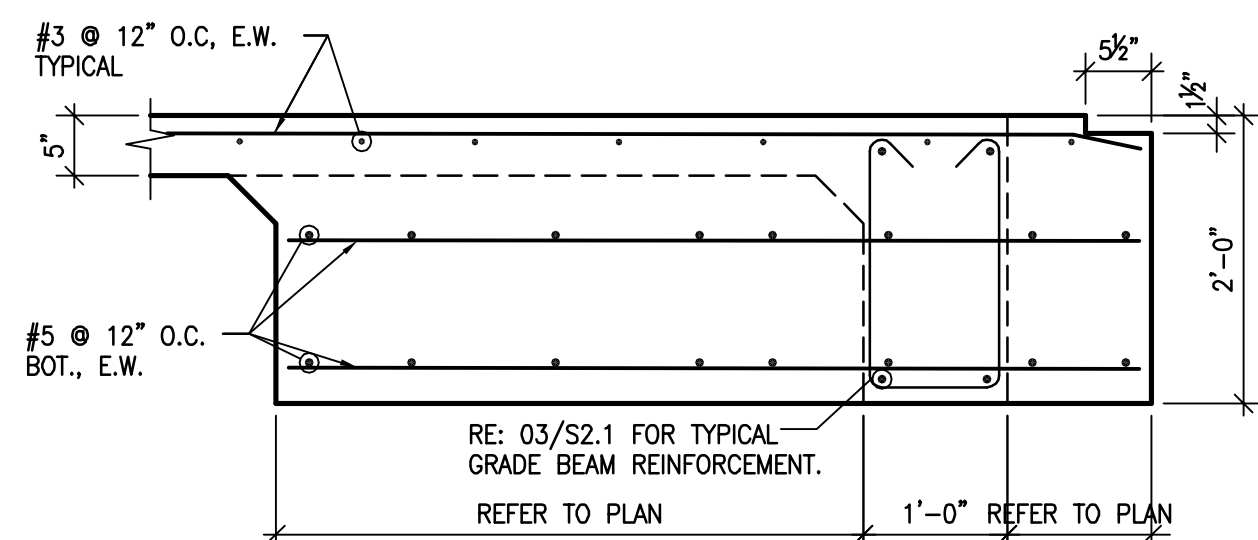
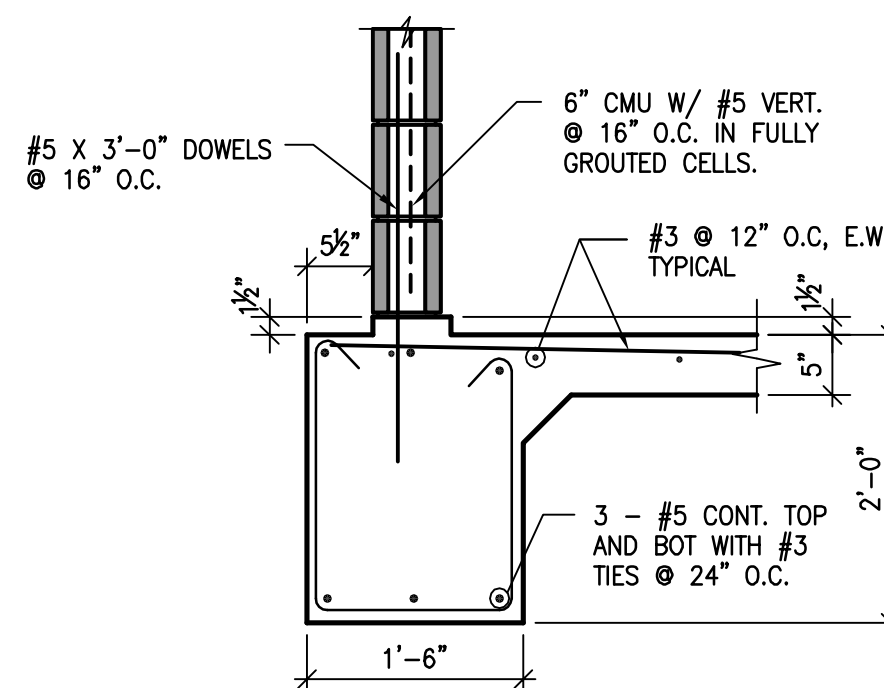


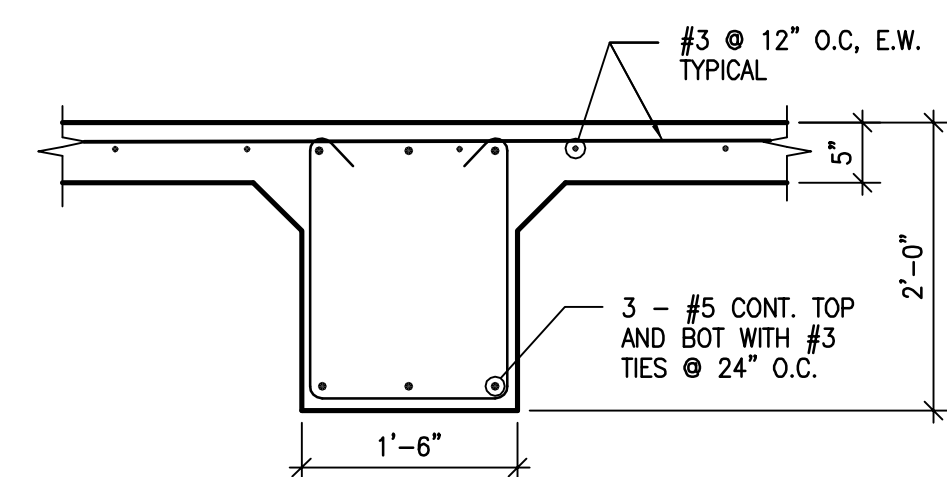
01 TYPICAL CORNER BAR DETAILS
SCALE: 3/4" = 1'-0"



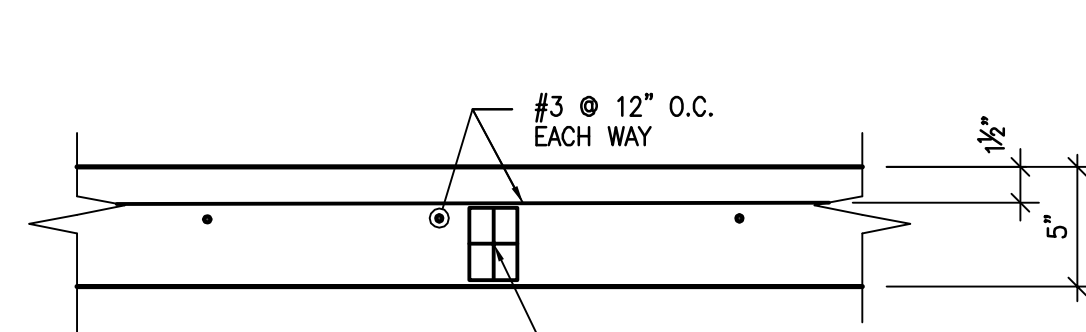
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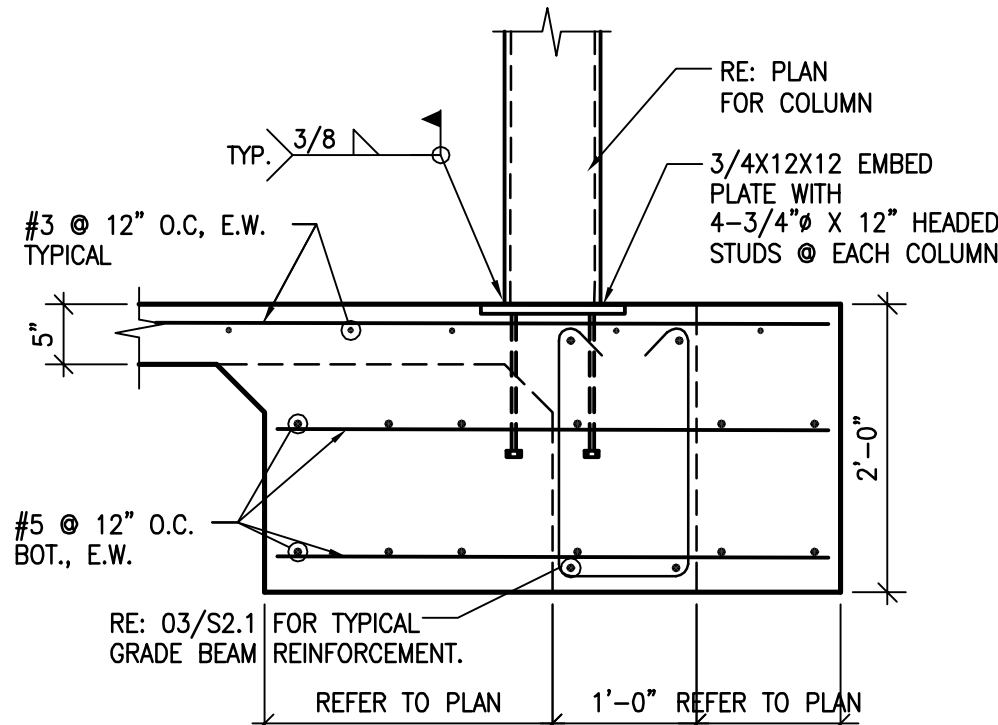
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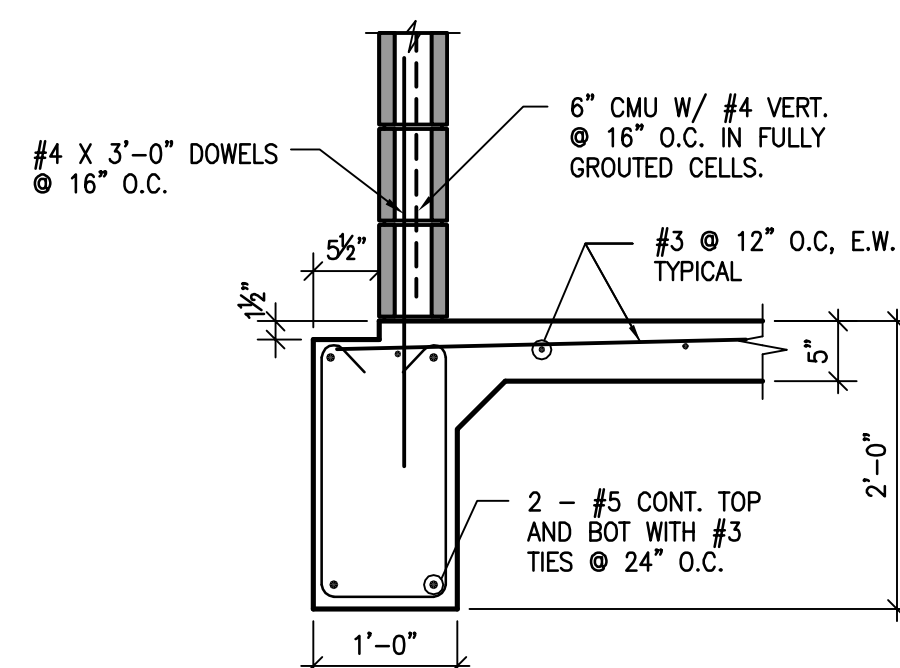
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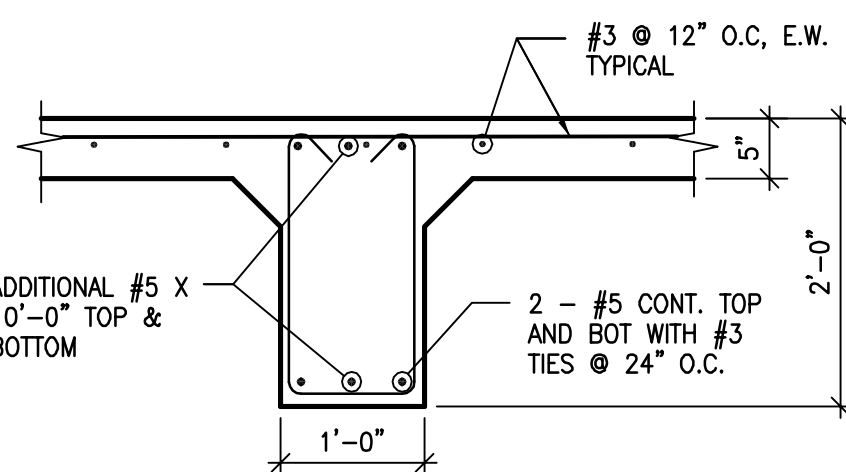
02 SLAB REINFORCEMENT PLACEMENT DETAIL
SCALE: 1 1/2" = 1'-0"



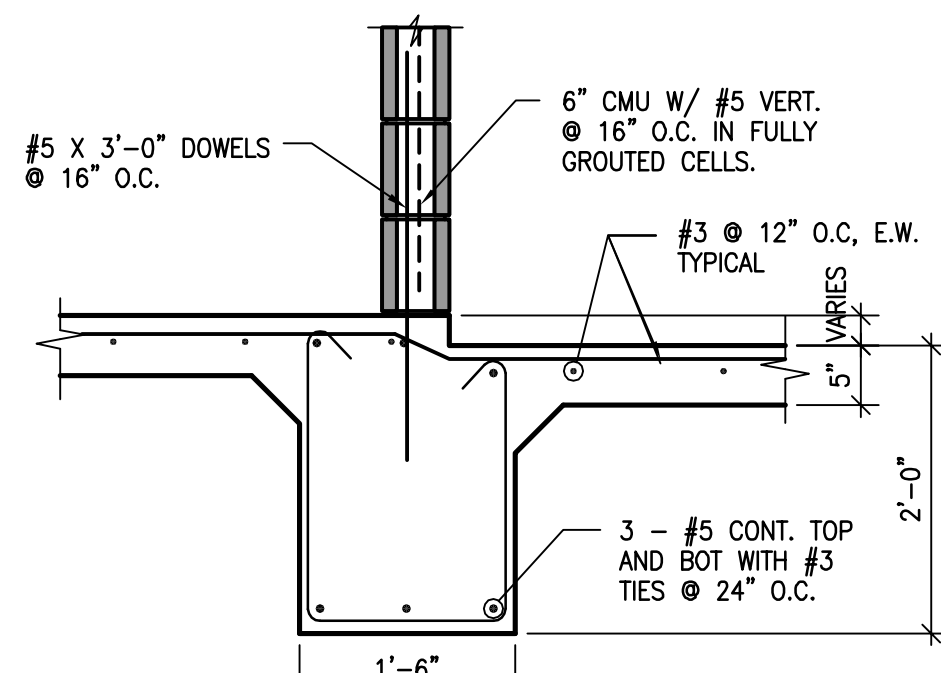
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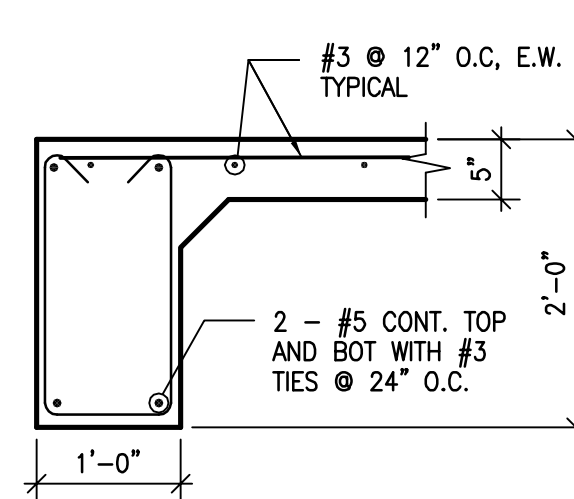
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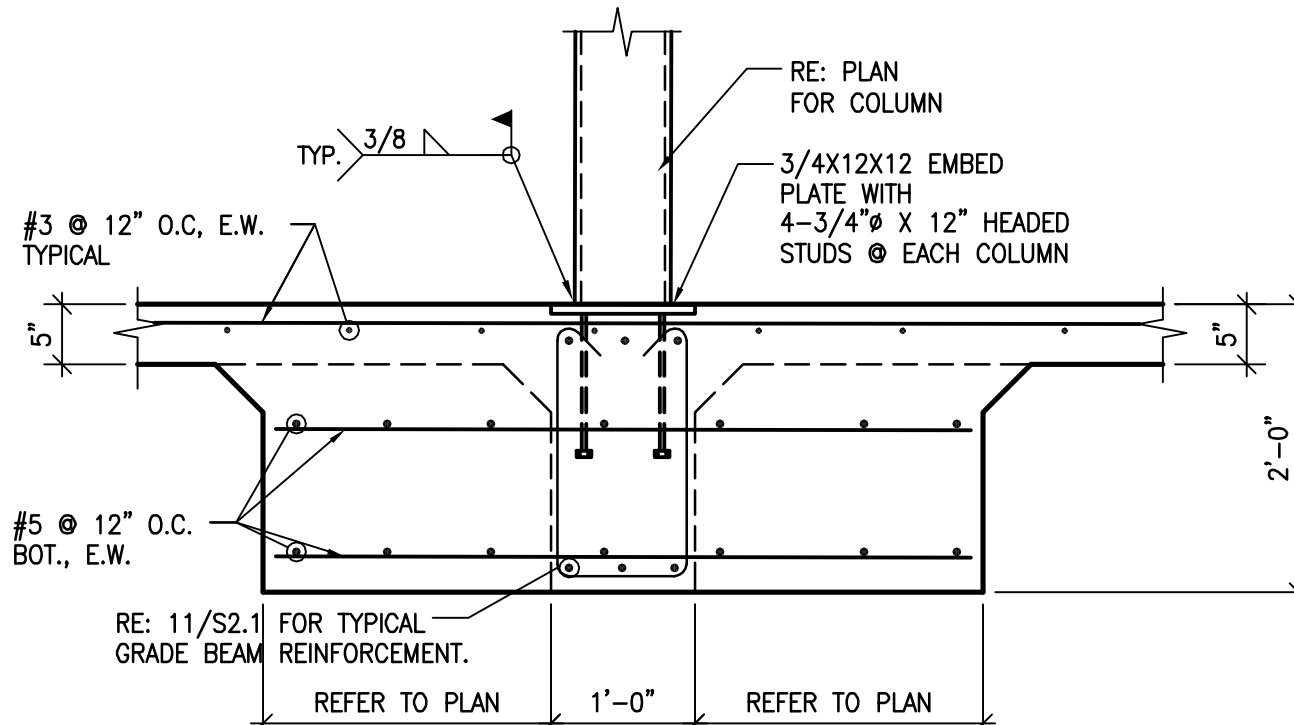
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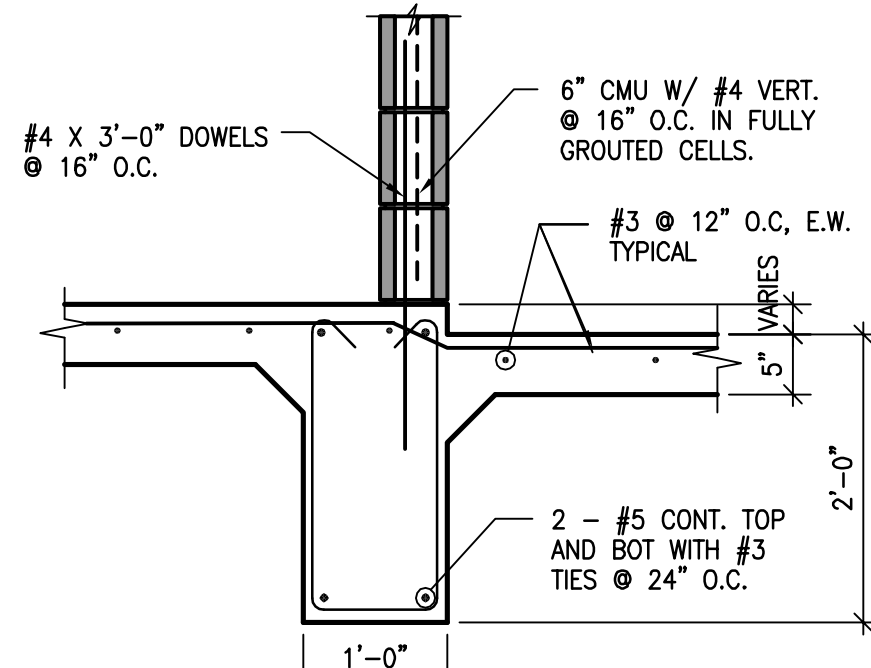
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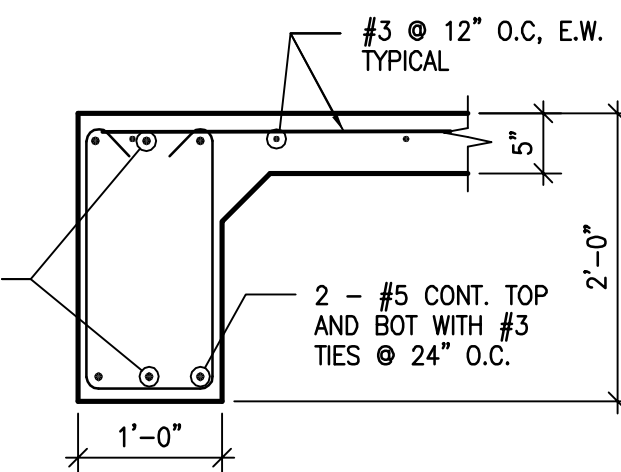
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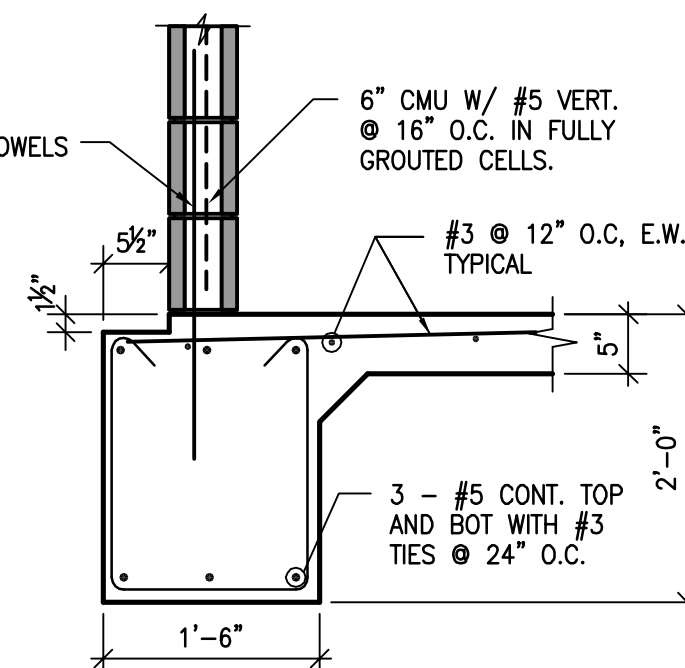
06 SECTION
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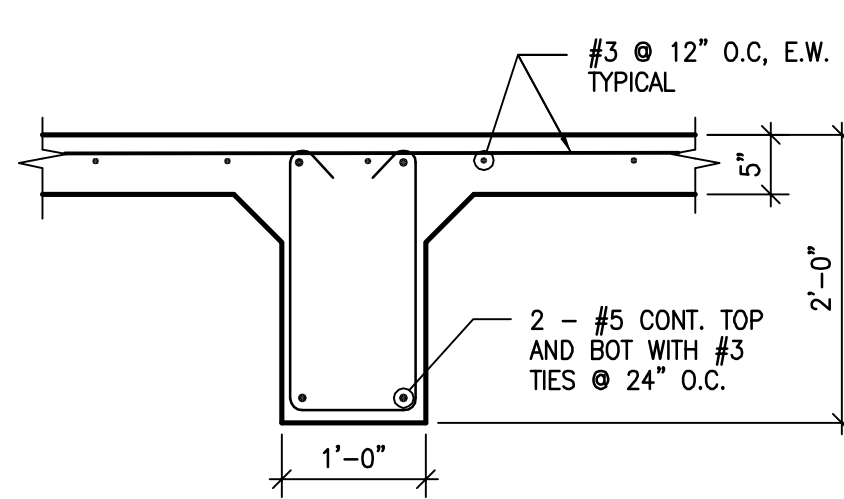
09 SECTION
SCALE: 3/4" = 1'-0"



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



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



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

CODE & DESIGN SPECIFICATIONS:

GENERAL: 2009 INTERNATIONAL RESIDENTIAL CODE IS USED AS THE BASIC CODE DOCUMENT. THIS IS SUPPLEMENTED BY THE FOLLOWING SPECIFICATIONS AND REFERENCES TO BE USED FOR DESIGN, DETAILING AND CONSTRUCTION.

- STRUCTURAL CONCRETE: 2002 BUILDING CODE FOR REINFORCED CONCRETE OF THE AMERICAN CONCRETE INSTITUTE (ACI 318 - 2002).
- SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 301-84, AMERICAN CONCRETE INSTITUTE.
- CONTROL OF CRACKING IN CONCRETE STRUCTURES, ACI 224R - 80, AMERICAN CONCRETE INSTITUTE.

DESIGN LOADS:

SOIL BEARING 2500 PSF

STRUCTURAL CONCRETE

- TYPICAL CONCRETE SHALL BE HARDROCK CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH AS SPECIFIED BELOW AT 28 DAYS. FIVE SACKS (470 LBS) MINIMUM OF CEMENT PER CUBIC YARD SHALL BE USED. NO CALCIUM CHLORIDE OR FLY ASH SHALL BE PERMITTED IN THE CONCRETE MIX. READY-MIXED CONCRETE SHALL CONFORM TO ASTM C94. MIX DESIGN SHALL INCLUDE LOCATION WHERE CONCRETE IS TO BE USED.

SLAB-ON-GRADE	3000 PSI
GRADE BEAMS	3000 PSI
- CONCRETE SLUMPS SHALL BE FIVE INCHES MAXIMUM AND THREE INCHES MINIMUM.
- PORTLAND CEMENT SHALL CONFORM TO ASTM C150. AGGREGATE SHALL CONFORM TO ASTM C33. MAXIMUM AGGREGATE SIZE SHALL BE ONE INCH.
- ALL CONCRETE WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LATEST A.C.I. SPECIFICATIONS.
- ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 EXCEPT STIRRUPS AND TIES WHICH MAY BE GRADE 40.
- REINFORCING STEEL SHALL BE DESIGNED, DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE LATEST A.C.I. "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (A.C.I. 315) AND THE C.I.A.I. "RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS", LATEST EDITION.
- REINFORCEMENT SPLICES SHALL LAP A MINIMUM OF 36 BAR DIAMETERS AND 18 INCHES MINIMUM UNLESS OTHERWISE NOTED. BAR SPLICES AT LOCATIONS OF HIGH STRESS ARE NOT PERMITTED. SPLICES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
- PROVIDE SPACERS, CHAIRS, BOLSTERS, TIES AND OTHER ACCESSORIES CONFORMING TO THE REQUIREMENTS OF THE C.I.S.I.
- ALL GRADE BEAMS SHALL BE FORMED ON EXTERIOR SIDE.

FOUNDATION:

- BUILDING SITE SHALL BE EXCAVATED TO A DEPTH SUFFICIENT TO REMOVE ALL TOP SOIL DOWN TO LIGHT CALICHE SOILS OR BED ROCK. THE EXPOSED SUBGRADE SHOULD BE PROOF-ROLLED WITH A MINIMUM 15-TON RUBBER TIRE DUMP TRUCK OR LOADER UNDER THE SUPERVISION OF GEOTECHNICAL ENGINEER TO DETECT ANY SOFT AREAS PRIOR TO SELECT FILL PLACEMENT. BUILDING SITE EXTENDS TO TWO FEET BEYOND FOOTPRINT.
- ALL FILL REQUIRED TO RAISE TO PROPER SUBGRADE SHALL BE SELECT FILL. SELECT FILL SHALL HAVE A PI BETWEEN 5 AND 15 WITH A MAXIMUM LIQUID LIMIT OF 35 PERCENT. THE FILL SHALL BE INSTALLED IN EIGHT INCH MAXIMUM LOOSE LIFTS AND UNIFORMLY COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR (ASTM D698) MAXIMUM DRY DENSITY WITHIN MINUS TWO TO PLUS THREE PERCENT OF OPTIMUM MOISTURE.
- GRADE BEAMS SHALL BEAR A MINIMUM OF 12" IN PROPERLY COMPACTED FILL OR UNDISTURBED NATURAL GROUND WHERE SUITABLE. A QUALIFIED GEOTECHNICAL ENGINEER SHOULD BE PRESENT AT THE SITE TO DETERMINE WHICH AREAS WILL REQUIRE OVER-EXCAVATION AND RECOMPACTION.
- IF THE "BAG METHOD" IS USED TO FORM THE GRADE BEAMS, THE SELECT FILL PLACED BETWEEN THE BAGGED BEAM TRENCHES MUST BE HAND COMPACTED WITH MECHANICAL TAMPERS TO THE DENSITY AS SPECIFIED ABOVE. LOOSE DUMPED UN-COMPACTED SELECT FILL PLACED BETWEEN BAGGED BEAM TRENCHES COULD CONSOLIDATE OVER TIME LEADING TO FLOOR SLAB SETTLEMENT.
- CONSTRUCTION JOINTS ARE NOT PERMITTED UNLESS SHOWN.
- TRENCHES FOR PLUMBING LINES SHALL NOT BE LOCATED DIRECTLY UNDER BEAMS. LOCATE BETWEEN BEAMS AND CROSS AT RIGHT ANGLES UNDER BEAM.
- WHERE THERE ARE DISCREPANCIES BETWEEN SLAB DIMENSIONS AND THE ARCHITECTURAL PLANS, THE ARCHITECTURAL PLANS SHALL CONTROL.
- UPON COMPLETION OF THE FINAL GRADING, ALL BEAMS SHALL HAVE A MINIMUM SOIL COVER OF 6 INCHES.
- IT IS ADVISABLE TO HAVE THE HOMEOWNER OR A REPRESENTATIVE OF THE BUILDER PRESENT DURING THE FOUNDATION POUR.

LIMITATIONS:

- HILL COUNTRY STRUCTURAL, INC. ADVISES ALL CONTRACTORS AND OWNERS THAT INSPECTION SERVICES ARE REQUIRED PRIOR TO THE CONCRETE PLACEMENT. IF THESE INSPECTIONS ARE NOT PERFORMED BY HILL COUNTRY STRUCTURAL, INC., HILL COUNTRY STRUCTURAL, INC. ACCEPTS NO RESPONSIBILITY WHATSOEVER FOR THE PROPER IMPLEMENTATION OF ITS DESIGNS AND SPECIFICATIONS AND IT HAS NO OBLIGATION TO INSURE THAT THE PLANS AND SPECIFICATIONS PROVIDED BY IT ARE FOLLOWED BY THE CONCRETE SUBCONTRACTOR.
- SINCE NO SOILS REPORT IS PROVIDED BY THE CLIENT, HILL COUNTRY STRUCTURAL, INC.'S DESIGN WILL BE BASED SOLELY ON THE AVERAGE SOIL CONDITIONS IN THE GENERAL LOCATION OF THE PROPOSED CONSTRUCTION SITE. AS A RESULT, HILL COUNTRY STRUCTURAL, INC. MAKES NO GUARANTEE, WARRANTY OR REPRESENTATION AS TO THE SUFFICIENCY OF DESIGN OF THE FOUNDATION FOR THE PARTICULAR TRACT OF LAND UPON WHICH THE CLIENT PROPOSES TO CONSTRUCT A STRUCTURE. RATHER, HILL COUNTRY STRUCTURAL, INC. WILL WARRANT THE DESIGN TO BE FREE FROM DEFECTS CONSTRUCTED UPON SOIL SUBSTANTIALLY SIMILAR IN ALL RESPECTS TO AVERAGE SOIL CONDITIONS FOR THE AREA.
- OWNER SHALL INSURE THAT MOISTURE CONTENT OF THE SOIL IS MAINTAINED AT A CONSISTENT LEVEL. DRAINAGE SHALL BE MAINTAINED SUCH THAT PONDING OF WATER DOES NOT DEVELOP. IF WATER IS PERSISTENT, BUILDER SHALL BE CONTACTED TO IMPROVE DRAINAGE. PONDING OF WATER IS THE MOST COMMON SOURCE OF SLAB DISTRESS.
- OWNER SHALL NOT PLANT TREES ADJACENT TO THE SLAB SUCH THAT THE ROOT SYSTEM CAN GET UNDER THE SLAB.
- OWNER SHALL CONTINUOUSLY INSPECT THE SLAB DURING HOT AND DRY PERIODS TO INSURE THAT WATERING IS ADEQUATE SUCH THAT SOIL IS NOT SEPARATING OR PULLING BACK FROM THE SLAB.
- THE RENDERING OF THIS PLAN CONSISTS OF A PROFESSIONAL SERVICE, THE ESSENCE OF WHICH IS HILL COUNTRY STRUCTURAL, INC.'S ADVICE, JUDGEMENT, OPINION, AND PROFESSIONAL SKILL.

GENERAL CONDITIONS:

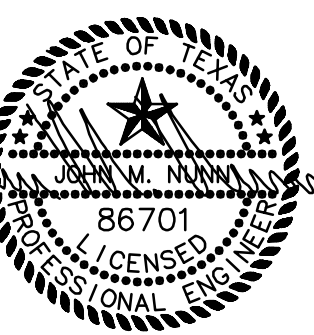
- THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND DETAILS BEFORE CONSTRUCTION AND REPORT ANY DISCREPANCIES OR OMISSIONS IN THE CONTRACT DOCUMENTS TO THE STRUCTURAL ENGINEER.
- THE CONTRACTOR SHALL COORDINATE ALL LEAVE-OUTS, SLEEVES AND OTHER SLAB PENETRATIONS BEFORE CONSTRUCTION.
- SITE, SUBGRADE, CONCRETE, AND CURING SHALL CONFORM TO THE PROVISIONS OF ACI 302.1R-80. GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION. IF UNUSUAL AMOUNTS OF WATER CONTINUE TO APPEAR ON SITE, A SOILS ENGINEER SHALL BE CONTACTED FOR CORRECTIVE ACTION.
- SITE GRADING AND DRAINAGE AROUND THE FOUNDATION SHALL BE MAINTAINED AT ALL TIMES IN SUCH A MANNER THAT SURFACE OR GROUND WATER WILL NOT COLLECT AROUND OR UNDER THE SLAB. THIS IS CRITICALLY IMPORTANT DURING THE PERIOD IMMEDIATELY AFTER THE CONCRETE PLACEMENT.
- IF TREES AND HIGH DENSITY BRUSH ARE REMOVED, CONTRACTOR SHALL FOLLOW GUIDELINES FOR PAD PREPARATION OUTLINED BY SOILS ENGINEER. TREES WHOSE CANOPY EXTENDS OVER SLAB ARE NOT ADVISED SINCE ROOT SYSTEMS CAN EXTEND UNDER THE SLAB, WHICH IS NOT PERMITTED.
- THERE SHALL BE A MINIMUM OF 6 INCHES OF CLEARANCE BETWEEN TOP OF SLAB OR BRICK LEDGE AND SOIL SURFACE.
- CONSTRUCTION JOINTS ARE NOT PERMITTED UNLESS SHOWN.
- TRENCHES FOR PLUMBING LINES SHALL NOT BE LOCATED DIRECTLY UNDER BEAMS. LOCATE BETWEEN BEAMS AND CROSS AT RIGHT ANGLES UNDER BEAM.
- WHERE THERE ARE DISCREPANCIES BETWEEN SLAB DIMENSIONS AND THE ARCHITECTURAL PLANS, THE ARCHITECTURAL PLANS SHALL CONTROL.
- UPON COMPLETION OF THE FINAL GRADING, ALL BEAMS SHALL HAVE A MINIMUM SOIL COVER OF 6 INCHES.
- IT IS ADVISABLE TO HAVE THE HOMEOWNER OR A REPRESENTATIVE OF THE BUILDER PRESENT DURING THE FOUNDATION POUR.

STEVENS RANCH

SAN ANTONIO, TEXAS

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NOVEMBER 3, 2011

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