SAGGING. LAP EDGES AND ENDS OF ADJOINING SHEETS FOR AT LEAST ONE MESH SPACING. OFFSET LAPS OF ADJOINING SHEET WIDTHS TO PREVENT CONTINUOUS LAPS IN EITHER DIRECTION. LACE OVERLAPS WITH WIRE TIES AND DO NOT EXTEND REINFORCEMENT THROUGH JOINTS.

8. DEPOSIT AND CONSOLIDATE CONCRETE FOR FLOORS AND SLABS IN A CONTINUOUS OPERATION, WITHIN LIMITS OF CONSTRUCTION JOINTS, UNITL PLACEMENT OF A PANEL OR SECTION IS COMPLETE AND AS FOLLOWS:

a. CONSOLIDATE CONCRETE DURING PLACEMENT OPERATIONS SO CONCRETE IS THOROUGHLY WORKED AROUND REINFORCEMENT AND OTHER EMBEDDED ITEMS AND INTO CORNERS.
b. MAINTAIN REINFORCEMENT IN POSITION ON CHAIRS DURING CONCRETE PLACEMENT.
c. SCREED SLAB SURFACES UNIFORMLY TO DRAINS WHERE REQUIRED.
d. SLOPE SURFACES UNIFORMLY TO DRAINS WHERE REQUIRED.
e. BEGIN INITIAL FLOATING USING BULL FLOATS OR DARBIES TO FORM A UNIFORM AND OPEN-TEXTURED SURFACE PLANE, BEFORE EXCESS BLEEDWATER APPEARS ON THE SURFACE. DO NOT FURTHER DISTURB SLAB SURFACES BEFORE STARTING FINISHING OPERATIONS.

9. APPLY A TROWEL FINISH TO CONCRETE SLAB ON GRADE SURFACES UNLESS OTHERWISE NOTED. VERIFY THIS FINISH WITH THE ARCHITECTURAL REQUIREMENTS BEFORE CONSTRUCTION. AFTER APPLYING FLOAT FINISH, APPLY FIRST TROWELING AND CONSOLIDATE CONCRETE BY HAND OR POWER-DRIVEN TROWEL. CONTINUE TROWELING PASSES AND RESTRAIGHTEN UNTIL SURFACE IS FREE OF TROWEL MARKS AND UNIFORM IN TEXTURE AND APPEARANCE. GRIND SMOOTH ANY SURFACE DEFECTS THAT WOULD TELEGRAPH THROUGH APPLIED COATING OR FLOOR COVERINGS.

10. FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED BUT NOT MORE THAN 20'-0 O.C. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF CONCRETE THICKNESS. FORM CONTRACTION JOINTS WITH POWER SAWS EQUIPPED WITH SHATTERPROOF ABRASIVE OR DIAMOND-RIMMED BLADES WITHIN 4 TO 12 HOURS AFTER THE SLAB HAS BEEN FINISHED. CUT 1/8" WIDE JOINTS INTO CONCRETE WHEN CUTTING ACTION WILL NOT TEAR, ABRADE, OR OTHERWISE DAMAGE SURFACE AND BEFORE CONCRETE DEVELOPS RANDOM CONTRACTION CRACKS.

11. CURE CONCRETE SLABS ON GRADE FOR AT LEAST SEVEN DAYS BY ONE OF THE FOLLOWING METHODS: MOISTURE CURING, MOISTURE-RETAINING-COVER CURING, APPLICATION OF A CURING COMPOUND, OR BY APPLICATION OF A CURING AND SEALING COMPOUND.

12. THE CONCRETE SLAB ON GRADE HAS BEEN DESIGNED USING A SUBGRADE MODULUS OF K=100 pci AND A DESIGN LOADING AS NOTED IN THE "DESIGN LOADS" SECTION OF THESE SPECIFICATIONS. THE SER IS NOT RESPONSIBLE FOR DIFFERENTIAL SETTLEMENT, SLAB CRACKING, OR OTHER FUTURE DEFECTS RESULTING FROM UNREPORTED CONDITIONS MITIGATING THE ABOVE ASSUMPTIONS.

CONCRETE

1. CONCRETE SHALL BE PROPORTIONED, MIXED, PLACED, AND TESTED IN ACCORDANCE WITH THE ACI MANUAL OF CONCRETE PRACTICE INCLUDING BUT NOT LIMITED TO ACI 318-02 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND ACI 301-05 "SPECIFICATIONS FOR STRUCTURAL CONCRETE." COMPLY WITH ACI 117-90 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS."

2. STEEL REINFORCEMENT SHALL COMPLY WITH THE FOLLOWING SPECIFICATIONS:

a. REINFORCING BARS	ASTM A615, GRADE 60, DEFORMED
b. PLAIN-STEEL WIRE	ASTM A82, AS DRAWN
c. EPOXY COATED BARS	ASTM A775
d. PLAIN-STEEL WELDED WIRE REINFORCEMENT	ASTM A185, FLAT SHEETS ONLY

3. CONCRETE DENOTED AS "LIGHTWEIGHT CONCRETE" ON THESE DESIGN DOCUMENTS SHALL HAVE A UNIT WEIGHT OF 115 PCF. CONCRETE NOT SPECIFICALLY NOTED AS "LIGHTWEIGHT" SHALL HAVE A UNIT WEIGHT OF 145 PCF. CONCRETE MATERIALS SHALL COMPLY WITH THE FOLLOWING:

a. PORTLAND CEMENT	ASTM C150, TYPE I OR II
b. FLY ASH	ASTM C618, CLASS F
c. BLENDED HYDRAULIC CEMENT	ASTM C595, TYPE I POZZOLAN-MODIFIED PORTLAND
d. NORMAL-WEIGHT AGGREGATE	ASTM C33, GRADED, $1\frac{1}{2}$" NOMINAL MAXIMUM AGGREGATE SIZE
e. LIGHTWEIGHT AGGREGATE	ASTM C330, GRADED, $\frac{3}{4}$" NOMINAL MAXIMUM AGGREGATE SIZE
f. WATER POTABLE	

4. NO ADMIXTURES SHALL BE ADDED TO ANY STRUCTURAL CONCRETE WITHOUT THE EXPRESS WRITTEN PERMISSION OF TYNDALL ENGINEERING & DESIGN, P.A. ALL PROPOSED ADMIXTURES SHALL BE SUBMITTED TO TYNDALL ENGINEERING & DESIGN, P.A. FOR APPROVAL. THE ADMIXTURE MUST BE CERTIFIED BY THE MANUFACTURER THAT IT IS COMPARABLE TO OTHER ADMIXTURES AND DOES NOT CONTRIBUTE TO WATER-SOLUBLE CHLORIDE IONS EXCEEDING THOSE PERMITTED IN HARDENED CONCRETE. DO NOT USE CALCIUM CHLORIDE OR ANY ADMIXTURE CONTAINING CALCIUM CHLORIDE.

5. NORMAL-WEIGHT CONCRETE MIXTURES SHALL HAVE THE FOLLOWING PROPERTIES:

ELEMENT	MINIMUM COMP. STRENGTH @ 28 DAYS	MAXIMUM WATER-CEMENT RATIO	SLUMP LIMIT	AIR CONTENT
a. FOOTINGS	3000 PSI	0.45	4"	0.0%
b. RETAINING WALLS	3000 PSI	0.45	4"	4.5%
c. SLABS-ON-GRADE	3000 PSI	0.45	4"	0.0%

NOTE: IT IS RECOMMENDED THAT INTERIOR SLABS BE GIVEN A SMOOTH, DENSE, HARD-TROWELED FINISH NOT CONTAINING ENTRAINED AIR SINCE BLISTERING OR DELAMINATION MAY OCCUR. IF SLAB WILL BE EXPOSED TO DEICING OR OTHER AGGRESSIVE CHEMICALS, CONTACT TYNDALL ENGINEERING & DESIGN, P.A. FOR PROPER AIR ENTRAINMENT REQUIREMENTS.

6. LIGHTWEIGHT CONCRETE MIXTURES SHALL HAVE THE FOLLOWING PROPERTIES:

ELEMENT	MINIMUM COMP. STRENGTH @ 28 DAYS	MAXIMUM WATER-CEMENT RATIO	SLUMP LIMIT	AIR CONTENT
a. ELEVATED SLABS, OVER DECKING	3000 PSI	0.63	5"	0.0%

7. COMPLY WITH THE MINIMUM CONCRETE COVER FOR REINFORCEMENT AS FOLLOWS:

a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
b. CONCRETE EXPOSED TO EARTH OR WEATHER	
i. No. 5 BARS AND SMALLER	1-1/2"
ii. No. 6 BARS AND LARGER	2"
c. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
i. SLABS, WALLS, JOISTS, No. 11 BARS AND SMALLER	3/4"
ii. SLABS, WALLS, JOISTS, No. 14 AND No. 18 BARS	1-1/2"
iii. PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPIRALS FOR BEAMS OR COLUMNS	1-1/2"

8. SPLICE REINFORCEMENT AS DETAILED OR AUTHORIZED BY TYNDALL ENGINEERING & DESIGN, P.A. MAKE BARS CONTINUOUS AROUND CORNERS. SPLICES SHALL BE MADE BY CONTACT TENSION LAP SPLICES, UNLESS OTHERWISE NOTED.

9. PLACING SLEEVES THROUGH CONCRETE ELEMENTS IS NOT PERMITTED UNLESS SHOWN ON THE DESIGN DOCUMENTS, ON APPROVED SLEEVE SHOP DRAWINGS, OR AS AUTHORIZED BY TYNDALL ENGINEERING & DESIGN, P.A.

10. LOCATE CONSTRUCTION JOINTS FOR MILD-REINFORCED ELEVATED CONCRETE WITHIN THE MIDDLE THIRD OF THE SPANS OF SLABS, BEAMS, AND GIRDERS. INDICATE PROPOSED CONSTRUCTION JOINT LOCATIONS ON REINFORCING STEEL SHOP DRAWINGS. LOCATE CONSTRUCTION JOINTS NOT FARTHER THAN 60 FEET APART IN ANY DIRECTION IN WALLS, SLABS, OR BEAMS. OFFSET JOINTS IN GIRDERS A MINIMUM DISTANCE OF TWO TIMES THE WIDTH OF INTERSECTING BEAMS. MAKE STOPS IN CONCRETE PLACEMENT WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS, UNLESS OTHERWISE SHOWN. SUBMIT SHOP DRAWINGS INDICATING PROPOSED JOINT LOCATIONS AND REINFORCING STEEL TO BE PLACED IN THE SLAB. ANY STOP IN CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS, UNLESS OTHERWISE SHOWN.

11. COMPLY WITH ACI 301 FOR MEASURING, BATCHING, MIXING, TRANSPORTING, AND PLACING CONCRETE, BEFORE TEST SAMPLING AND PLACING CONCRETE. WATER MAY BE ADDED AT THE PROJECT SITE, SUBJECT TO LIMITATIONS OF ACI 301.

12. SEE ARCHITECTURAL DRAWINGS FOR FINISHING REQUIREMENTS OF FORMED CONCRETE SURFACES. FOR UNFORMED SURFACES, COMPLY WITH ACI 302.1R FOR SCREEDING, RESTRAIGHTENING, AND FINISHING OPERATIONS UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWINGS.

13. CURE FORMED AND UNFORMED CONCRETE FOR AT LEAST SEVEN DAYS BY ONE OF THE FOLLOWING METHODS: MOISTURE CURING, MOISTURE-RETAINING-COVER CURING, APPLICATION OF A CURING COMPOUND, OR BY APPLICATION OF A CURING AND SEALING COMPOUND.

14. ENGAGE A QUALIFIED INDEPENDENT TESTING AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT REPORTS DURING CONCRETE PLACEMENT ACCORDING TO ACI 301 AND IRC BUILDING CODE.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND THE LATEST EDITIONS OF SAID STANDARDS:

a. AISC'S "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
b. AISC 'S "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS" AND "SUPPLEMENT NO.2", IF THE RESPONSE MODIFICATION FACTOR IS GREATER THAN 3.0
c. AISC'S "LOAD AND RESISTANCE FACTORED DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
d. AISC'S "SPECIFICATION FOR THE DESIGN OF STEEL HOLLOW STRUCTURAL SECTIONS"
e. RCSC'S "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS"
f. AWS'S STRUCTURAL WELDING CODE AWS D1.1

2. STEEL FABRICATORS FOR THIS PROJECT SHALL PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM AND HAVE A MINIMUM DESIGNATION OF SBD. STEEL INSTALLERS FOR THIS PROJECT SHALL PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM AND HAVE A MINIMUM DESIGNATION OF CSE. ALL PERSONNEL PERFORMING WELDING ON THIS PROJECT SHALL CONFORM TO THE QUALITY PROCEDURES ACCORDING TO AWS D1.1 "STRUCTURAL WELDING CODE - STEEL".
3. ALL STRUCTURAL STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING:

a. WIDE FLANGE SHAPES	ASTM A992
b. CHANNELS, ANGLES, M-SHAPES, S-SHAPES	ASTM A36
c. PLATE AND BAR	ASTM A36
d. COROSION-RESISTING STRUCTURAL STEEL	ASTM A588
e. COLD-FORMED HOLLOW STRUCTURAL SECTIONS	ASTM A500, GRADE B
f. STEEL PIPE	ASTM A53
g. WELDING ELECTRODES	CLASS E70XX

4. UNLESS OTHERWISE NOTED ON THE DESIGN DOCUMENTS, APPLY A ONE-COAT NON-ASPHALTIC PRIMER COMPLYING WITH SSPC-PS GUIDE 7.00 "PAINTING SYSTEM GUIDE 7.00: GUIDE FOR SELECTING ONE-COAT SHOP PAINTING SYSTEMS", TO PROVIDE A DRY FILM THICKNESS OF NOT LESS THAN 1.5 MILS TO ALL STEEL SURFACES NOT EXPOSED TO WEATHER EXCEPT THE FOLLOWNG:

a. SURFACES EMBEDDED IN CONCRETE OR MORTAR. EXTEND PRIMING OF PARTIALLY EMBEDDED MEMBERS TO A DEPTH OF 2".
b. SURFACES TO BE FIELD WELDED.
c. SURFACES TO BE HIGH-STRENGTH BOLTED WITH SLIP-CRITICAL CONNECTIONS.
d. SURFACES TO RECEIVE SPRAYED-ON FIRE RESISTIVE MATERIALS.
e. GALVANIZED SURFACES.

5. APPLY A ZINC COATING BY THE HOT-DIPPED PROCESS ACCORDING TO ASTM A123 TO LOOSE ANGLE LINTELS, RELIEVING ANGLES (SHELF ANGLES) AND ALL STEEL EXPOSED TO WEATHER. FILL VENT HOLES AND GRIND SMOOTH AFTER GALVANIZING AS REQUIRED. REPAIR DAMAGED GALVANIZING COATINGS WITH GALVANIZED REPAIR PAINT ACCORIND TO ASTM A780 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

6. BOLTS, CONNECTORS, AND ANCHORS SHALL CONFORM TO THE FOLLWONG:

a. ASTM A325 BOLTED CONNECTIONS:
i. ASTM A325, TYPE 1 HEAVY HEX NUT STEEL STRUCTURAL BOLTS
ii. ASTM A563 HEAVY HEX CARBON-STEEL NUTS
iii. ASTM F436 HARDENED CARBON-STEEL WASHERS
THE FINISH FOR THESE BOLTED CONNECTIONS SHALL BE PLAIN UNLESS CONNECTING HOT-DIPPED GALVANIZED MATERIALS AND THEN SHALL HAVE A HOT-DIPPED ZINC COATING CONFORMING TO ASTM A153.

b. ASTM A490 BOLTED CONNECTIONS:
i. ASTM A490, TYPE 1 HEAVY HEX NUT STEEL STRUCTURAL BOLTS
ii. ASTM A563 HEAVY HEX CARBON-STEEL NUTS
iii. ASTM F436 HARDENED CARBON-STEEL WASHERS
THE FINISH FOR THESE BOLTED CONNECTIONS SHALL BE PLAIN.

c. ANCHOR RODS: ASTM F1554, GRADE 36
i. NUTS: ASTM A563
ii. PLATE WASHERS: 3/8" MINIMUM THICKNESS, ASTM A36 CARBON STEEL.

d. THREADED RODS: ASTM A307, GRADE A
i. NUTS: ASTM A563
ii. WASHERS: ASTM A36
iii. FINISH: PLAIN

e. CLEVISES AND TURNBUCKLES: ASTM A108, GRADE 1035, COLD-FINISHED CARBON STEEL

f. EYE BOLTS AND NUTS: ASTM A108, GRADE 1030, COLD-FINISHED CARBON STEEL

7. SELECT AND COMPLETE STEEL TO STEEL CONNECTIONS USING FULL-DEPTH CONNECTION AS INDICATED IN AISC'S "MANUAL OF STEEL CONSTRUCTION, 13TH EDITION"

8. IN BOLTED CONNECTIONS, PROVIDE HIGH STRENGTH BOLTS, NUTS, AND WASHERS IN BOLTED STEEL CONNECTIONS AND INSTALL CONNECTORS ACCORDING TO RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS". CUT, DRILL, OR PUNCH BOLT HOLES PERPENDICULAR TO METAL SURFACES. EITHER ASTM A325 OR A490 BOLTS MAY BE USED FOR SNUG TIGHTENED CONNECTIONS. ALL CONNECTIONS EXCEPT LISTED BELOW SHALL BE SNUG TIGHTENED:

a. JOINTS THAT UTILIZE OVERSIZED HOLES
b. JOINTS THAT CONNECT BRACING MEMBERS FOR LATERAL RESISTING SYSTEM
c. JOINTS THAT UTILIZE SLOTTED HOLES EXCEPT THOSE WITH APPLIED LOAD APPROXIMATELY NORMAL TO THE DIRECTION OF THE LONG DIMENSION OF THE SLOT.

9. IN WELDED CONNECTIONS, COMPLY WITH AWS D1.1 FOR WELDING PROCEDURE SPECIFICATIONS, TOLERANCES, APPEARANCE, AND QUALITY OF WELDS AND FOR METHODS USED IN CORRECTING WELDING WORK. COMPLY WITH AISC MINIMUM WELDING REQUIREMENTS.

10. SHEAR CONNECTORS (SHEAR STUDS) SHALL BE OF THE HEIGHT AND DIAMETER AS NOTED ON THE COMPOSITE FLOOR DECK DETAIL ON THESE DRAWINGS. CONNECTORS SHALL BE ASTM A108, GRADE 1015 THROUGH 1020, HEADED STUD, COLD-FINISHED CARBON STEEL; AWS D1.1, TYPE B. SPACE CONNECTORS UNIFORMLY ON EACH SIDE OF THE BEAM MIDSPAN IN THE PORTION OF THE DECK RIB CLOSEST TO THE NEAREST END OF THE BEAM, UNLESS OTHERWISE NOTED. IN ADDITION TO THE TESTING AND INSPECTIONS LISTED BELOW, TEST AND INSPECT FIELD WELDED SHEAR CONNECTORS ACCORDING TO REQUIREMENTS IN AWS D1.1 FOR STUD WELDING AND AS FOLLOWS:

a. PERFORM BEND TESTS IF VISUAL INSPECTIONS REVEAL EITHER A LESS THAN CONTINUOUS 360 DEGREES FLASH OR WELDING REPAIRS TO ANY SHEAR CONNECTOR.
b. CONDUCT TESTS ON ADDITIONAL SHEAR CONNECTORS IF WELD FRACTURE OCCURS ON SHEAR CONNECTORS ALREADY TESTED, ACCORDING TO REQUIREMENTS IN AWS D1.1.
c. CORRECT DEFICIENCIES IN WORK THAT TEST REPORTS AND INSPECTIONS INDICATE SHEAR CONNECTORS NOT IN COMPLIANCE WITH THESE DOCUMENTS.

11. BASE AND BEARING PLATES WHICH ARE SUPPORTED OVER CONCRETE OR MASONRY SHALL BE PLACED OVER 2" OF GROUT WITH A TOLERANCE OF +/- $\frac{1}{2}$" UNLESS OTHERWISE NOTED. CLEAN CONCRETE AND MASONRY SURFACES OF BOND REDUCING MATERIAL AND ROUGHEN SURFACES. SET PLATES FOR STRUCTURAL MEMBERS ON WEDGES, SHIMS, OR SETTING NUTS AS REQUIRED. TIGHTEN ANCHOR RODS AFTER MEMBER IS POSITIONED AND PLUMBED. DO NOT REMOVE WEDGES, BUT IF PROTRUDING, CUT OFF FLUSH WITH BASE PLATE. PROMPTLY PACK GROUT SOLIDLY BETWEEN BEARING SURFACES SO NO VOIDS REMAIN. GROUT SHALL CONFORM TO ASTM C1107, FACTORY-PACKAGED, NONMETALLIC AGGREGATE GROUT, NONCORROSIVE, NON STAINING, MIXED WITH WATER TO CONSISTENCY SUITABLE FOR APPLICATIONS. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI.

12. FURNISH ANCHORAGE ITEMS EMBEDDED OR ATTACHED TO OTHER CONSTRUCTION BY USE OF SETTING DIAGRAMS AND TEMPLATES. DO NOT FLOAT-IN THESE ITEMS.

13. ACCURATELY FINISH ENDS OF COLUMNS AND OTHER MEMBERS TRANSMITTING BEARING LOADS.

14. PROVIDE TEMPORARY SHORES, GUYS, BRACES, AND OTHER SUPPORTS DURING ERECTION TO KEEP STRUCTURAL STEEL SECURE, PLUMB, AND IN ALIGNMENT AGAINST TEMPORARY CONSTRUCTION LOADS AND LOADS EQUAL IN INTENSITY TO DESIGN LOADS. ALSO, PROVIDE TEMPORARY SUPPORTS IN STEEL TO STEEL CONNECTIONS AND ALL OTHER LOCATIONS PER OSHA REQUIREMENTS.

15. MAINTAIN ERECTION TOLERANCES OF STRUCTURAL STEEL WITHIN AISC'S "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

16. ONLY SPLICE MEMBERS WHERE INDICATED ON THE DESIGN DOCUMENTS.

17. ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTION AGENCY TO INSPECT FIELD WELDS AND HIGH-STRENGTH BOLTED CONNECTIONS. SHOP-BOLTED CONNECTIONS SHALL BE INSPECTED ACCORDING TO RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASSTM A325 OR A490 BOLTS". FIELD WELDS SHALL BE VISUALLY INSPECTED ACCORDING TO AWS D1.1, EXCEPT FULL PENETRATION WELDS SHALL ALSO BE INSPECTED PER ULTRASONIC INSPECTION PER ASTM E164.

WOOD FRAMING

1. ALL ROUGH CARPENTRY SHALL CONFORM TO THE REQUIREMENTS OF THE "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION," 2018 EDITION BY THE NATIONAL FOREST PRODUCTS ASSOCIATION. WOOD FRAMING SHALL BE CONNECTED AS SPECIFIED IN THE INTERNATIONAL BUILDING CODE TABLE 2304.9.1, UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS.

2. ALL FRAMING LUMBER INCLUDING STUDS, PLATES, LINTELS, JOISTS, RAFTERS AND BEAMS SHALL BE SPF #2 WITH 19% MAXIMUM MOISTURE CONTENT.

3. ALL LUMBER, BLOCKING, FURRING AND OTHER WOOD IN CONTACT WITH CONCRETE, MASONRY, THE GROUND OR EXPOSED TO THE WEATHER SHALL BE PRESSURE TREATED WITH WATER-BORNE PRESERVATIVES IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVERS' INSTITUTE STANDARD AWPA-P5.

4. ALL STEEL FASTENERS IN TREATED WOOD SHALL BE OF HOT-DIPPED ZINC GALVANIZED STEEL (G185) OR STAINLESS STEEL.

5. ALL WOOD I-JOIST, TJW JOISTS AND MICRO-LAM VENEER LUMBER SHALL BE EQUAL TO PRODUCT MANUFACTURED BY TRUSJOIST, A WEYERHAEUSER BUSINESS.

6. STRUCTURAL WALL SHEATHING SHALL BE 1/2" APA RATED SHEATHING (32/16, EXPOSURE 1) NAILED TO VERT. WOOD SUPPORTS WITH 8d NAILS AT 6" o.c. AT PANEL EDGES AND 12" o.c. AT INTERMEDIATE SUPPORTS. PROVIDE STUD BLOCKING AT ALL SHEATHING JOINTS.

7. STRUCTURAL FLOOR SHEATHING SHALL BE 3/4" TONGUE AND GROOVE APA RATED SHEATHING (32/16, EXPOSURE 1) GLUED AND NAILED TO WOOD FLOOR WITH 8d NAILS AT 6" o.c. AT PANEL EDGES AND 12" o.c. AT INTERMEDIATE SUPPORTS, UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS.

8. STRUCTURAL ROOF SHEATHING SHALL BE 1/2" APA RATED SHEATHING (32/16, EXPOSURE 1) NAILED TO WOOD TRUSSES WITH 8d NAILS AT 6" o.c. AT PANEL EDGES AND 12" o.c. AT INTERMEDIATE SUPPORTS, UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. PROVIDE (1) PANEL SHEATHING CLIP AT MIDSPAN OF ALL UNSUPPORTED PANEL EDGES.

9. SECURE MULTIPLE SOLID SAWN LUMBER MEMBERS TOGETHER WITH (2) 10d NAILS AT 12" O.C. PER PLY. SECURE MULTIPLE LVL BEAM MEMBERS TOGETHER WITH (2) 12d NAILS AT 6" o.c. PER PLY.

10. WALL AND ROOF CLADDING VALUES:
WALL CLADDING SHALL BE DESIGNED FOR 24.1 POUNDS PER SQUARE FOOT (LBS/SQFT) OR GREATER POSITIVE AND NEGATIVE PRESSURE.
ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:
45.5 LBS/SQFT FOR ROOF PITCHES 0/12 TO 2.25/12
34.8 LBS/SQFT FOR ROOF PITCHES 2.25/12 TO 7/12
21.0 LBS/SQFT FOR ROOF PITCHES 7/12 TO 12/12
**MEAN ROOF HEIGHT 30'-0" OR LESS

11. PROVIDE CONTINUOUS SHEATHING WHERE APPLICABLE.

12. INTERIOR WALL SHEATHING SHALL BE 1/2" GYPSUM BOARD (GB) SECURE w/ 5d COOLER NAILS OR EQUAL SPACED @ 7" O.C. AT PANEL EDGES, INCLUDING TOP AND BOTTOM PLATES & 7" O.C AT INTERMEDIATE SUPPORTS.

NORTH CAROLINA PROFESSIONAL SEAL 024899 ENGINEER PRENTICE A TYNDALL JR 4/20/21

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Plan: MI CANCUN

GENERAL NOTES

Project #: 2001-010539B
Date: 04/20/2021
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DESIGN LOADS

1. BUILDING CODES
a. NORTH CAROLINA BUILDING CODE 2018 EDITION
b. MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES, ASCE 7-10

2. ROOF DEAD LOAD	15PSF
3. ROOF LIVE LOAD	20 PSF
4. ROOF SNOW LOAD	
a. FLAT-ROOF SNOW LOAD, Pf	15 PSF
b. SNOW EXPOSURE FACTOR, Ce	0.9
c. SNOW IMPORTANCE FACTOR, Is	1.0
d. THERMAL FACTOR, Ct	1.0
5. FLOOR DEAD LOAD	
a. TYPICAL FLOOR	15 PSF
6. FLOOR LIVE LOADS	
a. SLAB-ON-GRADE	100 PSF
7. WIND LOADS/DATA	
a. BASIC WIND SPEED (3 SECOND GUST)	120 MPH
b. RISK CATEGORY	II
c. EXPOSURE	B
d. INTERNAL PRESSURE COEFFICIENT, GCpi	+/-0.18
e. TOPOGRAPHY FACTOR, Kzt	1.00
f. APPLIED DIRECTIONALITY FACTOR, Kd	0.85
g. WIND BASE SHEAR	
Wx	7.2 KIPS
Wy	8.0 KIPS
8. SEISMIC LOADS/DATA	
a. ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
b. SITE CLASS	D
c. SEISMIC IMPORTANCE FACTOR Ie	1.0
f. SITE COEFFICIENT, Fa	1.6
g. SITE COEFFICIENT, Fv	2.4
h. SPECTRAL RESPONSE COEFFICIENT, Sds	0.136
i. SPECTRAL RESPONSE COEFFICIENT, Sd1	0.101
BASIC STRUCTURAL SYSTEM	STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
j. RESPONSE MODIFICATION FACTOR, R	3
k. SEISMIC RESPONSE COEFFICIENT, Cs	0.061
q. SEISMIC BASE SHEARS	
Sx	1.5 KIPS
Sy	1.5 KIPS

ABBREVIATIONS

+/-	PLUS OR MINUS
@	AT
&	AND
Ø	DIAMETER
AB	ANCHOR BOLTS
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AISC	AMER. INSTITUTE OF STEEL CONSTRUCTION
AISI	AMER. IRON & STEEL INSTITUTE
ALT	ALTERNATE
ARCH	ARCHITECTURAL/ARCHITECT'S
ASTM	AMER. SOCIETY FOR TESTING & WELDING
AWS	AMERICAN WELDING SOCIETY
B/ OR BOT	BOTTOM
BCX	BOTTOM CHORD EXTENSION
BFF	BELOW FINISHED FLOOR
BLDG	BUILDING
BM	BEAM
BOS	BOTTOM OF STEEL
BRG	BEARING
BTWN	BETWEEN
MECH	MECHANICAL
CANT	CANTILEVER BEAM
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST JT	CONSTRUCTION JOINT
CONT	CONTINUOUS
CONTR	CONTRACTOR
CTRD	CENTERED
d	NAILS (PENNY)
DBA	DEFORMED BAR ANCHOR
DEFL	DEFLECTION
DEPR	DEPRESSION / DEPRESSED
DET	DETAIL
DIAG	DIAGONAL
DIM	DIMENSION
DIST	DISTANCE
DWG (S)	DRAWING (S)
DWL (S)	DOWEL (S)
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EMBED	EMBEDDED / EMBEDMENT
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDN	FOUNDATION
FFE	FINISHED FLOOR ELEVATION
FOM	FACE OF MASONRY
FOW	FACE OF WALL
FS	FAR SIDE
FTG	FOOTING

GA	GAUGE
GALV	GALVANIZED
HD	HEADED
HI	HIGH
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SYSTEM
INT	INTERIOR
JT	JOINT
K	KIP(S)
KB	KNEE BRACE
KSI	KIPS PER SQ. INCH
LB	LONG BAR
LBS	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LO	LOW
LOC	LOCATION
LWC	LIGHT WEIGHT CONCRETE
MAX	MAXIMUM
MC	MOMENT CONNECTION
MECH	MECHANICAL
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOW	MIDDLE OF WALL
MP	MASONRY PILASTER
No OR #	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE HAND
PAF	POWDER ACTUATED FASTENER
PED	PEDESTAL
⅊	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
REF	REFERENCE
REINF	REINFORCING
REQ'D	REQUIRED
SB	SHORT BAR
SCHD	SCHEDULE
SIM	SIMILAR
SOG	SLAB ON GRADE
SPEC (S)	SPECIFICATION (S)
SQ	SQUARE
STD	STANDARD
STIFF	STIFFENER
STIRR	STIRRUP (S)
STL	STEEL
STR	STRUCTURAL
T/	TOP
TCX	TOP CHORD EXTENSION
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
WP	WORK POINT
WWF	WELDED WIRE FABRIC

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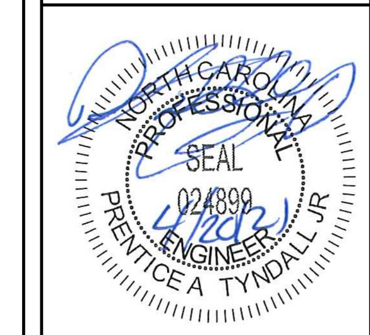

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Plan: MI CANCUN

GENERAL NOTES

Project #: 2001-010539B
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Drawn/Design By: KFR
DWG. Checked By: PTII
Scale: N/A

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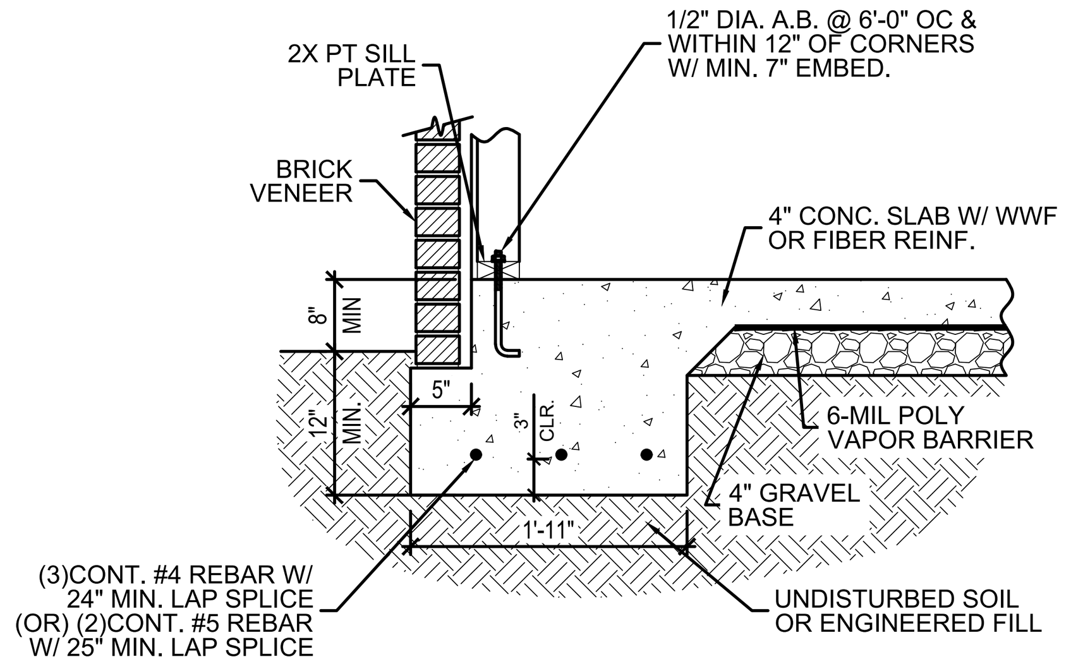
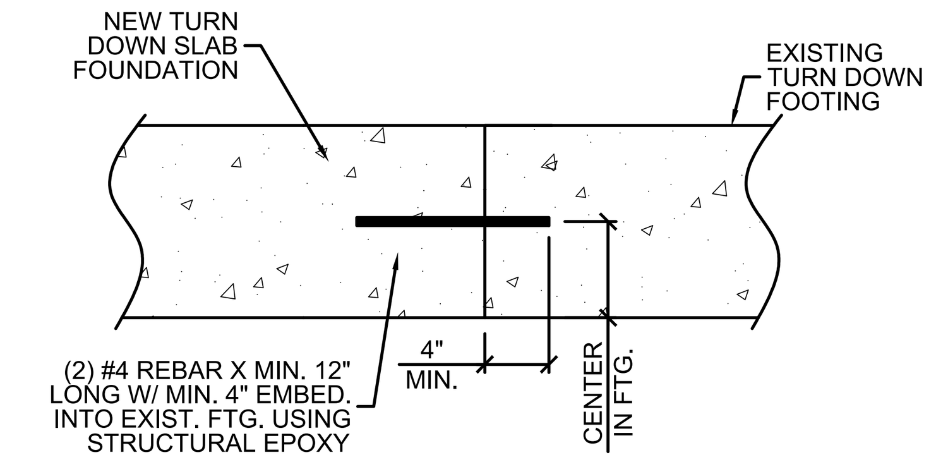


A MONOLITHIC SLAB FOUNDATION

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



B NEW TO EXISTING

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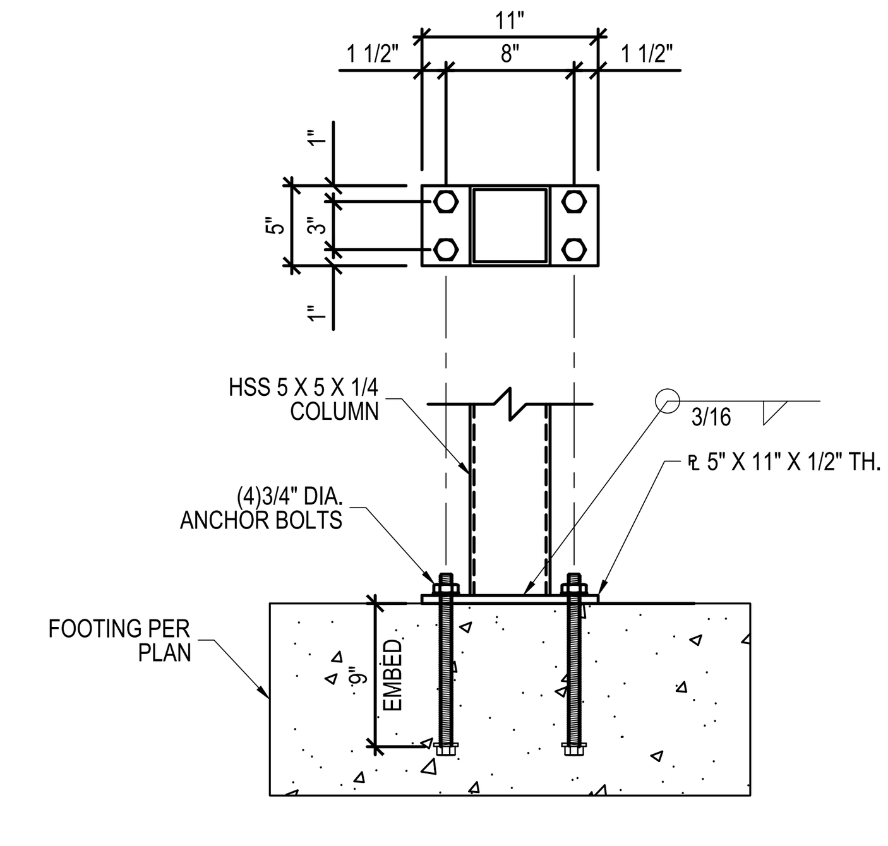
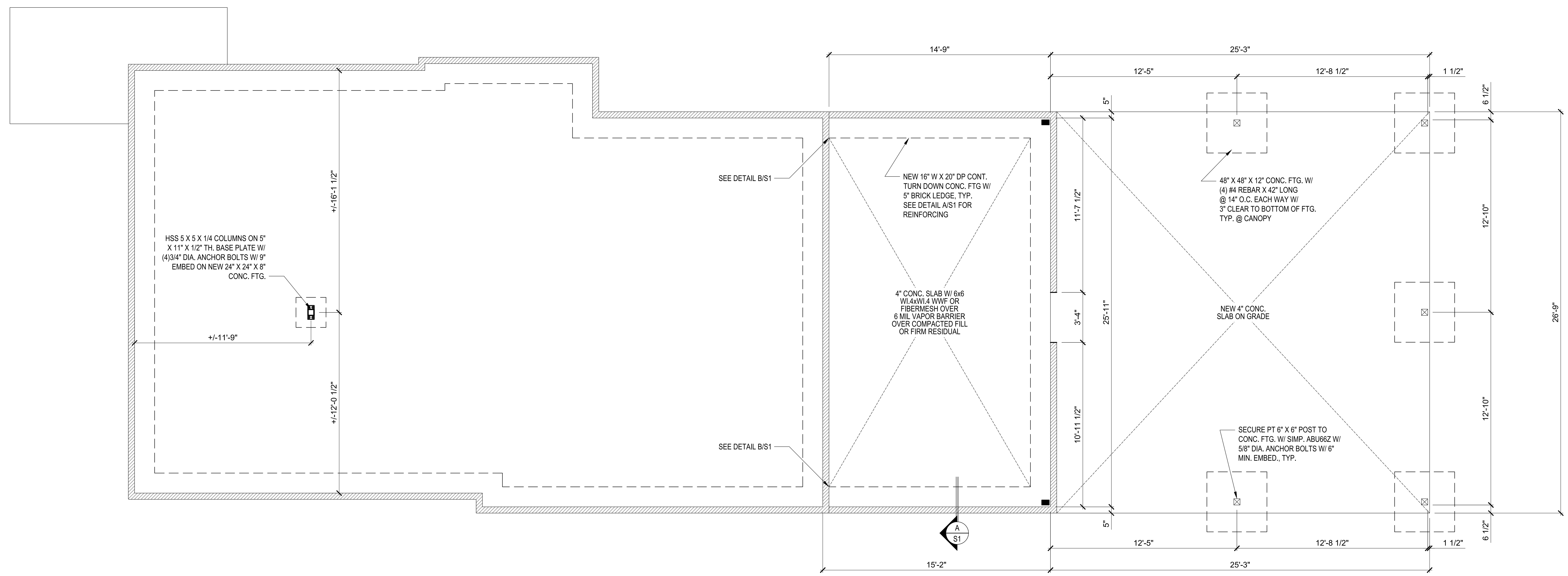


C COLUMN FOOTING @ INTERIOR

SCALE: 1" = 1'-0"



FOUNDATION PLAN

1/4" = 1'-0"

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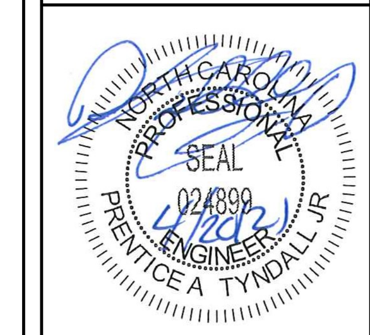

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FOUNDATION PLAN

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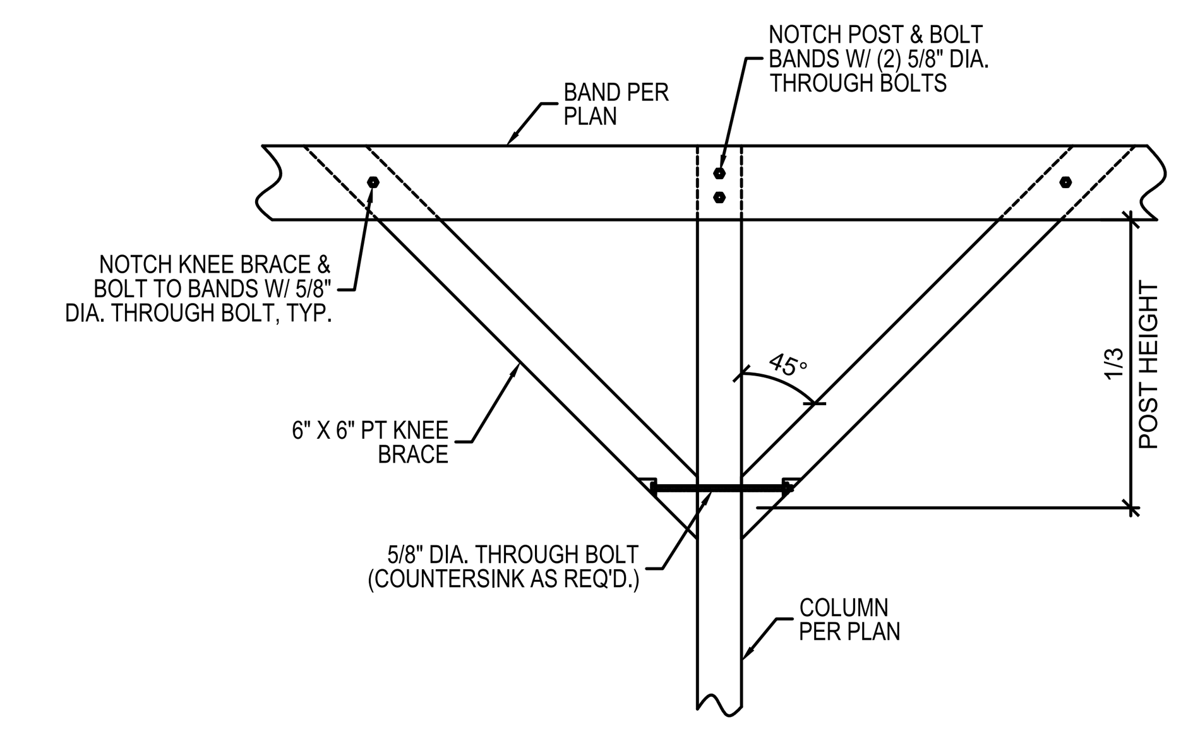
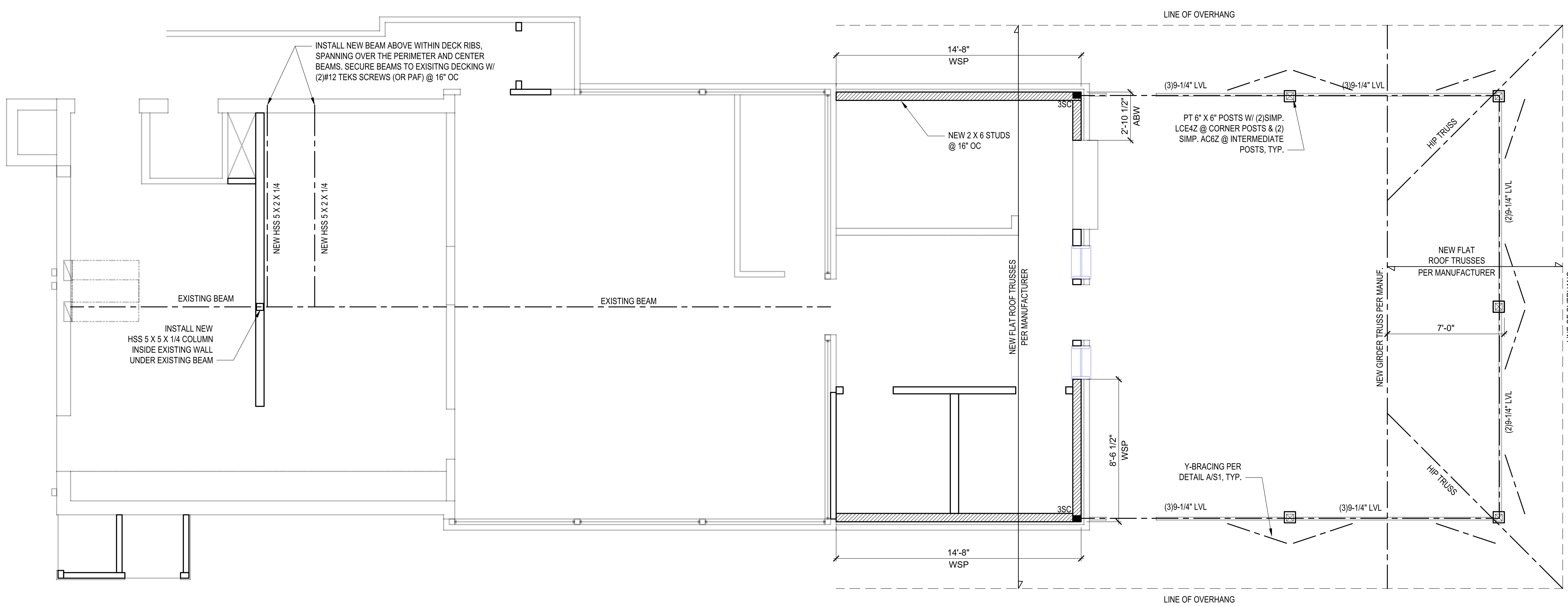


A POST BRACING

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



FIRST FLOOR PLAN

1/4" = 1'-0"

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1ST FLOOR HEADER

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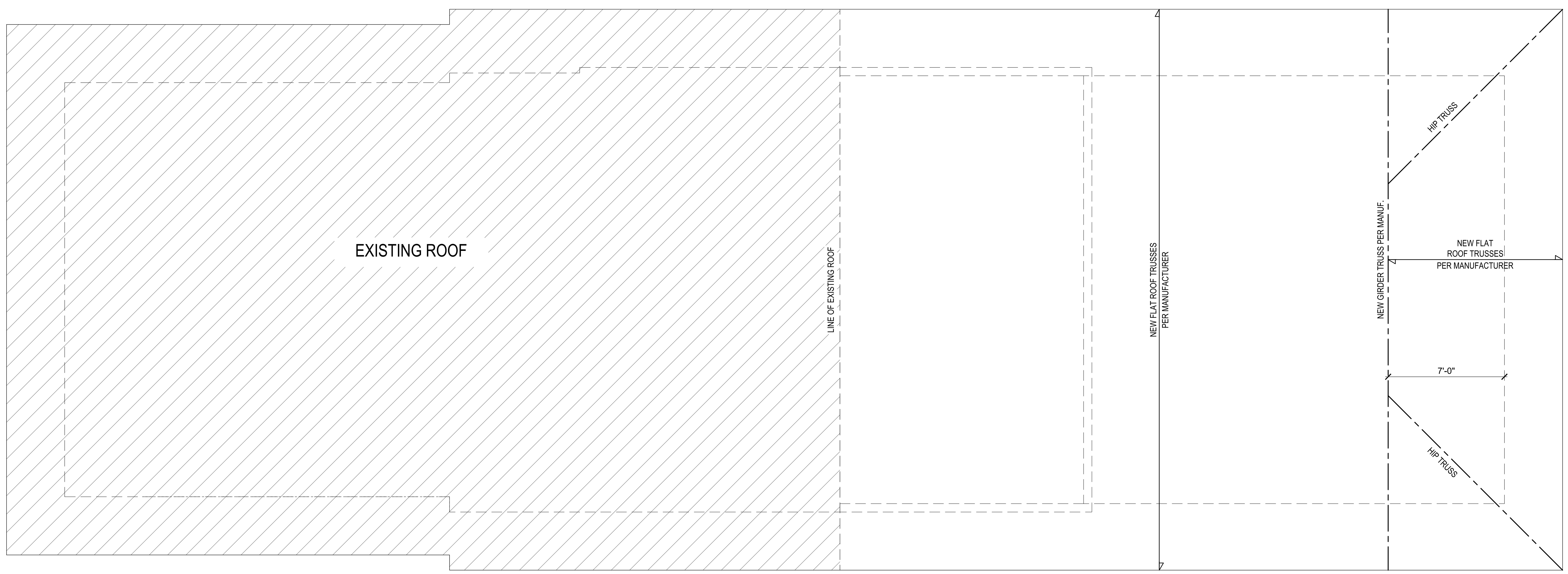

ROOF PLAN

1/4" = 1'-0"

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ROOF PLAN

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