

DESIGN CODES:

- 1.01 2012 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY:
A. ANSIVASCE 7-10, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
B. VA SEISMIC DESIGN REQUIREMENTS H-18-8, 2016 EDITION
C. VA STRUCTURAL DESIGN MANUAL FOR HOSPITALS, FEBRUARY 1, 2014
1.02 AMERICAN CONCRETE INSTITUTE (ACI)
A. ACI 318-11 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
1.03 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
A. ANSIVASCE 360-10, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
1.04 AMERICAN IRON AND STEEL INSTITUTE
A. AISI S100-12, NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, WITH SUPPLEMENT 1, DATED 2010

DESIGN LOADS:

- 1.01 DESIGN LOADS ARE AS FOLLOWS:
A. DEAD LOADS:
1. FLOOR: SELF WEIGHT OF CONSTRUCTION MATERIALS
2. INTERSTITIAL / ORIGINAL ROOF - SELF WEIGHT
B. COLLATERAL LOADS:
1. FLOOR: 10 PSF SUPERIMPOSED
2. INTERSTITIAL / ORIGINAL ROOF: 10 PSF
C. LIVE LOADS:
1. FLOOR: 100 PSF
2. INTERSTITIAL / ORIGINAL ROOF: 25 PSF
D. SNOW LOADS: N/A
E. WIND LOADS: N/A
F. EARTHQUAKE LOADS:
1. RISK CATEGORY = IV
2. SEISMIC IMPORTANCE FACTOR, Ie = 1.5
3. VA SEISMIC REQUIREMENTS H-18-8, 2016 EDITION
a. Ss = 0.985
b. S1 = 0.343
4. SITE CLASS = D (ASSUMED)
5. SPECTRAL RESPONSE COEFFICIENTS (FOR SITE CLASS D)
a. SDS = 0.726
b. SD1 = 0.392
6. SEISMIC DESIGN CATEGORY = F
1.02 DEFLECTION CRITERIA: REFER TO TABLE 1604.3 IN THE IBC FOR DEFLECTION LIMITS.
1.03 DRIFT CRITERIA: REFER TO TABLE 12.12-1 IN ASCE 7 FOR EARTHQUAKE ALLOWABLE STORY DRIFT.

GENERAL STRUCTURAL NOTES:

- 1.01 ELEVATIONS AS SHOWN ON THE STRUCTURAL DRAWINGS ARE RELATIVE TO EXISTING FINISHED FLOOR ELEVATION = 0'-0". COORDINATE WITH EXISTING.
1.02 WHERE A DETAIL, TYPICAL DETAIL, SECTION, TYPICAL SECTION OR NOTE IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL SIMILAR OR LIKE CONDITIONS UNLESS OTHERWISE NOTED.
1.03 THE STRUCTURAL DESIGN OF THE BUILDING IS BASED ON THE FULL INTERACTION OF ALL ITS COMPONENT PARTS, WITH NO PROVISION MADE FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THEREFORE, CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND TEMPORARY SHORING DURING CONSTRUCTION IN ACCORDANCE WITH APPLICABLE STANDARDS.
1.04 CONTRACTOR IS RESPONSIBLE FOR ALL JOB SITE SAFETY INCLUDING THE SAFE RIGGING, LIFTING AND SETTING OF MATERIALS AND EQUIPMENT IN ACCORDANCE WITH APPLICABLE STANDARDS.
1.05 FURNISH AND INSTALL ALL NECESSARY ATTACHMENTS, ANCHORAGES AND ACCESSORIES TO PROVIDE A COMPLETE STRUCTURALLY SOUND BUILDING WITH A CONTINUOUS LOAD PATH. BRING ANY DISCONTINUITIES TO THE ATTENTION OF THE GOVERNMENT IMMEDIATELY.
1.06 FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF FABRICATION OR CONSTRUCTION. BRING ANY DISCREPANCIES ALONG WITH DETAILED FIELD SKETCHES OF AS-BUILT CONDITIONS TO THE ATTENTION OF THE GOVERNMENT IMMEDIATELY.
1.07 COORDINATE AND VERIFY ALL DIMENSIONS AND DETAILS WITH THE CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, SHOP, AND SUBMITTAL DRAWINGS. NOTIFY THE GOVERNMENT IMMEDIATELY OF ANY DISCREPANCIES.
1.08 WHERE A CONFLICT BETWEEN THE SPECIFICATION AND THE DRAWINGS OCCURS FOLLOW THE REQUIREMENTS SHOWN ON THE DRAWINGS.

SHOP DRAWINGS

- 1.01 STRUCTURAL DRAWINGS INDICATE TYPICAL AND CERTAIN SPECIFIC CONDITIONS ONLY. SHOP DRAWINGS SHALL DETAIL ALL CONDITIONS IN ACCORDANCE WITH SPECIFIED STANDARDS AND THE SPECIFIC REQUIREMENTS OF THIS PROJECT AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS.
1.02 CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE HARD COPY AND LEGIBLE PDF FOR EACH STRUCTURAL COMPONENT FOR REVIEW PRIOR TO FABRICATION. DRAWINGS EXCEEDING C-SIZE (17X22) SHALL BE 1/2 SIZE.
1.03 PHOTOCOPY REPRODUCTIONS OF THE CONTRACT DOCUMENTS WILL BE REJECTED AND CONTRACTOR WILL BE RESPONSIBLE FOR ANY ASSOCIATED DELAYS. STRUCTURAL DRAWINGS INDICATE TYPICAL AND CERTAIN SPECIFIC CONDITIONS ONLY. SHOP DRAWINGS SHALL DETAIL ALL CONDITIONS IN ACCORDANCE WITH SPECIFIED STANDARDS AND THE SPECIFIC REQUIREMENTS OF THIS PROJECT AS INDICATED ON THE DRAWINGS. THE PURPOSE OF SHOP DRAWINGS IS TO VERIFY THAT THE CONTRACTOR HAS INTERPRETED THE INTENT OF THE CONSTRUCTION DOCUMENTS CORRECTLY, DETAIL ALL CONDITIONS, INDEPENDENTLY CHECK, CONFIRM AND COORDINATE ALL DIMENSIONS AND DETAILS, TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS, FUNCTIONALITY AND CONTRACTIBILITY AS WELL AS COORDINATE WITH OTHER TRADES AND ACTUAL PRODUCTS PURCHASED. THE CONTRACT DRAWINGS ARE NOT INTENDED FOR THIS PURPOSE AND TRANSLATION OF ELECTRONIC MEDIA MAY NOT BE ACCURATE. THE USE OF PHOTOCOPY REPRODUCTIONS DEFEATS THE PURPOSE OF SHOP DRAWINGS AND DOING SO IS ENTIRELY AT THE CONTRACTORS OWN RISK.
1.04 SUBMITTALS FOR VENDOR DESIGNED COMPONENTS, INCLUDING BUT NOT LIMITED TO CEILING SYSTEM AND LIGHT GAUGE STEEL FRAMING, SHALL BE ACCOMPANIED BY DRAWINGS AND CALCULATIONS SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT. IN ADDITION, THESE SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED UNDER THE DIRECT SUPERVISION OF THE STRUCTURAL ENGINEER SEALING THIS WORK.
1.05 REVIEW OF SUBMITTALS INCLUDING SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THOSE SUBMITTALS.
1.06 SUBMITTALS SHALL BE REVIEWED BY THE CONTRACTOR, PRIOR TO SUBMISSION FOR ENGINEER'S REVIEW, FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND AS-BUILT CONDITIONS. ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS SHALL BE CLEARLY NOTED ALONG WITH REASONS FOR THE DEVIATION.
1.07 ALLOW A MINIMUM OF TWO CALENDAR WEEKS (14 DAYS) FROM RECEIPT OF SUBMITTALS AT THE ENGINEERS OFFICE FOR REVIEW. ALLOW TIME IN THE CONSTRUCTION SCHEDULE FOR SHIPPING AND PROCESSING TIME IN ADDITION TO SUCH REVIEWS.

EXISTING CONDITIONS

- 1.01 AS WITH ANY WORK AFFECTING EXISTING CONSTRUCTION, UNFORESEEN CONDITIONS ARE UNAVOIDABLE WITHOUT DEMOLISHING OTHERWISE SERVICEABLE CONSTRUCTION, DISRUPTING OCCUPIED OPERATIONS AND INCURRING SIGNIFICANT COST FOR CLOSE UP EXAMINATION AND NON-DESTRUCTIVE TESTING DURING THE DESIGN STAGE.
1.02 WITH THE PASSAGE OF TIME SINCE THE CREATION OF AS-BUILT DRAWINGS AND/OR THE DESIGNERS SURVEY, BOTH CONCEALED AND VISIBLE CONDITIONS MAY HAVE CHANGED DUE TO ALTERATIONS, ADDITIONS, RENOVATIONS AND DETERIORATION.
1.03 PRIOR TO THE COMMENCEMENT OF ANY WORK IN PREPARATION OF CONSTRUCTION RELATED ACTIVITIES, INCLUDING BUT NOT LIMITED TO SHOP DRAWING PREPARATION, ALL BURIED, EMBEDDED, AND CONCEALED ITEMS LIKELY TO BE ENCOUNTERED DURING CONSTRUCTION SHALL BE LOCATED AND MARKED ON THE SURFACE. THIS WORK SHALL BE ACCOMPLISHED BY DESTRUCTIVE AND/OR NON-DESTRUCTIVE MEANS WITHOUT IMPAIRING THE STRUCTURAL INTEGRITY OF THE ASSOCIATED MEMBERS. SHORING AS REQUIRED SHALL BE DESIGNED BY A PROFESSIONAL STRUCTURAL ENGINEER, LICENSED IN THE STATE OF THE PROJECT, AND FURNISHED AND INSTALLED AT NO ADDITIONAL COST.
1.04 EXISTING CONDITIONS THAT INTERFERE OR OTHERWISE AFFECT THE DESIGN, CONSTRUCTION OR SERVICEABILITY OF THE WORK SHALL BE BROUGHT TO THE ATTENTION OF THE GOVERNMENT, INCLUDING PLAN AND SECTION SKETCHES, IMMEDIATELY FOR RESOLUTION. THE CONTRACTOR SHALL ALLOW TWO CALENDAR WEEKS IN THE SCHEDULE FOR DESIGN RESOLUTION THE INTERFERENCE AFTER ALL INFORMATION ABOUT THE INTERFERENCE, INCLUDING SIZE, LOCATION AND FUNCTION OF THE EMBEDMENT, HAS BEEN RECEIVED BY THE GOVERNMENT.
1.05 BURIED ITEMS OF CONCERN INCLUDE THOSE THAT MAY INTERFERE WITH PROPOSED CONSTRUCTION AND THOSE WITHIN 12 INCHES BELOW A SLAB ON GRADE AND 4 FT BELOW AND WITHIN THE FOOTING BEARING ZONE (DEFINED AS THE AREA BENEATH 1/2H LINES EXTENDING DOWNWARD AND OUTWARD FROM THE BOTTOM FOOTING EDGES), UNLESS OTHERWISE NOTED. PIPES SHALL NOT BE ALLOWED TO RUN UNDER A FOUNDATION, WHERE SPECIFICALLY ALLOWED AND UNLESS OTHERWISE DETAILED. A PIPE RUNNING BELOW A FOUNDATION SHALL BE SLEEVED WITHIN A GALVANIZED PIPE 3 INCHES LARGER IN DIAMETER WHICH EXTENDS 12 INCHES BEYOND THE INFLUENCE LINES. PIPES EXTENDING THROUGH A FOUNDATION SHALL BE CONTAINED WITHIN A GALVANIZED PIPE SLEEVE 3 INCHES LARGER IN DIAMETER. THE ENDS OF THE PIPE SLEEVES SHALL BE SEALED WITH AN EXPANDING COMPRESSIBLE FOAM OR MODULAR ELASTOMER SEALING SYSTEM TO PREVENT THE ENTRY OF SILT INTO THE ANNULAR SPACE.

SPECIAL INSPECTIONS:

- 1.01 SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 17 OF THE BUILDING CODE REFERENCED ABOVE AND AS DEFINED IN THE SPECIFICATIONS.

EQUIPMENT NOTES:

- 1.01 EQUIPMENT COORDINATION
A. THE CONTRACTOR SHALL COORDINATE DIMENSIONAL AND UTILITY REQUIREMENTS OF ACTUAL EQUIPMENT PURCHASED WITH PROVISIONS SHOWN ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ANY CHANGES NECESSARY TO MAKE SUCH COORDINATION.
1.02 EQUIPMENT ANCHORAGE
A. THE CONTRACTOR SHALL ENGINEER, FURNISH AND INSTALL NECESSARY ANCHORAGE AND VIBRATION ISOLATION FOR ALL EQUIPMENT AND CURBS TO RESIST ALL LOADING INCLUDING BUT NOT LIMITED VIBRATORY, WIND AND EARTHQUAKE LOADS AT NO ADDITIONAL COST TO THE GOVERNMENT.
1.03 EQUIPMENT STRUCTURAL SUPPORT
A. THE STRUCTURAL DESIGN DEPICTED ON THESE DRAWINGS IS BASED ON THE EQUIPMENT DIMENSIONS AND WEIGHTS OUTLINED ABOVE. IN THE EVENT THE CONTRACTOR SELECTS EQUIPMENT WITH WEIGHT GREATER THAN THAT DEPICTED IN THE TABLE SHOWN ON THIS SHEET, OR DIMENSIONS MORE THAN 10% GREATER THAN THOSE DEPICTED IN THE TABLE SHOWN ON THIS SHEET, THE CONTRACTOR SHALL HAVE THE AFFECTED SUPPORTING STRUCTURE (NEW AND EXISTING) EVALUATED AND REINFORCED AS NECESSARY.

REINFORCED CONCRETE NOTES:

- 1.01 CONCRETE DESIGN IS IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318.
1.02 CONCRETE WORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE FIELD REFERENCE MANUAL: STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE ACI 301 WITH SELECTED ACI AND ASTM REFERENCES (SP-15).
1.03 SUBMIT REINFORCING STEEL SHOP DRAWINGS AND RECEIVE APPROVAL PRIOR TO FABRICATION OF SAME.
1.04 ALL CONCRETE SHALL BE NORMAL WEIGHT (145PCF) AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH AS FOLLOWS UNLESS NOTED OTHERWISE:
A. fc = 4,000 PSI FOR LIGHT WEIGHT CONCRETE FILL ON COMPOSITE STEEL DECK. LIGHT WEIGHT CONCRETE SHALL HAVE A FRESH UNIT WEIGHT OF 110-120 PCF AND AIR-DRIED UNIT WEIGHT OF 107-116 PCF.
1.05 CONCRETE MIX DESIGN SUBMITTAL REQUIREMENTS:
A. FOR EACH UNIQUE MIX DESIGN/TYPE PROPOSED, CLEARLY INDICATED WHICH COMPONENT THE MIX WILL BE USED FOR. (E.G. FOOTING, EXTERIOR WALLS, INTERIOR WALLS, EXTERIOR SLAB ON GRADE, INTERIOR SLAB ON GRADE, ELEVATED SLAB, MASONRY GROUT FILL, PAVING ETC.)
B. CEMENT: AMOUNT PER CUBIC YARD AND SUPPLIER.
C. FLYASH: AMOUNT PER CUBIC YARD, SUPPLIER, A HISTORY OF SUCCESSFUL USE OF FLYASH CONCRETE IN SIMILAR APPLICATIONS.
D. AGGREGATE: AMOUNT PER CUBIC YARD, TYPE AND COMPOSITE GRADATION ANALYSIS INCLUDING BOTH COARSE AND FINE.
E. WATER: AMOUNT PER CUBIC YARD AND WATER/CEMENT RATIO.
F. ADMIXTURES: TYPE, AMOUNT PER CUBIC YARD, PRODUCT DATA INDICATING ASTM COMPLIANCE AND CHLORIDE ION CONTENT.
G. COMPRESSIVE TESTS OF PAST USAGE OF THE SUBMITTED MIX DESIGN INDICATING THE SAME MIX DESIGN CODE.
1.06 WHEN STRENGTH DATA FROM FIELD EXPERIENCE OR TRIAL MIXTURES ARE NOT AVAILABLE, CONCRETE MIX DESIGN SHALL COMPLY WITH THE FOLLOWING:
A. 4000 PSI NORMAL WEIGHT CONCRETE SHALL BE BASED ON A MAXIMUM AGGREGATE SIZE OF 1 IN, MAXIMUM WATER/CEMENT RATIO OF .44 FOR NON-AIR-ENTRAINED AND .35 FOR AIR-ENTRAINED CONCRETE AND A MAXIMUM SLUMP OF 3"
B. THE MAXIMUM SLUMPS SPECIFIED ABOVE SHALL NOT BE EXCEEDED PRIOR TO THE ADDITION OF WATER REDUCING ADMIXTURES REGARDLESS OF THE EXISTENCE OF TEST DATA.

REINFORCED CONCRETE NOTES (CTD):

- C. AIR ENTRAINED CONCRETE SHALL BE USED FOR EXTERIOR EXPOSED CONCRETE IN ACCORDANCE WITH THE FOLLOWING:
1. MODERATE EXPOSURE BASED ON THE MAXIMUM NOMINAL AGGREGATE SIZE:
a. 3/4": 5 % +/- 1-1/2%
b. 1": 4.5 % +/- 1-1/2%
c. 1-1/2": 4.5 % +/- 1-1/2%
D. NORMAL WEIGHT AGGREGATE SHALL COMPLY WITH ASTM C 33.
E. LIGHTWEIGHT AGGREGATE, WHEN SPECIFIED SHALL COMPLY WITH ASTM C 330.
F. WHEN PERMITTED, THE WEIGHT OF FLYASH SHALL NOT EXCEED 25% OF THE WEIGHT OF CEMENT PLUS POZZOLAN.
1.07 CONCRETE SLABS ON GRADE SHALL NOT BE LOADED UNTIL A MINIMUM CONCRETE STRENGTH OF 1800 PSI HAS BEEN ATTAINED AND THE CONCRETE IS AT LEAST THREE DAYS OLD. ALL OTHER CONCRETE MEMBERS SHALL NOT BE LOADED UNTIL THE SPECIFIED CONCRETE DESIGN STRENGTH HAS BEEN ATTAINED.
1.08 CONCRETE SHALL BE TESTED IN ACCORDANCE WITH ACI 301 AND THE SPECIFICATIONS, WHEN PROVIDED, FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. AT A MINIMUM, CONCRETE SPECIMENS SHALL BE TAKEN FOR EVERY 100 YARDS OR PORTION THEREOF FOR EACH MIX DESIGN PLACED IN A DAY. CONCRETE TEST REPORTS SHALL BE AVAILABLE ON SITE FOR INSPECTION.
1.09 ALL STEEL REINFORCEMENT SHALL CONFORM WITH THE FOLLOWING:
A. DEFORMED BARS SHALL CONFORM WITH ASTM A 615 GRADE 60.
B. DEFORMED BARS THAT WILL BE WELDED SHALL CONFORM TO ASTM A 706 GRADE 60. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.4 STRUCTURAL WELDING CODE.
C. WELDED WIRE FABRIC (WWF) SHALL CONFORM WITH ASTM A 185, LATEST ADOPTED EDITION, 65 KSI YIELD AND SHALL BE SUPPLIED IN FLAT SHEETS.
1. SLAB-ON-GRADE WWF SHALL BE SUPPORTED BY PLASTIC COATED CHAIRS OR CONCRETE BRICK 2" BELOW THE TOP OF SLAB. THE USE OF CLAY BRICKS OR PULLING UP WWF DURING CONCRETE PLACEMENT IS STRICTLY PROHIBITED. USE A MINIMUM OF 6 X 6 - W1.4 X W1.4.
2. WWF ABOVE FORMED SURFACES SHALL BE SUPPORTED BY PLASTIC COATED CHAIRS AT THE MID DEPTH BETWEEN THE CONCRETE SURFACE AND TOP OF FORM OR FLOOR DECK FLUTE.
1.10 PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE. SPLICE ONLY AS SHOWN OR APPROVED. STAGGER SPLICES WHERE POSSIBLE. DOWELS SHALL MATCH SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH TENSION SPLICES. UNLESS OTHERWISE NOTED, ALL REINFORCING SHALL BE CONTACT LAP SPLICED WITH A CLASS B SPLICE IN ACCORDANCE WITH ACI 318-05. FOR BARS WITH A MINIMUM COVER AND SPACING GREATER THAN 2.0DB AND 3.0DB (DB = BAR DIAMETER) RESPECTIVELY. THE MINIMUM SPLICE LENGTH, EXPRESSED IN BAR DIAMETERS, SHALL NOT BE LESS THAN SPECIFIED IN THE REBAR SPLICE SCHEDULE. SPLICE LENGTHS SHALL BE INCREASED BY A FACTOR OF 1.3 FOR TOP REINFORCEMENT AND WHEN LIGHTWEIGHT CONCRETE IS USED. LAP WELDED WIRE FABRIC (WWF) ONE SPACE PLUS 2" ON ALL SIDES AT SPLICES.
1.11 ALL DOWELS AND TERMINATING BARS SHALL HAVE A STANDARD 90-DEG HOOK UNO.
1.12 ALL HORIZONTAL REINFORCING SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH CONSTRUCTION JOINTS UNO.
1.13 CONCRETE COVER AT REINFORCEMENT:
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH -3"
B. FORMED CONCRETE EXPOSED TO WEATHER OR EARTH:
1. (#5 AND SMALLER) -1 1/2".
2. (#6 TO #18) -2".
C. FORMED CONCRETE NOT EXPOSED TO WEATHER OR EARTH:
1. SLABS, WALL AND JOISTS:
a. # 11 BARS & SMALLER - 3/4".
2. BEAMS AND COLUMNS - 1 1/2"
1.14 CORNER EDGES OF CONCRETE TO BE LEFT EXPOSED TO VIEW SHALL HAVE A CHAMFER OR RADIUS OR AS INDICATED ON THE DRAWINGS.
1.15 CHECK ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND EQUIPMENT DRAWINGS FOR EMBEDDED ITEMS AND PENETRATIONS PRIOR TO CONCRETE PLACEMENT.
1.16 ALL CONSTRUCTION JOINTS SHALL HAVE A ROUGH SURFACE AND BE CLEAN PRIOR TO SUBSEQUENT CONCRETE POUR.
1.17 NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN SLABS AND FOOTINGS UNO.
1.18 WHERE OPENINGS OCCUR IN SLABS AND WALLS, PLACE THE REINFORCING THAT NORMALLY OCCURS IN LINE WITH THE OPENING EQUALLY TO EITHER SIDE OF THE OPENING.
1.19 CONCRETE SHALL RECEIVE THE FOLLOWING FINISHES:
A. STEEL TROWEL FINISH
1.20 ALL CONCRETE SHALL BE CONSOLIDATED BY VIBRATION, SPADING, RODDING OR FORKING SO THAT THE CONCRETE IS THOROUGHLY WORKED AROUND THE REINFORCEMENT, AROUND EMBEDDED ITEMS, AND INTO CORNERS OF FORMS, ELIMINATING ALL AIR OR STONE POCKETS WHICH MAY CAUSE HONEYCOMBING, PITTING, OR PLANES OF WEAKNESS. IF VIBRATORS, OF ADEQUATE SIZE, ARE USED THEY SHALL BE INSERTED AND WITHDRAWN AT POINTS APPROXIMATELY 18 INCHES APART. AT EACH INSERTION, THE DURATION SHALL BE SUFFICIENT TO CONSOLIDATE THE CONCRETE BUT NOT SUFFICIENT TO CAUSE SEGREGATION (GENERALLY FROM 5 TO 15 SECONDS).
1.21 MAINTAIN CONCRETE AFTER PLACEMENT WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR THE PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE (NOT LESS THAN 7 DAYS). COMPLY WITH THE REQUIREMENTS OF ACI 308 - STANDARD PRACTICE FOR CURING CONCRETE. AMERICAN CONCRETE INSTITUTE. A COMBINATION CURING AND SEALING COMPOUND SHALL BE APPLIED AFTER THE CONCRETE HAS BEEN FINISHED OR THE FORMS REMOVED. COMPOUND SHALL BE IN ACCORDANCE WITH ASTM C309, LATEST ADOPTED EDITION, TYPE I, CLASS B. (DESIGN BASIS W.R. MEADOWS CS-309).

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Office of Construction and Facilities Management
U.S. Department of Veterans Affairs

Drawing Title: STRUCTURAL NOTES
Approved: Project Director

Phase: BID DOCUMENTS
FULLY SPRINKLERED

Project Title: VA MEMPHIS RENOVATE OPERATING ROOMS
Project Number: 614-18-115
Building Number: 01
Drawing Number: S001
Location: MEMPHIS, TN
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File Path

**STRUCTURAL STEEL NOTES:**

- 1.01 PART 1 GENERAL
- A. GENERAL REQUIREMENTS
- DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE MANUAL OF STEEL CONSTRUCTION, BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.
  - THE STRUCTURAL STEEL LATERAL LOAD-RESISTING SYSTEM INCLUDING BUT NOT LIMITED TO BRACED FRAMES SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
- B. SUBMITTALS
- SHOP DRAWINGS: ERECTION AND FABRICATION DRAWINGS. SHOP DRAWINGS SHALL NOT CONTAIN REPRODUCTIONS OF THE CONTRACT DRAWINGS. MEMBER SUBSTITUTION AND DEVIATIONS FROM THE CONTRACT DRAWINGS SHALL BE CLEARLY IDENTIFIED WITH AN EXPLANATION FOR THE PROPOSED DEVIATION.
  - CALCULATIONS: PRIOR TO PREPARATION OF FABRICATION DRAWINGS, ALL CONNECTIONS SHALL BE DESIGNED AND DOCUMENTED WITH CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER
  - REGISTERED IN THE STATE OF THE PROJECT.
- C. QUALITY ASSURANCE
- CONNECTION DESIGN SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT.
  - AISC CERTIFICATION:
    - FABRICATOR SHALL BE AISC QUALITY CERTIFIED FOR THE FOLLOWING CATEGORY:
      - STD - STANDARD FOR STEEL BUILDING STRUCTURES
    - ERECTOR SHALL BE AISC QUALITY CERTIFIED FOR THE FOLLOWING CATEGORY:
      - CSE = CERTIFIED STEEL ERECTOR - FOR SIMPLE LOW RISE AND LIGHT INDUSTRIAL STEEL STRUCTURES
- D. DELIVERY, STORAGE AND HANDLING
- PROTECT STEEL MEMBER FROM CORROSION, DEFORMATION, AND OTHER TYPES OF DAMAGE. STORE ITEMS IN AN ENCLOSED AREA FREE FROM CONTACT WITH SOIL AND WEATHER. REMOVE AND REPLACE DAMAGED ITEMS WITH NEW ITEMS.
- 1.02 PRODUCTS
- A. MATERIALS:
- ALL WIDE FLANGE WS & WTS SHALL BE IN CONFORMANCE WITH ASTM A 992, LATEST ADOPTED EDITION, GRADE 50, UNO.
  - ALL OTHER SHAPES, PLATES AND BARS SHALL BE IN CONFORMANCE WITH ASTM A 36, LATEST ADOPTED EDITION, UNO.
  - ALL SQUARE, RECTANGULAR AND ROUND TUBING SHALL BE IN CONFORMANCE WITH ASTM A 500, LATEST ADOPTED EDITION, GRADE B.
  - ALL ROUND PIPE SHALL BE IN CONFORMANCE WITH ASTM A 53, LATEST ADOPTED EDITION, GRADE B.
  - BOLTS SHALL COMPLY WITH ASTM A 325, TYPE 1 UNO.
  - BOLTS/NUT/WASHER ASSEMBLY SHALL COMPLY WITH TWIST-OFF-TYPE TENSION-CONTROL BOLTS IN ACCORDANCE WITH ASTM F 1852 (SAME STRENGTH AS A 325) TYPE 1 LOAD INDICATOR BOLTS.
  - THREADED RODS SHALL COMPLY WITH ASTM A 36, LATEST ADOPTED EDITION, UNO.
  - ANCHOR RODS SHALL COMPLY WITH ASTM F 1554, LATEST ADOPTED EDITION, UNO.
    - GRADE 36
  - HARDENED STEEL WASHERS SHALL COMPLY WITH ASTM F 436.
  - HEAVY HEX NUTS SHALL COMPLY WITH ASTM A 563.
  - GROUT FOR BASE PLATES (WHERE SHOWN OR REQUIRED) SHALL BE NON-SHRINK, NON-METALLIC FACTORY PREMIXED GROUT HAVING A COMPRESSIVE STRENGTH OF 6800 PSI (MIN.) AT 28 DAYS.
- B. FABRICATION
- ALL NATURAL AND FABRICATED CAMBER SHALL BE INSTALLED UPWARD.
  - THE MINIMUM THICKNESS OF GUSSET AND FIN PLATES SHALL BE 3/8".
  - ANCHOR RODS:
    - BOLT HEADS AND NUTS SHALL BE HEAVY HEX. ANCHOR RODS SHALL BE A MINIMUM OF 3/4" DIA., EQUAL SIZE AND STRENGTH THREADED RODS WITH TACK WELDED NUTS MAY BE USED IN LIEU OF HEADED BOLTS.
    - ANCHOR RODS SHALL BE EMBEDDED TO 3" ABOVE THE BOTTOM OF THE LOWEST FOOTING UNO.
  - BOLTED CONNECTIONS:
    - ALL BOLTS SHALL BE CONSIDERED AS "BEARING" TYPE N, UNO.
    - THE MINIMUM NUMBER OF BOLTS IN STRUCTURAL STEEL CONNECTIONS SHALL BE AS FOLLOWS:
      - A MINIMUM OF TWO BOLTS PER CONNECTION SHALL BE USED.
      - IN CONNECTIONS WHERE THE BEAM SHEAR, V, IS NOT NOTED ON THE DRAWINGS, THE CONNECTION SHALL DEVELOP THE BEAM SHEAR BASED ON THE UNIFORM LOAD TABLES IN THE AISC MANUAL. SEE DESIGN CODE NOTES.
  - CONNECTIONS THAT ARE PART OF A BRACED FRAME ARE SLIP CRITICAL AND SHALL DEVELOP THE FULL STRENGTH OF THE CONNECTED MEMBERS, UNLESS FORCES ARE INDICATED ON THE DRAWINGS.
- C. FINISH
- SURFACE PREPARATION:
    - UNLESS NOTED OTHERWISE, SHOP CLEAN THE SURFACE OF ALL STRUCTURAL STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF SSPC-SP2.
  - PRIMER:
    - UNLESS NOTED OTHERWISE SHOP PAINT WITH A MINIMUM OF 1.0 MILS OF THE RUST INHIBITIVE PRIMER.
  - FINISH COATING
    - PAINT AS SPECIFIED
    - STANDARD COLORS AS SELECTED BY THE GOVERNMENT OR OTHERWISE SPECIFIED

**STRUCTURAL STEEL NOTES (CTD.):**

- 1.03 PART 3 EXECUTION
- A. EXAMINATION
- PRIOR TO STRUCTURAL STEEL ERECTION, ERECTOR SHALL INSPECT EXISTING CONSTRUCTION FOR CORRECT SIZE, LAYOUT AND ALIGNMENT. ANY INCONSISTENCIES DEEMED DETRIMENTAL TO THE ERECTION OF STEEL SHALL BE REPORTED AND REPAIRED PRIOR TO INSTALLATION.
- B. INSTALLATION
- BOLTED CONNECTIONS SHALL BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC-2010, SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS.
    - PRE-TENSIONED JOINTS (UNO)
      - TWIST-OFF-TYPE TENSION-CONTROL BOLT PRE-TENSIONING
    - WELDED CONNECTIONS SHALL BE MADE WITH E70XX ELECTRODES IN ACCORDANCE WITH AWS D1.1, STRUCTURAL WELDING CODE BY THE AMERICAN WELDING SOCIETY, AND SHALL BE PERFORMED BY CERTIFIED WELDERS. WELDER CERTIFICATION SHALL BE AVAILABLE ON SITE DURING TIMES OF INSPECTION.
  - GROUT:
    - GROUT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  - FINISH
    - SEE ARCHITECTURAL NOTES/SPECIFICATIONS.
    - BURIED STEEL
      - TWO COATS, 12 MILS MINIMUM PER COAT, SINGLE COMPONENT BITUMEN MASTIC COATING. PREPARE SURFACE AS RECOMMENDED BY THE MANUFACTURER TO 6" ABOVE GRADE UNO.
- C. FIELD QUALITY CONTROL
- TOLERANCES
    - FABRICATION TOLERANCES SHALL BE IN CONFORMANCE WITH THE CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, APRIL 14, 2010.
  - BOLTED CONNECTIONS
    - ALL BOLTS SHALL BE VISUALLY INSPECTED IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", LATEST EDITION ADOPTED BY THE BUILDING CODE IN EFFECT AT THE TIME OF PERMITTING.
  - WELDED CONNECTIONS:
    - ALL WELDS SHALL BE VISUALLY EXAMINED.
    - 15% OF ALL WELDS SHALL BE TESTED IN ACCORDANCE WITH THE FOLLOWING METHODS:
      - FULL AND PARTIAL PENETRATION WELDS SHALL BE TESTED ULTRASONICALLY IN ACCORDANCE WITH ASTM E 164.
      - ALL OTHER WELDS SHALL BE TESTED BY THE LIQUID PENETRANT METHOD IN ACCORDANCE WITH ASTM E 165 OR THE MAGNETIC PARTICLE METHOD IN ACCORDANCE WITH ASTM E 709.
      - IN THE EVENT ANY OF THE TESTED WELDS FAIL TO MEET THE TESTING CRITERIA, ALL WELDS MADE BY THE SAME WELDER SHALL BE TESTED.
- D. REPAIR
- PROTECTIVE COATINGS DAMAGED DURING THE TRANSPORTATION, ERECTION AND FIELD WELDING PROCESSES SHALL BE REPAIRED IN THE FIELD TO MATCH THE SHOP APPLIED COATING.
- E. CLEANING AND PROTECTION
- CLEAN AFTER INSTALLATION EXPOSED PREFINISHED ITEMS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  - PROTECT INSTALLED ITEMS FROM DAMAGE CAUSED BY SUBSEQUENT CONSTRUCTION.

**COMPOSITE STEEL FLOOR DECKING NOTES:**

- COMPOSITE DECK SHALL BE FURNISHED AS SPECIFIED ON THE PLANS AND IN ACCORDANCE WITH THE STEEL DECK INSTITUTE. (BY VULCRAFT OR OTHER APPROVED MANUFACTURER) COMPOSITE DECK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A653-94, G60 (Z180).
- FLOOR DECKING SHALL BEAR A MINIMUM OF 2" ON EXTERIOR SUPPORTS AND 4" ON INTERIOR SUPPORTS AND BE WELDED TO THE STEEL FRAMEWORK WITH 5/8" DIAMETER PUDDLE WELDS, UTILIZING WELDING WASHERS PER MANUFACTURER'S RECOMMENDATIONS. AT A MAXIMUM SPACING OF 12" O.C. (3/8" PATTERN) AT ENDS OF SHEETS AND AT INTERMEDIATE SUPPORTS. SIDE LAPS SHALL BE FASTENED AT A MAXIMUM SPACING OF 36" O/C WITH 1" LONG FILLET WELDS. WELDERS WITH CURRENT CERTIFICATION SHALL PERFORM ALL WELDING. WELDER CERTIFICATION SHALL BE AVAILABLE ON SITE FOR INSPECTION.
- PROVIDE ALL ADJUSTING PLATES, CLOSURES, SLAB POUR STOPS, COVER PLATES, COLUMN FLASHING, ACCESS HOLE COVERS AND OTHER ACCESSORIES AS REQUIRED TO ACCOMPLISH THE WORK. ACCESSORIES SHALL BE 20 GAUGE MINIMUM AND SHALL BE OF THE SAME MATERIAL AND FINISH AS THE STEEL DECK UNLESS OTHERWISE INDICATED. ALSO PROVIDE SUPPLEMENTAL MISCELLANEOUS STEEL AS MAY BE REQUIRED TO SUPPORT DECK AT COLUMNS AND OTHER PENETRATIONS
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANY SUPPLEMENTAL SHORING THAT MAY BE REQUIRED TO SUPPORT CONSTRUCTION LOADS.
- CONCRETE SLAB FILL SHALL BE REINFORCED IN ACCORDANCE MANUFACTURER'S RECOMMENDATIONS UNLESS NOTED OTHERWISE.

**POST-INSTALLED ANCHORS:**

- 1.01 POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE.
- 1.02 CONCRETE ANCHORS
- ADHESIVE ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 318 APPENDIX D.
  - ALL POST INSTALLED ANCHORS THAT ARE NOT PROPERLY INSPECTED IN ACCORDANCE WITH THE APPROPRIATE ICC ESR CODE REPORT SHALL BE CONSIDERED TO HAVE ZERO CAPACITY AND CORRECTED BY THE CONTRACTOR AND INSPECTED DURING INSTALLATION AT NO COST TO THE GOVERNMENT.
  - ALL POST-INSTALLED ANCHORS SHALL BE DESIGNED, DETAILED, INSTALLED, AND INSPECTED WITH THE APPROPRIATE ICC ESR CODE REPORT.
  - PRE-APPROVED ANCHOR MANUFACTURER
    - HILTI HIT RE 500 V3 W/ HAS STD ROD IN ACCORDANCE WITH ICC ESR #3814
    - HILTI HY200 W/ HAS STD ROD IN ACCORDANCE WITH ICC ESR #3187
    - HILTI KWIK BOLT TZ ANCHOR IN ACCORDANCE WITH ICC ESR #1917

**DRAWING ABBREVIATIONS:**

|       |                                    |        |                                  |
|-------|------------------------------------|--------|----------------------------------|
| BOT   | BOTTOM                             | LLH    | LONG LEG HORIZONTAL              |
| B/FTG | BOTTOM OF FOOTING                  | LLO    | LONG LEG OUT                     |
| B/STL | BOTTOM OF STEEL                    | LLV    | LONG LEG VERTICAL                |
| C.J.  | CONSTRUCTION OR CONTROL JOINT      | LONG.  | LONGITUDINAL                     |
| CMU   | CONCRETE MASONRY UNIT              | LSH    | LONG SIDE HORIZONTAL             |
| CONN  | CONNECTION                         | LSV    | LONG SIDE VERTICAL               |
| DIAG  | DIAGONAL                           | MAX.   | MAXIMUM                          |
| EA    | EACH                               | MIN.   | MINIMUM                          |
| EF    | EACH FACE                          | NF     | NEAR FACE                        |
| EL    | ELEVATION                          | OC     | ON CENTER                        |
| EMBED | EMBEDMENT                          | PJF    | PREMOLDED JOINT FILLER           |
| EOD   | EDGE OF DECK                       | PLF    | POUNDS PER LINEAR FOOT           |
| EOS   | EDGE OF SLAB                       | REF    | FOR REFERENCE ONLY. FIELD VERIFY |
| EW    | EACH WAY                           | SGO    | SLAB-ON-GRADE                    |
| FOB   | FACE OF BRICK                      | STD    | STANDARD                         |
| FX    | FOOTING MARK NUMBER (SEE SCHEDULE) | T&B    | TOP AND BOTTOM                   |
| GA    | GAUGE                              | T/FTG  | TOP OF FOOTING                   |
| GRD   | GRADE                              | T/GRD  | TOP OF GRADE                     |
| HORIZ | HORIZONTAL                         | T/SLAB | TOP OF SLAB                      |
| IFW   | INSIDE FACE OF WALL                | T/STL  | TOP OF STEEL                     |
| LG    | LONG                               | TYP    | TYPICAL                          |
|       |                                    | UNO    | UNLESS OTHERWISE NOTED           |
|       |                                    | VERT   | VERTICAL                         |
|       |                                    | WWR    | WELDED WIRE REINFORCING          |

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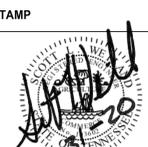
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Office of Construction and Facilities Management  
 U.S. Department of Veterans Affairs

Drawing Title:  
**STRUCTURAL NOTES**

Approved: Project Director

Phase  
**BID DOCUMENTS**

**FULLY SPRINKLERED**

Project Title:  
**VA MEMPHIS RENOVATE OPERATING ROOMS**

Project Number  
**614-18-115**

Building Number  
**01**

Location  
**MEMPHIS, TN**

Issue Date  
**01/31/2020**

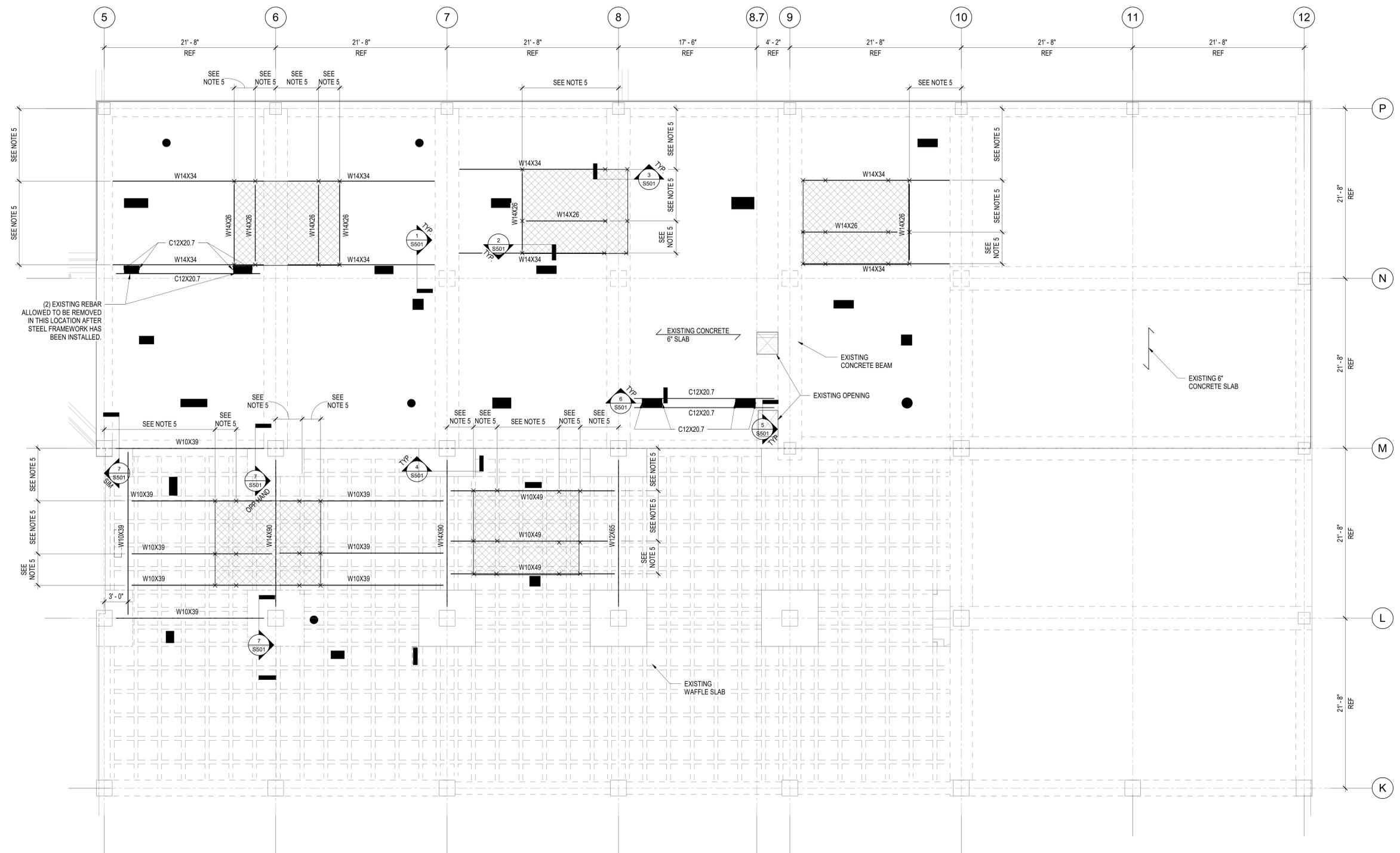
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Drawn  
**SLM**

Drawing Number  
**S002**

File Path





(2) EXISTING REBAR ALLOWED TO BE REMOVED IN THIS LOCATION AFTER STEEL FRAMEWORK HAS BEEN INSTALLED.

EXISTING CONCRETE 6" SLAB

EXISTING CONCRETE BEAM

EXISTING OPENING

EXISTING 6" CONCRETE SLAB

EXISTING WAFFLE SLAB

**1 4TH FLOOR FRAMING PLAN**

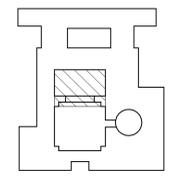


**4th FLOOR FRAMING NOTES**

1. FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR REVIEW.
2. DO NOT DAMAGE EXISTING BEAMS OR WAFFLE SLAB STEMS DURING INSTALLATION OF NEW WORK. LOCATE EXISTING REINFORCING THROUGH NON-DESTRUCTIVE MEANS PRIOR TO FABRICATION.
3. CEILING SYSTEM AND CONNECTIONS TO STRUCTURE SHALL BE DESIGNED BY CEILING SYSTEM MANUFACTURER. SUBMIT DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A STRUCTURAL ENGINEER IN THE STATE OF THE PROJECT FOR REVIEW PRIOR TO SUBMISSION OF SHOP DRAWINGS. SHOP DRAWINGS SUBMITTED PRIOR TO FULL REVIEW OF CEILING SYSTEM DRAWINGS AND CALCULATIONS WILL BE REJECTED.
4. REF DENOTES FOR REFERENCE ONLY. FIELD VERIFY.
5. COORDINATE STEEL LOCATIONS WITH CEILING SYSTEM SUPPORT LOCATIONS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR REVIEW.
6. MAXIMUM ALLOWABLE QUANTITY OF EXISTING SLAB REINFORCING BARS TO BE REMOVED IN ANY DIRECTION SHALL NOT EXCEED ONE BAR IN THE TOP OR BOTTOM OF THE SLAB U.N.O. SEE 3/S101.

**4th FLOOR FRAMING LEGEND**

- BEAM
- × DENOTES MAX ASSUMED DOWNWARD CEILING LOAD OF 8 KIPS. THE MAXIMUM LOAD SHOWN IS BASED ON LIMITED DATA. THE GOVERNMENT RESERVES THE RIGHT TO MODIFY THE DESIGN SHOWN IF FINAL LOADING DATA IS SIGNIFICANTLY LESS THAN THE LOAD SHOWN. IN NO CASE SHALL CEILING SUPPORT REACTIONS EXCEED WHAT IS SHOWN.
- DENOTES NEW SLAB PENETRATION. COORDINATE LOCATION WITH MECHANICAL.
- ▨ DENOTES AREA OF CEILING SYSTEM. SEE ARCH



**KEY PLAN**

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Office of Construction and Facilities Management  
**VA** U.S. Department of Veterans Affairs

Drawing Title:  
**4TH FLOOR FRAMING PLAN**

Approved: Project Director

Phase  
**BID DOCUMENTS**

**FULLY SPRINKLERED**

Project Title:  
**VA MEMPHIS RENOVATE OPERATING ROOMS**

Project Number:  
**614-18-115**

Building Number:  
**01**

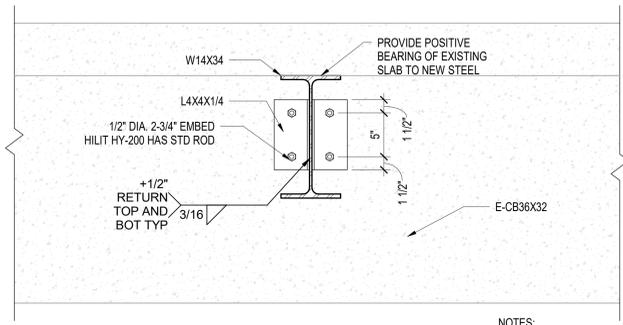
Location:  
**MEMPHIS, TN**

Issue Date:  
**01/31/2020**

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**SLW**

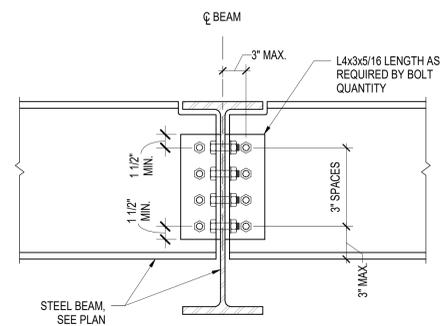
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Drawing Number:  
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**1** TYPICAL STEEL BEAM TO CONCRETE CONNECTION  
S501 1 1/2" = 1'-0"

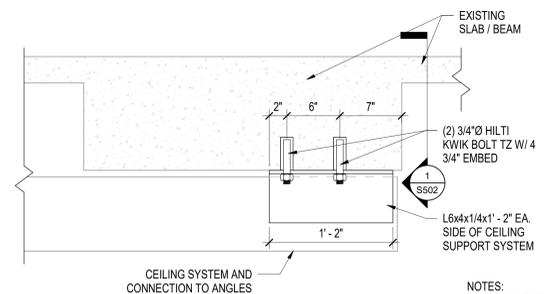
NOTES:  
1. CONNECTION OF CEILING SYSTEM TO STEEL MEMBER BY CEILING SYSTEM MANUFACTURER  
2. LOCATE EXISTING REINFORCING THROUGH NON-DESTRUCTIVE MEANS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR REVIEW.



**2** TYPICAL BEAM TO BEAM CONNECTION  
S501 3/4" = 1'-0"

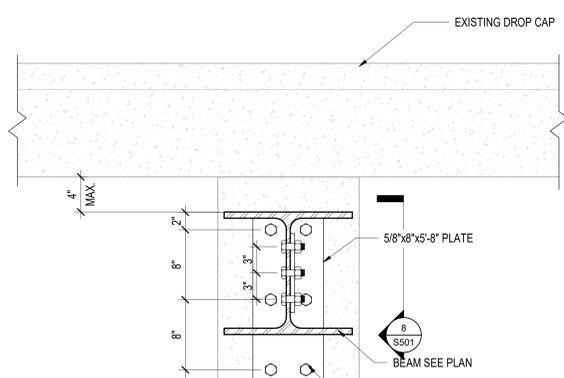
| BEAM SIZE | # OF 3/4" A325 BOLTS |
|-----------|----------------------|
| W10       | 2                    |
| W14       | 3                    |

NOTE:  
QTY OF FASTENERS TO BE BASED ON THE BEAM SIZE.



**3** ANGLE CONNECTION DETAIL AT CONCRETE BEAM  
S501 1 1/2" = 1'-0"

NOTES:  
1. CONNECTION OF CEILING SYSTEM TO STEEL MEMBER BY CEILING SYSTEM MANUFACTURER  
2. LOCATE EXISTING REINFORCING THROUGH NON-DESTRUCTIVE MEANS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR REVIEW.

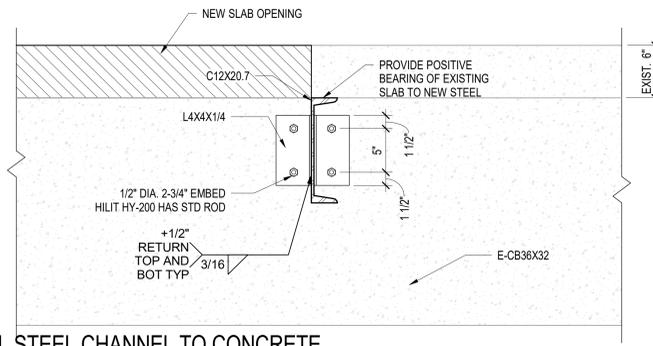


**4** GIRDER TO COLUMN CONNECTION  
S501 1 1/2" = 1'-0"

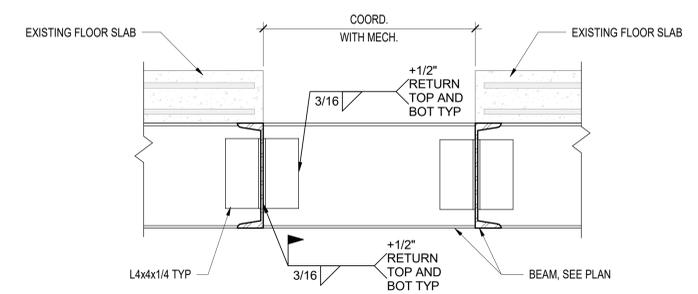
NOTES:  
1. LOCATE EXISTING REINFORCING THROUGH NON-DESTRUCTIVE MEANS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR REVIEW.

| BEAM SIZE | # OF 1" A325 BOLTS |
|-----------|--------------------|
| W10       | 2                  |
| W14       | 3                  |

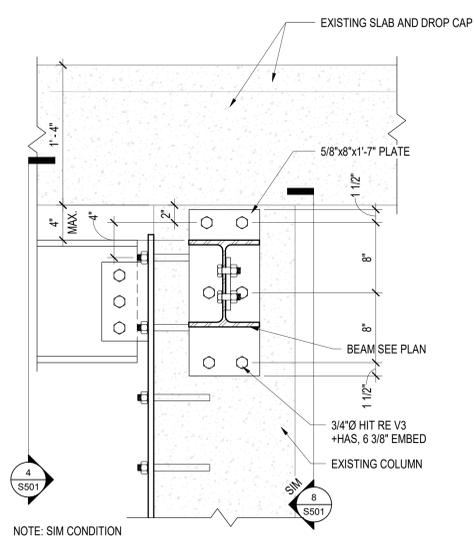
NOTE:  
QTY OF FASTENERS TO BE BASED ON THE BEAM SIZE.



**5** TYPICAL STEEL CHANNEL TO CONCRETE CONNECTION  
S501 1 1/2" = 1'-0"

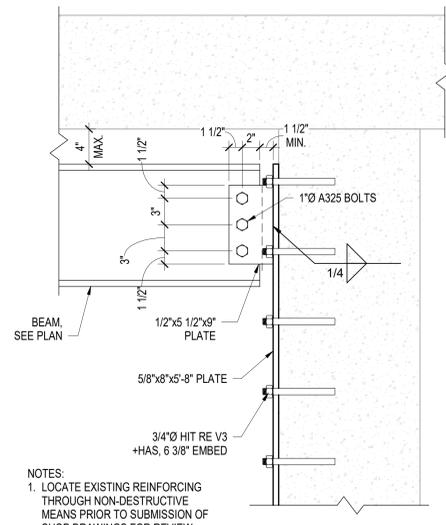


**6** SECTION AT FLOOR OPENING  
S501 1 1/2" = 1'-0"



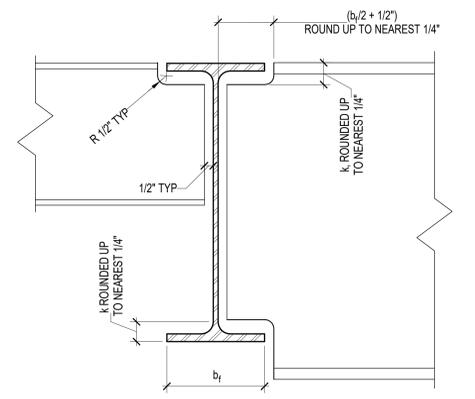
**7** SECTION  
S501 1 1/2" = 1'-0"

NOTES:  
1. LOCATE EXISTING REINFORCING THROUGH NON-DESTRUCTIVE MEANS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR REVIEW.



**8** BEAM TO COLUMN CONNECTION  
S501 1 1/2" = 1'-0"

NOTES:  
1. LOCATE EXISTING REINFORCING THROUGH NON-DESTRUCTIVE MEANS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR REVIEW.



**9** TYPICAL COPE DETAIL  
S501 3" = 1'-0"

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**STAMP**



**Office of Construction and Facilities Management**



U.S. Department of Veterans Affairs

**Drawing Title:**  
STEEL DETAILS

**Approved:** Project Director

**Phase**  
BID DOCUMENTS

FULLY SPRINKLERED

**Project Title:**  
VA MEMPHIS RENOVATE OPERATING ROOMS

**Location:**  
MEMPHIS, TN

**Issue Date:** 01/31/2020

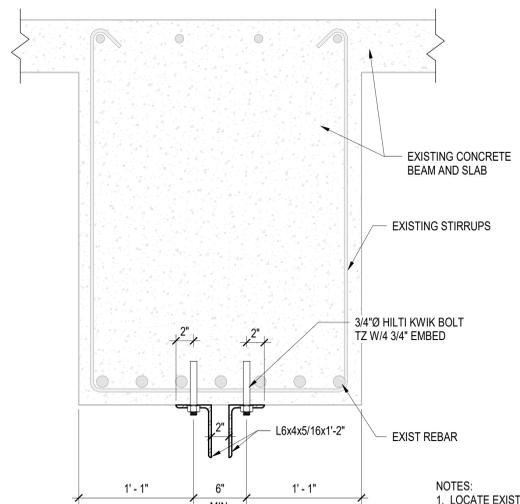
**Checked:** SLW

**Drawn:** SLM

**Project Number:** 614-18-115

**Building Number:** 01

**Drawing Number:** S501



NOTES:  
 1. LOCATE EXISTING REINFORCING THROUGH NON-DESTRUCTIVE MEANS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR REVIEW.

**SECTION VIEW FOR ANGLE CONNECTION AT CONCRETE BEAM**

1  
 S502  
 1 1/2" = 1'-0"

A  
 B  
 C  
 D  
 E  
 F

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|                         |  |  |   |   | Approved: Project Director             | <b>FULLY SPRINKLERED</b>         | Location:<br><b>MEMPHIS, TN</b>                              | Building Number:<br><b>01</b>        |                                |
|                         |  |  |   |   |  | Issue Date:<br><b>01/31/2020</b> | Checked:<br>SLW  | Drawn:<br>SLM                        | Drawing Number:<br><b>S502</b> |