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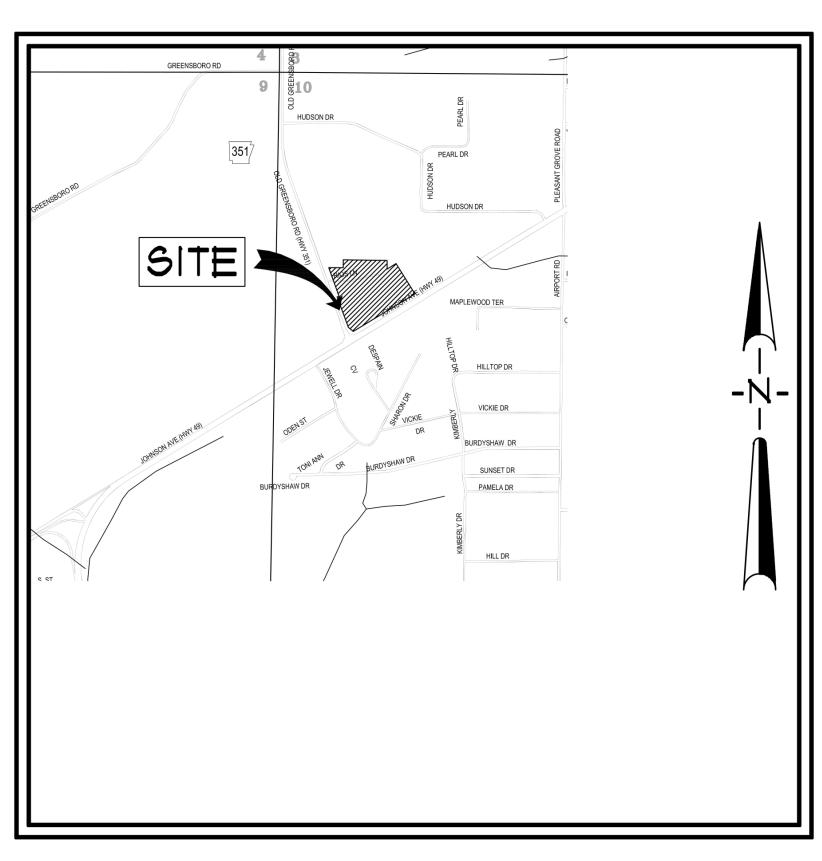
3500 East Johnson Avenue, Jonesboro, Ar W D & D J O B #16-028

UNDER SLAB & FOUNDATION PACKAGE 09/19/16

WITTENBERG, DELONY, & DAVIDSON, INC.
ARCHITECTS - INTERIOR DESIGN PLANNERS
400 WEST CAPITOL SLITE 1800

PLANNERS 400 WEST CAPITOL, SUITE 1800 LITTLE ROCK, ARKANSAS 72201-4857 PH. # 501-376-6681 FAX # 501-376-0231 ENGINEERING CONSULTANTS, INC. STRUCTURAL ENGINEERS 401 WEST CAPITOL AVE., SUITE 305 LITTLE ROCK, ARKANSAS 72201 PH. # 501-376-3752 FAX # 501-376-7314 BATSON INC. | ENGINEERING SOLUTIONS MEP ENGINEERS 1300 BROOKWOOD DRIVE LITTLE ROCK, ARKANSAS 72202 PH. # 501-664-3311 FAX # 501-664-3344

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ABBREVIATION LEGEND ARCH BETWEEN CENTERLINE CONT CONTINUOUS DEGREE: DIMENSION DOWELS FI EVATION LEVATION EXPANSION EXTERIOR FINISHED FLOOR ELEVATION GRADE BEAM HORIZONTAL HEADED STUD INFORMATION INTERIOR JOIST BEARING ELEVATION K-JOIST (i.e. 12k1 S.J.) KIPS (KILO-POUNDS) KIPS PER FOOT CONSTANT SHEAR JOIST (i.e. 12kcs2 S.J.) KILN-DRIED KIPS PER SQUARE FOOT KIPS PER SQUARE INCH ANGLE (i.e. L3x3x1/4) LONGSPAN JOIST (i.e. 32LH05) LONG LEG HORIZONTAL LONG LEG VERTICAL LAM. WOOD BEAM (i.e. LWB3x11) MOMENT CONNECTION MATERIAL MAX MAXIMUM MISC. CHANNEL SHAPE (i.e. MC12x10.6) MANUFACTURER MINIMUM MISCELLANEOUS MILES PER HOUR JOIST SPACES ON GIRDER NON-SHRINK NOT TO SCALE ON CENTER OUTSIDE DIAMETER ORIENTED STRAND BOARD DRILLED PIER (##-DIA IN INCHES) PAD FOOTING (###-SIZE IN FEET) POST-TENSIONED POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH REFERENCE REINFORCING ROOF TOP UNIT STANDARD STEEL SHAPE (i.e. S10x35) COLD-FORMED HAT SHAPE STEEL JOIST (i.e. 12k1 S.J.) (SAWN) CONTROL JOINT COLD-FORMED SINGLE SLOPED EAVE STRUT STIFFENER SHORT WAY TOP AND BOTTOM TONGUE AND GROOVE TEMPERATURE OP OF FOOTING TOP OF COLUMN

TOP OF CONCRETE TOP OF MASONRY TOP OF PIER COLD-FORMED UNIVERSAL EAVE STRUT COLD-FORMED UNIVERSAL HAT SHAPE UNLESS NOTED OTHERWISE

VERT VERTICAL VS JOIST (i.e. 2.5vs1) WIDE FLANGE SHAPE (i.e. W8x10) WORK POINT WITHOUT T SHAPE (i.e. WT8x13) WELDED WIRE REINFORCING (i.e. WIRE MESH) COLD FORMED Z SHAPE

ABOVE FINISHED FLOOR ARCHITECTURAL BOTTOM OF FOOTING BELOW FINISHED FLOOP BOTTOM OF STEEL BOTTOM OF PIER CHANNEL SHAPE (i.e. C8x11.5) OLD FORMED C SHAPE CENTER OF GRAVITY (KEYED) CONTROL JOINT CONCRETE MASONRY UNIT CONSTRUCTION

DFFP LONGSPAN JOIST (i.e. 60DLH12 COLD-FORMED DOUBLE SLOPED EAVE STRUT

EXTENDED BOTTOM CHORD EXPANSION JOINT EMBEDMENT LENGTH DGE OF SLAB EACH WAY, EACH FACE FROM ADJACENT SPAN FINISHED FLOOR ELEVATION

STEEL YIELD STRENGTH JOIST GIRDER (i.e. 24G8N7K) H-PILE SHAPE (i.e. HP8x36)

HOLLOW STRUCTURAL SECTION (STEEL)

UNLESS NOTED OTHERWISE. WELDED WIRE REINFORCEMENT MUST BE PLACED ON CHAIRS OR BOLSTERS AS REQUIRED TO MAINTAIN POSITION IN THE SLAB. 10. ONCE SHOP DRAWINGS HAVE BEEN REVIEWED, DO NOT ADD REINFORCING OR INFORMATION TO PREVIOUSLY SUBMITTED SHEETS FOR SUBSEQUENT SUBMITTALS UNLESS SHOP DRAWINGS ARE BEING RESUBMITTED AFTER BEING RETURNED "NOT REVIEWED". 11. WHERE ANCHOR RODS ARE CAST INTO CONCRETE, PROVIDE SUPPLEMENTAL REINFORCING EACH WAY, TIED NEAR THE TOP AND BOTTOM OF ALL ANCHOR RODS TO THE ADJACENT REBAR TO SECURE

STRUCTURAL NOTES

FABRICATION AND CONSTRUCTION.

CONCRETE NOTES (03 00 00)

NOTED OTHERWISE:

CONCRETE REINFORCEMENT (03 20 00)

SLAB-ON-GRADE BARS (BOTTOM)

BELOW GRADE (FORMED EDGE)

EXTERIOR PARKING DECK SLABS

ELEVATED INTERIOR SLABS

EXTERIOR PARKING DECK BEAMS

BELOW GRADE (CAST AGAINST EARTH)

AND CONCRETE AT THE CONTRACTOR'S EXPENSE

ENGINEER-OF-RECORD PRIOR TO FABRICATION.

THE CONTRACTOR SHALL THOROUGHLY REVIEW ALL CONTRACT DOCUMENTS AND INFORM THE

2. IN CASES OF DISCREPANCIES IN DIMENSIONS AND ELEVATIONS BETWEEN STRUCTURAL AND

ARCHITECT OF CONFLICTS OR DISCREPANCIES PRIOR TO BIDDING, FABRICATION, AND CONSTRUCTION.

ARCHITECTURAL DRAWINGS, CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT PRIOR TO

3. THE CONTRACTOR SHALL COORDINATE THE FIELD VERIFICATION OF ALL EXISTING SITE CONDITIONS

SUCH AS EXISTING FLOOR ELEVATIONS, EXISTING FOOTING ELEVATIONS, EXISTING UTILITIES, ETC

WHETHER NOTED OR NOT IN THE CONTRACT DOCUMENTS AND SHALL NOTIFY THE ARCHITECT OF ANY

BEFORE SUBMITTAL FOR REVIEW. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND

OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER

SIZES, DETAILS AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR ALSO

6. CONTRACTOR SHALL PROVIDE TEMPORARY GUYS AND BRACING AS REQUIRED DURING CONSTRUCTION.

STRUCTURE IS NOT STABLE UNTIL ALL STRUCTURAL MEMBERS, CONNECTIONS, AND DECKING IS IN

CONCRETE REINFORCEMENT SUPPLIER SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW

3. PROVIDE THE FOLLOWING PROTECTIVE COVERING FOR ALL REINFORCING BARS UNLESS DETAILED OR

3" CLEAR

0.75" CLEAR

OBSTRUCTIONS. INDIVIDUAL BARS AND TIES MAY BE MOVED VERTICALLY UP TO 1.5" AS REQUIRED

TO REMOVE THE CONCRETE BACK TO THE PREVIOUS POUR JOINT AND REPLACE THE DAMAGED BARS

DOCUMENTS. SPLICES AT OTHER LOCATIONS SHALL BE APPROVED IN WRITING BY THE STRUCTURAL

9. WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A185. LAP REINFORCEMENT 8 INCHES ON

SIDES AND ENDS. MAINTAIN WIRE 1 TO 2 INCHES BELOW TOP SURFACE OF SLAB-ON-GRADE.

O PROVIDE CLEARANCE FOR EMBEDS, HOOKS, ETC. DO NOT HEAT REINFORCING TO BEND IT.

5. IF DOWELS OR VERTICAL REINFORCING ARE CUT OR SEVERELY BENT, CONTRACTOR MAY BE REQUIRED

6. REINFORCEMENT SHALL BE SPLICED ONLY AS SHOWN OR NOTED IN THE STRUCTURAL CONTRACT

7. REINFORCING BARS MARKED AS CONTINUOUS SHALL BE SPLICED WITH CLASS "B" TENSION LAP

8. ALL TENSION LAP SPLICES SHALL BE CLASS "B" UNLESS NOTED OTHERWISE.

1.5" CLEAR TO TIES

2" CLEAR TO STIRRPUS

SHALL BE RESPONSIBLE FOR ALL MEANS, METHODS, TECHNIQUES, AND PROCEDURES OF

7. ACI, AISC, AITC AND AWS SPECIFICATIONS SHALL GOVERN ALL PHASES OF FABRICATION AND

2. ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.

4. DO NOT CUT TIES OR CONTINUOUS BARS TO PROVIDE CLEARANCE FOR EMBEDDED ITEMS OF

CONFLICTS, DISCREPANCIES OR UNKNOWN CONDITIONS PRIOR TO FABRICATION AND CONSTRUCTION.

4. REPRODUCTION OF CONTRACT DRAWINGS, IN ANY FORM, WILL NOT BE ACCEPTED AS SHOP DRAWINGS.

REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER-OF-RECORD DOES
NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS

GENERAL NOTES

RODS DURING CONCRETE PLACEMENT. (MINIMUM SIZE #4) 12. REBAR SHOP DRAWINGS SHALL BE COMPLETE FOR THE AREA BEING REVIEWED. REVIEW OF PARTIAL SUBMITTALS WILL NOT BE CONSIDERED UNLESS COMPLETE AREAS BETWEEN CONSTRUCTION OR EXPANSION JOINTS ARE INCLUDED. SHOP DRAWINGS MAY BE SEPARATED INTO GROUPS AS FOLLOWS: 1) PIERS (2) FOOTINGS (3) GRADE BEAMS (4) COLUMNS (5) WALLS (6) SLABS (7) FLOORS JOISTS (8) FLOOR BEAMS & GIRDERS (9) MISC.

13. CONTRACTOR SHALL INCLUDE AN ALLOWANCE FOR FIVE (5) TONS OF REBAR (IN-PLACE) IN VARIOUS SIZES AND THREE (3) TONS OF POST-TENSIONING TENDONS (IN-PLACE) TO BE USED AT THE DISCRETION OF THE ENGINEER-OF-RECORD DURING SITE OBSERVATION VISITS. 14. CONTRACTOR SHALL COORDINATE THE SUPPLY AND PLACEMENT OF ALL EXTRA REINFORCING AND CHAIRS REQUIRED TO SUPPORT POST-TENSIONING TENDONS WITH THE POST-TENSION SUPPLIER. (SEE POST-TENSIONING NOTES #10 & #19)

CAST-IN-PLACE CONCRETE (03 30 00) 1. CONCRETE SUPPLIER SHALL SUBMIT CONCRETE MIX DESIGN DATA TO THE ARCHITECT FOR REVIEW PRIOR TO CONSTRUCTION

2. CONCRETE SHALL HAVE AT LEAST THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS: B. STAIR LANDINGS & STAIR TREADS 3000 PSI

REINFORCED CMU & BOND BEAM FILI (SEE MASONRY NOTES) SLABS-ON-GRADE, WALLS, PILASTERS & PEDESTALS 4000 PSI ELEVATED SLABS & BEAMS 3. SEE CONCRETE MIX DESIGN TABLE

4. PROPORTIONS OF CONCRETE MIX DESIGNS SHALL BE DETERMINED BY THE PROCEDURES ESTABLISHED IN SECTION 5.3 OF ACI 318-11. MIX DESIGN MAY INCLUDE WATER REDUCING ADMIXTURES CONFORMING TO ASTM C494, TYPE A, TO PROVIDE WORKABILITY AND SPECIFIED SLUMP WITHOUT EXCEEDING SPECIFIED WATER/CEMENT RATIOS. WATER SHALL NOT BE ADDED ON SITE WITHOUT PRIOR APPROVAL. ANY APPROVED WATER AMOUNTS

ADDED ON SITE MUST BE RECORDED & REPORTED BY THE TESTING AGENCY. 6. ALL CONCRETE EXPOSED TO WEATHER SHALL CONTAIN 5.5% AIR ENTRAINMENT (±1.5%). DO NOT EXCEED 3% AIR CONTENT IN CONCRETE RECEIVING A STEEL TROWEL FINISH.

FLOWABLE FILL SHALL MEET THE FOLLOWING REQUIREMENTS: A. MINIMUM 28 DAY COMPRESSIVE STRENGTH . MINIMUM PORTLAND CEMENT CONTENT 188 LBS PER CUBIC YARD MINIMUM FLYASH CONTENT 376 LBS PER CUBIC YARD

D. MAXIMUM PERMISSIBLE W/C RATIO POST-TENSIONED CONCRETE (03 38 00)

1. POST-TENSIONING SUPPLIER SHALL SUBMIT SHOP DRAWINGS SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF ARKANSAS TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION.

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SHOP DRAWINGS SHALL SHOW THE EXACT NUMBER, LENGTH AND SPACING OF TENDONS AND ALL SUPPORT BARS AND CHAIR HEIGHTS REQUIRED. EVERY TENDON SHALL BE GIVEN AN INDIVIDUAL NUMBER OR MARK, WHICH SHALL BE SHOWN BY THE SUPPLIER ON THE SHOP DRAWINGS. FABRICATION OF TENDONS SHALL NOT BEGIN UNTIL STRESS LOSS CALCULATIONS AND SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER-OF-RECORD. ALL FLOORS SHALL BE DETAILED INDIVIDUALLY. DO NOT REUSE PORTIONS OF SHOP DRAWINGS OR TENDON NUMBERS FOR SIMILAR AREAS ON DIFFERENT FLOORS.

3. SHOP DRAWINGS SHALL INCLUDE CALCULATIONS VERIFYING THAT THE REQUIRED FINAL EFFECTIVE FORCE (FE) IS BEING SUPPLIED. LOSSES FROM ANCHOR SEATING, ELASTIC SHORTENING, CREEP SHRINKAGE, STRAND RELAXATION AND FRICTION SHALL BE ACCOUNTED FOR. FRICTION LOSSES SHALL BE BASED ON A WOBBLE FACTOR OF 0.0014 AND AN ANGULAR FRICTION COEFFICIENT OF 0.07, UNLESS TEST DATA SHOWING LOWER VALUES IS SUBMITTED AND APPROVED BY THE ENGINEER-OF-RECORD. THE FINAL EFFECTIVE FORCE PER STRAND SHALL NEVER IN ANY CASE EXCEED 27.0 KIPS FOR BEAM OR SLAB TENDONS.

4. THE STRESSING OF THE TENDONS MAY COMMENCE ONLY WHEN THE CONCRETE HAS OBTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.

5. ALL POST-TENSIONING TENDONS SHALL BE 7 WIRE LOW RELAXATION STRANDS WITH A MINIMUM

ULTIMATE STRENGTH OF 270 KSI CONFORMING TO ASTM A416 (LATEST REVISION). 6. THE POST-TENSIONING FORCE (FE) SHOWN ON THE PLAN FOR SLABS AND IN THE SCHEDULE FOR BEAMS IS THE FINAL EFFECTIVE PRESTRESS FORCE REQUIRED AFTER ALL LOSSES. FOR MAIN SLAB TENDONS. THE FORCE SHOWN IS THE REQUIRED FORCE PER FOOT OF WIDTH (K/FT). FOR SLAB TEMPERATURE TENDONS, THE FORCE SHOWN IS THE REQUIRED FORCE PER FOOT OF WIDTH OR THE TOTAL FORCE REQUIRED FOR THE STRIP SHOWN. FOR BEAMS, THE FORCE SCHEDULED IS THE FINAL EFFECTIVE REQUIRED TOTAL FORCE (K).

TEMPERATURE TENDONS MAY BE SUPPORTED BY THE MAIN SLAB TENDONS, BUT TEMPERATURE TENDONS MUST REMAIN WITHIN THE MIDDLE ONE-THIRD OF THE SLAB DEPTH. THE MAIN SLAB TENDONS AND THE BEAM TENDONS ARE TO BE DRAPED IN A PARABOLIC PROFILE INCLUDING THE TENDON ORDINATES DEFINED ON THE PLAN FOR SLAB AND IN THE SCHEDULE FOR BEAMS. THE ORDINATES THUS DEFINED ARE MEASURED FROM THE SOFFIT OF THE SLAB OR BEAM TO THE CENTER OF GRAVITY (C.G.) OF THE TENDON OR TENDON GROUP. FOR BEAMS, THE LOW POINT OF THE TENDONS SHALL BE PLACED AT 0.4 TIMES THE SPAN LENGTH FROM THE EXTERIOR SUPPORT FOR END SPANS. FOR SLABS. THE LOW POINT OF THE TENDONS SHALL BE PLACED AT THE CENTER OF THE SPAN. THE POINT OF REVERSE CURVATURE FOR DRAPED TENDONS SHALL BE 0.0833 TIMES THE SPAN FROM THE CENTERLINE OF THE SUPPORT.

8. CONSTRUCTION JOINTS THROUGH THE SLABS SHOWN ON THE FRAMING PLANS ARE FOR ESTIMATING AND PLANNING. POST-TENSIONING SUPPLIER AND CONTRACTOR SHALL COORDINATE CONSTRUCTION JOINT LOCATIONS AS REQUIRED FOR FEASIBLE CONCRETE PLACEMENT SCHEDULE AND FOR REQUIRED INTERMEDIATE STRESSING LOCATIONS. THE FOLLOWING GUIDELINES SHOULD BE USED FOR INTERMEDIATE STRESSING LAYOUT:

A. ALL SUCH STRESSING POINT JOINTS MUST BE LOCATED SO THAT THE TENDON ANCHORS ARE AT B. THE DISTANCE BETWEEN STRESSING POINTS SHALL NOT EXCEED 100'-0" FOR SINGLE END C. THE DISTANCE BETWEEN STRESSING POINTS SHALL NOT EXCEED 200'-0" FOR DOUBLE END

D. ADDITIONAL NON-STRESSING POINT JOINTS MAY BE APPROVED IF LOCATED AT THE CENTER OF SPANS AND REINFORCED AS DETAILED FOR THE STRESSING POINT JOINTS. 9. WHERE CONFLICTS OCCUR BETWEEN REINFORCING STEEL OR EMDEDDED ITEMS AND POST-TENSIONING TENDONS, THE TENDONS SHALL ALWAYS BE GIVEN THE PREFERENTIAL LOCATION.

10. POST-TENSIONING SUPPLIER SHALL DETERMINE ANY EXTRA END REINFORCING REQUIRED BEHIND ANCHORS AND SHALL SHOW THIS REINFORCING ON THE SHOP DRAWINGS. (2 #4 MINIMUM) CALCULATIONS JUSTIFYING REINFORCING SHALL BE SUBMITTED FOR REVIEW PRIÖR TO FABRICATION OF TENDONS. (SEE REINFORCING NOTE #14)

11. CONCRETE SHALL BE WELL CONSOLIDATED IN THE VICINITY OF ALL ANCHORS. CONTRACTOR SHALL TAKE CARE NOT TO DISPLACE TENDONS OR DISLODGE ANCHORS FROM FORMS DURING PLACEMENT OF CONCRETE OR WHEN USING VIBRATORS FOR CONSOLIDATION.

POST-TENSIONED CONCRETE (CONTINUED)

12. TENDON PLACEMENT SHALL NOT VARY MORE THAN 1/8" VERTICALLY FROM THE ORDINATES GIVEN. 13. THE EXPOSED PORTION OF THE TENDON AND THE GRIPPING PART OF THE ANCHORAGE SHALL BE COATED WITH AN EPOXY-RESIN COMPOUND BEFORE BEING DRY-PACKED WITH GROUT.

14. GROUT ALL FORM POCKETS SOLID WITH NON-SHRINK, NON-METALLIC GROUT AS SOON AS TENDON TAILS ARE CUT OFF AND FORM POCKETS ARE SEALED AGAINST MOISTURE. 15. THE POST-TENSIONING CONTRACTOR SHALL SUBMIT TO THE ENGINEER-OF-RECORD FOR REVIEW A

DETAILED LIST OF STRESSING PROCEDURES AND SEQUENCES. 16. IN EVENT OF BROKEN TENDONS OR BLOWOUTS, THE POST-TENSIONING CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE ENGINEER-OF-RECORD DETAILED CALCULATIONS AND PROCEDURES FOR

WHERE POWER DRIVEN FASTENERS ARE DRIVEN INTO POST-TENSIONED AREAS THEY SHALL NOT HAVE AN EMBEDMENT GREATER THAN 3/4'. IF EXPANSION ANCHORS ARE USED IN POST-TENSIONED AREAS, MAGNETIC "STUD FINDERS" OR OTHER MECHANISMS SHALL BE USED TO LOCATE TENDONS BEFORE

18. WHEN TENDONS ARE PLACED IN A HORIZONTAL CURVE THERE SHALL BE A MAXIMUM OF TWO (2) TENDONS PER BUNDLE AND THERE SHALL BE A MINIMUM OF 6" BETWEEEN BUNDLES.

19. POST-TENSIONING SUPPLIER SHALL PROVIDE ALL NECESSARY CHAIRS FOR THE SUPPORT OF TENDONS. (SEE REINFORCING NOTE #14)

SHALL INCLUDE A LINE FOR EACH TENDON SHOWING THE TENDON IDENTIFICATION NUMBER, CALCULATED ELONGATION, GAUGE PRESSURE, ACTUAL ELONGATION AT EACH END. TOTAL ELONGATION AND PERCENT VARIANCE. POST-TENSIONING SUPPLIER SHALL REVIEW COMPLETED LOGS AND SUBMIT A LETTER TO THE ENGINEER-OF-RECORD FOR EACH POUR LISTING ALL NON-COMPLIANT ITEMS. 21. AFTER POST-TENSIONING SUPPLIER HAS SUBMITTED THE STRESSING LOG REVIEW LETTER AND THE ENGINEER-OF-RECORD HAS APPROVED THE LETTER AND THE STRESSING LOG, THEN THE TENDON

20. POST-TENSIONING CONTRACTOR SHALL FILL OUT STRESSING LOGS AT THE TIME OF STRESSING. LOGS

22. ALL POST-TENSIONING MATERIAL IS TO BE SUPPLIED BY A FIRM WHO IS A P.T.I. MEMBER COMPANY AND PRODUCED FROM A P.T.I CERTIFIED PLANT.

TAILS SHALL BE BURNED OFF AND THE FORM POCKETS PATCHED AS SOON AS PRACTICAL. NO

23. POST-TENSIONING STRANDS SHALL BE COATED WITH A MINIMUM OF 25 LBS. PER 100 LIN. FT. OF A P.T.I. APPROVED GREASE AND THEN ENCASED IN A 25 MIL. MINIMUM THICKNESS HIGH DENSITY POLYETHYLENE EXTRUDED SHEATH.

24. ALL POST-TENSIONING ANCHORAGES SHALL BE PLASTIC COATED TO PREVENT CORROSION. ALL ANCHORAGES SHALL BE CONNECTED TO THE PLASTIC SHEATHING IN A WATERTIGHT FASHION. A PLASTIC CAP SHALL BE INSTALLED TO COVER ALL WEDGE CAVITIES AFTER THE TENDON TAILS HAVE BEEN CUT. POST-TENSIONING SYSTEM SHALL HAVE PASSED THE P.T.I.'s WATERTIGHTNESS TEST.

25. POST-TENSIONING SUPPLIER SHALL HAVE A REPRESENTATIVE ON SITE TO REVIEW THE PLACEMENT AND STRESSING OF THE TENDONS FOR THE FIRST CONCRETE POUR. THIS VISIT SHALL BE USED FOR THE INSTRUCTION AND TRAINING OF ALL FIELD PERSONNEL IN THE PROPER INSTALLATION, STRESSING AND SAFETY PROCEDURES REQUIRED TO COMPLETE THE PROJECT.

26. SEE CONCRETE REINFORCING NOTES #13 & #14 FOR ADDITIONAL REQUIREMENTS.

TENDON TAILS SHALL BE BURNED OFF WITHOUT WRITTEN APPROVAL FROM THE

1. ALL CONCRETE MASONRY UNITS (CMU) SHALL COMPLY WITH ASTM C90, AND HAVE A MINIMUM NET COMPRESSIVE STRENGTH OF 1900 PSI. SIZES SHALL BE AS INDICATED ON THE CONTRACT DRAWINGS. TYPE S MORTAR SHALL BE USED ABOVE AND BELOW GRADE. MIX MORTAR IN ACCORDANCE WITH ASTM C270. USE TYPE I PORTLAND CEMENT (TYPE III MAY BE USED FOR COLD WEATHER

3. FILL ALL BOND BEAMS, ALL CMU CELLS WITH VERTICAL REINFORCING OR EXPANSION BOLTS, AND ALL CELLS BELOW GRADE WITH 3000 PSI GROUT MEETING THE FOLLOWING REQUIREMENTS:

A. USE A MINIMUM OF 5.5 BAGS OF PORTLAND CEMENT PER CUBIC YARD. B. MAXIMUM WATER/CEMENT RATIO BY WEIGHT SHALL BE 0.54. . WATER-REDUCING ADMIXTURE MEETING ASTM C494 SHALL BE USED TO PROVIDE SUFFICIEN FLOWABILITY TO READILY FILL CELLS WITH A REASONABLE AMOUNT OF RODDING. ADDITIONAL

CONSTRUCTION) MEETING ASTM C1329, HYDRATED LIME MEETING ASTM C207 AND AGGREGATE

WATER WILL NOT BE ALLOWED AFTER INITIAL MIXING. AGGREGATE SHALL BE WELL GRADED WITH A MAXIMUM SIZE OF 3/8". ALTERNATE MIX DESIGNS WILL BE CONSIDERED IF SUBMITTED TO THE ARCHITECT FOR APPROVAL AFTER CONTRACT IS AWARDED. ALTERNATE DESIGNS MUST SHOW SUFFICIENT FLOWABILITY CHARACTERISTICS AND A 28-DAY COMPRESSIVE STRENGTH OF AT LEAST 3000 PSI.

5. MAXIMUM HEIGHT OF ALL GROUT FILL SHALL NOT EXCEED 4'-0" UNLESS CLEANOUT AND INSPECTION

HOLE IS PROVIDED AT THE BOTTOM OF THE POUR. ALL CMU SHALL BE REINFORCED WITH #5 VERTICAL AND DOWELS AT 4'-0" ON CENTER UNLESS SPECIFICALLY NOTED OTHERWISE OR NOTED AS UNREINFORCED MASONRY ON THE PLANS. WHERE

SPLICES ARE REQUIRED, USE A LAP LENGTH OF AT LEAST 28 INCHES. ALL VERTICAL CORNERS, VERTICAL END CELLS AND ONE CELL EACH SIDE OF ALL OPENINGS SHALL BE GROUTED AND REINFORCED WITH (1) #5 UNLESS NOTED OTHERWISE.

8. HORIZONTAL BOND BEAMS WITH (2) #5 CONTINUOUS SHALL BE PROVIDED AT THE TOP AND BOTTOM OF ALL OPENINGS, AT STRUCTURALLY CONNECTED ROOF AND FLOOR LEVELS, AT THE TOP OF ALL PARAPETS OR WALLS AND AS SPECIFICALLY SHOWN ON THE CONTRACT DRAWINGS. BOND BEAMS ABOVE AND BELOW OPENINGS SHALL EXTEND AT LEAST 2'-0" BEYOND THE OPENING UNLESS NOTED

9. WHERE VERTICAL REINFORCING AND HORIZONTAL REINFORCING INTERSECT, ALL REINFORCING SHALL RUN CONTINUOUS.

10. HORIZONTAL REINFORCING SHALL BE CONTINUOUS AT CORNERS WITH 90-DEGREE BENDS OR CORNER BARS WITH EACH LEG EQUAL TO THE REQUIRED LAP LENGTH. (SEE TYPICAL CORNER BAR DETAIL) ALL CMU SHALL HAVE 9 GAUGE TRUSS TYPE JOINT REINFORCEMENT AT 16" ON CENTER VERTICALLY

METALS NOTES (05 00 00)

STRUCTURAL STEEL (05 12 00) 1. STRUCTURAL STEEL SUPPLIER SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION.

ABOVE GRADE AND 8" ON CENTER VERTICALLY BELOW GRADE UNLESS NOTED OTHERWISE.

ALL STRUCTURAL STEEL SHAPES SHALL BE AS FOLLOWS: ALL WIDE FLANGE STRUCTURAL STEEL SHAPES SHALL BE ASTM A992.

B. SQUARE OR RECTANGULAR HOLLOW STRUCTURAL SECTIONS SHALL BE ASTM A500, GRADE B, Fy . ROUND HOLLOW STRUCTURAL SECTIONS SHALL BE ASTM A500, GRADE B, Fy = 42 KSI). ROUND STEEL PIPES SHALL BE ASTM A53, GRADE B, FY = 35 KSI. E. ALL OTHER STRUCTURAL STEEL (CHANNELS, ANGLES, PLATES, ETC.) SHALL BE ASTM A36.

4. ALL ANCHOR RODS SHALL BE ASTM F1554 GRADE 55 WITH SUPPLEMENT S1 (WELDABILITY) UNLESS NOTED OTHERWISE.

STRUCTURAL BOLTS SHALL BE ASTM A325-N, UNLESS OTHERWISE NOTED.

6. BOLTS THRU WOOD BLOCKING SHALL BE ASTM A307. ALL BOLTS IN CONTACT WITH TREATED WOOD SHALL BE STAINLESS STEEL (TYPE 316L), OR HOT DIPPED GALVANIZED WITH A MINIMUM COATING THICKNESS OF 0.2 OUNCES PER SQUARE FOOT (ASTM A153). USE STAINLESS BOLTS WITH STAINLESS STEEL CONNECTORS AND GALVANIZED BOLTS WITH GALVANIZED CONNECTORS IF ONLY ONE

POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE SHALL BE STANDARD ASTM A36 THREADED RODS (OR APPROVED EQUAL) WITH A MINIMUM STEEL YIELD STRENGTH OF Fy=36ksi OR ASTM F593 STAINLESS STEEL ANCHORS WITH A MINIMUM STEEL YIELD STRENGTH OF fy=45ksi, UNLESS SHOWN OTHERWISE ON THE DRAWINGS. ADHESIVE SHALL BE HILTI "HIT-RE 500-SD" SYSTEM (REF: ICC-ES ESR-2322), SIMPSON STRONG-TIE "SET-XP" SYSTEM (REF: ICC-ES ESR-2508), (OR APPROVED EQUAL). (SEE PRODUCT MANUALS FOR HOLE CLEANING, INSTALLATION AND INSTALLER TRAINING

8. POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE FILLED CMU CELLS SHALL BE STANDARD ASTM A36 THREADED RODS (OR APPROVED EQUAL) WITH A MINIMUM STEEL YIELD STRENGTH OF Fy=36ksi OR ASTM F593 STAINLESS STEEL ANCHORS WITH A MINIMUM STEEL YIELD STRENGTH OF fy=45ksi, UNLESS SHOWN OTHERWISE ON THE DRAWINGS. ADHESIVE SHALL BE HILTI "HIT-HY70" SYSTEM (REF: ICC-ES ESR-2682), SIMPSON STRONG-TIE "SET" SYSTEM (REF: ICC-ES ESR-1772), (OR APPROVED EQUAL). (SEE PRODUCT MANUALS FOR HOLE CLEANING, INSTALLATION AND INSTALLER TRAINING

POST-INSTALLED ADHESIVE ANCHORS IN HOLLOW CMU OR CLAY MASONRY SHALL BE STANDARD ASTM A36 THREADED RODS (OR APPROVED EQUAL) WITH A MINIMUM STEEL YIELD STRENGTH OF Fy=36ksi OR ASTM F593 STAINLÈSS STEEL ANCHORS WITH A MINIMUM STEEL YIELD STRENGTH OF fy=45ksi, UNLESS SHOWN OTHERWISE ON THE DRAWINGS. ADHESIVE AND SCREEN TUBES SHALL BE HILTI "HIT-HY70" SYSTEM (REF: ICC-ES ESR-2682), SIMPSON STRONG-TIE "SET" SYSTEM (REF: ICC-ES ESR-1772), (OR APPROVED EQUAL). (SEE PRODUCT MANUALS FOR HOLE CLEANING, INSTALLATION AND INSTALLER TRAINING REQUIREMENTS.)

CONNECTIONS WITH HIGH STRENGTH BOLTS SHALL BE DESIGNED CONSIDERING BOLT THREADS INCLUDED IN THE SHEAR PLANE (A325-N). ALL BOLTING SHALL BE INSTALLED BY THE TURN-OF-THE-NUT METHOD, REMOVABLE LOAD INDICATOR BOLTS, OR CALIBRATED WRENCH. SNUG TIGHT BOLTING WILL NOT BE PERMITTED UNLESS SPECIFICALLY DETAILED ON CONTRACT DRAWINGS.

11. ALL HIGH STRENGTH BOLTED CONNECTIONS (EXCEPT COMPOSITE FLOOR BEAM CONNECTIONS) SHALL BE BEARING TYPE SELECTED TO SUPPORT ONE-HALF (1/2) OF THE MAXIMUM TOTAL UNIFORM LOAD CAPACITY OF THE BEAMS AS SHOWN IN TABLE 3-6 OF THE AISC MANUAL, 14TH EDITION, FOR THE GIVEN BEAM SIZE, SPAN AND GRADE OF STEEL SPECIFIED. THE EFFECTS OF ANY CONCENTRATED LOADS MUST BE TAKEN INTO ACCOUNT. CONNECTIONS SHALL BE DESIGNED CONSIDERING THREADS INCLUDED IN THE SHEAR PLANE (A325-N).

ALL WELDS SHALL BE E70XX, MINIMUM AND SHALL BE PERFORMED BY AWS CERTIFIED WELDERS, CERTIFIED WITHIN THE PREVIOUS TWELVE (12) MONTHS. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO THE BUILDING AND COMPONENTS DUE TO FIRE HAZARDS FROM

DO NOT PRIME PAINT STEEL THAT RECEIVES SPRAYED FIREPROOFING.

FERRULES PRIOR TO PLACING CONCRETE.

TO ACHIEVE COMPOSITE ACTION WITH THE SLAB.

14. ALL STEEL LINTELS AND SHELF ANGLES SHALL BE COATED WITH A ZINC RICH PRIMER. 15. ALL STRUCTURAL STEEL EXPOSED TO WEATHER (SUCH AS MECHANICAL FRAMES) SHALL BE HOT

DIPPED GALVANIZED AFTER FABRICATION. 16. ALL FLOOR BEAMS ARE DESIGNED COMPOSITE WITH THE CONCRETE SLAB. <30> INDICATES THE TOTAL NUMBER OF 3/4" DIAMETER HEADED STUDS ALONG THE BEAM. WHERE STUDS EXCEED ONE PER DECKING FLUTE. PLACE EXCESS FROM EACH END AT A UNIFORM SPACING WITH THE TWO STUDS PER FLUTE STAGGERED ACCORDING TO THE PLACEMENT DETAIL ON THE DRAWINGS. AT GIRDERS, 14 INDICATES THE NUMBER OF STUDS BETWEEN BEAM SPACINGS AS SHOWN. ALL STUD WELDING SHALL CONFORM TO AWS D1.1-79, PART F "STUD WELDING" AND SHALL BE PERFORMED BY A QUALIFIED WELDER. PROVIDE STUDS OF LENGTH TO ACHIEVE AT LEAST 1 INCH OF CLEARANCE AT THE FINISHED FLOOR ELEVATION. ALL STUDS WELDED IN THE FIELD SHALL BE INSTALLED USING AUTOMATICALLY TIMED STUD WELDING EQUIPMENT (STUD GUN) POWERED BY A PROPERLY SIZED GENERATOR. STICK WELDING OF STUDS WILL NOT BE PERMITTED. COMPLETELY REMOVE CERAMIC

UNLESS OTHERWISE DETAILED. BOLTED CONNECTIONS FOR COMPOSITE BEAMS SHALL BE BEARING TYPE SELECTED TO SUPPORT THREE-QUARTERS (3/4) OF THE MAXIMUM TOTAL UNIFORM LOAD CAPACITY OF THE BEAMS AS SHOWN IN TABLE 3-6 OF THE AISC MANUAL, 14TH EDITION, FOR THE GIVEN BEAM SIZE, SPAN AND GRADE OF STEEL SPECIFIED. THE EFFECTS OF ANY CONCENTRATED 18. DO NOT PRIME PAINT THE TOP FLANGE OF BEAMS WHERE HEADED STUD WELDING WILL BE REQUIRED STRUCTURAL STEEL (CONTINUED)

19. WHERE STEEL BACKING IS USED IN CONNECTIONS WITH COMPLETE-JOINT-PENETRATION (CJP) FLANGE WELDS, STEEL BACKING AND TABS SHALL BE REMOVED EXCEPT THAT TOP FLANGE BACKING O THE COLUMN BY A CONTINUOUS FILLET WELD ON THE EDGE BELOW THE CJP GROOVE WELD NEED NOT BE REMOVED. REMOVAL OF STEEL BACKING AND TABS SHALL BE AS FOLLOWS: A. FOLLOWING THE REMOVAL OF BACKING, THE ROOT PASS SHALL BE BACKGOUGED TO SOUND WELD METAL AND BACKWELDED WITH A REINFORCING FILLET. THE REINFORCING FILLET SHALL HAVE A

B. WELD TAB REMOVAL SHALL EXTEND TO WITHIN 1/8" (3 mm) OF THE BASE METAL SURFACE EXCEPT AT CONTINUITY PLATES WHERE REMOVAL TO WITHIN 1/4" (6 mm) OF THE PLATE EDGE IS ACCEPTABLE. EDGES OF THE WELD TAB SHALL BE FINISHED TO A SURFACE ROUGHNESS VALUE OF 500 MICRO-IN. (13 MICROMETERS) OR BETTER. GRINDING TO A FLUSH CONDITION IS NOT REQUIRED. GOUGES AND NOTCHES ARE NOT PERMITTED. THE TRANSITIONAL SLOPE OF ANY AREA WHERE GOUGES AND NOTCHES HAVE BEEN REMOVED SHALL NOT EXCEED 1:5. MATERIAL REMOVED BY GRINDING THAT EXTENDS MORE THAN 1/16" (2 mm) BELOW THE SURFACE OF THE BASE METAL SHALL BE FILLED WITH WELD METAL. THE CONTOUR OF THE WELD AT THE ENDS

SHALL PROVIDE A SMOOTH TRANSITION, FREE OF NOTCHES AND SHARP CORNERS. 19. WHERE WELD ACCESS HOLES ARE PROVIDED, THEY SHALL BE AS SHOWN IN FIGURE 11-1 OF ANSI/AISC 341-02 (AISC SEISMIC PROVISIONS ,DATED MAY 21, 2002). THE WELD ACCESS HOLE SHALL BE GROUND SMOOTH TO A SURFACE ROUGHNESS VALUE NOT TO EXCEED 500 MICRO-IN. (13 MICROMETERS), AND SHALL BE FREE OF NOTCHES AND GOUGES.

METAL JOISTS (05 21 00) METAL JOIST SUPPLIER SHALL SUBMIT SHOP DRAWINGS PREPARED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF ARKANSAS TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION.

METAL JOISTS SHALL BE DESIGNED, MANUFACTURED, AND BRIDGED TO CONFORM TO THE "STEE JOIST INSTITUTE" STANDARD SPECIFICATION. PROVIDE RECOMMENDED CAMBER FOR THE JOIST SPAN DO NOT WELD EXTENDED BOTTOM CHORDS OF JOISTS UNTIL ALL DEAD LOAD IS IN PLACE. PROVIDE LOPED AND SKEWED SEATS ON ALL JOISTS AS REQUIRED. PROVIDE UPLIFT BRIDGING AND DESIGN JOISTS FOR A NET UPLIFT OF 10 PSF. ALL BRIDGING SHALL BE DESIGNED AND SUPPLIED BY THE JOIST MANUFACTURER.

3. DO NOT PRIME PAINT METAL JOISTS THAT WILL RECEIVE SPRAYED FIREPROOFING.

 METAL DECKING SUPPLIER SHALL SUBMIT SHOP DRAWINGS PREPARED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF ARKANSAS TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION.

2. FLOOR DECKING SHALL BE 1.5VLI20 GALVANIZED COMPOSITE FLOOR DECK ATTACHED TO THE STRUCTURE WITH 5/8" DIAMETER PUDDLE WELDS AT 12 " ON CENTER AT ALL SUPPORTS. SHEAR STUD WELDING ATTACHMENT MAY REPLACE PUDDLE WELDS WHERE STUD SPACING IS EQUAL TO OR LESS THAN 12" ON CENTER.

3. ROOF DECKING SHALL BE 1.5B20 PAINTED ROOF DECK ATTACHED TO THE STRUCTURE WITH 5/8" DIAMETER PUDDLE WELDS IN A 36/4 PATTERN AND (3) #10 TEK SCREW SIDELAP FASTENERS

4. POWDER ACTUATED OR PNEUMATIC FASTENERS MAY NOT BE SUBSTITUTED FOR PUDDLE WELDS.

COLD-FORMED STRUCTURAL STEEL FRAMING (05 41 00) 1. COLD-FORMED METAL FRAMING SUPPLIER SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS SEALED

AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF ARKANSAS TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION. 2. SHOP DRAWINGS SHALL DETAIL A COMPLETE SYSTEM SHOWING MEMBER SIZES, SPACING AND

CONNECTIONS TO THE STRUCTURE. 3. ALL STRUCTURAL STUDS, TRACK, BRIDGING, END CLOSURES AND ACCESSORIES SHALL BE FORMED FROM STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A653/A653M.

4. ALL COLD-FORMED STEEL STUD SECTIONS ARE IDENTIFIED ACCORDING TO THE DESIGNATIONS GIVEN IN THE "STEEL STUD MANUFACTURERS ASSOCIATION" (SSMA) PRODUCT TECHNICAL INFORMATION MANUAL. SEE SSMA FOR MINIMUM SECTION PROPERTIES.

600 = MEMBER DEPTH $(600 \times 1/100 \text{ INCHES} = 6")$

EXAMPLE: 600S162-43

(S = STUD, T = TRACK, U = CHANNEL)

162 = FLANGE WIDTH $(162 \times 1/100 \text{ INCHES} = 1.625" = 1-5/8")$

43 = MATERIAL THICKNESS $(43 = 43 \text{ MILS } \times 1/1000 \text{ INCHES} = 0.043")$

YIELD STRENGTH SHALL BE 33 KSI UNLESS NOTED ON PLANS AS FOLLOWS: 600S162-43 (50 KSI) - FOR 50 KSI YIELD STRENGTH

SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

LIFT PRIOR TO PLACEMENT OF SUBSEQUENT LIFTS.

6. PROVIDE COLUMNS BUILT-UP OF MULTIPLE STUDS (2 STUDS MIN.) FOR HEADER AND BEAM BEARING.

ALL STUDS AT LOADBEARING WALLS SHALL BE CUT FULL LENGTH WITH TRACKS (TOP & BOTTOM) INSTALLED TIGHT AGAINST ENDS OF STUD. NO GAPS BETWEEN END OF STUDS AND TRACK WILL BE ALLOWED IN LOAD BEARING STUDS.

8. ALL COLD-FORMED STEEL FRAMING SHAPES (SUCH AS Z-PURLINS, C-PURLINS, HAT CHANNELS AND EAVE STRUTS) ARE IDENTIFIED ACCORDING TO THE DESIGNATIONS GIVEN IN THE LIGHT GAGE STEEL INSTITUTE (LGSI) "LIGHT GAGE STRUCTURAL STEEL FRAMING SYSTEM DESIGN HANDBOOK". SEE LGSI FOR MINIMUM SECTION PROPERTIES.

EARTHWORK & FOUNDATION NOTES (31 00 00)

EXCAVATION & FILL (31 22 00 & 31 23 23)

ALL UNDERCUTTING, SITE PREPARATION, FILL SELECTION, BACKFILLING AND COMPACTION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND SOILS ENGINEER'S RECOMMENDATIONS.

SELECT FILL BENEATH THE BUILDING SHALL BE PLACED IN LIFTS NOT EXCEEDING 8" LOOSE THICKNESS AND COMPACTED TO AT LEAST 98% OF STANDARD PROCTOR DRY DENSITY (ASTM D 698) THE IN-PLACE DENSITY AND MOISTURE CONTENT SHALL BE ESTABLISHED AND APPROVED FOR EACH

SPREAD FOOTINGS (31 24 50)

 BOTTOM OF FOOTING ELEVATIONS (BF) SHOWN ON THE PLANS ARE FOR ESTIMATING PURPOSES ONLY AND ARE NOT NECESSARILY TO BE USED FOR CONSTRUCTION. THE SOILS ENGINEER OR HIS REPRESENTATIVE SHALL BE ENGAGED TO INSPECT ALL FOOTING EXCAVATIONS TO VERIFY THAT THE REQUIRED ALLOWABLE BEARING CAPACITY IS ATTAINABLE. BOTTOM OF FOOTING ELEVATIONS SHALL BE ADJUSTED PER THE ON-SITE RECOMMENDATIONS OF THE SOILS ENGINEER OR HIS REPRESENTATIVE

2. ALL SPREAD FOOTINGS SHALL BE FOUNDED ON SOILS THAT HAVE BEEN IMPROVED BY GEOPIER FOUNDATION ELEMENTS DESIGNED BY THE GOEPIER FOUNDATION COMPANY. THE FOOTINGS HAVE BEEN SIZED FOR AN ALLOWABLE NET BEARING CAPACITY OF AT LEAST 5000 PSF, PER THE GEOTECHNICAL INVESTIGATION. (REF: GEOTECHNICAL INVESTIGATION, JOB NO. 16-077 DATED JULY 8, 2016 BY GRUBBS, HOSKYN, BARTON & WYATT.)

3. MAINTAIN FINISHED GRADE (AND/OR BOTTOM OF FOOTING ELEVATIONS) TO PROVIDE AT LEAST 1'-6" COVER ABOVE THE BOTTOM OF ALL EXTERIOR FOOTINGS FOR FROST PROTECTION. RETAINING WALLS (32 32 13)

 ALL RETAINING WALLS SHALL HAVE A PROPERLY INSTALLED DRAINAGE SYSTEM TO RELIEVE HYDROSTATIC PRESSURE.

BACKFILL BOTH SIDES OF WALLS EQUALLY UNTIL LOW SIDE IS UP TO GRADE. 3. PROVIDE ADDITIONAL SHORING FOR ALL FOUNDATION WALLS AS REQUIRED DURING CONSTRUCTION BACKFILLING AND COMPACTION OPERATIONS.

ALL FOUNDATION WALLS WITH AN ELEVATED CONCRETE SLAB FRAMING INTO THE TOP OF THEM MAY BE BACKFILLED ONLY AFTER THE ELEVATED SLAB IS IN PLACE AND CURED.

IF RETAINING WALLS ARE REQUIRED BY THE BUILDING OFFICIALS TO BE INSPECTED (AS-BUILT CERTIFICATION FORM), THE CONTRACTOR SHALL RETAIN THE SERVICES OF AN INDEPENDENT REGISTERED ENGINEER OR NOTIFY THE ENGINEER-OF-RECORD AT LEAST 3 DAYS PRIOR TO COVERING UP THE REBAR WITH WALL FACING MATERIAL (WHETHER CONCRETE OR MASONRY), SO THAT IN-PLACE REBAR MAY BE PROPERLY INSPECTED

MIX DESIGN SHALL INCLUDE AT LEAST THE FOLLOWING AMOUNTS OF PORTLAND CEMENT

28 DAY MIN. COMPRESSIVE STRENGTH	NON-AIR ENTRAINED		AIR ENTRAINED		
	MIN. CEMENT CONTENT (LBS/YARD ³)	MAXIMUM PERMISSIBLE W/C RATIO	MIN. CEMENT CONTENT (LBS/YARD ³)	MAXIMUM PERMISSIBLE W/C RATIO	MAX. SLUMP w/ WRA
3000	470	0.53	a -1	. 	6"
4000	564	0.44	611	0.40	6"
5000	611	0.40	9 <u>44</u> 4	9 <u>40</u> 9	6"

DESIGN LOADS: WEIGHT OF THE STRUCTURE DEAD LOADS: ROOF LIVE LOAD: 20 PSF FLOOR LIVE LOADS: PARKING GARAGES AASHTO LOADS CORRIDORS LOBBIES 100 PS ASSEMBLY AREAS STAIRS AND EXITS COMPUTER ROOMS 125 PSF MECHANICAL ROOMS GROUND SNOW LOAD 10 PSF WIND SPEED FOR RISK CATEGORY II & EXPOSURE C BUILDING RISK CATEGORY WIND EXPOSURE CATEGORY INTERNAL PRESSURE COEFFICIENT Pnet30: SÉE ASCE 7-10, TABLE 30.7-2 COMP. & CLADDING WIND PRESSURE MAPPED SPECTRAL RESPONSE ACCELERATIONS SPECTRAL RESPONSE COEFFICIENTS SEISMIC DESIGN CATEGORY STEEL SUPER-STRUCTURE BASIC SEISMIC-FORCE-RESISTING SYSTEM C. MOMENT-RESISTING FRAME SYSTEM (PER ASCE 7-10, TABLE 12.2-1) 1. SPECIAL STEEL MOMENT FRAMES SEISMIC RESPONSE COEFFICIEN Cs: 0.124 RESPONSE MODIFICATION FACTOR ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE METHOD (PER ASCE 7-10, TABLE 12.6-1 & SECT. 12.8) CONCRETE SUB-STRUCTURE BASIC SEISMIC-FORCE-RESISTING SYSTEM B. BUILDING FRAME SYSTEM

(PER ASCE 7-10, TABLE 12.2-1) 4. SPECIAL REINFORCED CONCRETE SHEAR WALLS SEISMIC RESPONSE COEFFICIENT Cs: 0.166 RESPONSE MODIFICATION FACTOR EQUIVALENT LATERAL FORCE METHOD ANALYSIS PROCEDURE (PER ASCE 7-10, TABLE 12.6-1 & SECT. 12.8) SEISMIC ZONE PER A.C.A. 12-80-101 ET. SEQ. ZONE: 3

2012 ARKANSAS FIRE PREVENTION CODE

A.C.A. 12-80-101 ET. SEQ. (ARKANSAS STATE LAW) THE FOUNDATIONS AND STRUCTURAL FRAMING HAVE BEEN DESIGNED TO RESIST THE LOADS AND FORCES STATED ABOVE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2012 ARKANSAS FIRE PREVENTION CODE AND A.C.A. 12-80-101 ET. SEQ.

SPECIAL INSPECTION NOTES

1. SPECIAL INSPECTIONS SHALL BE REQUIRED IN ACCORDANCE WITH CHAPTER 17 OF THE BUILDING CODE. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS WITH THE INSPECTION AGENTS.

THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE TO PERFORM THE REQUIRED INSPECTION TO THE SATISFACTION OF THE BUILDING OFFICIAL.

THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF INSPECTIONS. INSPECTION REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN 4. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF

DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF BUILDING OFFICIAL AND THE REGISTERS

DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE

THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, TH

5. A FINAL REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES SHALL BE SUBMITTED TO THE OWNER, BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AT THE COMPLETION OF THE STRUCTURAL PORTION OF THE WORK.

SOIL TESTING AND INSPECTIONS 1. A QUALIFIED TESTING LABORATORY SHALL TEST ALL CONTROLLED STRUCTURAL FILL. A MINIMUM OF

TWO SOIL COMPACTION TESTS SHALL BE MADE FOR EACH LIFT. AFTER FOOTING EXCAVATIONS HAVE BEEN MADE TO DESIGN ELEVATIONS, THE INDEPENDENT TESTING AGENCY SHALL INSPECT AND TEST THE BEARING SOIL TO VERIFY THAT IT MEETS THE REQUIRED DESIGN CAPACITY.

CONCRETE CONSTRUCTION INSPECTIONS

1. INSPECT REINFORCING STEEL PRIOR TO PLACING CONCRETE. CHECK REINFORCING SIZE, SPACING AND LOCATION. VERIFY SIZE, TYPE, EMBEDMENT DEPTH, PROJECTION AND QUANTITY OF ANCHOR BOLTS.

CYLINDERS SHALL BE MADE FOR DETERMINING THE CONCRETE STRENGTH FROM EACH CLASS OF

CONCRETE TO BE PLACED. SAMPLES SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5,000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS. (EACH SAMPLE SHALL CONSIST OF 4 CYLINDERS MADE, HANDLED AND TESTED PER THE SPECIFICATIONS.)

4. EACH TIME THE CYLINDERS ARE MADE THE SLUMP, AIR CONTENT AND TEMPERATURE OF THE

CONCRETE SHALL ALSO BE CHECKED. THE CONTRACTOR'S METHOD OF MAINTAINING THE MINIMUM CURING TEMPERATURE AND CURING

TECHNIQUE SHALL BE REVIEWED. 6. PROVIDE CONTINUOUS INSPECTION OF POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE ELEMENTS TO VERIFY THE INSTALLATION IS IN ACCORDANCE WITH STRUCTURAL DRAWINGS, EVALUATION SERVICE REPORT, AND MANUFACTURER'S INSTRUCTIONS. VERIFY LOCATION, EDGE DISTANCES, SPACING, DRILL BIT SIZE, HOLE DEPTH, HOLE CLEANING PROCEDURES, ANCHOR MATERIAL, EMBEDMENT, INSTALLATION PROCEDURES, INCLUDING CHECKING EXPIRATION DATE, PROPER MIXING OF ADHESIVE, AND INSTALLER

MASONRY CONSTRUCTION INSPECTIONS ALL MASONRY CONSTRUCTION FOR LOAD BEARING WALLS SHALL BE INSPECTED AND EVALUATED IN ACCORDANCE WITH THE REQUIREMENTS FOR LEVEL A QUALITY ASSURANCE PROGRAM REQUIREMENTS AS OUTLINED IN TABLE 1.19 OF THE TMS 402/ACI 530/ASCE 5 AND TMS 602/ACI 530.1/ASCE 6

STEEL CONSTRUCTION INSPECTION 1. STEEL FABRICATOR SHALL BE REGISTERED AND APPROVED IN ACCORDANCE WITH THE ARKANSAS FIRE PREVENTION CODE SECTION 1704.2.5.2 AND SHALL SUBMIT A CERTIFICATE OF COMPLIANCE - OR -THE FABRICATOR SHALL MAKE PROVISIONS FOR SHOP INSPECTION OF FABRICATION PROCEDURES & QUALITY CONTROL IN ACCORDANCE WITH SECTION 1704.2.5.1 BY AN INDEPENDENT INSPECTION

AGENCY APPROVED BY THE OWNER, WITH RELATED COSTS INCLUDED IN THE BID. PERIODICALLY VERIFY THAT THE PROPER MATERIALS FOR HIGH-STRENGTH BOLTS, STRUCTURAL STEEL AND WELD FILLER MATERIALS ARE BEING USED.

PERIODICALLY CHECK TIGHTENING OF HIGH-STRENGTH BOLTS USING THE TURN OF THE NUT METHOD

BE MADE FOR ALL SINGLE PASS FILLET WELDS NOT EXCEEDING 5/16" IN SIZE AND FOR STEEL DECK

WITH MATCH MARKING TECHNIQUES OR DIRECT TENSION INDICATOR BOLTS. WELDING PROCEDURES, MATERIALS AND WELDER QUALIFICATIONS FOR ALL FIELD WELDING SHALL BE VERIFIED PRIOR TO THE START OF WORK. 5. PERIODIC INSPECTION OF WELDING IN PROGRESS AND VISUAL INSPECTION OF ALL FIELD WELDS SHALL

RETAINING WALL INSPECTIONS IF RETAINING WALLS ARE REQUIRED TO BE INSPECTED BY THE BUILDING OFFICIALS (AS—BUILT CERTIFICATION FORM IS REQUIRED), THE CONTRACTOR SHALL RETAIN THE SERVICES OF AN

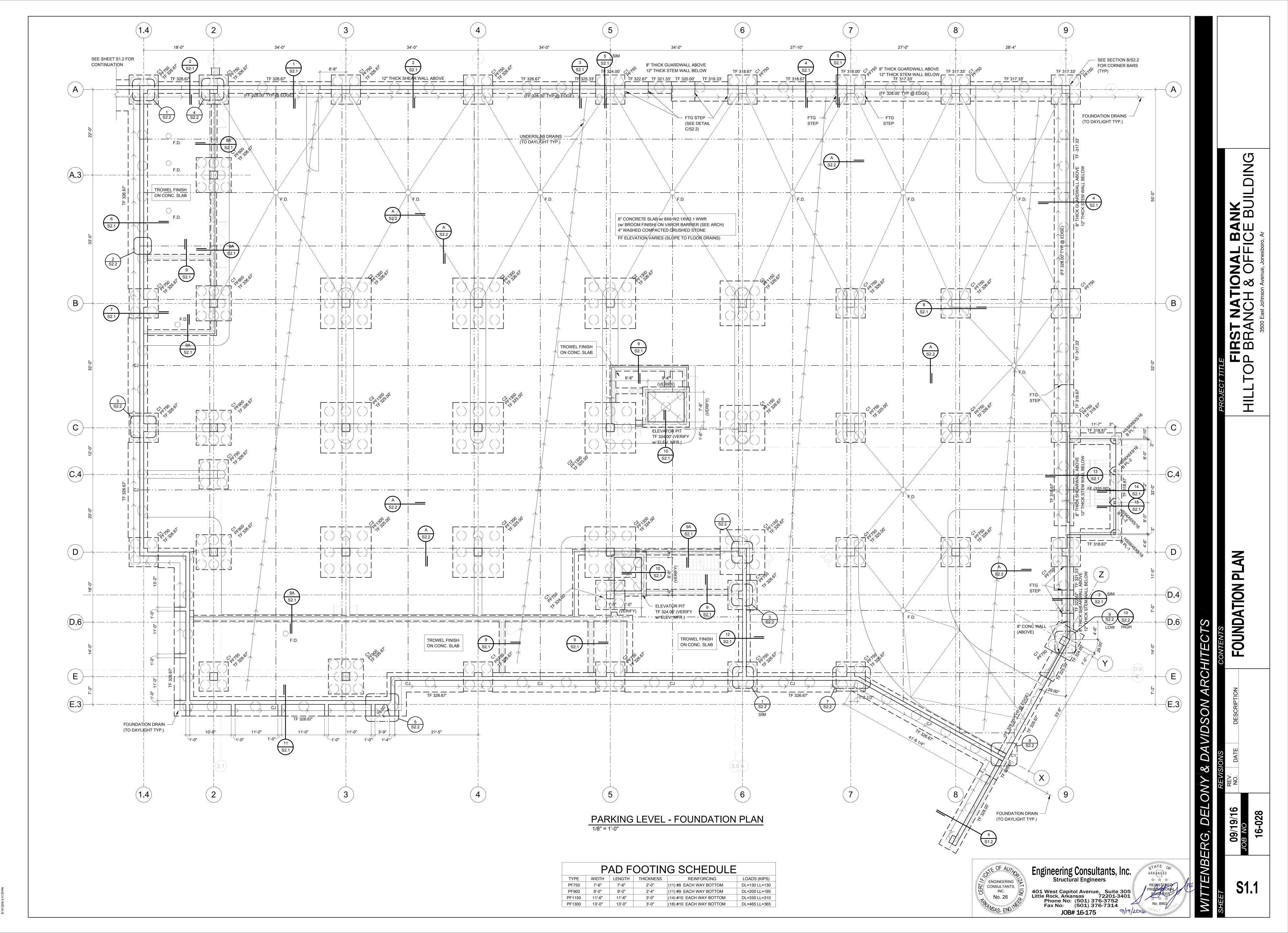
INDEPENDENT REGISTERED ENGINEER TO PERFORM THE INSPECTIONS.

ENGINEERING CONSULTANTS INC. Little Rock, Arkansas 72201-3401 No. 26 Phone No: (501) 376-3752 Fax No: (501) 376-7314

Engineering Consultants, Inc. Structural Engineers 401 West Capitol Avenue. Suite 305

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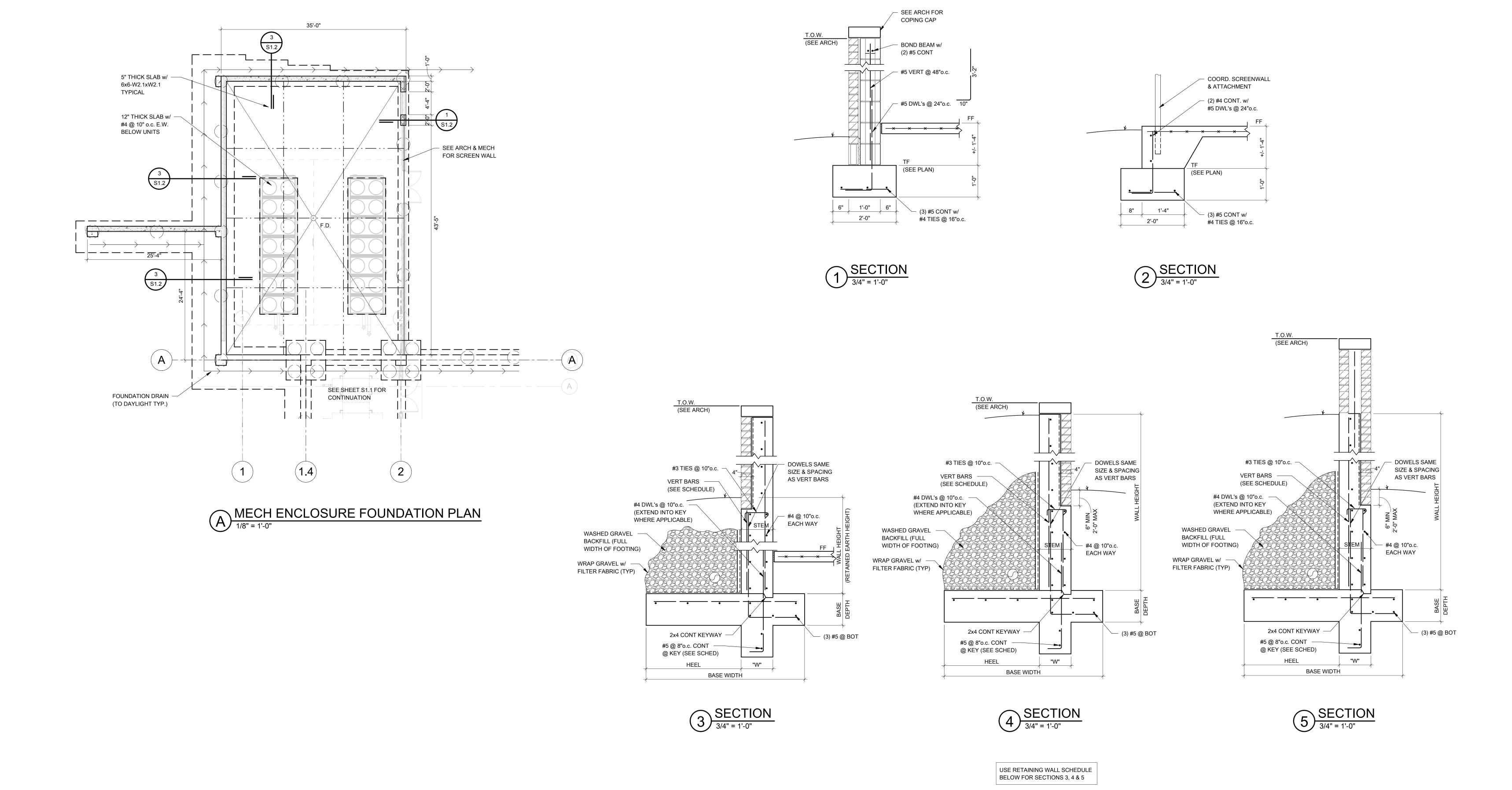


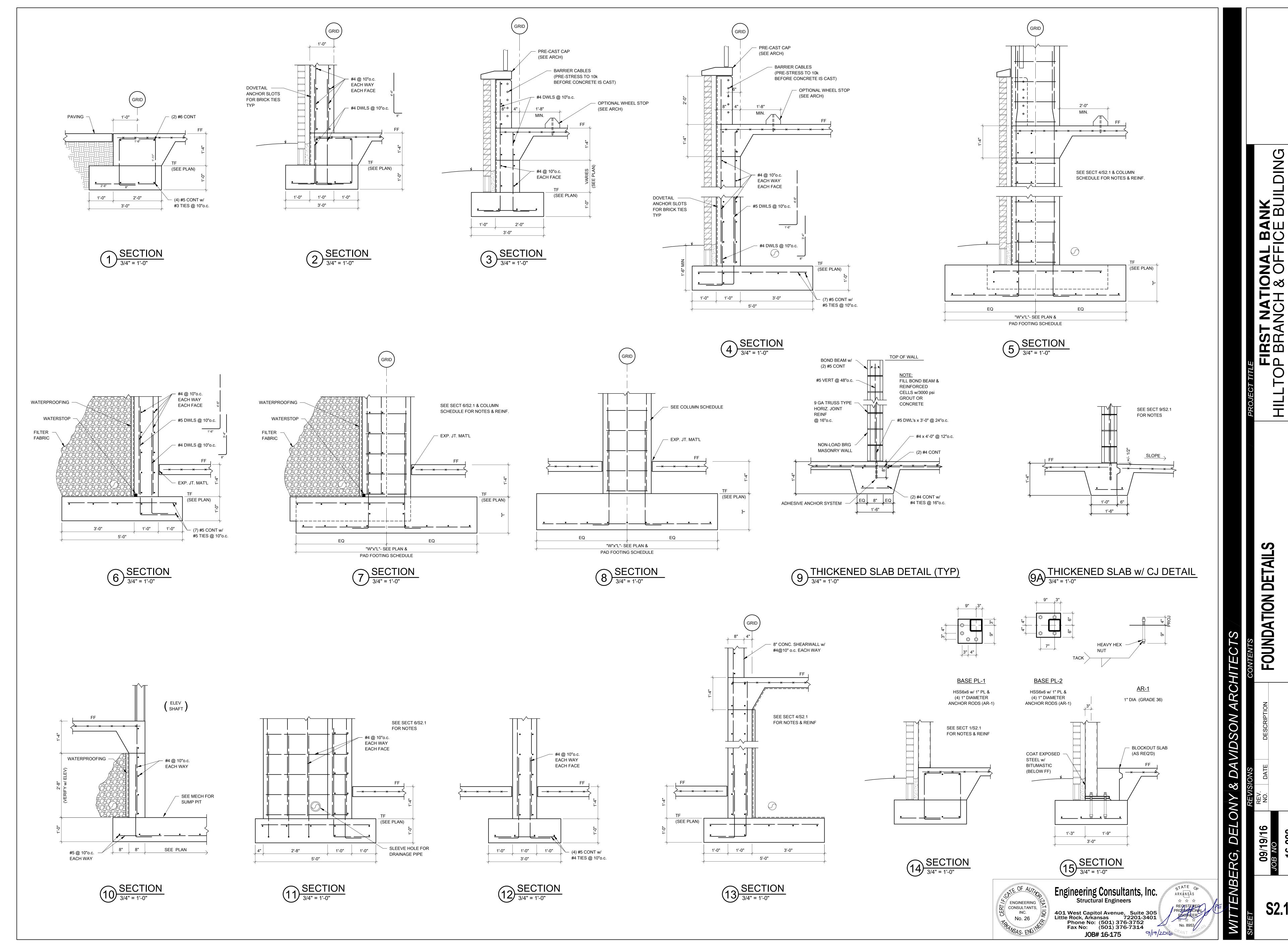
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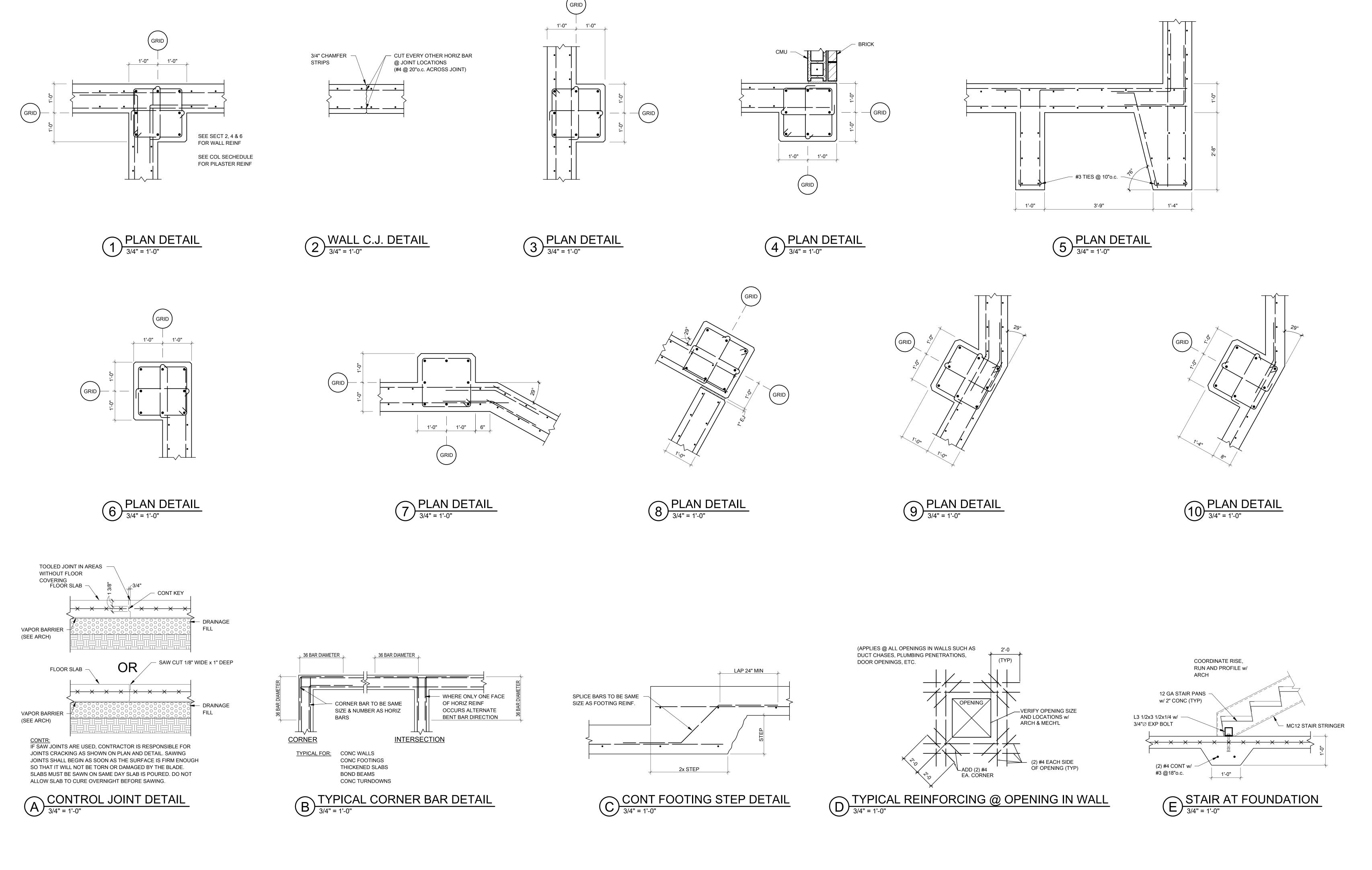


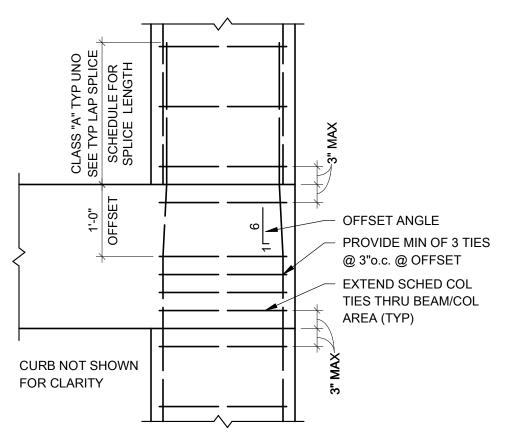


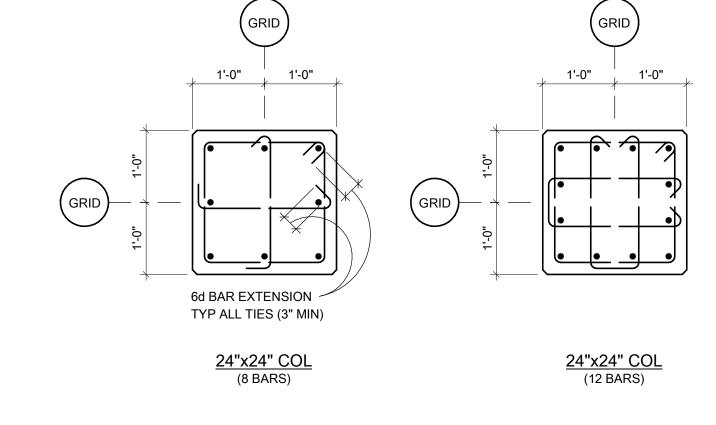
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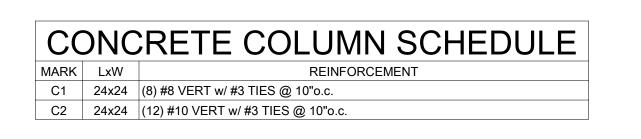


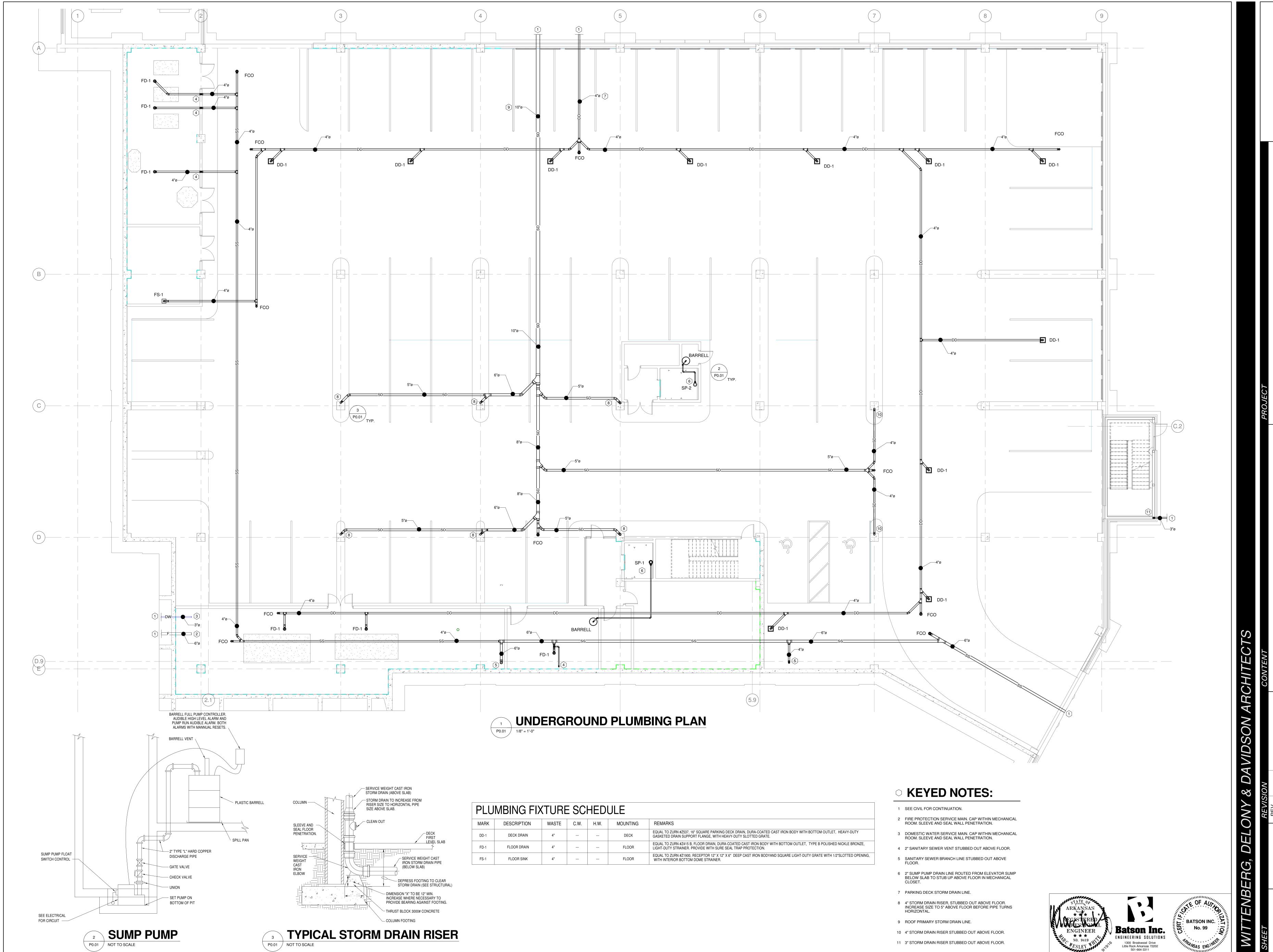




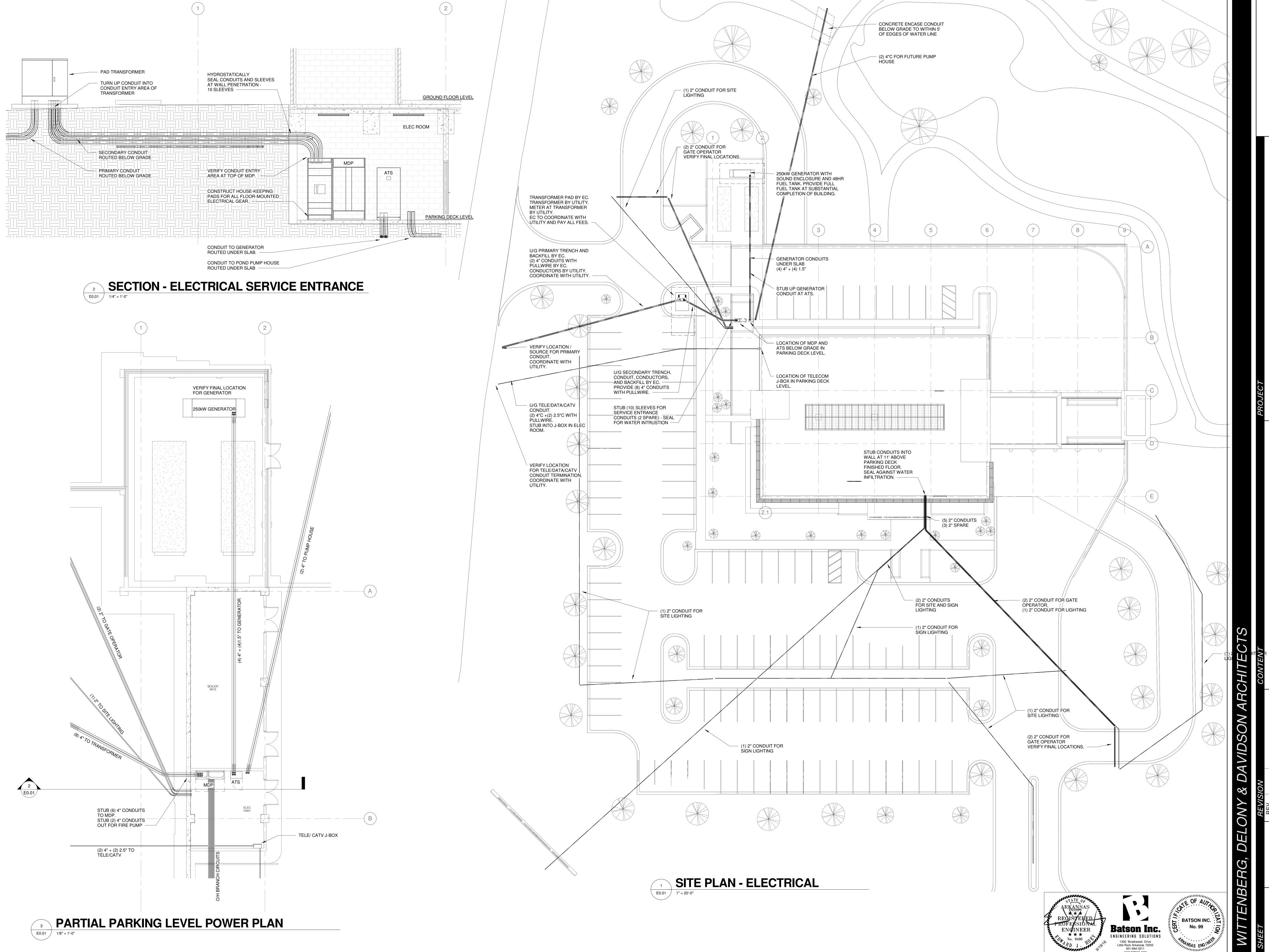








UNDERGROUND PLUMBING PACKAGE



CAL PACKAGE HILLTOP BRANCH & OF

UNDERGROUND ELECTRICAL PAC

ATE DESCRIPTION

16-028

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