

# **EAST HOSPITAL**

ASC EXPANSION & RENOVATION GRADING, FOOTING, AND FOUNDATION PACKAGE 120 NE Saint Luke's Blvd Lee's Summit, MO 64086

# PROJECT TEAM

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**MEP CONSULTANT** 

**IMEG** 

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## **ABBREVIATIONS**

ACOUSTIC/ACOUSTICAL FLOR. PTD. FLUORESCENT PAINTED PG. PAGE FOOTING FOUNDATION PLAM. PLASTIC LAMINATE ADD'N. ADDITION PR. PNL. AGGREGATE BASE COURSE F.H.C. FIRE HOSE CAB. PANEL ABOVE FINISH FLOOR FIELD VERIFY PTN. AGGREGATE PENNY AIR CONDITIONING PLATE ALUMINUM PLBG. PLUMBING ALTERNATE PLYWD. PLYWOOD ANCHOR BOL GRADE GRAM POINT GRILLE ARCH. ARCHITECT POUNDS PER SQ. IN GRID P.S.F. POUNDS PER SQ. FT GND. GROUND P.C. PRECAST
P.L. PROPERTY LINE GALVANIZED STEEL GYPSUM GWB/G.B. GYPSUM BOARD RISER, RISERS BLKG. BLOCKING RADIUS HAND RAI BASEMENT R.D. **ROOF DRAIN** HDN. HARDENER HDW. HARDWARE REFER TO HDWD. HARDWOOD REGISTER HEATER BOTTOM O REQ'D. REQUIRED HEIGHT REV. REVISION HIGH POINT RF'G. ROOFING H.M. HOLLOW METAL RGH. ROUGH HORIZ. HORIZONTAL CAST IN PLACE ROOM H.B. HOSE BIB CATCH BASIN H.W. HOT WATER R.O. ROUGH OPENING CEMENT/CEMENTITIOUS INCH / INCHES CENTIMETER INSIDE DIAMETER SCHED. SCHEDULE INSULATION CENTER LINE SEALED CONCRETE INT. INTERIOR INVERT CERAMIC TILE SECTION CHANNEL SELECT **JANITOR** SHEATHING JOINT JOIST C.O. CLEAN OUT SIDING KICK PLATE SLDG. SLIDING COLUMN SMOOTH CONC. CONCRETE SPEC. SPECIFICATION POUND SQUARE CONST. CONSTRUCTION LDG. LANDING STAINED CONTROL JOINT LATH LTH. STD. STANDARD CONSTRUCTION JOINT LAVATORY CONT. CONTINUOUS ST.STL. STAINLESS STEE CONTR. CONTRACTOR LOCATION STRUC. STRUCTURE COR'G. CORRUGATED LIGHT SUSP. SUSPENDED COUNTER L.W.C. LIGHT WEIGHT CONCRETE SW.BD. SWITCHBOARD CTSK. COUNTERSUNK LVR. LOUVER SYS. SYSTEM CONCRETE MASONRY UNIT LOC. LOCATION MASONRY OPENING TOP OF CURB DECIBEL MATERIAL TEMPERED GLASS DIAGONAL MFR. MANUFACTURER DIAMETER TOP OF MARKER BOARD TOP OF STEEL DECK DIMENSION MAXIMUM DISPENSER T.W. TEACHERS WARDROBE MECHANICAL MTL. METAL DOWN METAL LATH DOWNSPOUT METER U.O.N. UNLESS OTHERWISE NOTED MLDG. MOLDING V. VENT MULLION EA. EACH VERT. VERTICAL ELEC ELECTRIC V.G. VERTICAL GRAIN E.W.C. ELECTRIC WATER COOLER N.G. NATURAL GRADE VEST. VESTIBULE ELEVATION NOM. NOMINAL V.C.T. VINYL COMPOSITION TILE ELEV. ELEVATOR N.I.C. NOT IN CONTRACT VCP VITREOUS CLAY PIPE EQ. EQUAL N.T.S. NOT TO SCALE EQUIP. EQUIPMENT NO. /# NUMBER W.W.M. WELDED WIRE MESH EXH. EXHAUST W.C. WATER CLOSET EXPAN. EXPANSION OBS. OBSCURE W.H. WATER HEATER EXPANSION JOINT ON CENTER W.F. WIDE FLANGE EXIST. EXISTING EXT. EXTERIOR OPN'G. OPENING W/ WITH O.A. OVERALL W/O WITHOUT OUTSIDE DIAMETER FEET / FOOT O.F.S. OVERFLOW SCUPPER

O.F.D. OVERFLOW DRAIN

O.H.D. OVERHEAD DOOR

FINISH

FLASHING

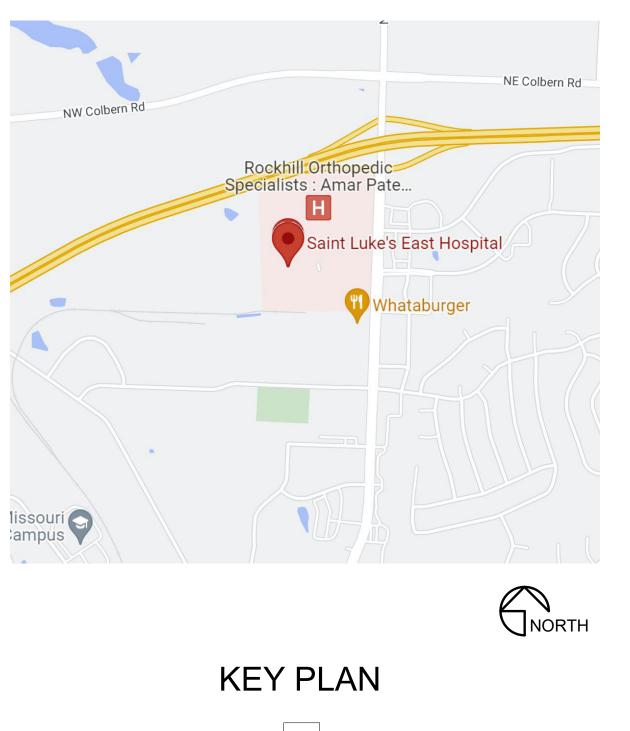
FIXT. FIXTURE

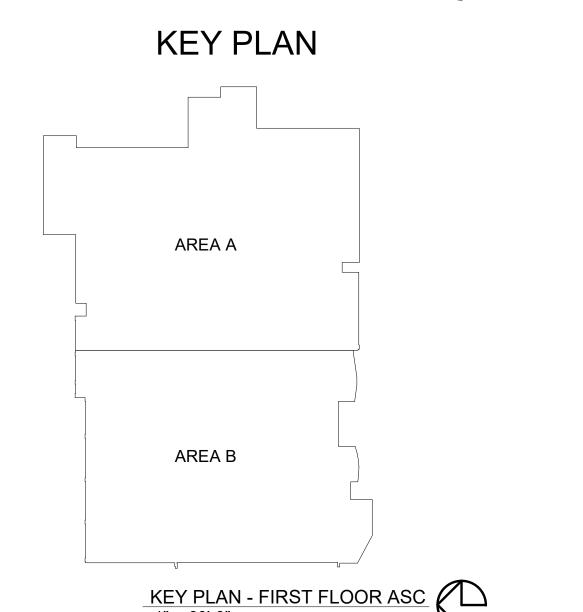
FLR. FLOOR

F.D. FLOOR DRAIN

# LOCATION PLAN

BHC





# SHEET INDEX FOOTING PACKAGE

COVER SHEET DEMOLITION PLAN - BUILDING EXPANSION DEMOLITION PLAN - PARKING EXPANSION OVERALL SITE PLAN SITE PLAN - BUILDING EXPANSION

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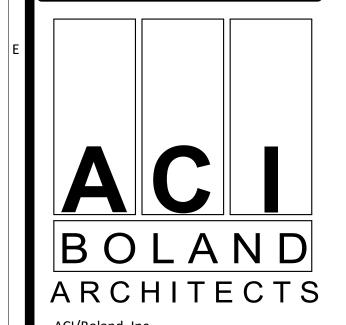
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SITE PLAN - PARKING EXPANSION **DIMENSION PLAN - BUILDING EXPANSION DIMENSION PLAN - PARKING EXPANSION** OVERALL GRADING PLAN DETAILED GRADING PLAN - BUILDING EXPANSION DETAILED GRADING PLAN - PARKING EXPANSION OVERALL EROSION CONTROL PLAN EROSION CONTROL PLAN - PARKING EXPANSION **EROSION CONTROL DETAILS** OVERALL UTILITY PLAN SANITARY PLAN & PROFILE PHOTOMETRIC PLAN OVERALL DRAINAGE MAP **EXPANSION DRAINAGE MAP** STORM PLAN & PROFILE STORM PLAN & PROFILE STORM PLAN & PROFILE **DETENSION BASIN PLAN** RETAINING WALL PLAN & PROFIL CIVIL DETAILS 1 CIVIL DETAILS 2 CIVIL DETAILS 3 CIVIL DETAILS 4

LANDSCAPE PLAN PLANTING DETAILS **IRRIGATION DETAILS IRRIGATION DETAILS 2** GENERAL NOTES

TYPICAL DETAILS FOUNDATION DEMO PLAN AND DETAILS FOUNDATION AND FIRST LEVEL PLAN FOUNDATION DETAILS **FOUNDATION DETAILS** FOUNDATION DETAILS **ENLARGED STAIR/ELEVATOR PLAN AND DETAILS** CANOPY PLANS AND DETAILS

TRASH ENCLOSURE PLAN AND DETAILS DRILLED PIER AND COLUMN SCHEDULE



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**MEP CONSULTANT** 

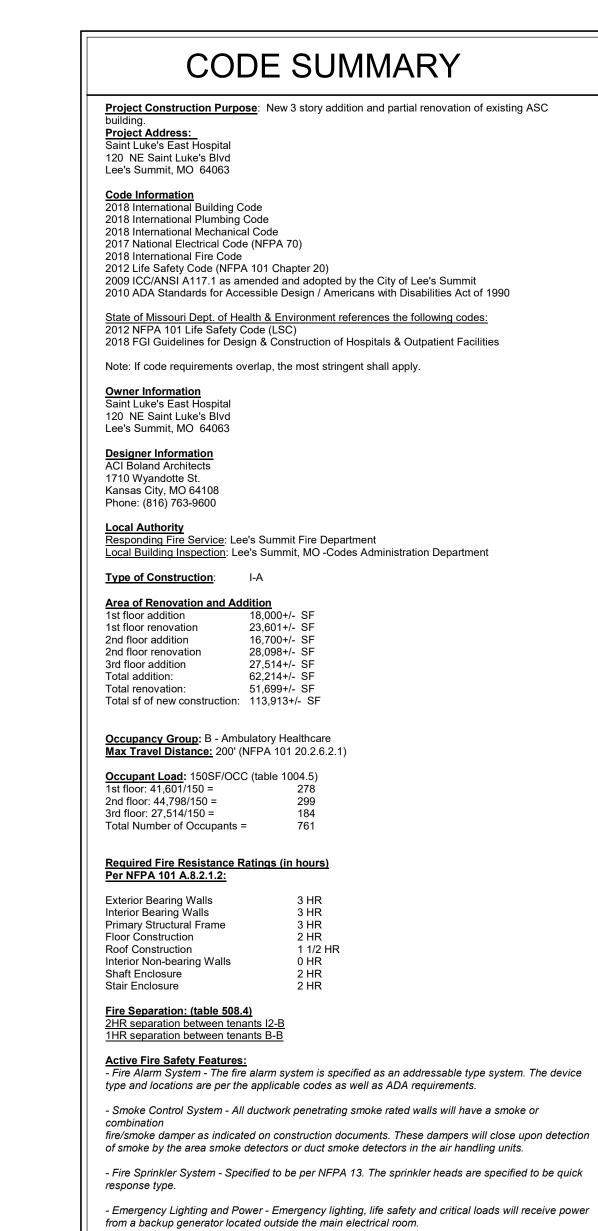
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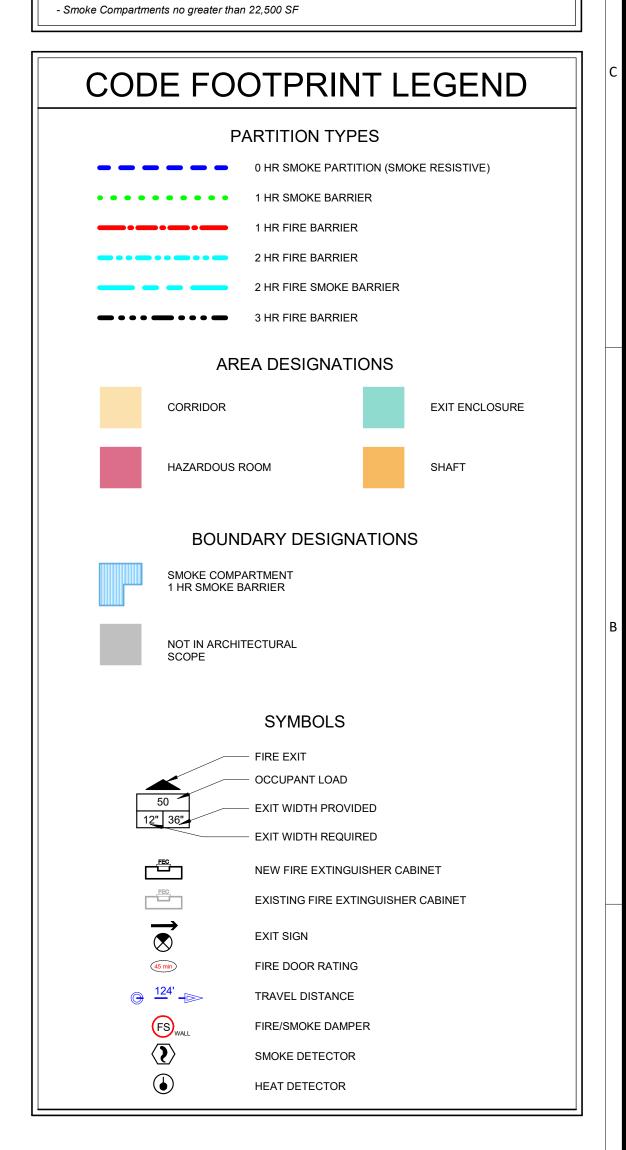
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3-21037 Checker Checked By

GRADING, FOOTING, AND FOUNDATION PACKAGE

**COVER SHEET** 





CONSTRUCTION Samuel K. Beckman - Architect License - Missouri #A-2011012130

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- Illuminated Exit Signs Passive Fire Safety Features:

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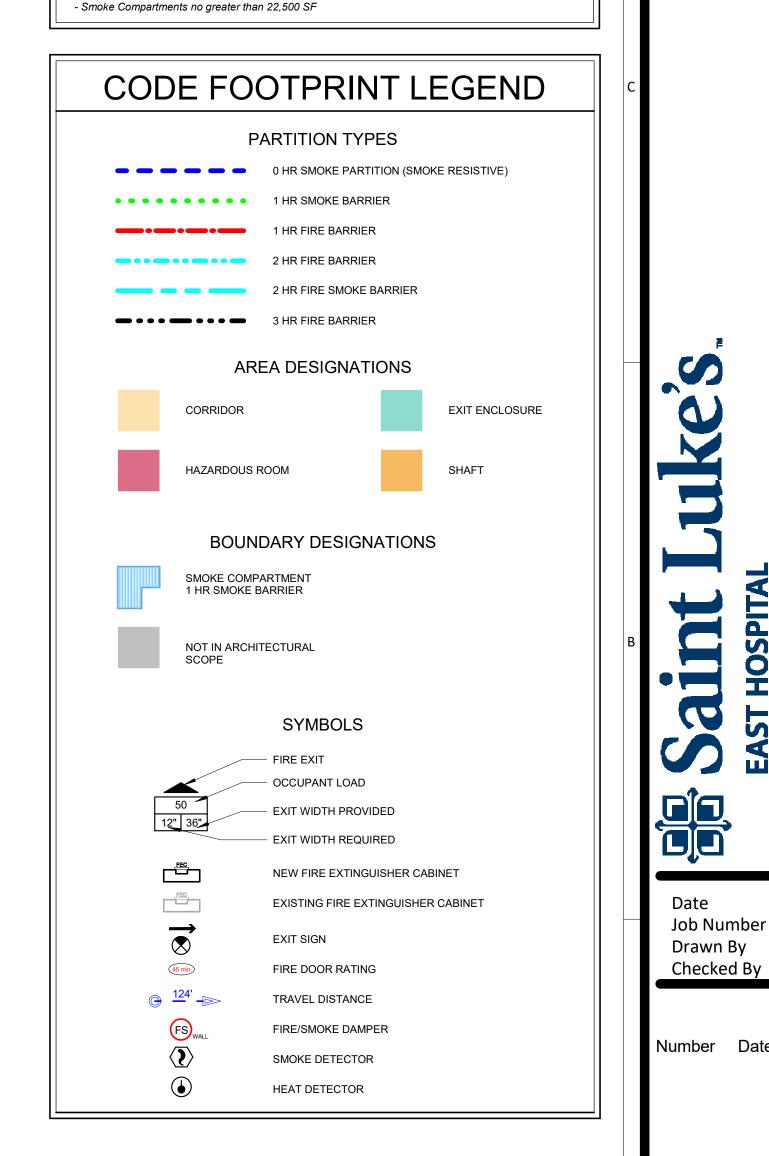
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FIRST FLOOR CODE FOOTPRINT PLAN

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**CODE SUMMARY Project Construction Purpose**: New 3 story addition and partial renovation of existing ASC Project Address:
Saint Luke's East Hospital
120 NE Saint Luke's Blvd Lee's Summit, MO 64063 2018 International Plumbing Code 2018 International Mechanical Code 2017 National Electrical Code (NFPA 70) 2018 International Fire Code 2012 Life Safety Code (NFPA 101 Chapter 20) 2009 ICC/ANSI A117.1 as amended and adopted by the City of Lee's Summit 2010 ADA Standards for Accessible Design / Americans with Disabilities Act of 1990 2018 FGI Guidelines for Design & Construction of Hospitals & Outpatient Facilities Note: If code requirements overlap, the most stringent shall apply. Owner Information
Saint Luke's East Hospital 120 NE Saint Luke's Blvd Lee's Summit, MO 64063 1710 Wyandotte St. Kansas City, MO 64108 Phone: (816) 763-9600 Local Authority
Responding Fire Service: Lee's Summit Fire Department
Local Building Inspection: Lee's Summit, MO -Codes Administration Department Type of Construction: Area of Renovation and Addition
1st floor addition 18,00 1st floor renovation 2nd floor addition 2nd floor renovation 28,098+/- SF 3rd floor addition 27,514+/- SF 62,214+/- SF Total addition: 51,699+/- SF Total renovation: Total sf of new construction: 113,913+/- SF Occupancy Group: B - Ambulatory Healthcare Max Travel Distance: 200' (NFPA 101 20.2.6.2.1) Occupant Load: 150SF/OCC (table 1004.5) 1st floor: 41,601/150 = 278 2nd floor: 44,798/150 = 299 3rd floor: 27,514/150 = Total Number of Occupants = Required Fire Resistance Ratings (in hours) Per NFPA 101 A.8.2.1.2: Exterior Bearing Walls Interior Bearing Walls Primary Structural Frame Floor Construction Roof Construction 1 1/2 HR 0 HR Interior Non-bearing Walls Shaft Enclosure Stair Enclosure Fire Separation: (table 508.4)
2HR separation between tenants I2-B
1HR separation between tenants B-B Active Fire Safety Features:
- Fire Alarm System - The fire alarm system is specified as an addressable type system. The device type and locations are per the applicable codes as well as ADA requirements. - Smoke Control System - All ductwork penetrating smoke rated walls will have a smoke or fire/smoke damper as indicated on construction documents. These dampers will close upon detection of smoke by the area smoke detectors or duct smoke detectors in the air handling units. - Fire Sprinkler System - Specified to be per NFPA 13. The sprinkler heads are specified to be quick - Emergency Lighting and Power - Emergency lighting, life safety and critical loads will receive power - Illuminated Exit Signs Passive Fire Safety Features:



CONSTRUCTION

Samuel K. Beckman - Architect License - Missouri #A-2011012130

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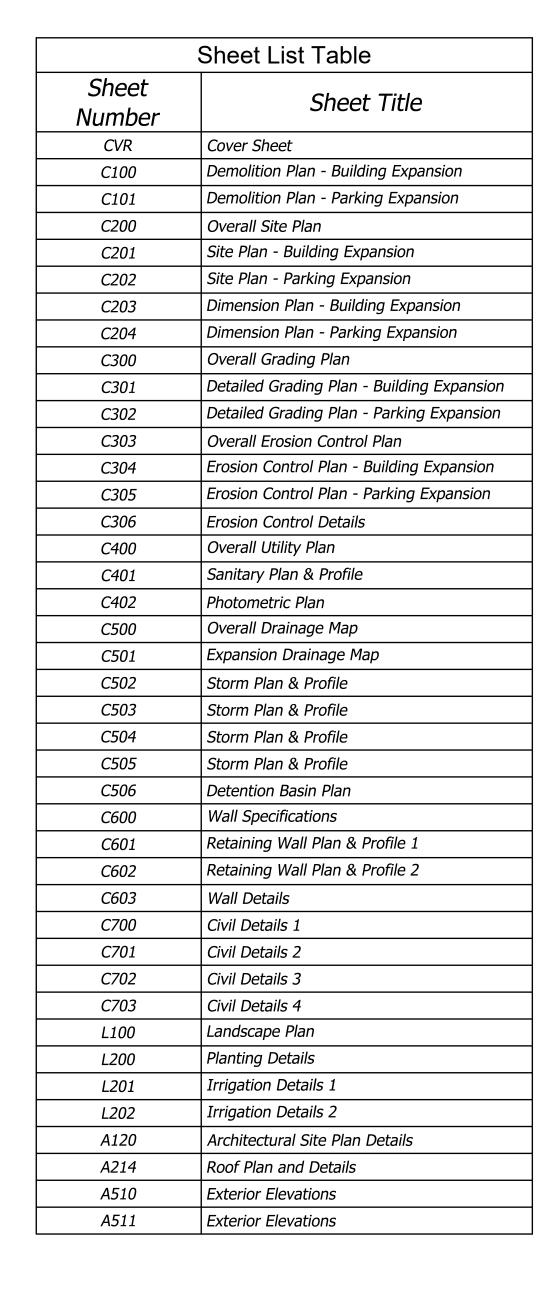
# LEE'S SUMMIT, MO 64086

100 NE SAINT LUKE'S BLVD.

# **GENERAL NOTES**

- 1. All work in public easement and Right-of-Way shall be installed per the requirements and specifications of the City of Lee's Summit, Missouri.
- 2. All existing topographic, survey, and utility information shown was provided to BHC in the form of an Topographic Survey prepared by BHC and dated July 12, 2022. Contractors shall satisfy themselves as to the existing conditions of the site and have all utilities located prior to commencing construction.
- 3. The Contractor shall be required to obtain all Federal, State, and Local permits required for this project prior to commencing construction.
- 4. Any work adjacent to or crossing existing streets requires proper traffic control devices. Traffic control devices shall be placed in accordance with the Manual of Uniform Traffic Control Devices (MUTCD).
- 5. The contractor shall be required to demolish, remove and dispose of all existing structures, pavements, and features necessary to construct the improvements shown hereon. Any waste materials generated during construction shall be removed from the site by the Contractor and disposed of in accordance with all local, State, and Federal regulations governing such disposal.
- 6. The contractor shall prevent any trash, debris, or liquid wastes from being disposed of in sanitary sewers, storm sewers, or open drainage systems.
- 7. The Contractor shall be solely responsible to protect adjacent property, structures, and other improvements from damage during construction. In the event of damage to adjacent property, structures, or improvements, the contractor shall repair or replace such damage to the Owners's satisfaction at the Contractor's expense
- 8. Contractors at the site shall be solely responsible for jobsite safety for all aspects of work shown hereon.
- 9. All work and materials used in the construction of the improvements shown hereon shall comply with all referenced standards, specifications, and plan notes.
- 10. All buildings are shown as a reference only. All buildings shall be located and constructed per the Architectural drawings prepared by others.
- 11. Contractor shall be responsible for contacting all utility companies for field locations of underground utilities affected by the contract. All existing utilities indicated on these plans are according to the best information available to the engineer; however, all utilities actually existing may not be shown. Utilities damaged through the negligence of the contractor to obtain the location of same shall be repaired or replaced at the expense of the contractor.
- 12. Coordinate with facility representative as to when construction activities may be performed to work with the
- 13. Any and all hazards shall be properly identified and barricaded from access during all non-construction periods.
- 14. A Right-of-Way permit is required from the City of Lee's Summit, Missouri Public Works Department for any work within the public right-of-way.





# **UTILITY CONTACTS**

All existing utility locations shown are approximate only and are not guaranteed to

be accurate or all inclusive. Contractor shall be responsible for contacting all utility

companies and verifying the actual field locations of all utilities prior to any

construction activity. Contractor shall keep all utility locations current. Utilities

damaged through the negligence of the contractor to obtain the proper field

locations shall be the responsibility of the contractor to repair or replace at their

expense and at the direction of the utility company. The contractor shall pothole

and survey all utility crossings prior to construction of any portion of storm sewer,

sanitary sewer laterals, underdrains, conduit and any other subsurface element of

the project. The survey information shall be forwarded to the project engineer for

review. The contractor shall not begin construction on any subsurface element on

the project without the approval of the project engineer. Utility coordination,

potholing/surveying shall be subsidiary to other bid items.

PLANNING AND DEVELOPMENT 220 SE GREEN STREET LEE'S SUMMIT, MO 64063 TEL: (816) 969-1600

220 SE GREEN STREET LEE'S SUMMIT, MO 64063 TEL: (816) 969-1200 FAX: (816) 969-1201

**WATER UTILITIES** 

CODES ADMINISTRATION

**PUBLIC WORKS** 220 SE GREEN STREET LEE'S SUMMIT, MO 64063 TEL: (816) 969-1800 FAX: (816) 969-1809

FAX: (816) 969-1619

CITY HALL 1200 SE HAMBLEN RD LEE'S SUMMIT, MO 64063 TEL: (816) 969-1900 FAX: (816) 969-1935

LEE'S SUMMIT FIRE DEPARTMENT 207 SE DOUGLAS ROAD LEE'S SUMMIT, MO 64063 TEL: (816) 969-1300

TELEPHONE COMPANY

TEL: (800) 464-7928

ELECTRIC COMPANY EVERGY TEL: (888) 471-5275

MISSOURI GAS ENERGY TEL: (816) 756-5252

**BENCHMARKS** 

(DATUM: NAVD88)

CHISELED SQUARE ON THE FRONT FACE OF A DUAL MANHOLE CURB INLET, LOCATED 49.8 FEET NORTHWEST OF THE NORTHEAST CORNER OF THE NORTH END OF SAINT LUKE'S HOSPITAL

ELEVATION= 982.88

**BENCHMARK NUMBER: 2** CHISELED SQUARE ON THE FRONT FACE OF A CURB INLET, LOCATED ±97.4 FEET SOUTHWEST OF THE SOUTHEAST CORNER ON THE NORTH END SAINT LUKE'S HOSPITAL.

ELEVATION= 979.35

# FLOOD STATEMENT

The subject property lies within Flood Zone "X" (unshaded) (Areas determined to be outside the 0.2% annual chance floodplain.), as shown on the Jackson County, Missouri and Incorporated Areas Flood Insurance Rate Map (F.I.R.M.). Map Number: 29095C0409G

Panel No: 409 of 625 Map Revised Date: January 20, 2017

**NOTE:** This statement is provided for informational purposes only and shall in no way constitute a basis for a flood certificate. No field work was performed to establish the boundaries of this zone. The information was derived by scaling the subject property on the above referenced map.

**SURVEYOR OF RECORD** 

712 STATE AVE. KANSAS CITY, KANSAS 66101 P (913) 663-1900

F (913) 663-1633 CONTACT: BRENT THOMPSON BRENT.THOMPSON@IBHC.COM

## **CIVIL ENGINEER**

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EMAIL: KURT.YODER@IBHC.COM

# OWNER/DEVELOPER

SAINT LUKE'S 4401 WORNALL ROAD KANSAS CITY, MISSOURI 64111 (816) 932-3200 CONTACT: TJ STEINKIRCHNER EMAIL: TSTEINKIRCHNER@SAINTLUKESKC.ORG

CONSTRUCTION

License - Missouri #202102006

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Missouri: #000958

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12/22/2022 Job Number

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**COVER SHEET** 

#### **GENERAL NOTES**

1. These notes shall be read in conjunction with the Specifications and the Drawings. In the event of a conflict, notify the Architect for clarification. Before executing anything herein shown, examine actual job conditions. Report any discrepancy, dimensional or otherwise, between architectural and structural Drawings and any other error, omission, or difficulty

affecting the work to the Architect and to the Structural Engineer for 3. Any condition encountered in the existing structural system which is different from that indicated in Drawings or which might create a failure or hazard shall be brought to the immediate attention of the Architect. 4. The Owner or his Representative reserves the right to inspect any material, fabrication, or workmanship at any time in field or shop for conformance to the Specifications and Drawings.

construed to apply to any similar situation elsewhere, except where a different detail is shown. 6. All concrete and cmu alls shall be temporarily braced until floor and roof decks have been installed and all connections between these elements have been made. The contractor is responsible for the design of the bracing.

7. The contractor is responsible for structural integrity and stability of

5. All details and sections are intended to be typical and shall be

existing structures during demolition and new construction.

1. Codes, specifications and standards (latest editions, U.N.O.)

B. DESIGN

A. GENERAL

a. All design and construction shall conform to the International Building Code (2018) as amended and adopted by the City of Lee's Summit, Missouri. b. All construction shall comply with the provisions of the following codes, specifications and standards, except where noted to the contrary on drawings and specifications or where more stringent

requirements are specified or shown: MCIB "Specifications for Concrete Work" ACI 117 "Standard Specifications for Tolerance for Concrete Construction and Materials"

ACI 301 "Specifications for Structural Concrete for Buildings" ACI 318 "Building Code Requirements for Reinforced Concrete" ACI 530 "Building Code Requirements for Masonry Structures" "Minimum Design Loads for Buildings and Other Structures" "Load and Resistance Factor Design (LRFD) Specification AISC for Structural Steel Buildings" "Specifications for the Design of Cold-Formed Steel

Structural Members" "Specifications, Load Tables, and Weight Tables for Steel Joist and Joist Girders"

"Steel Deck Manual for Floor Decks and Roof Decks" AWS D1.1 "Structural Welding Code - Steel" 2. Design Loads:

a. Future Roof - Snow (incl. rain on snow) Flat Roof Snow Load, Pf 24 psf 1.00 - Snow Exposure Factor, Ce Snow Importance Factor, Is 1.20 1.00 Thermal Factor, Ct - Basic Wind Speed (3 second gust), V 130 mph - Risk Category - Wind Exposure

Internal Pressure Coefficient 0.18 c. Seismic Risk Category - Seismic Design Category - Seismic Importance Factor, Ie - Spectral Response Acceleration, Ss 0.099g - Spectral Response Acceleration, S1 0.068g - Spectral Response Coefficient, Sds 0.086g Spectral Response Coefficient, Sdl 0.068g

- Site Class - Basic Seismic-Force-Resisting System: Dual Systems With Intermediate reinforced concrete moment frames w/ ordinary reinforced concrete shear walls

260 pcf

Seismic Response Coefficient, Cs 0.023 - Response Modification Factor, R Analysis Procedure Equivalent Lateral Force d. Roof Live Load 30 psf e. Floor Live Load 100 psf 3. Foundations are designed for the following net allowable bearing

capacities: 50,000 psf a. Drilled Pier on limestone 4. Foundations and retaining walls have been designed for the following equivalent fluid pressures: a. Active (Ka) 40 pcf b. At-Rest (Ko) 60 pcf

C. EARTHWORK

c. Passive (Kp)

Refer to specification for access to geotechnical report. Foundation design is based on a soils investigation by Alpha - Omega Geotech 3. Refer to Drawings and Specifications for details of fill and compaction

4. Foundation wall backfill shall not be unbalanced by more than two (2) feet on either side at any time or placed before the interior floors and shear walls are placed.

5. At stepped footings, place the lower footing first and run footing a minimum of 1 foot under upper footing. 6. Clean footing excavations immediately before concrete is placed to remove all material softened or loosened.

7. Place footings against undisturbed earth (i.e. bottom & sides). 8. All perimeter footings and footings in unheated portions of the building

should extend a minimum of 3'-0" below final grade.

D. CONCRETE

1. Concrete used in the Work shall have the following minimum 28-day ultimate compressive strengths: a. Drilled Piers, Footings, Grade Beams Interior Slabs-On-Grade:

b. Columns and Concrete Walls: 6000 psi c. Framed Slabs: 4500 psi Portland Cement: ASTM C 150, Type 1. Water-reducing admixtures: ASTM C 494.

Normal Weight Aggregates: ASTM C 33. 5. In case of integral construction, higher strength and lighter weight 6. Air entrain all exterior concrete (admixture: ASTM C 260).

Do not use calcium chloride admixtures under any circumstances. 8. Reinforcing bars: ASTM A 615 Specifications, Grade 60, deformed. Bend bars cold.

9. Welded wire reinforcing (WWR): ASTM A 185. 10. Anchor bolts: Refer to "Steel" notes. Accurately locate anchor bolts with templates, and hold securely in position prior to and while placing concrete. Protect anchor bolts from construction activity until the structure above is in place. Inserting anchor bolts into partially

hardened concrete is prohibited. 11. Maintain minimum concrete coverage for reinforcing as indicated, unless noted otherwise. a. 3 in. clear where concrete is deposited directly against earth.

b. 2 in. clear where concrete is exposed to earth or weather but poured against forms for bars larger than #5. c. 1-1/2 in. clear where concrete is exposed to earth or weather, but poured against forms for bars #5 or smaller. d. 3/4 in. clear for slabs and walls formed above grade not exposed

to weather. e. 1-1/2 in. clear for beam and columns formed above grade and not 12. Lap all bars at splices in accordance with ACI 318, but not less than 48 bar diameters nor less than 18 inches unless noted otherwise. All horizontal wall bars shall be developed at corners either by bending not

lapped corner bars. Lap WWR a minimum of 9". Reference Typical Details for column splice requirements. 13. Top and bottom bars in continuous footings shall run continuous through multiple spans, where possible. Otherwise, top bars shall splice within the middle 1/3 span and bottom bars shall splice (by lapping 3'-0)

less than 18 inches around corners or with properly placed hooked and

over supports. 14. Pour columns, walls, and pilasters to be monolithic 15. All bar steel and WWR shall be properly supported and held accurately in place as recommended by the Concrete Reinforcing Steel Institute, except that maximum spacing of any bar or welded wire fabric support shall be

a. Support top slab bars with continuous high chairs. b. Support beam bars on heavy beam bolsters. c. Support footing and grade beam bottom reinforcing on concrete bricks, concrete blocks, or mounds of poured concrete. Do not use any other support materials without the approval of the Engineer.

of the slab. Hooking and pulling up mesh after concrete has started to take its initial set is prohibited.

18. Interior slabs-on-grade: Reference Drawings for thickness of slab and size of WWR reinforcement. Place slab on a 15 mil. vapor barrier over

d. Support WWR in slab-on-grade properly at the mid-depth

a free draining granular sub-base as recommended by the geotechnical engineer. 19. Where slabs-on-grade make an abrupt change in direction, such as at doors and corners or ends of walls, provide 1-#4 by 4 feet across the reentrant

20. Openings in slabs and walls: Provide 2 - #5 extra bars each side of opening extending 2 feet past the opening, unless noted otherwise. Do not provide or cut any openings or sleeves in slabs or walls other than those shown on the Structural Drawings, unless approved by the Structural E. MASONRY 1. Concrete masonry units (CMU): ASTM C 90, minimum net area compressive strength of 2800 psi for type M or S mortar and 3050 psi for Type N mortar.

5. Provide mortar bed on webs between grouted cells and

2. Mortar: Portland cement and lime, and proportioned in accordance with ASTM C 270 for the following types: Type N - for all walls above grade Type M - for all walls below grade, in contact with earth 3. f'm = 2000 psi - hollow units. 4. Concrete Masonry shall be laid in running (common) bond.

hollow cells. 6. Grout: ASTM C 476, 2,500 psi minimum 28-day compressive 7. Concrete Masonry below finished floor shall be normal weight units and shall have all cells fully grouted. Concrete Masonry

above finished floor shall be light weight units and shall be grouted as specified. 8. Grout all vertical cells and spaces containing reinforcing

bars (as detailed) bond beams, and lintels. 9. Vertically reinforce walls as shown on the "CMU wall schedule". In addition, reinforce vertically at each corner, 2 cells at ends of walls, 2 cells each side of control joints and openings.

10. Horizontally provide continuous bond beam with 2 #5 minimum for 12" CMU; (1) #5 minimum for 8" or 6" CMU at floor/roof, 8'-0" above floors and top of wall, unless noted otherwise. Provide #5 corner bar for each horizontal bond beam bar at all wall corners.

11. Place reinforcement prior to grouting. Hold vertical reinforcement in position with rebar positioner wire bond hot dip galvanized 3401 for single bars and 3402 for double bars, or equivalent (min. 2 each lift).

12. Provide horizontal joint reinforcement as indicated on the drawings and specifications, at a minimum provide at 16"o.c.

13. Lap joint reinforcement a minimum of 6 in. 14. In no case shall shores and forms at lintels be removed until it is certain that the masonry has hardened sufficiently to carry its own weight and all other reasonable temporary loads that may be placed on it during construction.

15. Do not wet concrete masonry units, except saw cutting. 16. Do not use calcium chloride.

17. Do not use masonry cement.

18. Install temporary bracing at all CMU walls. Do not remove temporary bracing until wall is permanently braced by connection to the roof

and floor structures. 19. Provide cleanout openings at bottom of cells to be grouted when grout pour exceeds 5'-0" in height. Remove all overhanging mortar or obstructions and any debris from inside such cell walls.

F. STEEL

1. Structural steel: a. Wide Flange sections ASTM A 992 WT shapes ASTM A 992 ASTM A 36 c. Channels, Angles and Plates d. HSS (Round and Rectangle) ASTM A 500, Grade B e. Pipes (Standard, X and XX) ASTM A 501

Beam and column connections shall be as shown on plans. Except where specifically detailed, single plate and/or eccentric connections shall not be used without supporting calculations from the fabricator showing adequate capacity. The calculations shall be made by a Structural Engineer registered in the State of Missouri. 4. High Strength Bolts (steel-to-steel connections): ASTM A 325N,

snug tightened, bearing type. 5. Anchor bolts: ASTM F1554 Grade 36

6. Welded connections: AWS Standards and Specifications using E70xx electrodes, unless noted otherwise.

7. Ends of beams which have copes to the extent that allowable shear or bending stress of steel is exceeded shall have web plates of sufficient ize welded to the beam to reduce such stresses 8. Provide holes required for securing other work to structural steel framing, and for passage of other work through steel framing members, as

shown on final shop drawings. 9. Do not flame cut holes or enlarge holes by burning. 10. Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming apart of a complete frame or structure before permanently fastening. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

11. Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy line to achieve proper alignment of structure as erection proceeds. 12. Clean bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surface of base plates.

13. Grout plates are prohibited. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims, but if protruding, cut off flush with edge of base plate prior to packing 14. Nonshrink grout: CRD-621 Type A, premixed, nonmetallic, noncorrosive,

nonstaining. 15. The physical and structural properties listed by Dietrich Industries, Inc. for light gage metal framing shall be considered the minimum permitted for all framing members. Any substitutions must be approved in writing ten (10) days prior to ordering materials, by the Architect and/or Engineer of Record.

G. METAL DECK

1. Roof deck: 1-1/2" galvanized wide rib deck with the following minimum properties:

Minimum gage Moment of Inertia 0.201 in 4 Section Modulus 0.234 in 3 2. Roof deck: 3" galvanized wide rib deck with the following

Minimum gage Moment of Inertia 0.848 in 4 Section Modulus 0.501 in 3 3. Composite floor deck: 1-1/2" galvanized with the following minimum properties:

Minimum gage moment of inertia 0.282 in 4 Section Modulus 0.315 in 3

Roof deck shall be attached to supports to resist a net uplift of 30 PSF. 5. The roof deck has been designed as a diaphragm. Weld deck to all supports and around perimeter with 5/8" dia. puddle welds @ 12"o.c. and provide (3) #10 tek screw side laps between supports for  $1 \frac{1}{2}$  deck. Weld deck to all supports and around perimeter with 5/8" dia. welds @ 8"o.c. and provide (3) #10 tek screw side laps between supports for 3" deck. 6. Provide  $2-1/2'' \times 2-1/2'' \times 1/4''$  angles as required to support deck at

columns, ends of beams, around openings, etc. Except as noted otherwise. F. POST-INSTALLED ANCHORS

properties:

1. Except where indicated on the drawings, post-installed anchors shall consist of

the following anchor types: a. Anchorage to concrete and grouted cmu walls. i. Adhesive anchors shall have been tested in accordance with ACI 355.4 and/or ICC-ES AC308 for cracked concrete and seismic applications. Adhesive anchors shall be installed by a certified adhesive anchor installer Where designated on the contract documents. Pre-approved products include:

1. Hilti HIT-HY 200 SAFE SET System with Hilti HIT-Z Rod per ICC ESR-3187. 2. Hilti HIT-HY 200 SAFE SET System with Hilti hollow drill bit system with HAS-E threaded rod per ICC ESR-3187 3. Hilti HIT-HY 200 SAFE SET System without Hilti hollow drill bit system

with HAS-E threaded rod per ICC ESR-3187. Follow manufacturer recommended hole cleaning practice for this option. 4. Simpson Strong-Tie SET-XP adhesive anchoring system per ICC ESR-2508. ii. Screw anchors shall have been tested in accordance with ACI 355.2 and/or

ICC-ES AC193 for cracked concrete and seismic applications. Pre-approved products include: 1. Hilti KWIK HUS EZ screw anchors per ICC ESR-3027. To be used in concrete and grouted cmu walls.

(For interior applications only, not approved for exterior application) b. Anchorage to Masonry Hollow Cells and Brick i Adhesive Anchors to Use:

1. Hilti Hit-HY 70 Masonry Adhesive anchoring system per ICC ESR-3342. Steel Anchor element shall be Hilti HAS-E continuously threaded Rod. The appropriate size screen tube shall be used per adhesive manufacturer's recommendation 2. Simpson Stong-Tie AT Masonry Adhesive anchoring system per ICC ESR-3342. Steel Anchor element shall be continuously threaded Rod. The appropriate size stainless steel screen tube shall be used per adhesive manufacturer's recommendation. 2. Install anchors per the manufacturer instructions, as included in the anchor

torque" on these drawings, follow above referenced ICC ESR reports to determine

3. Drill holes for wedge-type expansion anchors using a bit incapable of cutting steel. Do not cut existing concrete reinforcing steel. If, while drilling, reinforcing steel is encountered, notify the Structural Engineer for approval of new location. Clean and patch the abandoned hole with grout. Always follow manufacturer's written instructions. 4. Where epoxy anchors are indicated to be installed at "reduced installation

required installation torque.

5. Anchor capacity used in design shall be based on the technical data published by Hilti, Simpson, or such other method as approved by the Structural Engineer of Record. Substitution requests for alternate products must be approved in writing by the Structural Engineer of record prior to use. contractor shall provide calculations demonstrating that the substituted product is capable of achieving the performance values of the specified product. Substitutions will be evaluated by their having an ICC ESR showing compliance with the relevant building code for seismic uses, load resistance, installation category, and availability of comprehensive installation instructions. Adhesive anchor evaluation will also

consider creep, in-service temperature and installation temperature. 6. The contractor shall arrange for an anchor manufacturer's representative to provide onsite installation training for all of their anchoring products specified. The Structural Engineer of Record must receive documented confirmation that all of the contractor's personnel who install anchors are trained prior to the commencement of

7. Anchor capacity is dependent upon spacing between adjacent anchors and proximity of anchors to edge of concrete. Install anchors in accordance with spacing and edge clearances indicated on the drawings.

8. If a specific epoxy adhesive anchoring system is noted in a particular detail of this constructino drawings, other alternative product options listed above in item 1 shall not apply.

G. LIGHT GAUGE STRUCTURAL STEEL FRAMING

1. The contractor is responsible for the design of all structural light gauge steel framing and connections between them and the other structural members. Submit design calculations and drawings, sealed by an engineer licensed in the state of the project location, for review by the architect/ structural engineer of record.

H. GLAZING SYSTEM

1. The contractor is responsible for the design of all glazing system and connections between them and the other structural members. Submit design calculation sand drawings, sealed by an engineer licensed in the state state of the project location, for review by the architect/ structural engineer of

H. CONSTRUCTION 1. Provide adequate shoring or bracing during construction to resist forces such as wind and unbalanced loading due to construction.

2. Protect existing building as required until all new construction is 3. Verify all dimensions of or to existing construction. Any variation from

that shown on plans shall be brought to the attention of the Architect/Engineer before proceeding. 4. Haul off and properly dispose of all material demolished from the site

unless specifically directed otherwise by the Owner. 5. Field verify the location and depth (or height) of all utilities prior to beginning construction in order to provide adequate clearances and to insure noninterruption of service. 6. Before core drilling any holes, locate the reinforcing steel in the

existing concrete with R-meter. Relocate the hole to avoid cutting any rebars. Do not drill holes through existing rebars unless acceptable to the Structural Engineer. Do not overcut any holes. 7. Cut openings in existing concrete slabs and walls with a power saw to

prevent vibration and damage of surrounding structure. 8. Core drill corners of openings in existing concrete slabs and walls prior to saw cutting. Size of core shall be sufficient to prevent saw overrun. 9. Contact engineer for details to fix damaged/missing anchorbolts, misplaced

concrete reinforcing and damaged/missing masonry dowels. 10. During welding or any other construction activity that generates sparks or intense heat, the contractor shall provide adequate fire protection to the existing structure and contents. as a minimum:

remove combustible materials from areas of welding and sparks. provide fire proof blankets and shields to contain sparks where combustible materials cannot be removed. provide a fire safety observer with a fire extinguisher on both the roof and below the roof during welding near the roof structure.

FINISHED FLOOR

GYPSUM BOARD

HORIZONTAL

INFORMATION

JOIST GIRDER

ISOLATION

JOIST

JOINT

POUNDS

GENERAL CONTRACTOR

HEADED STUD ANCHOR

JOIST BEARING ELEVATION

KIPS PER SQUARE INCH

LONG LEG HORIZONTAL

MECHANICAL ELECTRICAL PLUMBING

LONG LEG VERTICAL

LONGITUDINAL

MECHANICAL

MANUFACTURER

MISCELLANEOUS

MASONRY OPENING

MAXIMUM

MINIMUM

METAL

PLATE

QUANTITY

REFER TO

REQUIRED

REVERSE

REINFORCING

ROUGH OPENING

STEEL DECK INSTITUTE

STEEL JOIST INSTITUTE

**ROOF TOP UNIT** 

SLAB ON GRADE

SPECIFICATIONS

TOP OF CMU WALL

TOP OF BOND BEAM TOP AND BOTTOM THICKNESS

STRUCTURAL

SCHEDULE

SIMILAR

NUMBER

NEAR SIDE

NOT TO SCALE

**OUTSIDE DIAMETER** 

OPPOSITE HAND

**OUTSTANDING LEG** 

POWDER ACTUATED FASTENER

POUNDS PER CUBIC FOOT

POUNDS PER LINEAR FOOT

PREMOLDED EXPANSION JOINT

POUNDS PER SQUARE FOOT

POUNDS PER SQUARE INCH

ON CENTER

FAR SIDE

FOOTING

GAGE

FTG

GYP BD

INFO

LLV

MAX

MECH

MEP

MISC

OSL

PCF

QTY

REINF

REQD

RTU

SCHED

SDI

SIM

SJI

SOG

SPECS

STRUC

T/CMU

REV

**ABBREVIATION LEGEND** DEFINITION ABBR ABBR DEFINITION ANCHOR BOLT AMERICAN CONCRETE INSTITUTE TOP OF CONCRETE ABOVE FINISHED FLOOR TOF TOP OF FOOTING AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION TOGB TOP OF GRADE BEAM AISI AMERICAN IRON AND STEEL INSTITUTE TOP OF MASONRY ARCH ARCHITECTURAL TOP TOP OF PAVING ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS | TOS TOP OF STEEL AMERICAN WELDING SOCIETY **TRANS** TRANSVERSE TYP TYPICAL BOND BEAM UNO BLOCK LINTEL UNLESS NOTED OTHERWISE VERT BOTTOM OF VERTICAL BOS **BOTTOM OF STEEL** WIDTH WORK POINT BEARING CONTRACTION JOINT CENTER LINE CLEAR CMU CONCRETE MASONRY UNIT COLUMN CONC CONCRETE CONN CONNECTION CONST CONSTRUCTION CONT CONTINUOUS DIAMETER EIFS EXTERIOR INSULATION AND FINISH SYSTEM **EXPANSION JOINT ELEVATION EQUAL** EACH WAY FOUNDATION

#### SPECIAL INSPECTION AND TESTING

1. The following tests and inspection shall be performed by an independent inspection agency employed by the owner and approved by the structural engineer and the building official Test and inspection reports shall be submitted to the owner, architect, structural engineer, and building official. Special inspection shall conform to Chapter 17 of the 2018 International Building Code.

### Classification of Work Requiring Special Inspections

· Fire-Resistant Penetrations and Joints

 Excavation and Filling Structural Welding Verification of Soils • High Strength Bolting Placement of Reinforcing Steel Steel Frame Inspection Placement of Reinforced Concrete Seismic Resistance • Inspection of Structural Steel Fabricator Testing of Reinforced Concrete Bolts Installed in Concrete Sprayed Fine-Resistant Materials

#### REQUIRED SPECIAL INSPECTIONS AND TEST OF SOILS

Structural Masonry

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING	PERIODICALLY DURING
	TASK LISTED	TASK LISTED
<ol> <li>Verify materials below shallow foundations are adequate to achieve the design bearing capacity.</li> </ol>	-	X
Verify excavations are extended to proper depth and have reached proper material.	-	Х
Perform classification and testing of fill materials.	-	Х
Verify use of proper materials, densities and lift thickness during placement and compaction of compacted fill.	Х	-
<ol> <li>Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.</li> </ol>	-	Х
Verify materials below drilled piers are adequate to achieve the design bearing capacity.	-	Х

#### REQUIRED VERIFICATION AND INSPECTION OF CONCRETE STRUCTURE

TYPE	CONTINUOUS	PERIODIC
Inspect reinforcement, including prestressing tendons, and verify placement.	-	Х
2. Inspect anchors cast in concrete.	-	Х
<ul> <li>3. Inspect anchors post-installed in hardened concrete members.</li> <li>a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.</li> <li>b. Mechanical anchors and adhesive anchors not defined in 3.a.</li> </ul>	X	-
4. Verify use of required design mix.	-	Х
5. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	-
Inspect concrete and shotcrete placement for proper application techniques.	Х	-
Verify maintenance of specified curing temperature and techniques.	Х	-

#### MINIMUM SPECIAL INSPECTION REQUIREMENTS OF STRUCTURAL CMU WALLS LEVEL C QUALITY ASSURANCE

MINIMUM SPECIAL INSPECTION

Inspection Task	Frequ	iency
	Continuous	Periodic
I. As masonry construction begins, verify that the following are in compliance:		
Proportions of site-prepared mortar and grout		Х
b. Grade, type, and size of reinforcement connectors, anchor bolts		X
c. Sample panel construction	Х	
2. Prior to grouting, verify that the following are in compliance:		
a. Grout space	Х	
b. Placement of reinforcement, connectors, and anchor bolts	Х	
c. Proportions of site-prepared grout		Х
Verify compliance of the following during construction:		
a. Materials and procedures with the approved submittals		Х
b. Placement of masonry units and mortar joint construction		Х
c. Placement of grout	Х	
d. Size and location of structural members		Х
e. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction	X	
f. Welding of reinforcement	Х	
g. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F (4.4°C)) or hot weather (temperature above 90°F (32.2°C))	Х	
Observe preparation of grout specimens, mortar specimens, and/or prisms.	Х	

#### REGUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

a. Identification markings to conform to ASTM standards specified in the approved construction documents.	-	Х
b. Manufacturer's certificate of compliance required.	-	X
2. Inspection of high-strength bolting:		
a. Snug-tight joints	-	X
b. Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation.	-	Х
c. Pretensioned and slip-critical joints using turn-of-nut without matchmaking or calibrated wrench methods of installation.	Х	-
3. Material verification of structural steel and cold-formed steel deck:		
a. For structural steel, identification markings to conform to     AISC 360	-	X
b. For other steel, identification markings to conform to ASTM standard specified in the approved construction documents.	-	Х
c. Manufacturer's certified test reports.	-	Х
4. Material verification of weld filler materials:	<u>-</u>	
a. Identification markings to conform to AWS specification in the construction documents.	-	Х
b. Manufacturer's certificate of compliance required.	-	X
5. Inspection of welding:	<u> </u>	
a. Structural steel and cold-formed steel deck:		
Complete and partial joint penetration groove welds.	Χ	-
Multi-pass fillet welds	Χ	_
3. Single-pass fillet welds > 5/16"	Χ	-
4. Plug and slot welds.	Χ	<u>-</u>
5. Single-pass fillet welds < 5/16"	-	X
6. Floor and roof deck welds.	<u>-</u>	X
6. Inspection of steel frame joint details for compliance.		
a. Details such as bracing and stiffening.	<u>-</u>	X
b. Member locations.	-	X
c. Application of joint details at each connection.	-	X

# REQUIRED VERIFICATION AND INSPECTION OF STEEL

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
Material verification of cold formed steel deck:		
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	-	Х
b. Manufacturer's certified test reports.	-	X
2. Inspection of welding:		
a. Cold formed steel deck:		
(1) Floor and roof deck welds.	-	Χ
b. Reinforcing steel:		
(1) Verification of weldability of reinforcing steel other than ASTM A706.	-	X
(2) Reinforcing steel resisting flexural and axial forces in immediate and special moment frames, and boundary elements special structural walls of concrete and shear reinforcement.	Х	-
(3) Shear reinforcement.	X	-
(4) Other reinforcing steel.	Х	
3. Tectum Deck Attachment to Structure:		
a. Welding	-	Χ
b. Bolting/anchoring	-	X

#### REQUIRED VERIFICATION AND INSPECTION OF SPRAYED FIRE-RESISTANT MATERIALS AND FIRE-RESISTANT PENETRATIONS AND JOINT

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
1. Condition of substrates	-	X
2. Thickness of application	-	Χ
3. Density in pounds per cubic foot	-	X
4. Bond strength adhesion/cohesion	-	X
5. Condition of finished application	-	X
6. Penetration firestop's	-	Х
7. Fire-resistant joint system	-	Х
9. Floor to wall intersections		V

#### VERIFICATON AND INSPECTION Continuous 1. Material verification of high-strength bolts, nuts, and washers:

# CONSTRUCTION OTHER THAN STRUCTURAL STEEL

VERTICATION AND INST ESTICIT	OONTINOOOO	LINODIO
Material verification of cold formed steel deck:		
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	-	Х
b. Manufacturer's certified test reports.	-	Х
2. Inspection of welding:		
a. Cold formed steel deck:		
(1) Floor and roof deck welds.	-	X
b. Reinforcing steel:		
(1) Verification of weldability of reinforcing steel other than ASTM A706.	-	X
(2) Reinforcing steel resisting flexural and axial forces in immediate and special moment frames, and boundary elements special structural walls of concrete and shear reinforcement.	Х	-
(3) Shear reinforcement.	X	-
(4) Other reinforcing steel.	X	-
3. Tectum Deck Attachment to Structure:	·	
a. Welding	-	Χ
b. Bolting/anchoring	-	X

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
Condition of substrates	-	X
2. Thickness of application	-	Χ
3. Density in pounds per cubic foot	-	Х
4. Bond strength adhesion/cohesion	-	X
5. Condition of finished application	-	X
6. Penetration firestop's	-	X
7. Fire-resistant joint system	-	X
8. Floor to wall intersections	-	Χ

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Jushna 4- Zah

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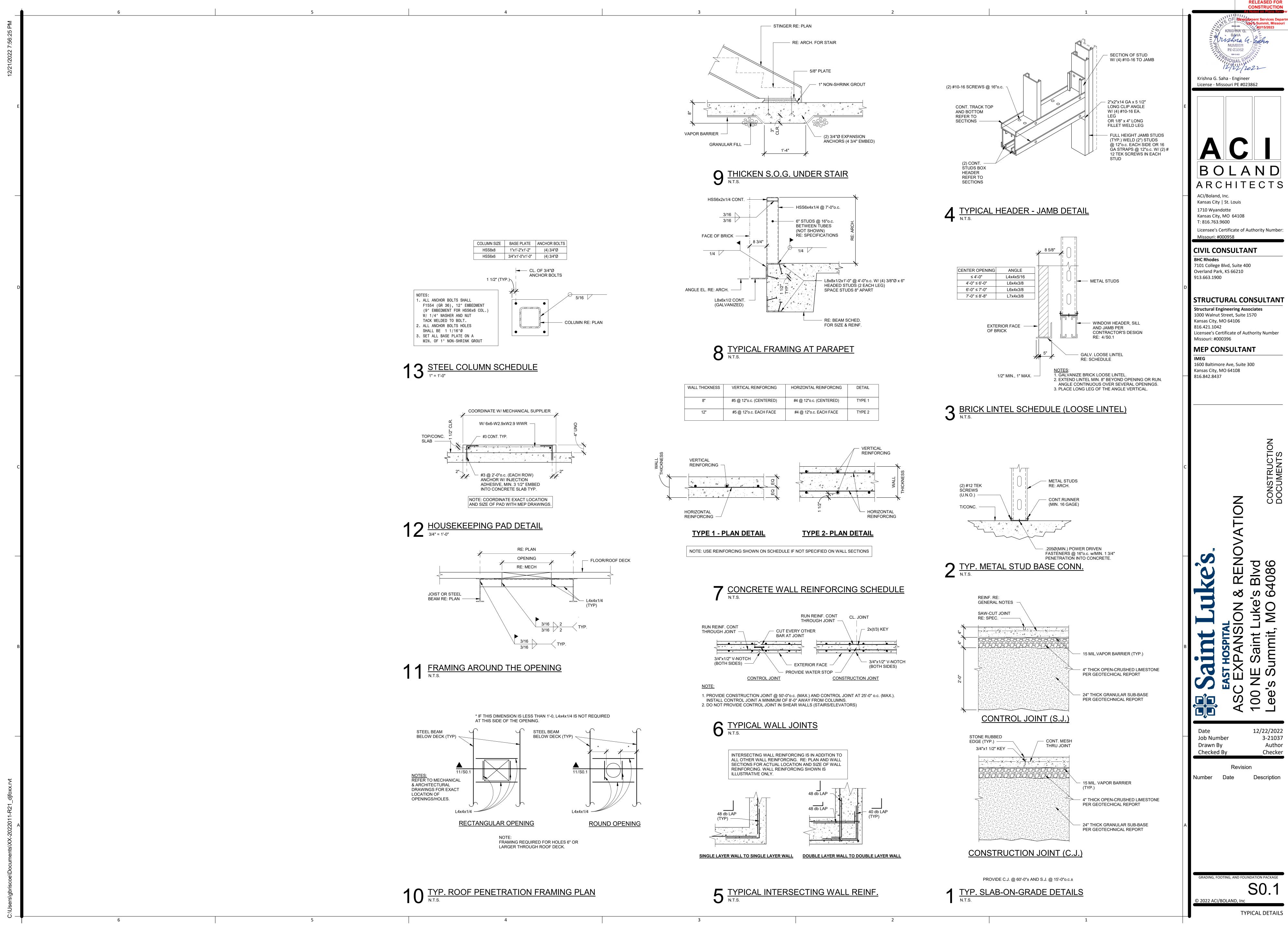
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**GENERAL NOTES** 



OF Mevelopment Services Departi Lee's Summit, Missouri 92/15/2023 KRISHNA G. Krishna G-Zaha PE-23862

CONSTRUCTION

TYPICAL DETAILS

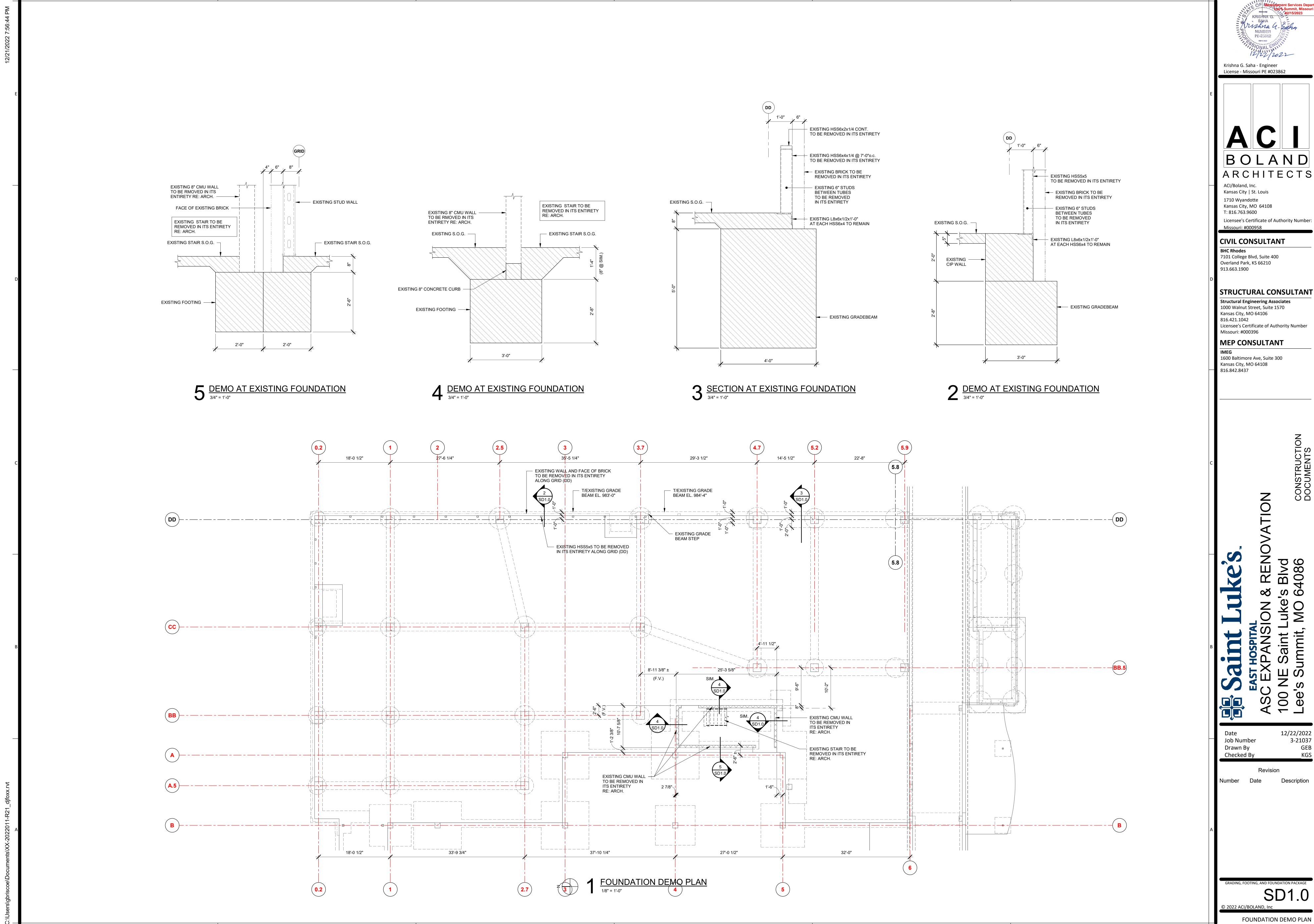
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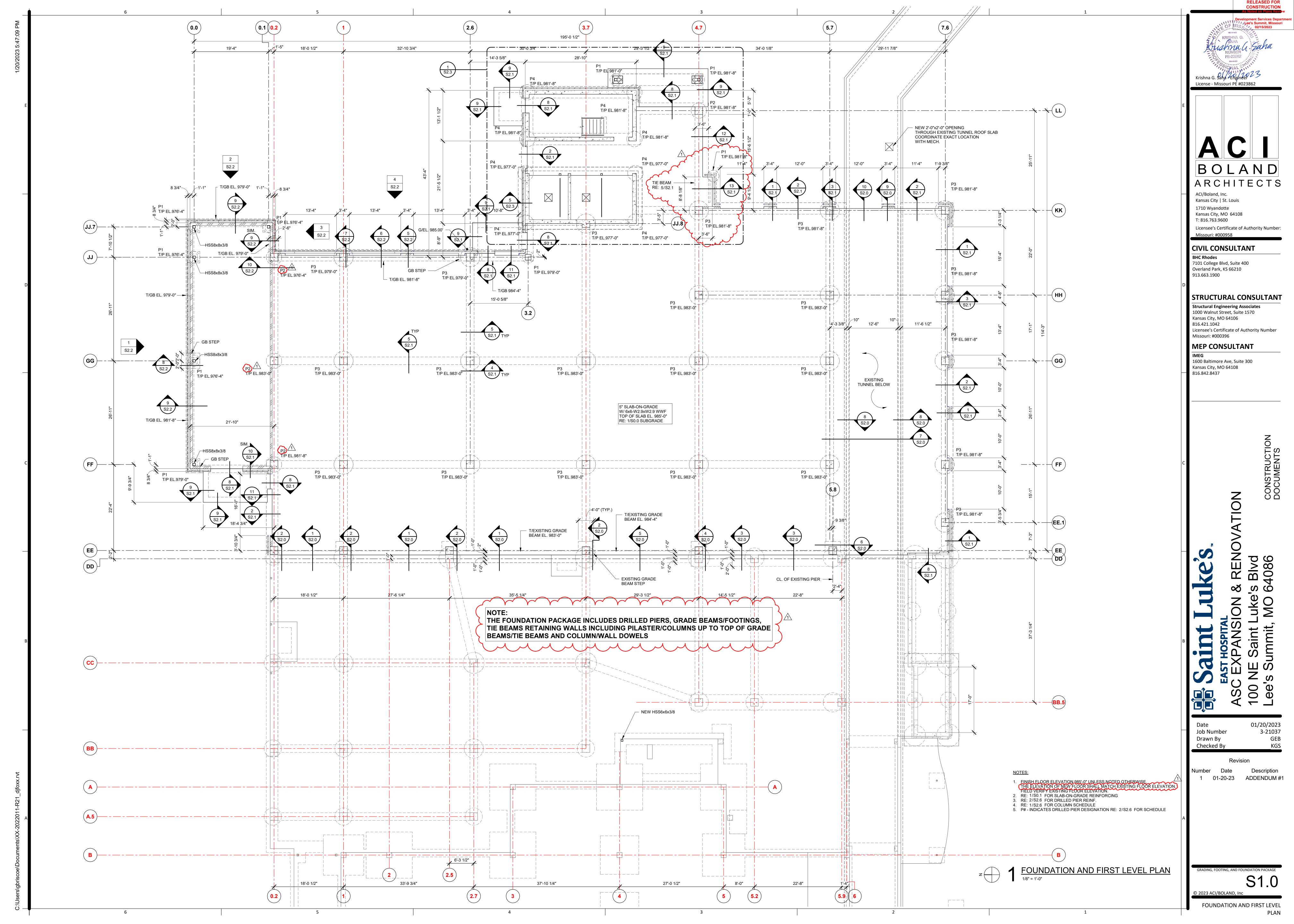
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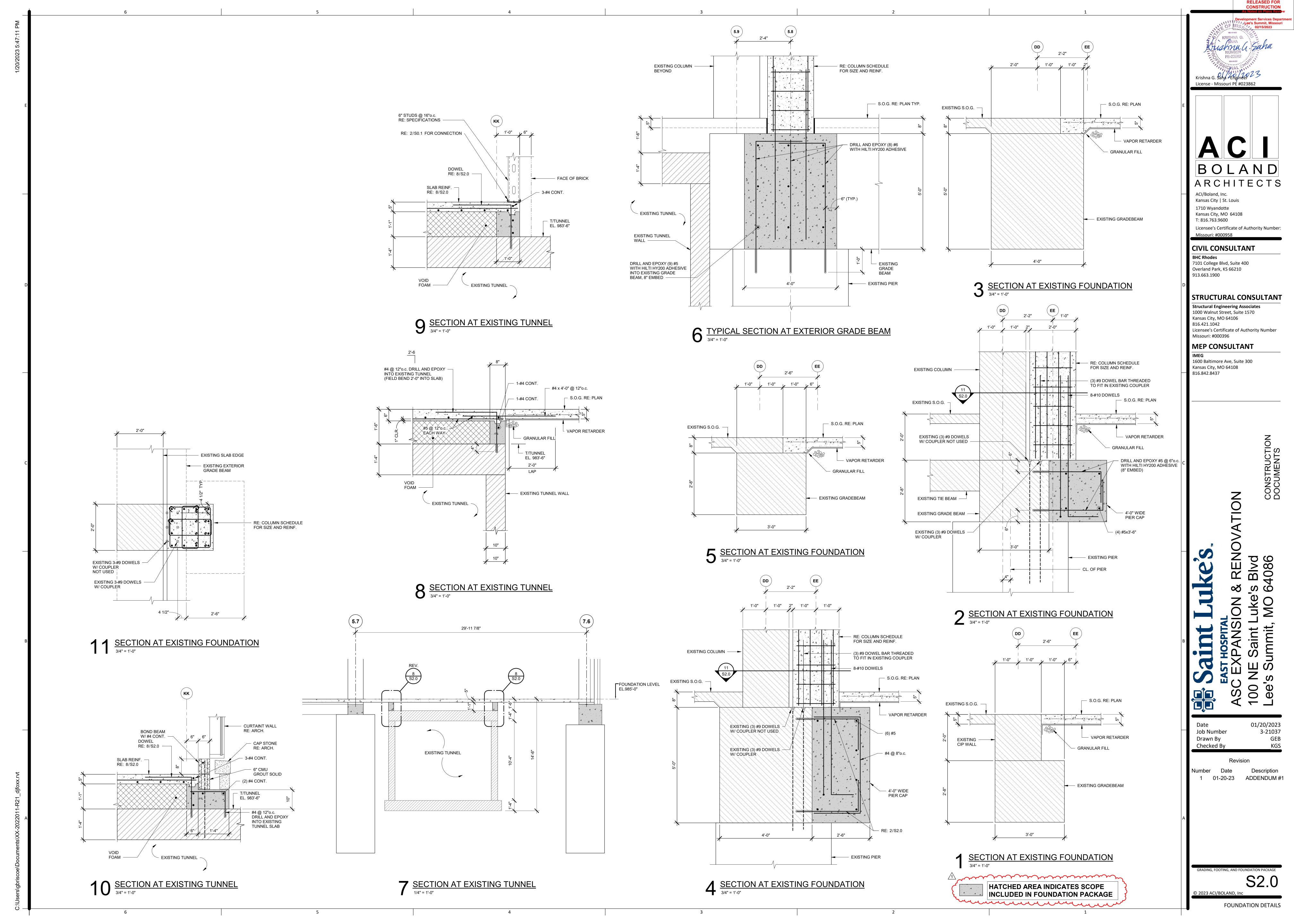
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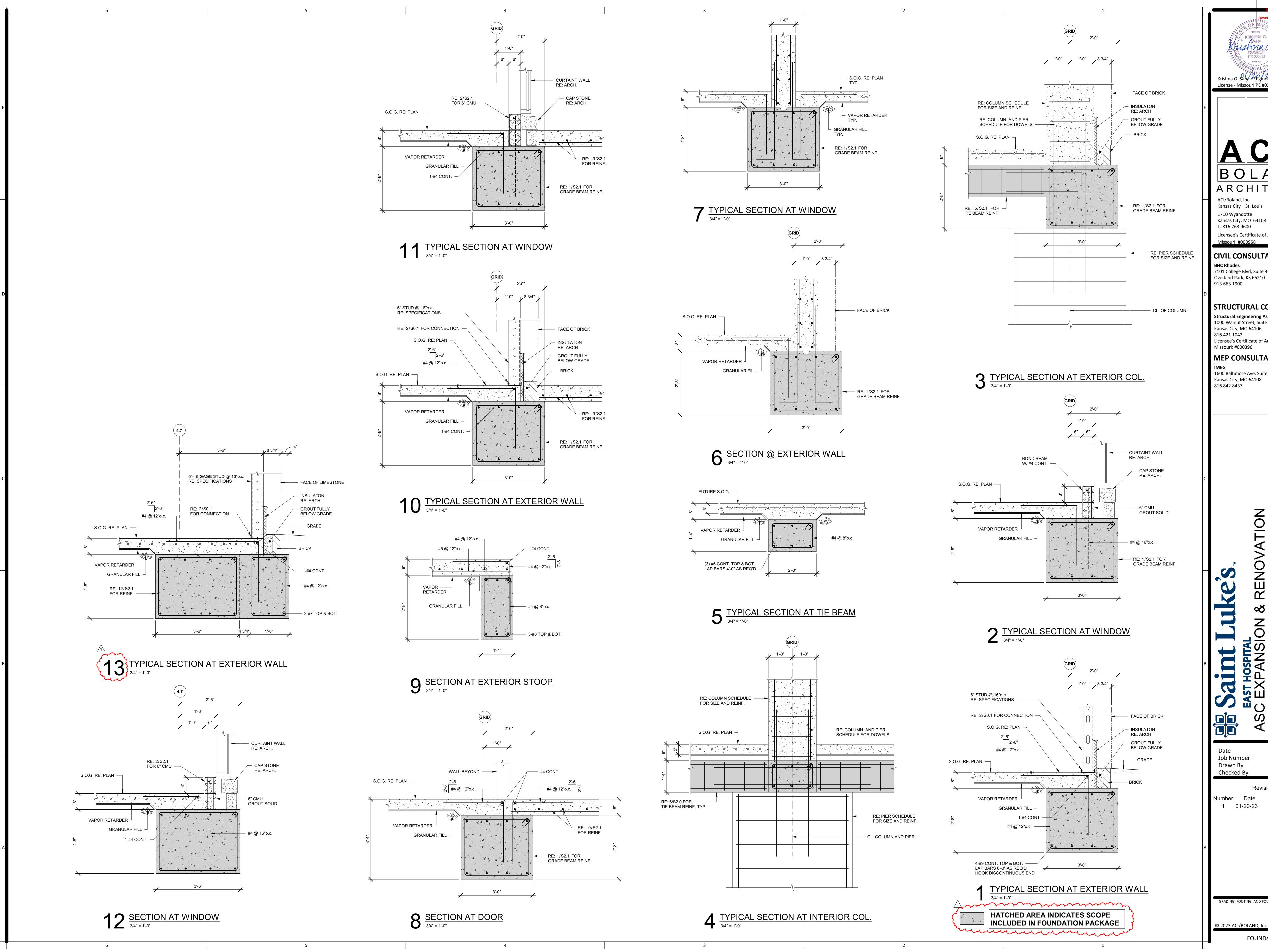
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FOUNDATION DEMO PLAN







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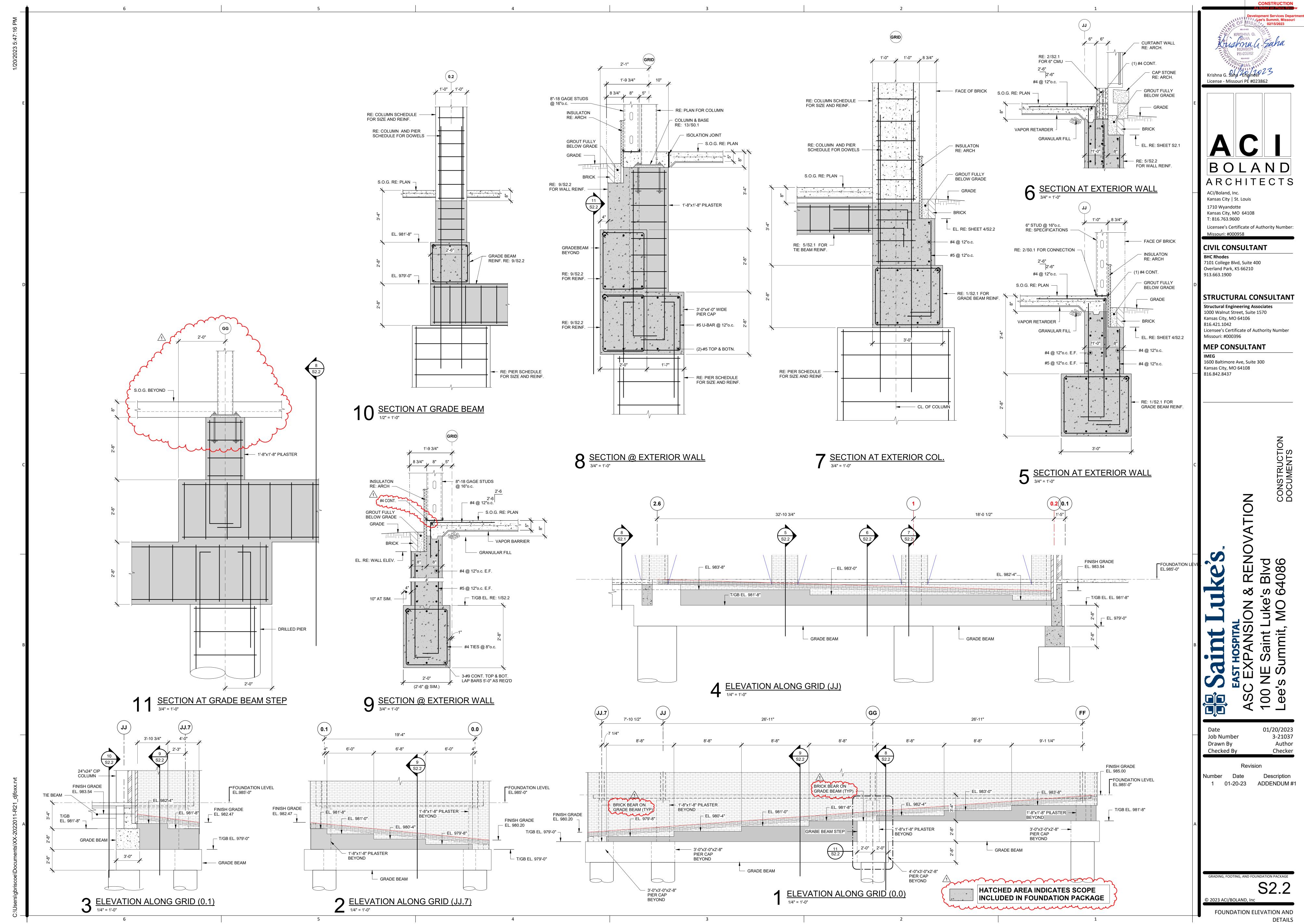
CONSTRUCTION DOCUMENTS

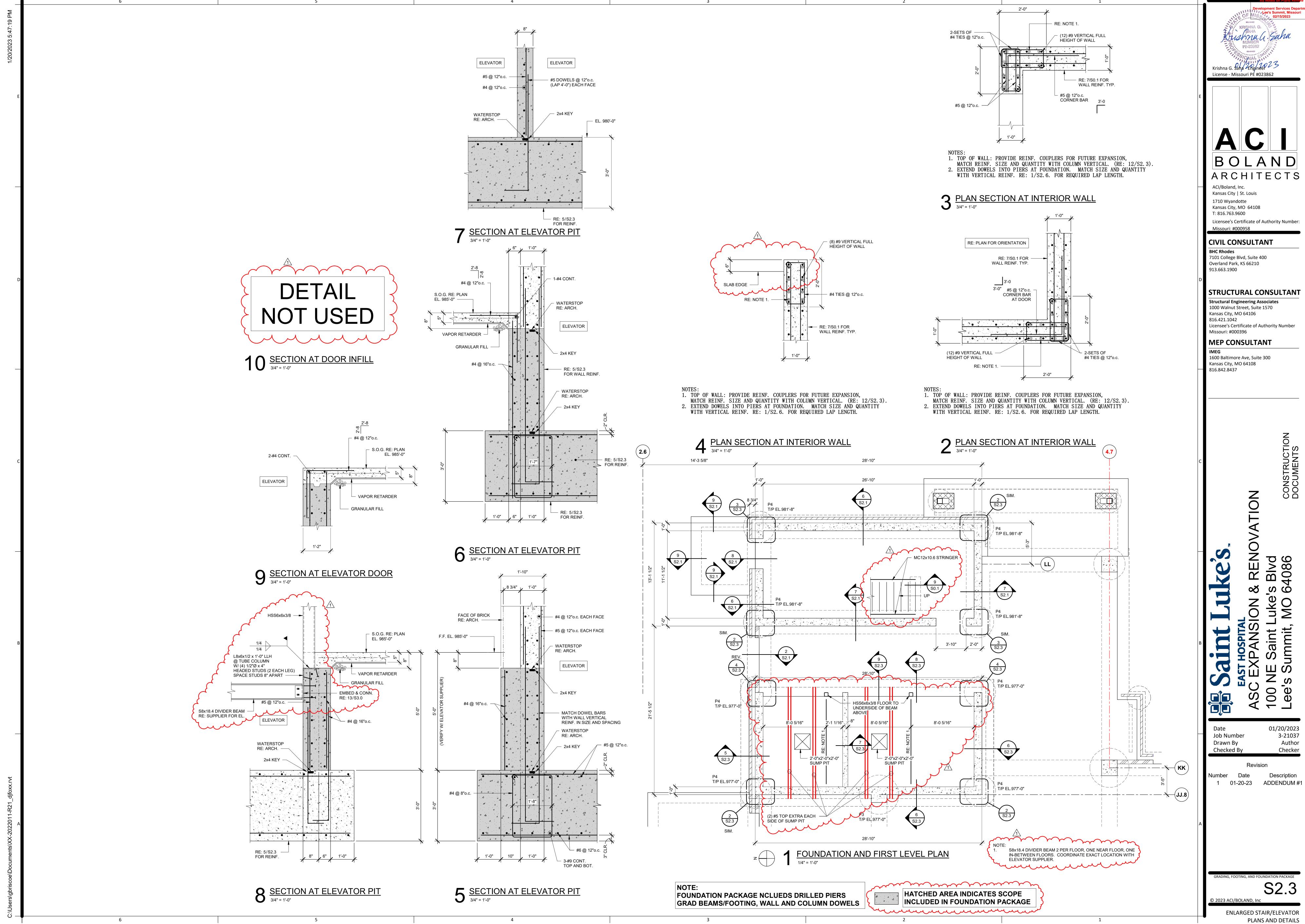
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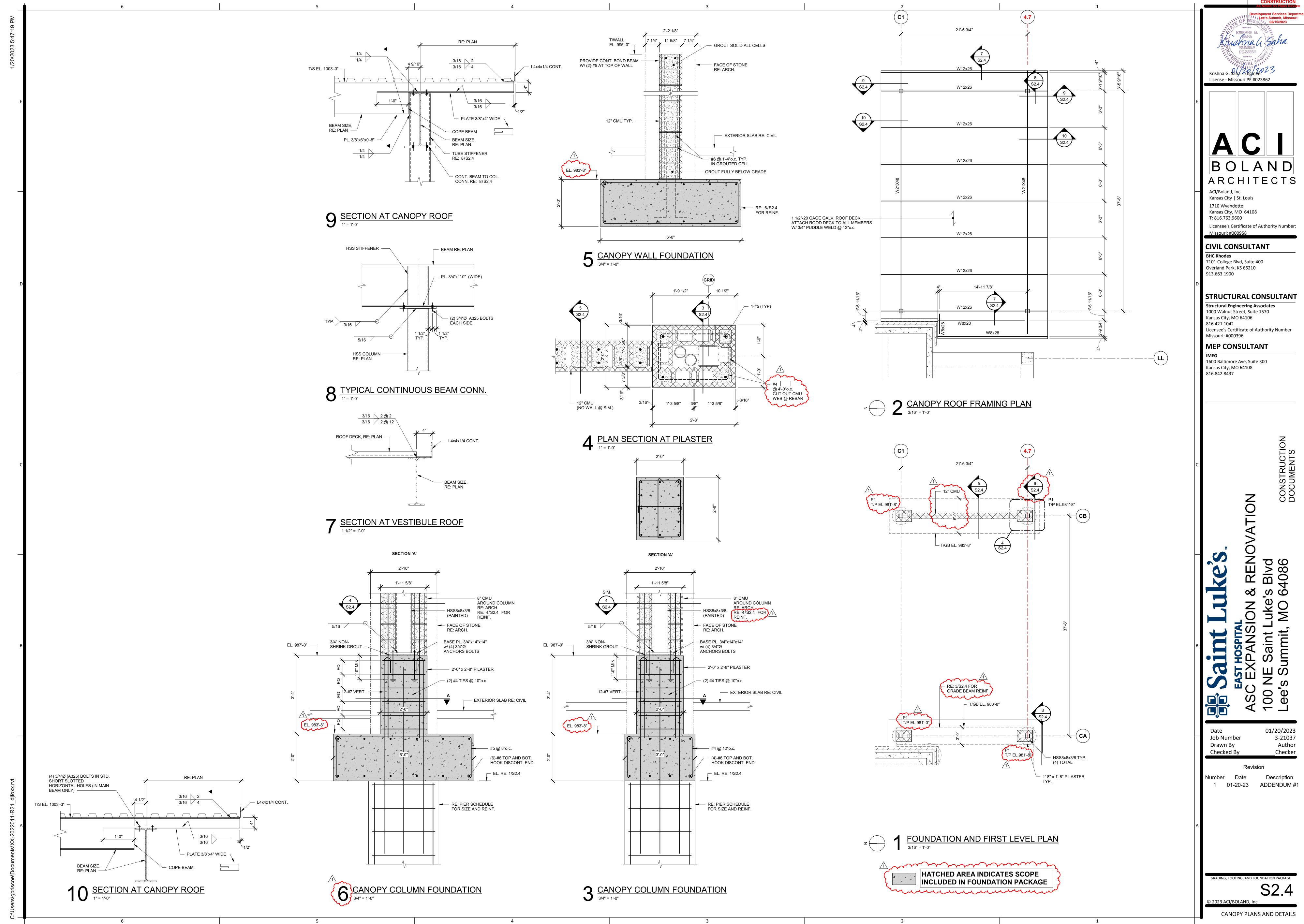
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FOUNDATION DETAILS

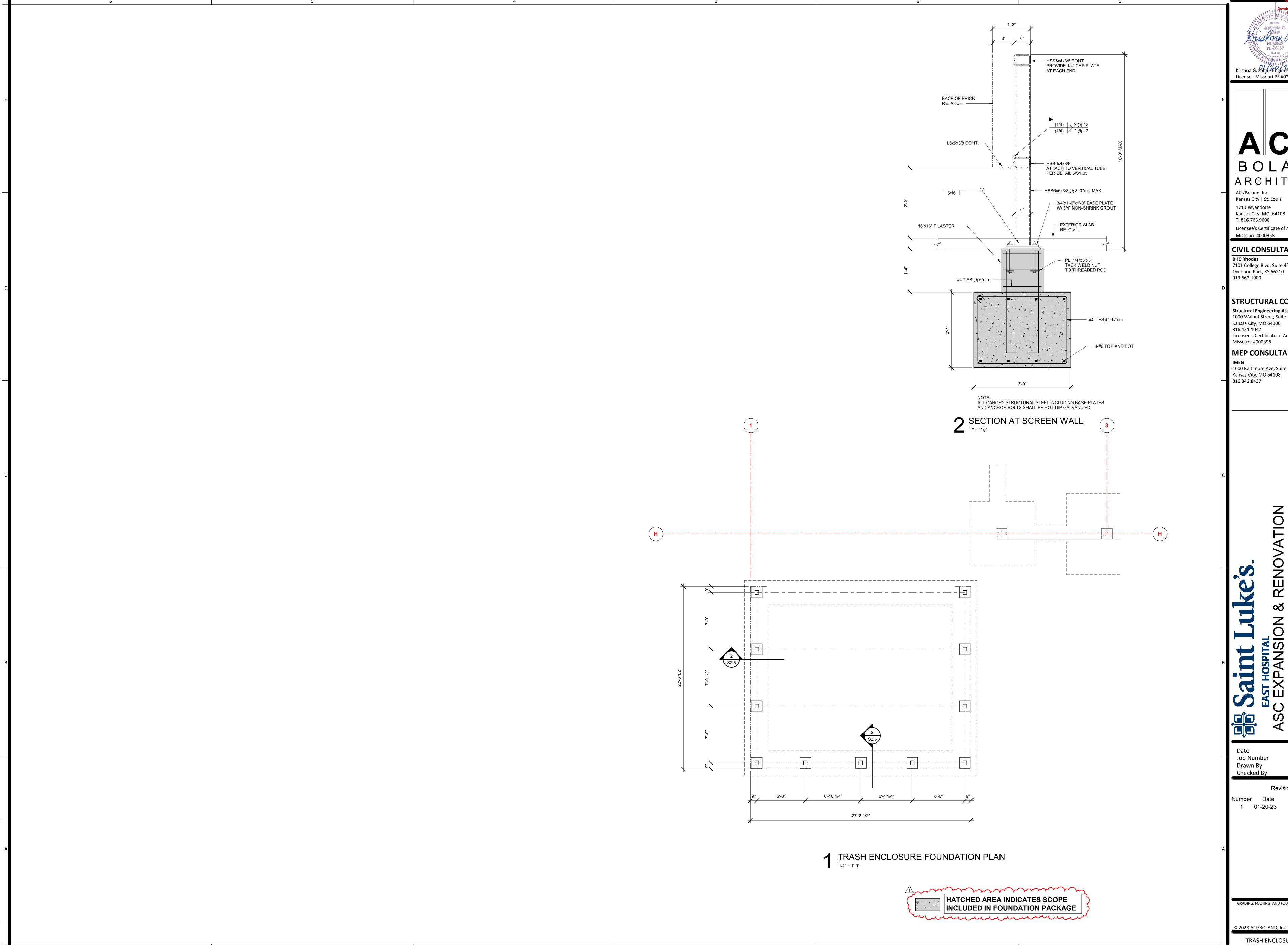




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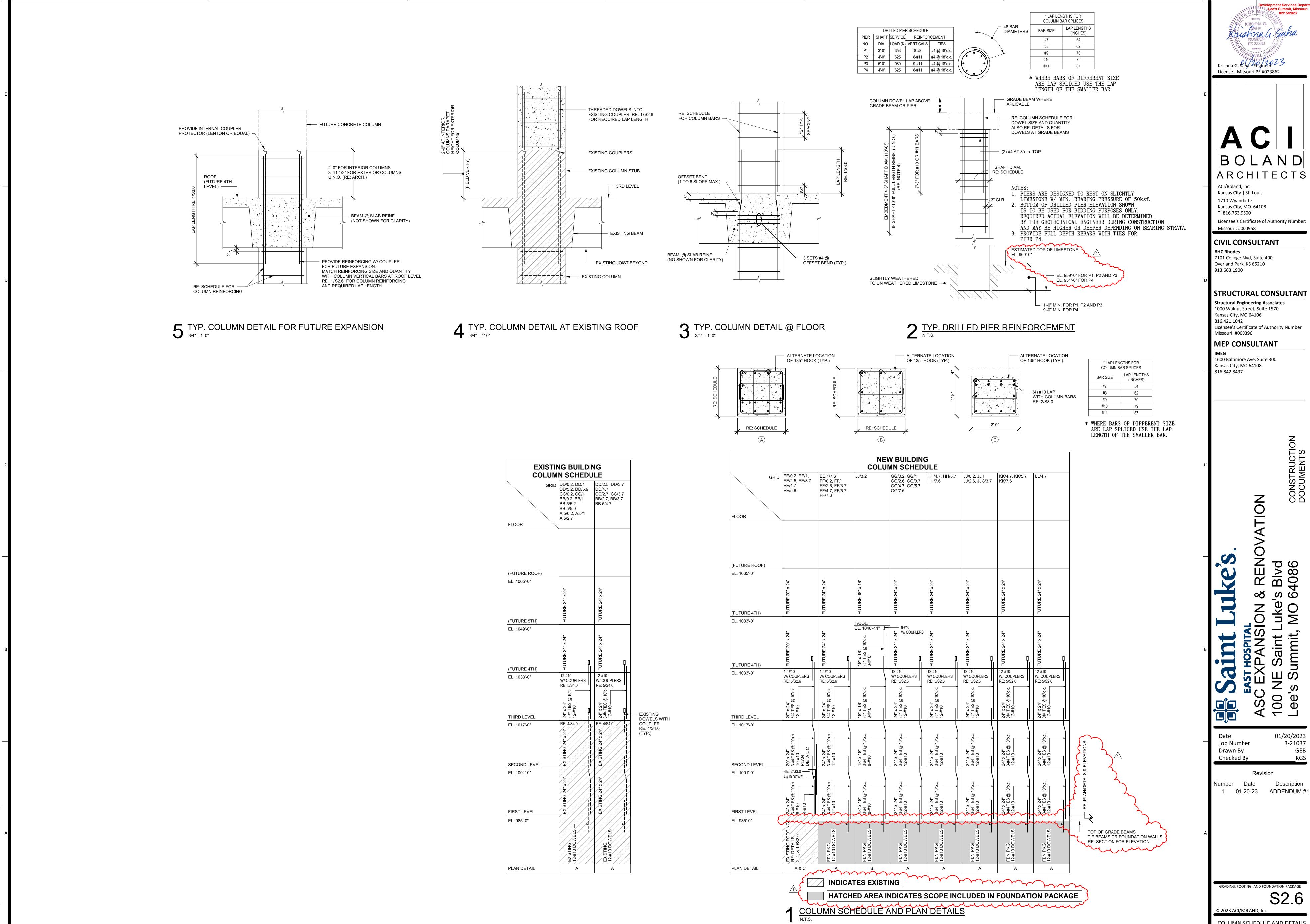
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COLUMN SCHEDULE AND DETAILS