February 22, 2024

Ms. Sharon Bloom
City of Lee's Summit
220 SE Green Street
Lee's Summit, Missouri 64063

RE: Final Special Inspection Report
Lee's Summit Fire Station No. 5
801 Missouri Highway 150
Lee's Summit, Missouri
Report Period: January 17, 2023 to February 22, 2024
Geotechnology, Inc. Project No.: J040917.05

Dear Ms. Bloom:

This letter with attachments will constitute our Final Special Inspection transmittal for the above referenced project. Representatives of Geotechnology, LLC have provided field observation and testing services for building and pavement subgrades, structural fill, foundation bearing materials, reinforced concrete, drilled and epoxy-grouted reinforcing steel, drilled and epoxy-grouted anchors, structural masonry, and structural steel during the report period. Our services have been provided on a part-time basis as scheduled by representatives of McCownGordon Construction Company, LLC. The compliance of materials or work not observed by our personnel is not addressed, or implied, by this or any previous report.

Summary of Activities

Building and Pavement Subgrade

Following the removal of the vegetation and topsoil, the subgrade for the building pad and west drive area was observed on January 17 and the northeast approach and drive areas on October 17. The exposed grades were observed with respect to stability and moisture content prior to fill placement. The exposed grades were also proofrolled with a fully-loaded tandem-axle dump truck to aid in evaluating the stability of the underlying soils.

Structural Fill

Field density tests and visual observations were performed in the limestone screenings placed as low-volume-change (LVC) material within the upper 24 inches of the proposed building pad between January 24 through February 13. The LVC was placed in approximately 8-inch lifts and compacted with a self-propelled smooth drum vibratory roller. Prior to January 24, the first lift of LVC was placed and exposed to precipitation causing some areas to become unstable due to high moisture content. On February 7, after drying and recompacting, the first lift of LVC was proofrolled with a fully-loaded tandem axle dump and appeared stable.

Field density and visual observations were performed on utility line backfill on August 31 and September 1.

To evaluate the field density test results, a sample of the quarried material was obtained for moisture-density (standard Proctor) relationship testing. Results of the standard Proctor and field density tests are enclosed.

Foundation Bearing Materials

The bearing materials in the bases of the foundation excavations were observed in the following locations:

March 1	-	Line F, 4.5 to 8; Line E.8, 8 to 8.5; Line 2, A to F; Line 5, E to F; Line 8, E.8 to F; and Line 8.5, E to E.8
March 2	-	Line A, 2 to 9; East, West, and North footings of Rooms 120, 121, and 122
March 7	-	Line E.5, 9 to 10; Line 9, A to E.5; Line 10, E.5 to J - Grids E/11, F/11, and G/11 - Elevator pit base slab - Exterior retaining wall at Line 1 to 6.25 south of Line K
March 15	-	Line J, 1 to 2; Line J, 4 to 10; Line K, 2 to 4; Line 1, E.5 to J; Line 9, C to F; Line 10, F to K
March 21	-	Exterior wall at Line 6 to 8, south of Line K
April 27	-	Exterior wall at Line 6.8 to 8.9, south of Line K
October 5	-	Line E, 1 to 2 - Grids A.2/3, B/3, and B/4
October 6	-	Elevator pit base slab at Line B.5 to B.7, 3 to 3.3
October 23	-	Dumpster enclosure footings
October 27	-	Monument sign footings

The bearing materials, consisting of native clay, were evaluated with respect to the 2,000 pounds per square foot (psf) design bearing pressure. The excavations were generally dry and free of loose material.

Reinforced Concrete

Placement of the reinforcing steel, anchor bolts, and concrete was observed for the above referenced footings and at the following locations:

April 7	-	Storm shelter slab-on-grade at Line 4.5 to 8.5, F to E - Foundation wall at Line J, 7 to 10; Line K, 10 to 11; Line 10, J to K; and Line 11.5, G to K
April 24	-	Storm shelter lid at Line 4.5 to 8.5, F to E
April 27	-	Slab-on-grade at Line F to J, 1 to 10
July 3	-	Level 2 Slab-on-deck at Line E to F, 8.5 to 11; Line E to F, 1 to 4.5; and Line F to J, 1 to 11
July 17	-	Slab-on-grade at Line E to F, 2 to 4; and Line E to F, 8.5 to 10

August 2	-	Slab-on-grade reinforcing steel only at Line A to E from 2 to 9
August 16	-	Slab-on-grade at Line A to B, 3.5 to 8.2; and Line C to D, 3.5 to 8.2
August 21	-	Slab-on-grade at Line B to C, 2 to 9; and Line C to D, 3.5 to 8.2
August 23	-	Footing and pedestal RFI 102 additions at Grid E/1, E/11, F/11, H/11, and J/11
September 1	-	ADA ramp for Rooms 109 and 114
September 9	-	Slab-on-grade column infills at Grids A/2, A/9, B/2, B/9, C/2, C/9, D/2, D/4.5, and D/9
November 1	-	Exterior retaining wall south of Line K, 1 to 6
November 3	-	Exterior generator pad northeast of Grid A/2
November 8	-	South entrance exterior ADA ramp and stairs

Exterior concrete for sidewalks, pavements, and curbs and gutter were placed between November 13, 2023 and February 1, 2024. Field tests were performed and compressive strength test specimens cast with samples of the concrete placed at the referenced locations. The concrete compressive strength test results are enclosed.

Drilled and Epoxy-Grouted Reinforcing Steel

Installation of the drilled and epoxy-grouted reinforcing steel dowels into the existing concrete was observed at the following locations:

March 14	-	Grid E/2 footing bulkhead
April 3	-	Masonry wall dowels at Line A, 3 to 9 and Line E, 4.5 to 8.5
May 2	-	Foundation wall dowels at Line K, 6 to 8
June 7	-	Masonry wall dowels at Line 7.5, E to F and Line 8, E to F
August 8	-	Slab dowel to footing reinforcing steel at Grid A/2, A/9, E/2, and E/9
August 23	-	Footing reinforcing steel at Grids A/2, A/9, B/2, B/9, C/2, C/9, D/2, D/9, E/1, E/11, F,11, G/11 per RFI 102
August 29	-	Masonry wall dowels at Line E, 3.2 to 3.6; Line 3.2, E to F
October 31	-	Exterior retaining wall reinforcing steel into footings south of Line K, 1 to 6

The drilled holes were observed for the required spacing, depth, diameter, and cleaning procedures. Installation of the reinforcing steel dowels was observed with respect to the project documents for the specified reinforcing steel diameter, grade, embedment, projection, and type of epoxy used.

Drilled and Epoxy-Grouted Anchor Bolts

Installation of the drilled and epoxy-grouted anchor bolts into the existing concrete was observed at the following locations:

April 18	-	Column anchor bolts at Grid A/9
May 3	-	Column anchor bolts at Grid F/2
May 8	-	Column anchor bolts at Grid E/11
May 18	-	Elevator shaft Level 2 deck edge angle anchors on Lines 4 and E.5
July 27	-	Column anchor bolts at Grids B/2 and C/2
October 27	-	South exterior retaining wall anchor bolts into footings

The drilled holes were observed for the required spacing, depth, diameter, and cleaning procedures. Installation of the all-thread dowels was observed with respect to the project documents for the specified bolt diameter, grade, embedment, projection, and type of epoxy used.

Structural Masonry

Placement of the reinforcing steel and grout for the CMU walls was observed at the following locations:

March 15	-	Elevator shaft walls; elevation 98.4 to 102.4
March 20	-	Elevator shaft walls; elevation 102.4 to 106.4, 110.4 to 114.1 100.0, and 18.4 to 122.4
March 21	-	Line 1, A to C and Line A, 1 to 7; elevation 100.0 to 104.0
March 23	-	Line E.7, 8 to 8.5; Line F, 4.5 to 8, Line 4.5, E to F; Line 8, E.7 to F; and Line 8.5, E to E.7; elevation 99.8 to 103.8
March 25	-	Line E.7, 8 to 8.5; Line F, 4.5 to 8, Line 4.5, E to F; Line 8, E.7 to F; and Line 8.5, E to E.7; elevation 103.8 to 109.4
March 27	-	Line E.7, 8 to 8.5; Line F, 4.5 to 8, Line 4.5, E to F; Line 8, E.7 to F; and Line 8.5, E to E.7; elevation 109.4 to 111.8
April 3	-	North walls and east wall at Room 120, 121 and 122; elevation 98.8 to 102.8
April 12	-	Line E, 4 to 8.5; elevation 99.8 to 103.8
April 13	-	Line E, 4.5 to 8.5; elevation 107.8 to 111.8 and 111.8 to 113.0
April 14	-	North walls and east wall at Room 120, 121 and 122; elevation 102.8 to 106.8 and 106.8 to 110.8
April 17	-	North walls and east wall at Room 120, 121 and 122; elevation 110.8 to 114.8
April 18	-	Line A, 3 to 8; elevation 102.8 to 106. 8 and 106.8 to 110.8
April 19	-	Line A, 3 to 8; elevation 110.8 to 114.8 and 114.8 to 118.0
April 20	-	Line A,3 to 8; elevation 118.0 to 112.0
May 2	-	Line F, 4.5 to 8; elevation

June 8	-	Partition walls for Rooms 111, 112, and 113; elevation 100.0 to 104.0

Field tests were performed and test specimens cast with the grout used in the construction of the referenced walls. The recent compressive strength test results are enclosed.

Structural Steel

The structural steel framing, welded connections, and decking were observed at the following locations:

May 1	-	Welded reinforcing steel to embed plates at Line F, 4.4 to 8
May 22	-	Bridge ledge angle to beam at Line J, 4 to 6 and Line J, 7 to 10
	-	Beam to CMU embed plates for Level 2 framing at Grid F/3.8 and F/4
	-	Beam to CMU embed plates for roof framing at Grids F/3.8, F/4, and F/8
	-	Column anchor bolts
May 23	-	Bearing angle to beam connections at Line E, 1 to 2; and Line 9, E to F
	-	High-strength bolted connections for low and high roof framing at Line 9, A to B
June 8	-	Welded tube to beam connections for the low and high roof framing at Line 2, A to D and Line 9, A to D
	-	Welded tube to column for the canopy/sign framing at Line 2, A to D
June 15	-	Deck edge angle for low roof at Rooms 120, 121, and 122
	-	Deck edge angle for Level 2 framing at Line E to J, 1 to 11
June 23	-	Welded connections for low roof framing at Line 1, F to J; Line 3, J to K; Line 5, E to F; and Line 9, G to J
	-	Low roof metal deck at Line A to E, 2 to 9
September 20	-	High-strength bolted connections for Level 2 and low roof framing at Line E to J, 1 to 11

The structural steel framing was observed for the required grade, size, erection, and anchor bolts. The welded connections were observed with respect to the project documents and AWS D1.1 for the required size, length, number, spacing, appearance, and electrode.

The ASTM A325 high-strength bolted connections were observed with regard to the grade, number, diameter, and length indicated in the project documents. The installation methods were observed for compliance with the snug-tight or fully-pretensioned requirements, as indicated by the project documents. The high-strength bolted moment connections along Line 1, E to J, Line 11, E to F, Line E, 9 to 11, and Line K, 1 to 3 were observed with the tension control and turn-of-the-nut methods.

Structural steel to light gauge metal truss and metal deck nailed and screwed connections were observed for the required size, number and spacing.

Sample lots of the ¾-inch diameter ASTM A325 bolts were calibrated on June 16. A model MS Skidmore Wilhelm was used to calibrate bolts of 1 ¾ and 2 ¼ inches in length using the AISC tension control and calibrated wrench methods. The calibration results are enclosed.

Final Inspection

To the best of our knowledge, this report covers our final observations of the materials placed during the construction of the proposed building, as specified by the City of Lee's Summit, Missouri. The items monitored included building and pavement subgrades, structural fill, foundation bearing materials, reinforced concrete, drilled and epoxy-grouted reinforcing steel, drilled and epoxy-grouted anchor bolts, Structural masonry, and structural steel. The known discrepancies with the project documents were reported and have been either corrected or the as-built conditions accepted by the project engineer. Our services were provided on a part-time basis as scheduled by representatives of McCownGordan Construction. The compliance of any materials or work not observed by our personnel cannot be determined by our firm and is not addressed, or implied, by this or any previous report. In our opinion, the materials observed by our personnel were in general compliance with the project documents or the project engineer's recommendations.

Closure

The results of our field observations and testing were reported to authorized personnel during our site visits. If you have any questions regarding this report, or if we may be of further service, please contact us.

Respectfully submitted,

GEOTECHNOLOGY, LLC

Steve Biritz
Project Manager

STATE OF MISSOURI
PETER F. BRULL
NUMBER PE-2009009318
PROFESSIONAL ENGINEER
Peter F. Brull, P.E.
Senior Engineer

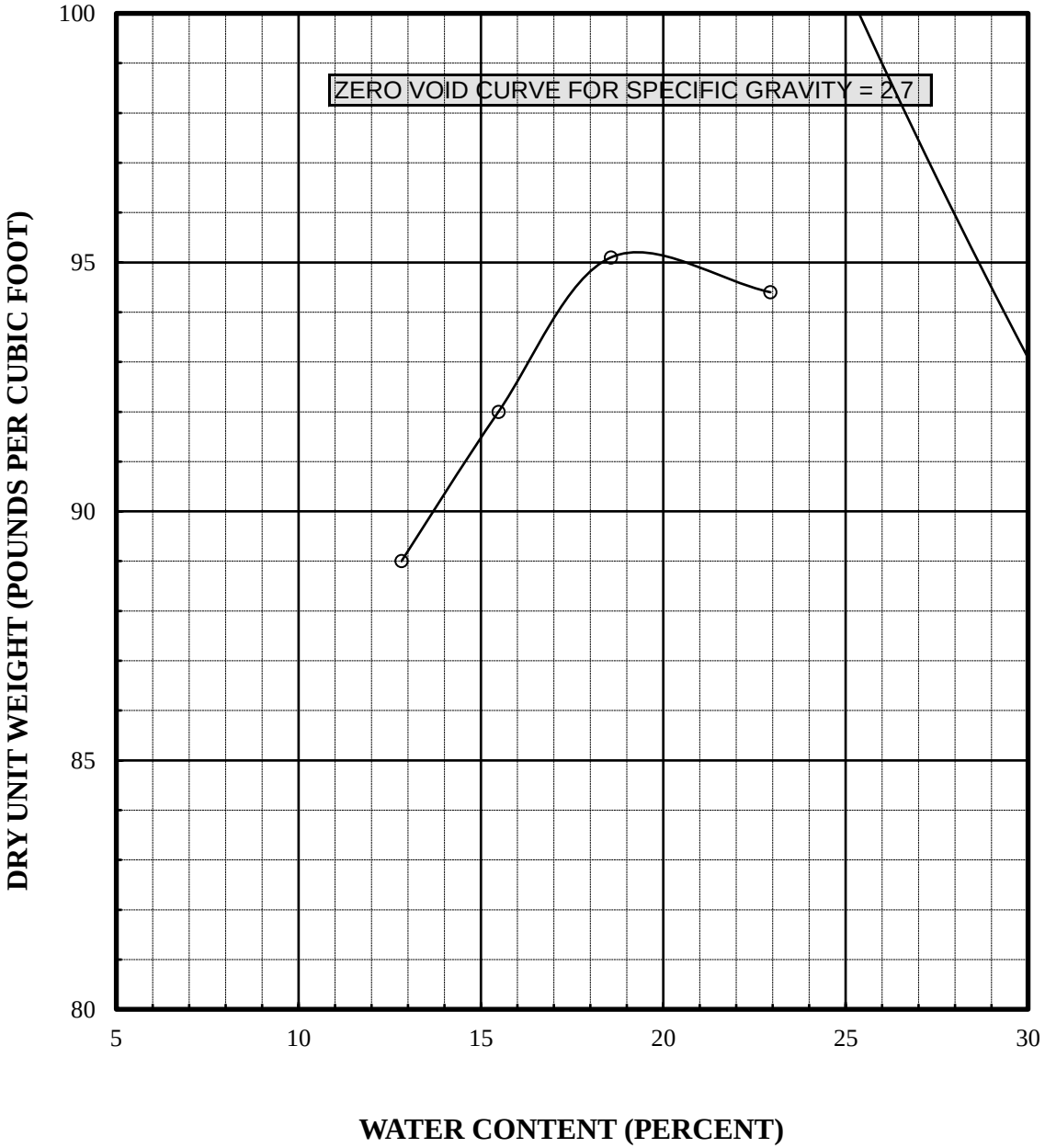
Attachments: Variance/Discrepancy List
Moisture-Density Relationship Curves
Field Density Test Results
Concrete Cylinder Test Results
Grout Prism Test Result
Compressive Strength of Masonry Block Prism
Bolt Calibration Report
RFI's

cc: Mr. Chad Bard – GLMV Architecure
Mr. Andrew Calderwood – McCownGordon Construction Company, LLC
Ms. Chloe Huxol – McCownGordon Construction Company, LLC
Mr. Mike Morgan – McCownGordon Construction Company, LLC
Geotechnology S.I. File

Lee's Summit Fire Station No. 5
Variance/Discrepancy List

NOTE: Items resolved during the report period are shaded

Variance Number	Date Opened	Date Closed	Description
1	03/14/23	11/14/23	- The contractor installed drilled and epoxy-grouted footing reinforcing steel to continue through the bulkhead constructed at Grid E/2 per RFI-041 and the project documents. A copy of RFI-041 is attached. **Discrepancy Resolved.**
2	03/15/23	11/14/23	- The contractor installed dilled and epoxy-grouted masonry reinforcing steel dowels into the footing at various locations. The dowels were installed per RFI-041 and the project documents. A copy of RFI-041 is attached. **Discrepancy Resolved.**
3	4/7/23	06/02/23	- The 28-day compressive strength of the concrete placed for the storm shelter roof was 3750 psi. The specified strength is 4000 psi. The 56-day strength was 4680 psi. **Discrepancy Resolved.**
4	04/18/23	11/14/23	- The contractor placed drilled and epoxy-grouted, post-installed anchor bolts at Grid A/9 per RFI-060. A copy of RFI-060 is attached. **Discrepancy Resolved.**
5	05/08/23	11/14/23	- The contractor replaced damaged anchor bolts at Grids E/11 and F/2 with drilled and epoxy-grouted anchor bolts per RFI-064. A copy of RFI-064 is attached. **Discrepancy Resolved.**
6	08/23/23	8/23/23	- The contractor installed drilled and epoxy-grouted reinforcing steel, and concrete A/2, A/9, B/2, B/9, C/2, C/9, D/2, D/9, E/1, E/11, F,11, G/11 per RFI 102 to provide additional bearing per RFI-102. A copy of RFI-102 is attached. **Discrepancy Resolved.**
			-
			-



PROJECT NAME

Lee's Summit Fire Station No.5

SPECIFICATIONS

Standard Proctor
ASTM D 698 Method A

PROCTOR TEST RESULTS

Max. Dry Density	Optimum Water Content
95.2 pcf	19.3%

ATTERBERG LIMITS (ASTM D-4318)

Liquid Limit	Plastic Limit	Plasticity Index
60	24	36

DESCRIPTION

CLAY - dark brown, fat, trace gravel, - (CH)

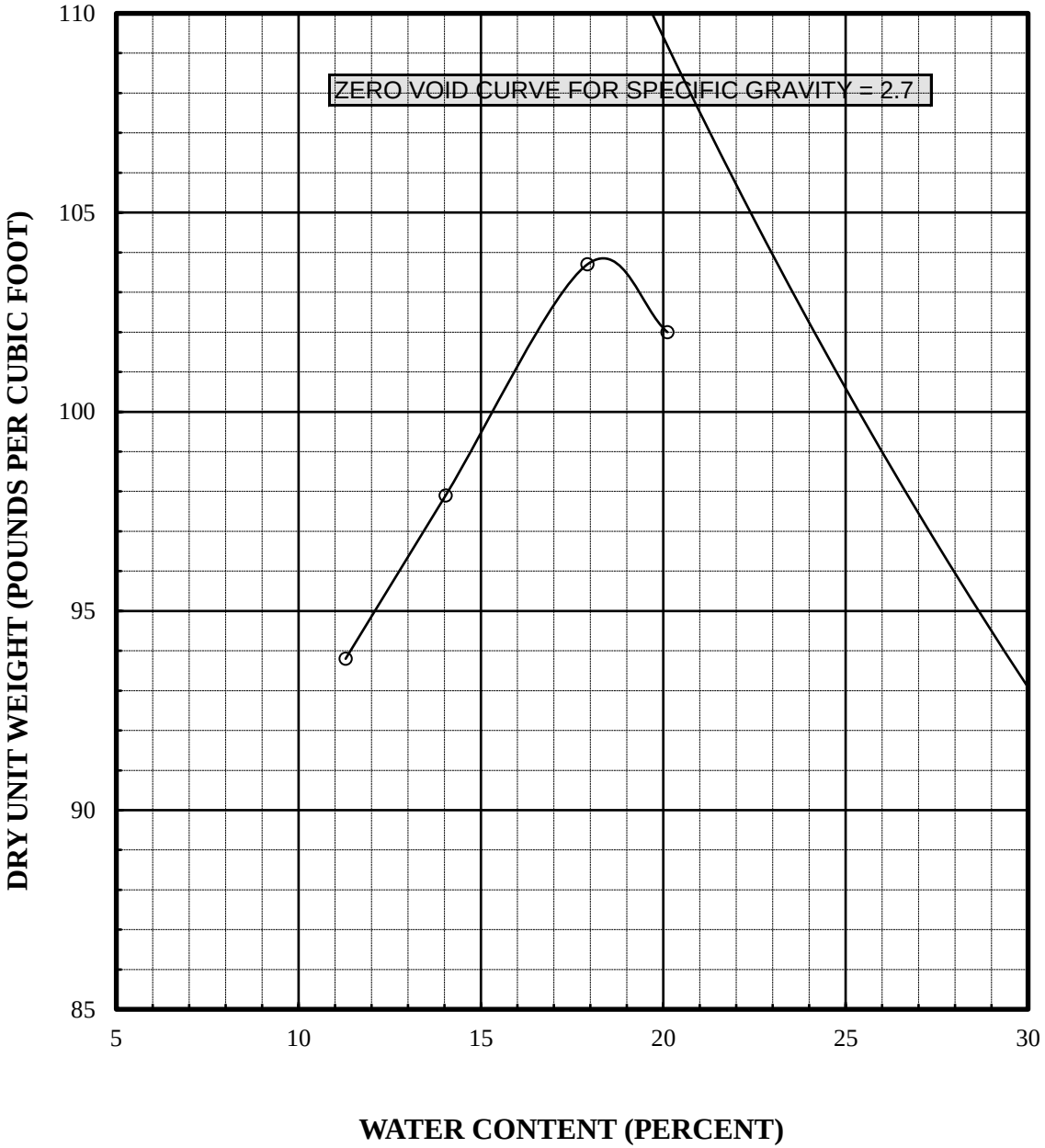
SAMPLE LOCATION

On-site borrow soils

GEOTECHNOLOGY
A Universal Engineering Sciences Company

MOISTURE - DENSITY CURVE

Job No.	J040917.05	**Test Date**	9/7/2023
Sampled By	CAC	**Tested By**	WTW
Sample Date	8/31/2023	**Calc. By**	ADC
Proctor No.	3564	**Ch'd By**	SAB



PROJECT NAME

Lee's Summit Fire Station No.5

SPECIFICATIONS

Standard Proctor
ASTM D 698 Method A

PROCTOR TEST RESULTS

Max. Dry Density	Optimum Water Content
103.7 pcf	18.3%

ATTERBERG LIMITS (ASTM D-4318)

Liquid Limit	Plastic Limit	Plasticity Index
49	16	33

DESCRIPTION

CLAY - reddish-brown, lean, trace gravel

SAMPLE LOCATION

On-site borrow soils

GEOTECHNOLOGY
A Universal Engineering Sciences Company

MOISTURE - DENSITY CURVE

Job No.	J040917.05	**Test Date**	9/7/2023
Sampled By	CAC	**Tested By**	WTW
Sample Date	8/31/2023	**Calc. By**	ADC
Proctor No.	3598	**Ch'd By**	SAB

Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Field Density Test Results

Report Date: 01/24/2023

Area Being Filled: Building pad

Description of Fill Material: (1) Limestone Screenings

TABULATION OF FIELD DENSITY TEST RESULTS (ASTM D6938)

Test No.	Test Location	Elevation (feet) -/+	Max. Dry Den. @ Optimum Moisture (pcf @ %)	In Place Dry Density (pcf)	In Place Moisture (%)	Probe Depth	Percent Compaction	Moisture Tolerance (-/+)	Min. Comp. Spec. (%)	Result
1	Building pad '10 S 10' W of NE corner of the building		128.4@10.5 (1)	133.40	8.60	6"	103.9	--/--	95	Pass
2	Building pad '10 S 20' W of NE corner of the building		128.4@10.5 (1)	134.60	8.20	6"	104.8	--/--	95	Pass
3	Building pad '40 S 20' W of NE corner of the building		128.4@10.5 (1)	132.40	8.80	6"	103.1	--/--	95	Pass
4	Building pad '40 S 10' W of NE corner of the building		128.4@10.5 (1)	132.50	9.10	6"	103.2	--/--	95	Pass
5	Building pad '40 S 40' W of NE corner of the building		128.4@10.5 (1)	131.40	7.60	6"	102.3	--/--	95	Pass

Remarks:

UES Representative: Linda A. Souder

Report Date: 02/08/2023

Area Being Filled: Building Pad

Description of Fill Material: (1) Limestone Screenings

TABULATION OF FIELD DENSITY TEST RESULTS (ASTM D6938)

Test No.	Test Location	Elevation (feet) -/+	Max. Dry Den. @ Optimum Moisture (pcf @ %)	In Place Dry Density (pcf)	In Place Moisture (%)	Probe Depth	Percent Compaction	Moisture Tolerance (-/+)	Min. Comp. Spec. (%)	Result
1	10'S-10'W NEC	-1.0	128.4@10.5 (1)	127.60	9.30	8"	99.4	2.0/2.0	95	Pass
2	10'S-60'W NEC	-1.0	128.4@10.5 (1)	128.80	9.20	8"	100.3	2.0/2.0	95	Pass
3	60'S-60'W NEC	-1.0	128.4@10.5 (1)	129.30	9.00	8"	100.7	2.0/2.0	95	Pass
4	60'S-10'W NEC	-1.0	128.4@10.5 (1)	126.20	8.90	8"	98.3	2.0/2.0	95	Pass

Remarks:

UES Representative: Makhlouf Mansour

Report Date: 02/13/2023

Area Being Filled: Building Pad LVC

Description of Fill Material: (1) Limestone Screenings

Report Date: 02/13/2023

Area Being Filled: Building Pad LVC

Description of Fill Material: (1) Limestone Screenings

TABULATION OF FIELD DENSITY TEST RESULTS (ASTM D6938)

Test No.	Test Location	Elevation (feet) -/+	Max. Dry Den. @ Optimum Moisture (pcf @ %)	In Place Dry Density (pcf)	In Place Moisture (%)	Probe Depth	Percent Compaction	Moisture Tolerance (-/+)	Min. Comp. Spec. (%)	Result
1	H/2	Grade	128.4@10.5 (1)	129.10	6.30	6"	100.5	--/--	95	Pass
2	H/7	Grade	128.4@10.5 (1)	128.00	8.30	6"	99.7	--/--	95	Pass
3	D/3	Grade	128.4@10.5 (1)	128.40	7.00	6"	100.0	--/--	95	Pass
4	A.5/5	Grade	128.4@10.5 (1)	128.60	6.40	6"	100.2	--/--	95	Pass
5	C/8	Grade	128.4@10.5 (1)	126.00	6.80	6"	98.1	--/--	95	Pass
6	B/6	Grade	128.4@10.5 (1)	125.90	4.60	6"	98.1	--/--	95	Pass
7	F/6	Grade	128.4@10.5 (1)	124.00	7.70	6"	96.6	--/--	95	Pass

Remarks: Ref. = Building Gridlines

UES Representative: James A. Surber

Report Date: 09/01/2023

Area Being Filled: Storm line West of building

Description of Fill Material: (3) Clay (CL), reddish brown, lean, trace gravel

TABULATION OF FIELD DENSITY TEST RESULTS (ASTM D6938)

Test No.	Test Location	Elevation (feet) -/+	Max. Dry Den. @ Optimum Moisture (pcf @ %)	In Place Dry Density (pcf)	In Place Moisture (%)	Probe Depth	Percent Compaction	Moisture Tolerance (-/+)	Min. Comp. Spec. (%)	Result
1	35' West 15' South of NW corner of the building	-1'	103.7@18.3 (3)	99.70	18.50	12"	96.1	--/--	95	Pass
2	35' West 25' South of NW corner of the building	-1'	103.7@18.3 (3)	98.30	20.50	12"	94.8	--/--	95	Pass

Remarks:

UES Representative: Linda A. Souder

Report Date: 08/31/2023

Area Being Filled: backfill over utility lines and pipes, 45 - 50ft W and 0 - 40ft N of SW building corner and 50 - 75ft W and 45 - 50ft S of SE building corner

Description of Fill Material: (3) Clay (CL), reddish brown, lean, trace gravel
(4) Clay (CH), dark brown, fat, trace gravel

TABULATION OF FIELD DENSITY TEST RESULTS (ASTM D6938)

Test No.	Test Location	Elevation (feet) -/+	Max. Dry Den. @ Optimum Moisture (pcf @ %)	In Place Dry Density (pcf)	In Place Moisture (%)	Probe Depth	Percent Compaction	Moisture Tolerance (-/+)	Min. Comp. Spec. (%)	Result
1	SW building corner 50ft W 10ft N	grade	95.2@19.3 (4)	97.40	22.30	8"	102.3	--/--	95	Pass
2	SW building corner 50ft W 30ft N	grade	95.2@19.3 (4)	91.30	21.70	8"	95.9	--/--	95	Pass
3	SE building corner 50ft W 50ft S	' below grad	95.2@19.3 (4)	91.80	23.30	8"	96.4	--/--	95	Pass
4	SE building corner 75ft W 50ft S	' below grad	103.7@18.3 (3)	104.10	18.70	8"	100.4	--/--	95	Pass

Remarks: 3rd and 4rth Tests were for an area that did not appear to have been backfilled recently as the contractor dug out trenches to reach the testing lifts and the surrounding area had construction materials and was well driven.

UES Representative: Caleb A. Cooke

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 03/30/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Michael Morgan
Ave. Temperature/Weather: 54°F Ptl. Cloudy
Report No.: 111065

Contractor: KR Excavating, Inc.
Sample Location: Footings at Line 2, A to B
Set No.: 1
Cast Date: 03/01/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	3.00	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	5.8	**Mix Design:**	4000 PSI AE
Conc. Temp., ASTM C1064 (°F):	70	**Truck/Ticket No.:**	241/3178960
Ambient Temp. (°F):	54	**Batch Time:**	11:36:00
Unit Weight, ASTM C138 (p.c.f.):	144.4	**Sample Time:**	12:15:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	39
Truck/Accum. Quantity (yd.³):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Linda A. Souder
Specified Strength (psi):	**4,000**	**Received in Lab:**	03/02/2023
Average Strength (psi):	**5,307**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
111065-1-1	--	12.38	3.97	52860	4270	2/N	03/08/2023	7
111065-1-2	--	12.44	3.98	64320	5170	2/N	03/29/2023	28
111065-1-3	--	12.44	3.98	66440	5340	2/N	03/29/2023	28
111065-1-4	--	12.44	3.98	67280	5410	2/N	03/29/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (3/8/2023)
Angela D. Coates (3/29/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 03/31/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Michael Morgan
Ave. Temperature/Weather: 45°F Ptl. Cloudy
Report No.: 111116

Contractor: KR Excavating, Inc.
Sample Location: Footing at Line A, 3 to 4
Set No.: 1
Cast Date: 03/02/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	2.00	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	5.9	**Mix Design:**	4000 PSI AE
Conc. Temp., ASTM C1064 (°F):	68	**Truck/Ticket No.:**	281/3179015
Ambient Temp. (°F):	42	**Batch Time:**	10:42:00
Unit Weight, ASTM C138 (p.c.f.):	143.5	**Sample Time:**	11:30:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	48
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Linda A. Souder
Specified Strength (psi):	**4,000**	**Received in Lab:**	03/03/2023
Average Strength (psi):	**5,027**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
111116-1-1	--	12.44	3.98	50860	4090	2/N	03/09/2023	7
111116-1-2	--	12.57	4.00	58340	4640	2/N	03/30/2023	28
111116-1-3	--	12.57	4.00	65310	5200	2/N	03/30/2023	28
111116-1-4	--	12.57	4.00	65880	5240	2/N	03/30/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (3/9/2023)
Angela D. Coates (3/30/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 04/05/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather:
Report No.: 111492

Contractor: Precision Cutting and Coring
Sample Location: Footing at Line 9, A.9 to B.8
Set No.: 1
Cast Date: 03/07/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	4.50	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	5.0	**Mix Design:**	40-A564L
Conc. Temp., ASTM C1064 (°F):	68	**Truck/Ticket No.:**	138/4055941
Ambient Temp. (°F):	53	**Batch Time:**	13:22:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	14:12:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	50
Truck/Accum. Quantity (yd.³):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	James A. Surber
Specified Strength (psi):	**4,000**	**Received in Lab:**	03/08/2023
Average Strength (psi):	**5,090**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
111492-1-1	--	12.38	3.97	47220	3810	2/n	03/14/2023	7
111492-1-2	--	12.44	3.98	61900	4980	2/N	04/04/2023	28
111492-1-3	--	12.44	3.98	64910	5220	2/N	04/04/2023	28
111492-1-4	--	12.44	3.98	63040	5070	2/N	04/04/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (3/14/2023)
Angela D. Coates (4/4/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 04/13/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Michael Morgan
Ave. Temperature/Weather: 54°F Ptl. Cloudy
Report No.: 112027

Contractor: Precision Cutting and Coring
Sample Location: Footing at Grid F/11
Set No.: 1
Cast Date: 03/15/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	3.00	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	5.9	**Mix Design:**	4000 PSI AE
Conc. Temp., ASTM C1064 (°F):	62	**Truck/Ticket No.:**	233/3179244
Ambient Temp. (°F):	55	**Batch Time:**	10:30:00
Unit Weight, ASTM C138 (p.c.f.):	144.8	**Sample Time:**	11:00:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	30
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Linda A. Souder
Specified Strength (psi):	**4,000**	**Received in Lab:**	03/16/2023
Average Strength (psi):	**5,293**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
112027-1-1	--	12.63	4.01	47230	3740	2/N	03/22/2023	7
112027-1-2	--	12.32	3.96	66120	5370	2/N	04/12/2023	28
112027-1-3	--	12.32	3.96	61370	4980	2/N	04/12/2023	28
112027-1-4	--	12.32	3.96	68050	5530	2/N	04/12/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (3/22/2023)
Angela D. Coates (4/12/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 04/19/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather:
Report No.: 112545

Contractor: McCownGordon
Sample Location: Footing at Line K, 6 to 7
Set No.: 1
Cast Date: 03/21/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	4.00	**Supplier:**	Geiger Ready-Mix
Air Content, ASTM C231 (%):	3.1	**Mix Design:**	40-A564L
Conc. Temp., ASTM C1064 (°F):	38	**Truck/Ticket No.:**	233/4055970
Ambient Temp. (°F):	62	**Batch Time:**	11:49:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	12:20:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	31
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Makhlouf Mansour
Specified Strength (psi):	**4,000**	**Received in Lab:**	03/22/2023
Average Strength (psi):	**5,880**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
112545-1-1	--	12.50	3.99	48710	3900	2/N	03/28/2023	7
112545-1-2	--	12.50	3.99	73460	5880	2/N	04/18/2023	28
112545-1-3	--	12.50	3.99	70810	5660	2/N	04/18/2023	28
112545-1-4	--	12.50	3.99	76280	6100	2/N	04/18/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (3/28/2023)
Angela D. Coates (4/18/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 06/02/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Avg. Temperature/Weather: 65°F Sunny
Site Contact: Mike Morgan
Report No.: 113767

Contractor: Precision Concrete
Set No.: 1
Sample Location: Slab-on-grade at Line E.8 to F, 5 to 5.5
Cast Date: 04/07/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	9.00	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	2.1	**Mix Design:**	40-540L
Conc. Temp., ASTM C1064 (°F):	76	**Truck/Ticket No.:**	230/3179752
Ambient Temp. (°F):	66	**Batch Time:**	13:01:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	13:31:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	30
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Point of Placement	**Cylinders Cast By:**	Leo A. Riggs
Specified Strength (psi):	**4,000**	**Received in Lab:**	04/08/2023
Average Strength (psi):	**4,680**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39)

Cylinder ID / Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
113767-1-1	--	12.57	4.00	32700	2600	2/N	04/11/2023	4
113767-1-2	--	12.50	3.99	41390	3310	5/N	04/14/2023	7
113767-1-3	--	12.50	3.99	44180	3530	2/N	05/05/2023	28
113767-1-4	--	12.50	3.99	50570	4040	2/N	05/05/2023	28
113767-1-5	--	12.50	3.99	46130	3690	2/N	05/05/2023	28
113767-1-6	--	12.57	4.00	58790	4680	2/N	06/02/2023	56

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks: Super P added on site

Tested By: Angela D. Coates (4/11/2023)
Angela D. Coates (4/14/2023)
Angela D. Coates (5/5/2023)
Angela D. Coates (6/2/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 05/08/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 65°F Sunny
Report No.: 113767

Contractor: Precision Cutting and Coring
Sample Location: Foundation walls at Line J, 7 to 7.5
Set No.: 2
Cast Date: 04/07/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	4.75	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	4.6	**Mix Design:**	40-A564L
Conc. Temp., ASTM C1064 (°F):	71	**Truck/Ticket No.:**	261/3179761
Ambient Temp. (°F):	66	**Batch Time:**	15:01:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	16:00:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	59
Truck/Accum. Quantity ($yd.^3$):	7/7	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Point of Placement	**Cylinders Cast By:**	Leo A. Riggs
Specified Strength (psi):	**4,000**	**Received in Lab:**	04/08/2023
Average Strength (psi):	**4,457**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
113767-2-1	--	12.50	3.99	39710	3180	2/N	04/14/2023	7
113767-2-2	--	12.50	3.99	56960	4560	2/N	05/05/2023	28
113767-2-3	--	12.50	3.99	53730	4300	2/N	05/05/2023	28
113767-2-4	--	12.50	3.99	56430	4510	2/N	05/05/2023	28
113767-2-5	--	--	--	--	--	--	01/01/1900	HOLD

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (4/14/2023)
Angela D. Coates (5/5/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 05/23/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 50°F Ptl. Cloudy
Report No.: 115048

Contractor: Precision Masonry
Sample Location: Structural slab at 2nd floor Line E to F, 4.8 to 8.5
Set No.: 1
Cast Date: 04/24/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	6.00	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	1.7	**Mix Design:**	40-540L
Conc. Temp., ASTM C1064 (°F):	61	**Truck/Ticket No.:**	235/3180225
Ambient Temp. (°F):	50	**Batch Time:**	08:41:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	09:15:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	34
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	John D. Hootman
Specified Strength (psi):	**4,000**	**Received in Lab:**	04/25/2023
Average Strength (psi):	**4,183**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
115048-1-1	--	12.44	3.98	32120	2580	2/N	04/27/2023	3
115048-1-2	--	12.50	3.99	47900	3830	2/N	05/01/2023	7
115048-1-3	--	12.50	3.99	55450	4430	2/N	05/22/2023	28
115048-1-4	--	12.50	3.99	55990	4480	2/N	05/22/2023	28
115048-1-5	--	12.50	3.99	45500	3640	2/N	05/22/2023	28
115048-1-6	--	--	--	--	--	--	01/01/1900	HOLD

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks: 10 gallons water added

Tested By: Angela D. Coates (4/27/2023)
Angela D. Coates (5/1/2023)
Angela D. Coates (5/22/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 05/30/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 65°F Ptl. Cloudy
Report No.: 115355

Contractor: Precision Masonry
Sample Location: Slab-on-grade at Line F to J, 1 to 10
Set No.: 1
Cast Date: 04/27/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	7.50	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	2.5	**Mix Design:**	40-540L
Conc. Temp., ASTM C1064 (°F):	65	**Truck/Ticket No.:**	241/3180371
Ambient Temp. (°F):	65	**Batch Time:**	10:53:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	11:24:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	31
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	John D. Hootman
Specified Strength (psi):	**4,000**	**Received in Lab:**	04/28/2023
Average Strength (psi):	**6,020**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
115355-1-1	--	12.50	3.99	48230	3860	2/N	05/01/2023	4
115355-1-2	--	12.50	3.99	59610	4770	2/N	05/04/2023	7
115355-1-3	--	12.50	3.99	78800	6300	5/N	05/25/2023	28
115355-1-4	--	12.50	3.99	70000	5600	2/N	05/25/2023	28
115355-1-5	--	12.50	3.99	77010	6160	2/N	05/25/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (5/1/2023)
Angela D. Coates (5/4/2023)
Angela D. Coates (5/25/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 05/30/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 65°F Ptl. Cloudy
Report No.: 115355

Contractor: Precision Masonry
Sample Location: Retaining wall footing. 6 feet south of Line K, 6.8 to 8.9
Set No.: 2
Cast Date: 04/27/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	2.75	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	5.0	**Mix Design:**	40-A564L
Conc. Temp., ASTM C1064 (°F):	70	**Truck/Ticket No.:**	281/3180373
Ambient Temp. (°F):	66	**Batch Time:**	11:16:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	11:44:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	28
Truck/Accum. Quantity (yd.³):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	John D. Hootman
Specified Strength (psi):	**4,000**	**Received in Lab:**	04/28/2023
Average Strength (psi):	**5,647**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
115355-2-1	--	12.50	3.99	59000	4720	2/N	05/04/2023	7
115355-2-2	--	12.50	3.99	70660	5650	5/N	05/25/2023	28
115355-2-3	--	12.50	3.99	69680	5570	2/N	05/25/2023	28
115355-2-4	--	12.50	3.99	71490	5720	2/N	05/25/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (5/4/2023)
Angela D. Coates (5/25/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 08/03/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather:
Report No.: 121262

Contractor:
Set No.: 1
Sample Location: Slab-on-deck at mezzanine, Line E to F, 9 to 11
Cast Date: 07/03/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	7.50	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	1.9	**Mix Design:**	--
Conc. Temp., ASTM C1064 (°F):	79	**Truck/Ticket No.:**	--/--
Ambient Temp. (°F):	71	**Batch Time:**	07:47:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	08:08:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	21
Truck/Accum. Quantity (yd.³):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Ryan Davidson
Specified Strength (psi):	**4,000**	**Received in Lab:**	07/04/2023
Average Strength (psi):	**4,730**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
121262-1-1	--	12.57	4.00	43470	3460	2/N	07/10/2023	7
121262-1-2	--	12.57	4.00	61120	4860	2/N	07/31/2023	28
121262-1-3	--	12.57	4.00	55990	4460	3/N	07/31/2023	28
121262-1-4	--	12.57	4.00	61170	4870	2/N	07/31/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (7/10/2023)
Angela D. Coates (7/31/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 08/16/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Michael Morgan
Ave. Temperature/Weather: 81°F Ptl. Cloudy
Report No.: 122099

Contractor: Precision Cutting and Coring
Sample Location: Slab-on-grade at Line E to F, 2 to 4.5 and E to F, 9 to 9.5
Set No.: 1
Cast Date: 07/17/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	4.00	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	2.1	**Mix Design:**	4000 PSI NO AE
Conc. Temp., ASTM C1064 (°F):	86	**Truck/Ticket No.:**	196/3182532
Ambient Temp. (°F):	88	**Batch Time:**	10:33:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	11:00:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	27
Truck/Accum. Quantity ($yd.^3$):	8/8	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Linda A. Souder
Specified Strength (psi):	**4,000**	**Received in Lab:**	07/18/2023
Average Strength (psi):	**5,780**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
122099-1-1	--	12.69	4.02	55550	4380	5/N	07/24/2023	7
122099-1-2	--	12.57	4.00	71160	5660	2/N	08/14/2023	28
122099-1-3	--	12.57	4.00	71350	5680	2/N	08/14/2023	28
122099-1-4	--	12.57	4.00	75350	6000	2/N	08/14/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (7/24/2023)
Angela D. Coates (8/14/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 09/14/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 63°F Ptl. Cloudy
Report No.: 124811

Contractor: KR Excavating, Inc.
Sample Location: Slab-on-grade at Line A to B, 3.5 to 5
Set No.: 1
Cast Date: 08/16/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	8.00	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	1.3	**Mix Design:**	4000 PSI NO AE 540
Conc. Temp., ASTM C1064 (°F):	75	**Truck/Ticket No.:**	281/3183126
Ambient Temp. (°F):	63	**Batch Time:**	07:15:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	07:55:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	40
Truck/Accum. Quantity ($yd.^3$):	10/30	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Caleb A. Cooke
Specified Strength (psi):	**4,000**	**Received in Lab:**	08/17/2023
Average Strength (psi):	**5,477**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
124811-1-1	--	12.57	4.00	92350	7350	2/N	08/23/2023	7
124811-1-2	--	12.63	4.01	70820	5610	2/N	09/13/2023	28
124811-1-3	--	12.63	4.01	67840	5370	2/N	09/13/2023	28
124811-1-4	--	12.63	4.01	68880	5450	2/N	09/13/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (8/23/2023)
Robert B. Anderson (9/13/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 09/19/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 85°F Ptl. Cloudy
Report No.: 125232

Contractor: Precision Cutting and Coring
Sample Location: Slab-on-grade at Line B to B.2, 2 to 9
Set No.: 1
Cast Date: 08/21/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	7.00	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	1.2	**Mix Design:**	NO AE 540
Conc. Temp., ASTM C1064 (°F):	80	**Truck/Ticket No.:**	214/3183254
Ambient Temp. (°F):	85	**Batch Time:**	06:45:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	07:45:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	60
Truck/Accum. Quantity ($yd.^3$):	10/20	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Caleb A. Cooke
Specified Strength (psi):	**4,000**	**Received in Lab:**	08/22/2023
Average Strength (psi):	**5,050**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
125232-1-1	--	12.57	4.00	58140	4630	2/N	08/28/2023	7
125232-1-2	--	12.63	4.01	66900	5300	5/N	09/18/2023	28
125232-1-3	--	12.63	4.01	59280	4690	5/N	09/18/2023	28
125232-1-4	--	12.63	4.01	65120	5160	5/N	09/18/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (8/28/2023)
Robert B. Anderson (9/18/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 09/21/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 94°F Ptl. Cloudy
Report No.: 125466

Contractor: Precision Cutting and Coring
Sample Location: Footing addition at Line E to E.1, 10.6 to 11
Set No.: 1
Cast Date: 08/23/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	3.50	**Supplier:**	Century Concrete, Inc.
Air Content, ASTM C231 (%):	7.8	**Mix Design:**	AE FAC-15 HR
Conc. Temp., ASTM C1064 (°F):	82	**Truck/Ticket No.:**	300/37225036
Ambient Temp. (°F):	95	**Batch Time:**	08:11:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	09:01:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	50
Truck/Accum. Quantity (yd.³):	7/7	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Caleb A. Cooke
Specified Strength (psi):	**4,000**	**Received in Lab:**	08/24/2023
Average Strength (psi):	**4,630**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
125466-1-1	--	12.57	4.00	45940	3660	2/N	08/26/2023	3
125466-1-2	--	12.63	4.01	50280	3980	2/N	08/30/2023	7
125466-1-3	--	12.63	4.01	56170	4450	5/N	09/20/2023	28
125466-1-4	--	12.63	4.01	61940	4900	5/N	09/20/2023	28
125466-1-5	--	12.63	4.01	57310	4540	5/N	09/20/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Angela D. Coates (8/26/2023)
Robert B. Anderson (8/30/2023)
Robert B. Anderson (9/20/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 09/30/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: Precision Cutting & Coring LLC
Site Contact: Michael Morgan w/McCown Gordon
Ave. Temperature/Weather: 74°F Clear
Report No.: 126342

Contractor: Precision
Sample Location: Interior ADA ramps and stair runners
Set No.: 1
Cast Date: 09/01/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	2.00	**Supplier:**	Fordyce
Air Content, ASTM C231 (%):	5.5	**Mix Design:**	4000 PL STR HR 0.48
Conc. Temp., ASTM C1064 (°F):	80	**Truck/Ticket No.:**	164/35270173
Ambient Temp. (°F):	78	**Batch Time:**	06:19:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	07:00:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	41
Truck/Accum. Quantity (yd.³):	7/7	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Linda A. Souder
Specified Strength (psi):	**4,000**	**Received in Lab:**	09/02/2023
Average Strength (psi):	**6,790**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
126342-1-1	--	12.63	4.01	72580	5750	2/N	09/08/2023	7
126342-1-2	--	12.63	4.01	81620	6460	5/N	09/29/2023	28
126342-1-3	--	12.63	4.01	85350	6760	5/N	09/29/2023	28
126342-1-4	--	12.63	4.01	90250	7150	5/N	09/29/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (9/8/2023)
Robert B. Anderson (9/29/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 10/06/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 71°F Ptl. Cloudy
Report No.: 126575

Contractor: Precision Cutting and Coring
Sample Location: Column diamond infills at Grids A/2, A/9, B/2, B/9, C/2, C/9, D/2, D/4.5, and D/9
Set No.: 1
Cast Date: 09/05/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	2.00	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	2.8	**Mix Design:**	4000 PL STR HR 0.48 -Al crete
Conc. Temp., ASTM C1064 (°F):	78	**Truck/Ticket No.:**	162/35270273
Ambient Temp. (°F):	75	**Batch Time:**	09:12:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	10:00:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	48
Truck/Accum. Quantity ($yd.^3$):	3/3	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Caleb A. Cooke
Specified Strength (psi):	**4,000**	**Received in Lab:**	09/06/2023
Average Strength (psi):	**6,073**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
126575-1-1	--	12.63	4.01	58160	4610	2/N	09/08/2023	3
126575-1-2	--	12.63	4.01	66130	5240	2/N	09/12/2023	7
126575-1-3	--	12.63	4.01	76610	6070	5/N	10/03/2023	28
126575-1-4	--	12.63	4.01	76750	6080	5/N	10/03/2023	28
126575-1-5	--	12.63	4.01	76670	6070	5/N	10/03/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks: 5 gal of water were added after slump was tested. Slump was raised to 5 inches.

Tested By: Robert B. Anderson (9/8/2023)
Robert B. Anderson (9/12/2023)
Robert B. Anderson (10/3/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 11/21/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather:
Report No.: 130836

Contractor: McCownGordon
Sample Location: Footings at trash enclosure
Set No.: 1
Cast Date: 10/23/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	3.25	**Supplier:**	Penny's Concrete
Air Content, ASTM C231 (%):	4.0	**Mix Design:**	4000 PSI AE W/ Fly Ash
Conc. Temp., ASTM C1064 (°F):	67	**Truck/Ticket No.:**	230/318469
Ambient Temp. (°F):	85	**Batch Time:**	13:36:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	14:30:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	54
Truck/Accum. Quantity (yd.³):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Caleb A. Cooke
Specified Strength (psi):	**4,000**	**Received in Lab:**	10/24/2023
Average Strength (psi):	**5,537**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
130836-1-1	--	12.63	4.01	48090	3810	5/N	10/30/2023	7
130836-1-2	--	12.63	4.01	77500	6140	5/N	11/20/2023	28
130836-1-3	--	12.63	4.01	68990	5460	5/N	11/20/2023	28
130836-1-4	--	12.63	4.01	63240	5010	5/N	11/20/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks: A second air test was performed on the second truck which resulted in 5.7%

Tested By: Robert B. Anderson (10/30/2023)
Robert B. Anderson (11/20/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 11/30/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather:
Report No.: 131835

Contractor: McCownGordon
Sample Location: Retaining wall at 5 feet south of Line K, 1 to 6
Set No.: 1
Cast Date: 11/01/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	4.00	**Supplier:**	Geiger Ready-Mix
Air Content, ASTM C231 (%):	6.0	**Mix Design:**	--
Conc. Temp., ASTM C1064 (°F):	50	**Truck/Ticket No.:**	289/37225918
Ambient Temp. (°F):	65	**Batch Time:**	11:13:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	11:38:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	25
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	--
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Makhlouf Mansour
Specified Strength (psi):	**4,000**	**Received in Lab:**	11/02/2023
Average Strength (psi):	**5,503**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
131835-1-1	--	12.57	4.00	53390	4250	5/N	11/06/2023	5
131835-1-2	--	12.63	4.01	58530	4630	5/N	11/08/2023	7
131835-1-3	--	12.63	4.01	69230	5480	5/N	11/29/2023	28
131835-1-4	--	12.63	4.01	71180	5640	5/N	11/29/2023	28
131835-1-5	--	12.63	4.01	68130	5390	5/N	11/29/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (11/6/2023)
Robert B. Anderson (11/8/2023)
Robert B. Anderson (11/29/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 12/04/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 46°F Cloudy
Report No.: 131827

Contractor: McCownGordon
Sample Location: Transformer pad
Set No.: 1
Cast Date: 11/03/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	4.75	**Supplier:**	Century Concrete, Inc.
Air Content, ASTM C231 (%):	6.6	**Mix Design:**	KCMMB GR 4K
Conc. Temp., ASTM C1064 (°F):	64	**Truck/Ticket No.:**	300/37225952
Ambient Temp. (°F):	44	**Batch Time:**	06:19:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	07:15:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	56
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Augustus P. Spano
Specified Strength (psi):	**4,000**	**Received in Lab:**	11/04/2023
Average Strength (psi):	**6,110**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
131827-1-1	--	12.63	4.01	49260	3900	5/N	11/06/2023	3
131827-1-2	--	12.63	4.01	61880	4900	5/N	11/10/2023	7
131827-1-3	--	12.63	4.01	75940	6010	5/N	12/01/2023	28
131827-1-4	--	12.63	4.01	81330	6440	5/N	12/01/2023	28
131827-1-5	--	12.63	4.01	74220	5880	5/N	12/01/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (11/6/2023)
Robert B. Anderson (11/10/2023)
Robert B. Anderson (12/1/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 12/07/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 73°F Ptl. Cloudy
Report No.: 132203

Contractor: McCownGordon
Sample Location: Sidewalk at 5 to 10 feet south, 0 to 30 feet west of the building southeast corner
Set No.: 1
Cast Date: 11/08/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	5.50	**Supplier:**	Century Concrete, Inc.
Air Content, ASTM C231 (%):	7.4	**Mix Design:**	340D7E04 KCMMB GR 4K
Conc. Temp., ASTM C1064 (°F):	71	**Truck/Ticket No.:**	301/37922777
Ambient Temp. (°F):	73	**Batch Time:**	11:42:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	12:35:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	53
Truck/Accum. Quantity (yd.³):	7/7	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Point of Placement	**Cylinders Cast By:**	Stephen A. Biritz
Specified Strength (psi):	**4,000**	**Received in Lab:**	11/09/2023
Average Strength (psi):	**5,297**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
132203-1-1	--	12.63	4.01	48710	3860	5/N	11/15/2023	7
132203-1-2	--	12.63	4.01	63730	5050	5/N	12/06/2023	28
132203-1-3	--	12.63	4.01	64230	5090	5/N	12/06/2023	28
132203-1-4	--	12.63	4.01	72630	5750	5/N	12/06/2023	28
132203-1-5	--	--	--	--	--	--	01/01/1900	HOLD

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (11/15/2023)
Robert B. Anderson (12/6/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 12/12/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 69°F Sunny
Report No.: 132576

Contractor: JD Bishop Construction LLC
Sample Location: Pavement for parking lot east approach
Set No.: 1
Cast Date: 11/13/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	2.00	**Supplier:**	Century Concrete, Inc.
Air Content, ASTM C231 (%):	5.5	**Mix Design:**	KCMMB GR 4K
Conc. Temp., ASTM C1064 (°F):	70	**Truck/Ticket No.:**	301/37226053
Ambient Temp. (°F):	69	**Batch Time:**	12:21:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	13:04:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	43
Truck/Accum. Quantity (yd.³):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Mohammed Anees
Specified Strength (psi):	**4,000**	**Received in Lab:**	11/14/2023
Average Strength (psi):	**6,037**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
132576-1-1	--	12.63	4.01	56660	4490	5/N	11/20/2023	7
132576-1-2	--	12.63	4.01	75220	5960	5/N	11/27/2023	14
132576-1-3	--	12.63	4.01	79900	6330	5/N	12/11/2023	28
132576-1-4	--	12.63	4.01	73240	5800	5/N	12/11/2023	28
132576-1-5	--	12.63	4.01	75460	5980	5/N	12/11/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (11/20/2023)
Robert B. Anderson (11/27/2023)
Robert B. Anderson (12/11/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 12/26/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 39°F Ptl. Cloudy
Report No.: 143482

Contractor: Freedom Concrete, LLC
Sample Location: Driveway approach, east side of building.
Set No.: 1
Cast Date: 11/22/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	5.00	**Supplier:**	Century Concrete, Inc.
Air Content, ASTM C231 (%):	5.5	**Mix Design:**	KCMMB GR 4K
Conc. Temp., ASTM C1064 (°F):	65	**Truck/Ticket No.:**	302/37226167
Ambient Temp. (°F):	38	**Batch Time:**	09:23:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	10:05:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	42
Truck/Accum. Quantity (yd.³):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Augustus P. Spano
Specified Strength (psi):	**4,000**	**Received in Lab:**	11/23/2023
Average Strength (psi):	**6,873**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
143482-1-1	--	12.63	4.01	53380	4230	5/N	11/27/2023	5
143482-1-2	--	12.63	4.01	58130	4600	5/N	11/29/2023	7
143482-1-3	--	12.63	4.01	85490	6770	5/N	12/20/2023	28
143482-1-4	--	12.63	4.01	97780	7740	5/N	12/20/2023	28
143482-1-5	--	12.63	4.01	77180	6110	5/N	12/20/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (11/27/2023)
Robert B. Anderson (11/29/2023)
Robert B. Anderson (12/20/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

Report Date: 01/09/2024
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather:
Report No.: 154587

Contractor: JD Bishop Construction LLC
Sample Location: Parking bay pavement for south parking lot.
Set No.: 1
Cast Date: 12/07/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	4.75	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	5.2	**Mix Design:**	KCMMB
Conc. Temp., ASTM C1064 (°F):	73	**Truck/Ticket No.:**	110/35275136
Ambient Temp. (°F):	47	**Batch Time:**	09:57:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	10:48:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	51
Truck/Accum. Quantity (yd.³):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	James A. Surber
Specified Strength (psi):	**4,000**	**Received in Lab:**	12/08/2023
Average Strength (psi):	**6,700**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
154587-1-1	--	12.63	4.01	62480	4950	5/N	12/14/2023	7
154587-1-2	--	12.63	4.01	82390	6520	5/N	01/04/2024	28
154587-1-3	--	12.63	4.01	86870	6880	5/N	01/04/2024	28
154587-1-4	--	12.63	4.01	84630	6700	5/N	01/04/2024	28
154587-1-5	--	--	--	--	--	--	01/01/1900	HOLD

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (12/14/2023)
Robert B. Anderson (1/4/2024)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

Report Date: 01/09/2024
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Ave. Temperature/Weather: 49°F Sunny
Site Contact: Mike Morgan
Report No.: 154399

Contractor: JD Bishop Construction LLC
Set No.: 1
Sample Location: Pavement at 16 to 32 feet south, 10 to 24 feet west of the building northwest corner
Cast Date: 12/08/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	4.25	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	6.6	**Mix Design:**	340D5E04 w/fibers
Conc. Temp., ASTM C1064 (°F):	62	**Truck/Ticket No.:**	164/35275225
Ambient Temp. (°F):	49	**Batch Time:**	08:03:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	08:55:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	52
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Stephen A. Biritz
Specified Strength (psi):	**4,000**	**Received in Lab:**	12/09/2023
Average Strength (psi):	**6,327**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
154399-1-1	--	12.63	4.01	54590	4320	5/N	12/15/2023	7
154399-1-2	--	12.63	4.01	75920	6010	5/N	01/05/2024	28
154399-1-3	--	12.63	4.01	79910	6330	5/N	01/05/2024	28
154399-1-4	--	12.63	4.01	83920	6640	5/N	01/05/2024	28
154399-1-5	--	--	--	--	--	--	01/01/1900	HOLD

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (12/15/2023)
Robert B. Anderson (1/5/2024)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

Report Date: 01/11/2024
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather:
Report No.: 155193

Contractor: McCownGordon
Sample Location: West apparatus bay approach pavement.
Set No.: 1
Cast Date: 12/12/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	5.00	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	6.2	**Mix Design:**	KCMMB
Conc. Temp., ASTM C1064 (°F):	71	**Truck/Ticket No.:**	139/85275346
Ambient Temp. (°F):	44	**Batch Time:**	08:26:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	09:13:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	47
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	James A. Surber
Specified Strength (psi):	**4,000**	**Received in Lab:**	12/13/2023
Average Strength (psi):	**7,113**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
155193-1-1	--	12.63	4.01	63140	5000	5/N	12/19/2023	7
155193-1-2	--	12.25	3.95	85890	7010	2/N	01/09/2024	28
155193-1-3	--	12.25	3.95	88110	7190	2/N	01/09/2024	28
155193-1-4	--	12.25	3.95	87490	7140	2/N	01/09/2024	28
155193-1-5	--	--	--	--	--	--	01/01/1900	HOLD

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (12/19/2023)
Angela D. Coates (1/9/2024)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

Report Date: 01/15/2024
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 35°F Sunny
Report No.: 154890

Contractor: JD Bishop Construction LLC
Sample Location: Sidewalk at 0 to 20 feet south, 25 to 35 feet west of the building northwest corner
Set No.: 1
Cast Date: 12/13/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	5.00	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	6.7	**Mix Design:**	340D5E04 KCMMB 4K GR
Conc. Temp., ASTM C1064 (°F):	62	**Truck/Ticket No.:**	145/35275439
Ambient Temp. (°F):	35	**Batch Time:**	08:49:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	09:45:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	56
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Stephen A. Biritz
Specified Strength (psi):	**4,000**	**Received in Lab:**	12/14/2023
Average Strength (psi):	**6,577**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
154890-1-1	--	12.63	4.01	57510	4550	5/N	12/18/2023	5
154890-1-2	--	12.63	4.01	62540	4950	5/N	12/20/2023	7
154890-1-3	--	12.57	4.00	79420	6320	5/N	01/10/2024	28
154890-1-4	--	12.57	4.00	78930	6280	5/N	01/10/2024	28
154890-1-5	--	12.57	4.00	89620	7130	5/N	01/10/2024	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (12/18/2023)
Robert B. Anderson (12/20/2023)
Robert B. Anderson (1/10/2024)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

Report Date: 01/15/2024
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Michael Morgan
Ave. Temperature/Weather: 37°F Ptl. Cloudy
Report No.: 155227

Contractor: JD Bishop Construction LLC
Set No.: 1
Sample Location: Curb and gutter at south entrance drive, 0 to 30 feet north of SW Lemans Drive
Cast Date: 12/15/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	0.25	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	5.0	**Mix Design:**	KCMMB4K
Conc. Temp., ASTM C1064 (°F):	70	**Truck/Ticket No.:**	156/35275564
Ambient Temp. (°F):	44	**Batch Time:**	08:42:00
Unit Weight, ASTM C138 (p.c.f.):	149.4	**Sample Time:**	09:30:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	48
Truck/Accum. Quantity (yd.³):	8/8	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Linda A. Souder
Specified Strength (psi):	**4,000**	**Received in Lab:**	12/16/2023
Average Strength (psi):	**7,793**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
155227-1-1	--	12.63	4.01	66780	5290	5/N	12/22/2023	7
155227-1-2	--	12.38	3.97	99920	8070	2/N	01/12/2024	28
155227-1-3	--	12.38	3.97	93050	7520	2/N	01/12/2024	28
155227-1-4	--	12.38	3.97	96420	7790	2/N	01/12/2024	28
155227-1-5	--	--	--	--	--	--	01/01/1900	HOLD

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (12/22/2023)
Robert B. Anderson (1/12/2024)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

Report Date: 01/15/2024
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather:
Report No.: 155402

Contractor: JD Bishop Construction LLC
Set No.: 1
Sample Location: Pavement at 65 to 70 feet south, 65 to 75 feet west of the building southwest corner
Cast Date: 12/18/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	3.00	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	5.2	**Mix Design:**	KCMMB 4K GR S 4"
Conc. Temp., ASTM C1064 (°F):	53	**Truck/Ticket No.:**	155/35275600
Ambient Temp. (°F):	31	**Batch Time:**	09:52:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	10:31:00
Yield, ASTM C138 (ft.³):	--	**Mixing Time (min.):**	39
Truck/Accum. Quantity (yd.³):	10/10	**Initial Curing Method:**	Sealed/Curing Box
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Seth T. Littlestone
Specified Strength (psi):	**4,000**	**Received in Lab:**	12/19/2023
Average Strength (psi):	**7,637**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
155402-1-1	--	12.63	4.01	52090	4120	5/N	12/21/2023	3
155402-1-2	--	12.63	4.01	70550	5590	5/N	12/25/2023	7
155402-1-3	--	12.50	3.99	92820	7420	3/N	01/15/2024	28
155402-1-4	--	12.50	3.99	98120	7850	2/N	01/15/2024	28
155402-1-5	--	12.50	3.99	95520	7640	2/N	01/15/2024	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (12/21/2023)
Robert B. Anderson (12/25/2023)
Angela D. Coates (1/15/2024)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

Report Date: 01/17/2024
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 29°F Overcast
Report No.: 155323

Contractor: McCownGordon
Sample Location: Pavement at south approach, 5 to 10 feet north of SW Lemans Lane
Set No.: 1
Cast Date: 12/19/2023

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	6.50	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	7.0	**Mix Design:**	KCMMB 4K
Conc. Temp., ASTM C1064 (°F):	58	**Truck/Ticket No.:**	162/35275634
Ambient Temp. (°F):	29	**Batch Time:**	08:22:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	09:10:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	48
Truck/Accum. Quantity ($yd.^3$):	6/6	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Leo A. Riggs
Specified Strength (psi):	**4,000**	**Received in Lab:**	12/20/2023
Average Strength (psi):	**6,140**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
155323-1-1	--	12.63	4.01	33500	2650	5/N	12/22/2023	3
155323-1-2	--	12.63	4.01	58430	4630	5/N	12/26/2023	7
155323-1-3	--	12.50	3.99	70710	5660	5/N	01/16/2024	28
155323-1-4	--	12.50	3.99	81490	6520	5/N	01/16/2024	28
155323-1-5	--	12.50	3.99	78010	6240	5/N	01/16/2024	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (12/22/2023)
Robert B. Anderson (12/26/2023)
Robert B. Anderson (1/16/2024)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

Report Date: 01/31/2024
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Ave. Temperature/Weather: 38°F Cloudy
Site Contact: Michael Morgan
Report No.: 156923

Contractor: Precision Cutting and Coring
Set No.: 1
Sample Location: Sidewalk at 30 to 35 feet south, 5 to 10 feet east of the building southwest corner
Cast Date: 01/26/2024

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	6.50	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	5.5	**Mix Design:**	KCMMB4K
Conc. Temp., ASTM C1064 (°F):	71	**Truck/Ticket No.:**	132/35276068
Ambient Temp. (°F):	38	**Batch Time:**	09:45:00
Unit Weight, ASTM C138 (p.c.f.):	143.8	**Sample Time:**	10:30:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	45
Truck/Accum. Quantity ($yd.^3$):	10/10	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Linda A. Souder
Specified Strength (psi):	**4,000**	**Received in Lab:**	01/27/2024
Average Strength (psi):	**3,300**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory	--	--

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
156923-1-1	--	12.57	4.00	41460	3300	5/N	01/30/2024	4
156923-1-2	--	--	--	--	--	--	02/23/2024	28
156923-1-3	--	--	--	--	--	--	02/23/2024	28
156923-1-4	--	--	--	--	--	--	02/23/2024	28
156923-1-5	--	--	--	--	--	--	01/01/1900	HOLD

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (1/30/2024)
Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

Report Date: 02/09/2024
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Concrete Cylinder Test Results

General Contractor: McCownGordon
Site Contact: Mike Morgan
Ave. Temperature/Weather: 60°F Ptl. Cloudy
Report No.: 157253

Contractor: JD Bishop Construction LLC
Set No.: 1
Sample Location: South driveway pavement repairs, approximately 10 to 15 feet south, 30 to 35 feet east of the building southeast corner
Cast Date: 02/01/2024

FIELD DATA (ASTM C31)

Slump, ASTM C143 (in.):	4.50	**Supplier:**	Fordyce Concrete Company, Inc.
Air Content, ASTM C231 (%):	6.0	**Mix Design:**	KCMMB 4K GR S 4"
Conc. Temp., ASTM C1064 (°F):	66	**Truck/Ticket No.:**	156/35276284
Ambient Temp. (°F):	60	**Batch Time:**	10:24:00
Unit Weight, ASTM C138 (p.c.f.):	--	**Sample Time:**	11:25:00
Yield, ASTM C138 ($ft.^3$):	--	**Mixing Time (min.):**	61
Truck/Accum. Quantity ($yd.^3$):	6/6	**Initial Curing Method:**	Sealed
Sampled From, ASTM C172:	Truck Chute	**Cylinders Cast By:**	Augustus P. Spano
Specified Strength (psi):	**4,000**	**Received in Lab:**	02/02/2024
Average Strength (psi):	**4,160**	**Condition Received:**	Satisfactory
Field Condition:	Satisfactory		

Laboratory Data (ASTM C39 / C1231 / C617)

Cylinder ID/ Report No.	Cylinder Weight (lbs.)	Cross Sec. Area (sq.in.)	Cylinder Diameter (in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/ Capping Type *	Test Date	Cylinder Test Age (day)
157253-1-1	--	12.50	3.99	46550	3720	5/N	02/04/2024	3
157253-1-2	--	12.57	4.00	52330	4160	5/N	02/08/2024	7
157253-1-3	--	--	--	--	--	--	02/29/2024	28
157253-1-4	--	--	--	--	--	--	02/29/2024	28
157253-1-5	--	--	--	--	--	--	02/29/2024	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Ground

Remarks:

Tested By: Robert B. Anderson (2/4/2024)
Robert B. Anderson (2/8/2024)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)
Bloom, Sharon (City of Lee"s Summit) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Report Date: 04/13/2023
Client: City of Lee's Summit
Project: J040917.05
Lee's Summit Fire Station No. 5
Lee's Summit, MO

Grout Prism Test Results

General Contractor: McCownGordon
Site Contact: Michael Morgan
Avg. Temperature/Weather: 54°F Ptl. Cloudy
Report No.: 112027

Contractor: Precision Cutting and Coring
Sample Location: Elevator shaft at Line E.5 to F, 3.7 to 4.5, elevation 100.0 to 104.0
Set No.: 2
Cast Date: 03/15/2023

FIELD DATA

Slump, ASTM C143 (in.):	8.00	**Supplier:**	--
Air Content, ASTM C231 (%):	--	**Mix Design:**	3000
Mix Temp., ASTM C1064 (°F):	--	**Truck/Ticket No.:**	--/--
Ambient Temp. (°F):	54	**Batch Time:**	10:00:00
Truck/Accum. Quantity (yd.³):	--/--	**Sample Time:**	10:15:00
Sampled From:	Mixed On-Site	**Mixing Time (min.):**	15
Fabrication Mold:	--	**Initial Curing Method:**	Sealed
Specified Strength (psi):	**3,000**	**Cast By:**	Linda A. Souder
Average Strength (psi):	**3,600**	**Received in Lab:**	03/16/2023
Field Condition:	Satisfactory	**Condition Received:**	Satisfactory

LABORATORY DATA FOR 3" X 3" X 6" SPECIMEN (ASTM C1019 / C1231 / C617)

Sample ID/ Report No.	Prism Weight (lbs.)	Cross Sec. Area (sq.in.)	Maximum Load (lbs.)	Compressive Strength (psi)	Fracture/Capping Type *	Test Date	Prism Test Age
112027-2-1	--	10.56	28880	2730	--	03/22/2023	7
112027-2-2	--	11.32	49870	4410	--	04/12/2023	28
112027-2-3	--	10.85	30240	2790	--	04/12/2023	28

* Fracture type as shown in Figure 2, ASTM C39 / Capping type: N - Neoprene Pads (C1231); B - Bonded (C617); G - Gypsum

Remarks:

Tested By: Angela D. Coates (3/22/2023)
Angela D. Coates (4/12/2023)

Reviewed by: Peter F. Brull (Senior Engineer)

CC: Huxol, Chloe (McCownGordon Construction, LLC) (e)
Morgan, Mike (McCownGordon Construction, LLC) (e)
Hudson, Rodney (City of Lee"s Summit) (e)
Calderwood, Andrew (McCownGordon Construction, LLC) (e)
Bard, Chad (GLMVArchitecture) (e)

GEOTECHNOLOGY
A UES Company

Compressive Strength of Masonry Block Prisms
ASTM C 1314

Client:	City of Lee's Summit	**Sample No:**	23-003
Project Name:	Lee's Summit Fire Station #5	**Project Number:**	J040917.05
Contractor:	McCownGordon	**Report Date:**	4/12/2023
Sample Location:	Elevator shaft at Line E.5 to F, 3.7 to 4.5	**Elevation:**	100.0 to 104.0

Field Data

Subcontractor:		**Date Sampled:**	3/15/2023
Technician:	L. Souder	**Max/Min Temperature (°F):**	N/A
Weather:	P. Cloudy	**Specified Strength - f'm (psi):**	1,500
Temperature (°F):	54	**Block Width (6-, 8-, or 12-inch):**	8
Mortar Type:	S	**Number of Mortar Beds:**	1
Grout Type:	N/A	**Construction Type[1]:**	hollow cell

Laboratory Data

Specimen Dimensions

Unit Number	Average Height (in.)	Average Length (in.)	Average Width (in.)	Height to Width Ratio	Correction Factor
23-003A	15.79	15.70	7.69	2.05	1.00
23-003B	15.70	15.61	7.64	2.05	1.00
23-003C	15.55	15.60	7.65	2.03	1.00

Net Block Prism Area - ASTM C 140 (in²): 59.00

Compressive Strength Test Result

Unit Number	Age (days)	Break Date	Compressive Load (lbs.)	Compressive Strength (psi)	Corrected Strength (psi)	Fail Mode
23-003A	7	3/22/2023	78,660	1,330	1,330	3A/B
23-003B	28	4/12/2023	156,480	2,650	2,650	2A/B
23-003C	28	4/12/2023	161,870	2,740	2,740	3A/B

Average 28-day Strength (psi): 2,700

Reviewed by: Peter F. Brull, P.E.

Comments:

[1]Hollow cell or fully grouted

A325/A490 BOLT PRE-INSTALLATION VERIFICATION CALIBRATION FORM

(for fully pre-tensioned and/or slip-critical connections – threads excluded)

Project Name: Lee's Summit Firestation #5 Date: June 16, 2023

Project Number: J040917.05 Foreman:

Tightening Method	☐ Turn-of-Nut	☒ Twist-off (Tension Control) Type	☐ Direct Tension Indicator	☒ Calibrated Wrench

Bolt Assembly/ASTM #			Lot Numbers			Diameter (in)	Length (in)	Kips/Torque/Gap		
Bolt	Washer	Nut	Bolt	Washer	Nut					
A325	F436	A563	W000019897			¾	1 ¾	295 flb	295 flb	295 flb
A325	F436	A563	W000019897			¾	1 ¾	39 k	38 k	37 k
A325	F436	A563	472849B			¾	2 ¼	295 flb	295 flb	295 flb
A325	F436	A563	472849B			¾	2 ¼	36 k	36 k	32 k
	F436	A563								
	F436	A563								

Calibration and Tightening Equipment			
Location	**Type and Model**	**Serial Number**	**Calibration Date**
Job Site	**Skidmore Wilhelm MS**	16768	08/30/2022
Job Site	**Torque Wrench (Manual)**	1121501832	09/2021
Job Site	**Impact Wrench (Air/Elec.)**	S-61EZ	

Bolting Crew: **Doherty Steel**

Table 1
Minimum Bolt Pretension (kips)

Nominal Bolt Diameter	A325 and F1852	A490
1/2"	12.6	15.75
5/8"	19.95	25.2
3/4"	29.4	36.75
7/8"	40.95	51.45
1"	53.55	67.2
1-1/8"	58.8	84.0
1-1/4"	74.55	107.1
1-3/8"	89.25	127.05
1-1/2"	108.15	155.4

Table 2
Nut Rotation from Snug-Tight

	Disposition of Outer Face of Bolted Parts		
Bolt Length (d = diameter)	**Both faces normal to bolt axis**	**One face normal to bolt axis, other sloped not more than 1:20**	**Both faces sloped not more than 1:20 from normal to bolt axis**
Not more than 4 x d	1/3 turn	1/2 turn	2/3 turn
More than 4 x d but not more than 8 x d	1/2 turn	2/3 turn	5/6 turn
More than 8 x d but not more than 12 x d	2/3 turn	5/6 turn	1 turn

Field Representative: **PFB** **Reviewed By:** **PFB**

Notice: The Geotechnology representative is on-site to observe operations of the contractor identified, form opinions about the accuracy of those operations and report those opinions to the client. The presence and activities of our field representative do not relieve the contractor from its obligation to meet contractual requirements. No one except our client may rely on our findings and opinions. The contractor retains sole responsibility for site safety and the methods, operations, and sequences of construction.

Note: Until reviewed and signed by an authorized Geotechnology project manager, this Calibration Form is to be considered preliminary and is provided solely as evidence that the field observation was performed. Observations, conclusions, and/or recommendations conveyed in the final report may vary from and shall take precedence over those indicated in a preliminary report.

UES™

McCownGordon
850 Main Street
Kansas City, Missouri 64105
P: (816) 960-1111
F: (816) 960-1182

Project: 1-07-1512 Lee's Summit Fire Stations 4 & 5
#4 - 5031 Northeast Lakewood Way/ #5 - 801 Missouri HWY 150
Lee's Summit, Missouri 64082
P: 816-960-1111
F: 816-960-1182

RFI #41: LSFS 4&5 - Drill and Epoxy Rebar Detail

Status	Closed on 03/22/23		
To	Ken Kasper (GLMV Architecture) Chad Bard (GLMV Architecture)	**From**	Andrew Calderwood (McCownGordon Construction, LLC) 850 Main Street Kansas City, Missouri 64105
Date Initiated	Mar 10, 2023	**Due Date**	Mar 15, 2023
Location	Fire Station 4 & 5	**Project Stage**	
Cost Impact		**Schedule Impact**	
Spec Section		**Cost Code**	
Drawing Number		**Reference**	
Linked Drawings	S-100		
Received From		**Sub Job**	
Copies To	Andrew Calderwood (McCownGordon Construction, LLC), Nate Henson (McCownGordon Construction, LLC), Chloe Huxol (McCownGordon Construction, LLC), Mike Morgan (McCownGordon Construction, LLC)		

Activity

Question

Question from Andrew Calderwood McCownGordon Construction, LLC *on Friday, Mar 10, 2023 at 11:22 AM CST*

Please provide drill and epoxy details/requirements for the following conditions.

1. The footing at Grid E&2 (FS5) was not over dug for a bulkhead to allow for the appropriate rebar splice. Please provide details/requirements for allowable drilling and epoxy method and keyway to be cut in to continue the next section. (see attached photos and page from rebar shop drawings)
2. Slab dowels were left out of a section of the west apparatus bay footings to allow access for equipment. Please provide detail/requirements for drilling and epoxy.
3. Masonry wall dowels were left out of the front of the elevator pit to allow flexibility for the door rough opening size/location. Please provide detail/requirements for drilling and epoxy.

Attachments
18C1813B-A9A0-4147-9E6A-7E6DE9061DF8.jpeg, Pages from LS FS5 - 033000-08.0 - Concrete Rebar Shop Drawings_LEOK_glmv review.pdf, E3CB8EEB-0ECF-4D88-A6F3-FE47D560E491.jpeg

Official Response

Response from Ken Kasper GLMV Architecture *on Wednesday, Mar 22, 2023 at 10:20 AM CDT*

Yes, LEOK confirmed HY-100 is acceptable and also acceptable at concrete rebar locations.

Official Response

Response from Ken Kasper GLMV Architecture *on Monday, Mar 13, 2023 at 12:22 PM CDT*

Please see response from structural engineers.

Attachments
LS FS4_FS5_RFI 41 - Drill and Epoxy Rebar Detail_LEOK.pdf

All Replies

Response from Ken Kasper GLMV Architecture *on Wednesday, Mar 22, 2023 at 10:20 AM CDT*

Yes, LEOK confirmed HY-100 is acceptable and also acceptable at concrete rebar locations.

Response from Andrew Calderwood McCownGordon Construction, LLC *on Tuesday, Mar 14, 2023 at 01:35 PM CDT*

Please see attached email from LEOK stating that HY-100 is acceptable at masonry locations. Please confirm. Please clarify if it is also acceptable at concrete rebar locations.

Attachments
LSFS RFI-041 LEOK Email.pdf

Response from Ken Kasper GLMV Architecture *on Monday, Mar 13, 2023 at 12:22 PM CDT*

Please see response from structural engineers.

Attachments
LS FS4_FS5_RFI 41 - Drill and Epoxy Rebar Detail_LEOK.pdf

McCownGordon
850 Main Street
Kansas City, Missouri 64105
P: (816) 960-1111
F: (816) 960-1182

Project: 1-07-1512 Lee's Summit Fire Stations 4 & 5
#4 - 5031 Northeast Lakewood Way/ #5 - 801 Missouri HWY 150
Lee's Summit, Missouri 64082

RFI #41: LSFS 4&5 - Drill and Epoxy Rebar Detail

Status	Open		
To	Ken Kasper (GLMV Architecture) Chad Bard (GLMV Architecture)	**From**	Andrew Calderwood (McCownGordon Construction, LLC) 850 Main Street Kansas City, Missouri 64105
Date Initiated	Mar 10, 2023	**Due Date**	Mar 15, 2023
Location	Fire Station 4 & 5	**Project Stage**	
Cost Impact		**Schedule Impact**	
Spec Section		**Cost Code**	
Drawing Number		**Reference**	
Linked Drawings			
Received From		**Sub Job**	
Copies To	Andrew Calderwood (McCownGordon Construction, LLC), Nate Henson, STSC (McCownGordon Construction, LLC), Chloe Huxol (McCownGordon Construction, LLC), Michael Morgan (McCownGordon Construction, LLC)		

Activity

Question

Question from Andrew Calderwood McCownGordon Construction, LLC *on Friday, Mar 10, 2023 at 11:22 AM CST*

Please provide drill and epoxy details/requirements for the following conditions.

1. The footing at Grid E&2 (FS5) was not over dug for a bulkhead to allow for the appropriate rebar splice. Please provide details/requirements for allowable drilling and epoxy method and keyway to be cut in to continue the next section. (see attached photos and page from rebar shop drawings)
2. Slab dowels were left out of a section of the west apparatus bay footings to allow access for equipment. Please provide detail/requirements for drilling and epoxy.
3. Masonry wall dowels were left out of the front of the elevator pit to allow flexibility for the door rough opening size/location. Please provide detail/requirements for drilling and epoxy.

EMBED HORIZONTAL REINFORCEMENT 14.5" INTO EXISTING, USING HILTI HY-200 EPOXY. NO KEYWAY REQUIRED.

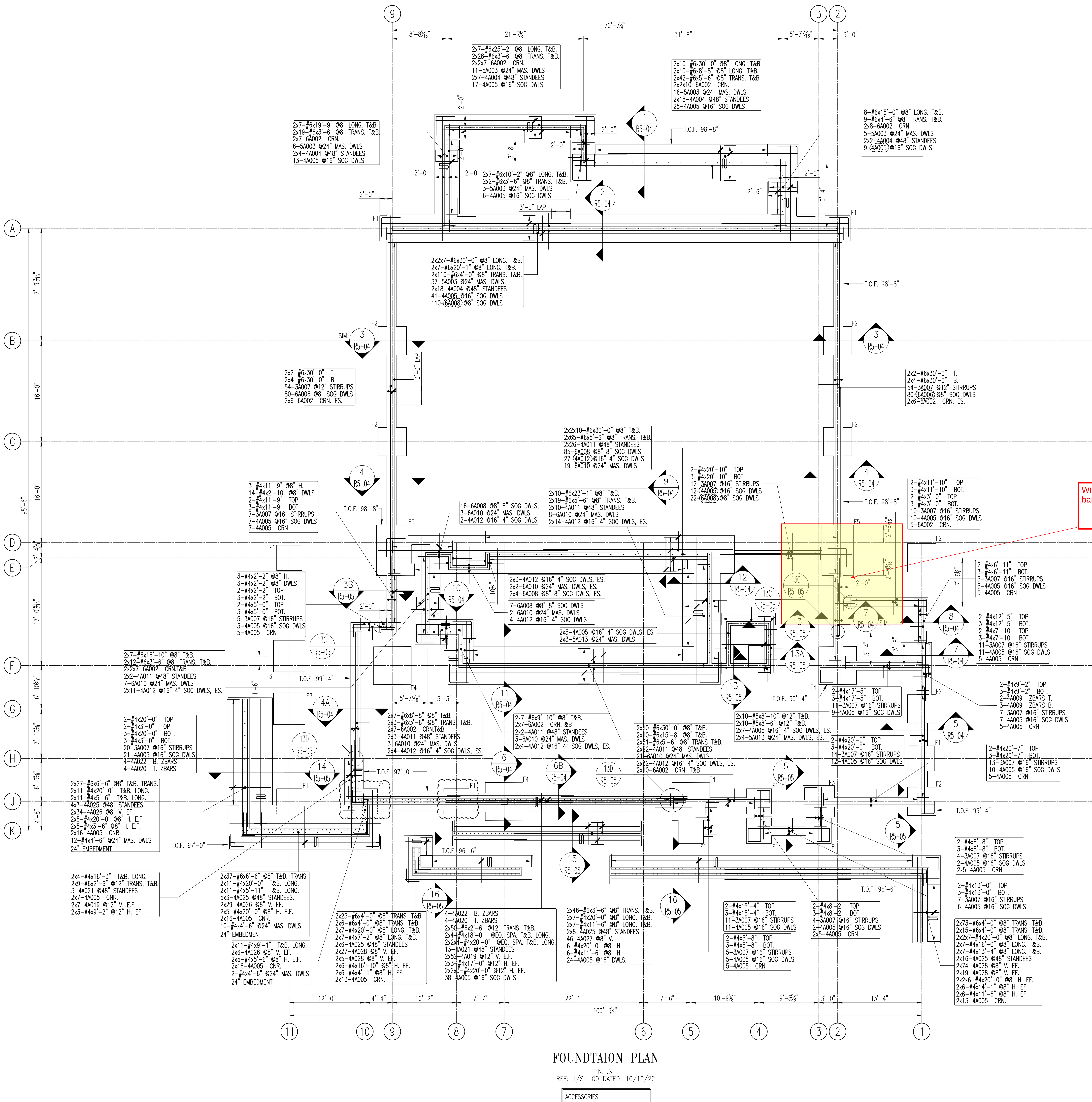
8" EMBEDMENT INTO FOUNDATION USING HILTI HY-200 EPOXY.

8" EMBEDMENT INTO FOUNDATION USING HILTI HY-200 EPOXY.

Attachments
18C1813B-A9A0-4147-9E6A-7E6DE9061DF8.jpeg, Pages from LS FS5 - 033000-08.0 - Concrete Rebar Shop Drawings_LEOK_glmv review.pdf, E3CB8EEB-0ECF-4D88-A6F3-FE47D560E491.jpeg

Awaiting an Official Response

STATE OF MISSOURI
WAYNE NEEL HESS
NUMBER PE-2010019551
01/02/2024
PROFESSIONAL ENGINEER

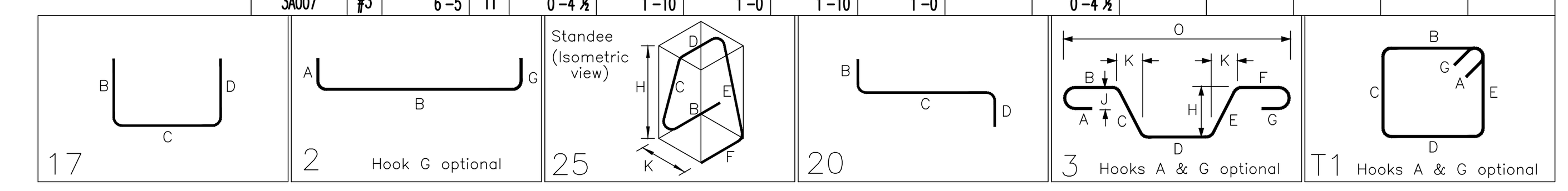


FOUNDTAION PLAN

N.T.S.
REF: 1/5-100 DATED: 10/19/22

ACCESSORIES:
7-1/2" CHCU = 30 LF

Drawing Sheet : R5-01				BENDING DETAILS											
Bar Mark	Size	Total Length	Type	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'O'	'R'
6A002	#6	6'-0"	17		3'-0"	3'-0"									
6A006	#6	5'-0"	17		3'-0"	2'-0"									
6A008	#6	5'-9"	17		3'-0"	2'-9 ½"									
6A010	#6	6'-5"	2	1'-0"	5'-4 ¾"										
5A003	#5	5'-8"	2	0'-10"	4'-10 ½"										
5A013	#5	4'-9"	2	0'-10"	3'-10 ¾"										
4A004	#4	7'-9"	25		1'-6"	1'-7 ½"	1'-6"	1'-7 ½"	1'-6"		1'-7"		0'-9 ½"		
4A005	#4	4'-0"	17		2'-0"	2'-0"									
4A009	#4	4'-7"	20		2'-0"	0'-7"	2'-0"								
4A011	#4	7'-9"	25		1'-6"	1'-7 ½"	1'-6"	1'-7 ½"	1'-6"		1'-7"		0'-9 ½"		
4A012	#4	4'-10"	17		2'-0"	2'-10 ½"									
4A019	#4	3'-11"	2	0'-8"	3'-2 ¾"										
4A020	#4	7'-3"	20		2'-8"	2'-4 ½"	2'-2 ½"								
4A021	#4	6'-1"	25		1'-6"	0'-9 ¾"	1'-6"	0'-9 ¾"	1'-6"		0'-9 ½"		0'-4 ¾"		
4A022	#4	6'-5"	3		2'-2"	2'-1"	2'-2"				1'-6"		1'-5 ¼"	5'-9 ¼"	
4A025	#4	7'-2"	25		1'-6"	1'-4"	1'-6"	1'-4"	1'-6"		1'-3 ½"		0'-7 ¾"		
4A026	#4	5'-2"	2	0'-8"	4'-5 ¾"										
4A027	#4	6'-0"	2	1'-0"	4'-11 ¾"										
4A028	#4	5'-8"	2	0'-8"	4'-11 ¾"										
3A007	#3	6'-5"	T1	0'-4 ½"	1'-10"	1'-0"	1'-10"	1'-0"		0'-4 ½"					



DRAWING NOTES:
1. CONCRETE STRENGTH (S-001)
FOOTINGS, G.B., – fc 4,000 U.N.O.
WALLS, BEAMS, COL. – fc 4,000 U.N.O.
SLABS – fc 4,000 U.N.O.
2. CONCRETE COVER (S-001)
3" CAST AGAINST EARTH
2" FORMED/EXPOSED TO EARTH/WEATHER
1½" NOT EXPOSED WEATHER/EARTH (BEAMS/COL.)
¾" NOT EXPOSED WEATHER/ EARTH (SLABS/WALLS)
3. LAP SPLICE (S-001; 48DB)

TOP & BOTTOM	
#3	18"
#4	24"
#5	30"
#6	36"
#7	42"
#8	48"
#9	55"
#10	61"
#11	68"

LEGEND:

IF	–	INSIDE FACE
OF	–	OUTSIDE FACE
NF	–	NEAR FACE
FF	–	FAR FACE
EF	–	EACH FACE
V	–	VERTICAL
H	–	HORIZONTAL
EW	–	EACH WAY
T	–	TOP
B	–	BOTTOM
BB	–	BOND BEAM
MV	–	MASONRY VERTICAL
MD	–	MASONRY DOWELS

STEEL GRADE:
ALL MATERIAL ON THIS DRAWING SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE

PLACING DRAWING APPROVAL AUTHORITY:
VERIFICATION OF DIMENSIONS, DETAILS, ETC ARE REQUESTED WHERE INDICATED. IF EACH VERIFICATION IS NOT NOTED OTHERWISE, IT WILL BE ASSUMED TO BE CORRECT AS SHOWN.

ALL REINFORCING IS TO BE PLACED IN ACCORDANCE WITH CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE

DETAILER: ALEX BERNAUER
(816) 455–9820 EXT. 2269

No.	Description	Date	By
1	REVISED RESUBMIT	12/21/22	AJB
0	ISSUE FOR APPROVAL	11/22/22	AJB

Revisions and Issue Record

The full intent and purpose of this drawing is the placing of reinforcing steel bars ONLY. It is NOT to be used as a means of communication between the Architect, Engineer, Contractor or any other Sub–trades.

THIS DRAWING IS NOT TO BE SCALED.

NUCOR HARRIS REBAR
KANSAS CITY, MO.
DETAILED AT: KANSAS CITY, MO.
PHONE: 816-455-9820 FAX: 816-455-9819

Project: LEE SUMMIT FIRE STATION 5

Drawing: FOUNDATION PLAN

Customer: PRECISION CONCRETE
Engineer: LEIGH & O'KANE

Date	Drawn	Chkd.	JOB No.	Dwg. No.
11/22/22	AJB	TJE	02922136	R5–01

APPROVER/ENGINEER VERIFY:
PLEASE VERIFY S.O.G. DOWELS DIMENSIONS ARE CORRECT AS SHOWN?
[ ] YES, S.O.G. DOWEL DIMENSIONS ARE CORRECT AS SHOWN.
[ ] NO, S.O.G. DOWEL DIMENSIONS ARE NOT CORRECT AS SHOWN.
IF NO, PLEASE PROVIDE CORRECT DIMENSIONS.

APPROVER/ENGINEER VERIFY:
PLEASE VERIFY FOOTING STEP LOCATIONS?

APPROVER/ENGINEER VERIFY:
PLEASE VERIFY IF (2) F1 SPREAD FTG ALONG GRID J NEED PILASTER REINFORCING PER A2/S301.
[✓] YES, PILASTER REINF. ARE NEEDED.
[ ] NO, PILASTER REINF. ARE NOT NEEDED CORRECT AS SHOWN.
IF YES, PLEASE PROVIDE CORRECT LOCATIONS OF PILASTERS.

R:\BID DRAWINGS\2022\LS Fire Station 4&5 7-20-22\Harris Documents\Detailing Files\(CAD format)\02922136-LS Fire Station 5_R1-AJB.dwg


EquipmentShare

McCownGordon
850 Main Street
Kansas City, Missouri 64105
P: (816) 960-1111
F: (816) 960-1182

Project: 1-07-1512 Lee's Summit Fire Stations 4 & 5
#4 - 5031 Northeast Lakewood Way/ #5 - 801 Missouri HWY 150
Lee's Summit, Missouri 64082
P: 816-960-1111
F: 816-960-1182

RFI #60: LSFS 5 - Anchor Bolt Drill and Epoxy Detail

Status	Closed on 04/14/23		
To	Chad Bard (GLMV Architecture) Ken Kasper (GLMV Architecture)	**From**	Andrew Calderwood (McCownGordon Construction, LLC) 850 Main Street Kansas City, Missouri 64105
Date Initiated	Apr 14, 2023	**Due Date**	Apr 19, 2023
Location	Fire Station 5	**Project Stage**	
Cost Impact		**Schedule Impact**	
Spec Section		**Cost Code**	
Drawing Number	S-100	**Reference**	
Linked Drawings	S-100		
Received From		**Sub Job**	
Copies To	Jordan Bennett (Leigh & O'Kane LLC), Andrew Calderwood (McCownGordon Construction, LLC), Nate Henson (McCownGordon Construction, LLC), Chloe Huxol (McCownGordon Construction, LLC), Mike Morgan (McCownGordon Construction, LLC)		

Activity

Question

Question from Andrew Calderwood McCownGordon Construction, LLC *on Friday, Apr 14, 2023 at 08:41 AM CDT*

The anchor bolts at grid line A/9 were placed incorrectly and will need to be cut off and dilled and epoxied ~2" to the south and east (see attached markup). Please provide an acceptable embedment depth and epoxy type for this condition.

Attachments
LSFS 5 - RFI-060 - Anchor Bolt Drill and Epoxy Detail.pdf

Official Response

Response from Ken Kasper GLMV Architecture *on Friday, Apr 14, 2023 at 10:38 AM CDT*

Per structural engineer response, use Hilti HY-200 w/ 3/4" dia threaded rod, embed 8" into foundation.

Attachments
RFI #60 - LS FS5 Anchor Bolt Drill Epoxy Detail_LEOK.pdf

All Replies

Response from Ken Kasper GLMV Architecture *on Friday, Apr 14, 2023 at 10:38 AM CDT*

Per structural engineer response, use Hilti HY-200 w/ 3/4" dia threaded rod, embed 8" into foundation.

Attachments
RFI #60 - LS FS5 Anchor Bolt Drill Epoxy Detail_LEOK.pdf

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Lee's Summit, Missouri 64082

RFI #60: LSFS 5 - Anchor Bolt Drill and Epoxy Detail

Status	Open		
To	Ken Kasper (GLMV Architecture) Chad Bard (GLMV Architecture)	**From**	Andrew Calderwood (McCownGordon Construction, LLC) 850 Main Street Kansas City, Missouri 64105
Date Initiated	Apr 14, 2023	**Due Date**	Apr 19, 2023
Location	Fire Station 5	**Project Stage**	
Cost Impact		**Schedule Impact**	
Spec Section		**Cost Code**	
Drawing Number	S-100	**Reference**	
Linked Drawings			
Received From		**Sub Job**	
Copies To	Jordan Bennett (Leigh & O'Kane LLC), Andrew Calderwood (McCownGordon Construction, LLC), Nate Henson, STSC (McCownGordon Construction, LLC), Chloe Huxol (McCownGordon Construction, LLC), Michael Morgan (McCownGordon Construction, LLC)		

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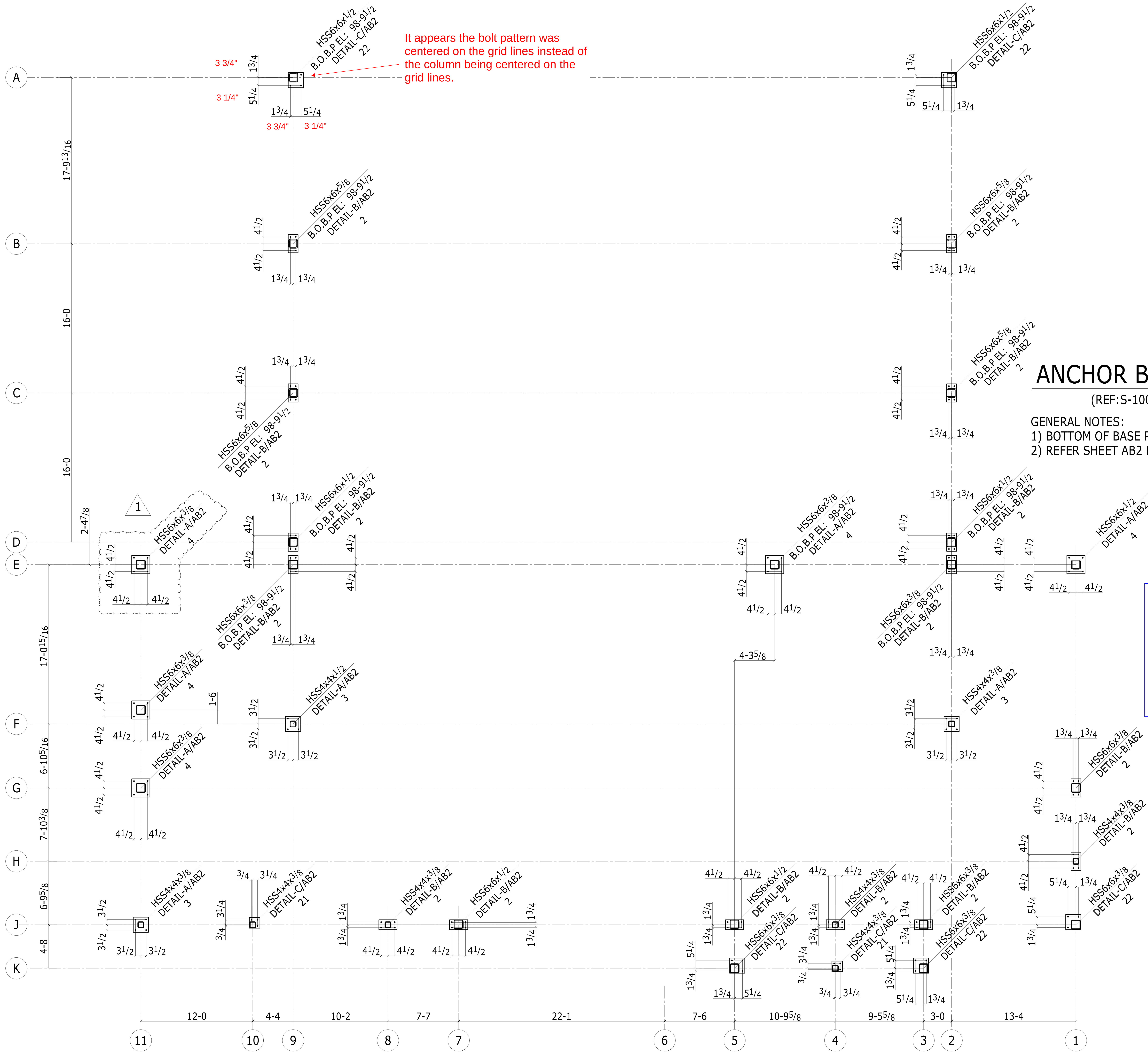
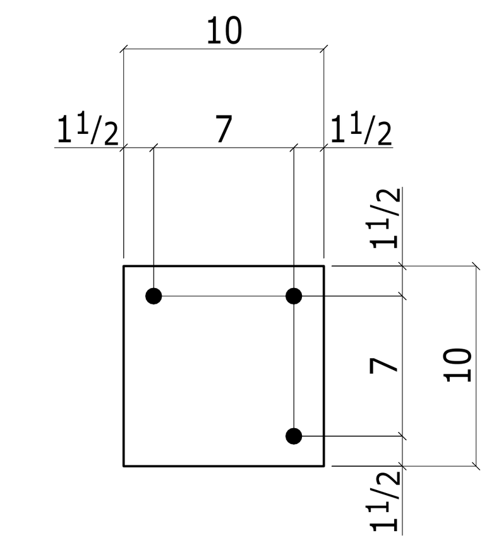
Awaiting an Official Response

Use Hilti HY-200 w/ 3/4" dia threaded rod, embed 8" into foundation.

Jordan Bennett, Leigh + O'kane 4-14-2023





ANCHOR BOLT SETTING PLAN

(REF:S-100) (FIRE STATION #5)

PROJECT NORTH

TRUE NORTH

GENERAL NOTES:

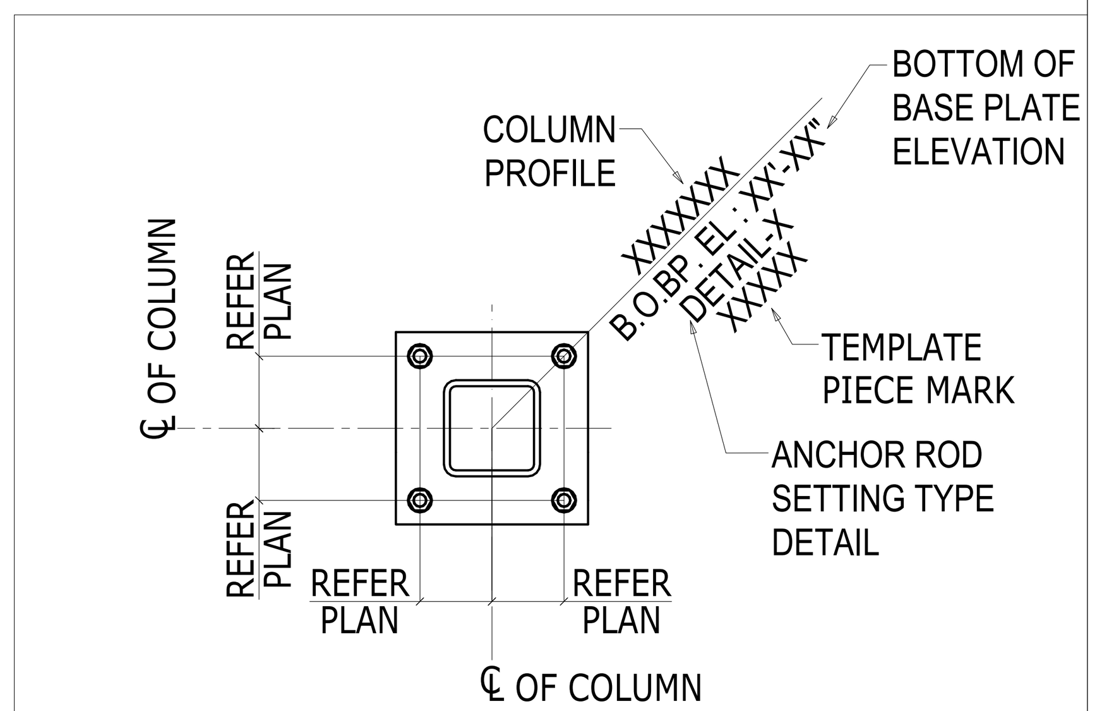
1) BOTTOM OF BASE PLATE (B.O.B.P) EL: 99-5 1/2 (U.N.O).

2) REFER SHEET AB2 FOR TYPICAL ANCHOR ROD SETTING DETAIL.

LEGEND:

B.O.B.P EL.- BOTTOM OF BASE PLATE ELEVATION

THIS DRAWING HAS BEEN REVISED. PLEASE DESTROY ANY PREVIOUS COPIES OF THIS SHEET.



LEGEND

THESE DRAWINGS HAVE BEEN REVISED PLEASE DESTOY ANY PREVIOUS DRAWINGS

AISC CODE OF STANDARD PRACTICE: 7.14. Correction of Errors

FINAL PLANS FOR FIELD USE

RESPONSIBILITY FOR FIELD MODIFICATIONS OR ADDITIONAL MATERIAL WILL NOT BE ACCEPTED UNLESS PREVIOUSLY AUTHORIZED BY CHILLICOTHE IRON & STEEL, INC.

REVISIONS				RELEASED FOR FIELD USE
0	01-24-23			DATE 02-03-23
A	11-11-22	1	02-03-23	

CHILLICOTHE IRON & STEEL, INC.
330 MITCHELL ROAD P.O. BOX 650
PHONE (660) 646-2250 FAX (660) 646-6343
CHILLICOTHE, MISSOURI 64601

SHEET TITLE	ANCHOR BOLT SETTING PLAN
PROJECT	CITY OF LEE'S SUMMIT FIRE STATION #5
LOCATION	5031 NORTHEAST LAKEWOOD WAY LEE'S SUMMIT, MISSOURI-64064
ARCHITECT	GLMV ARCHITECTURE
ENGINEER	LEIGH + O'KANE
CONTRACTOR	McCOWNGORDON CONSTRUCTION
PAINT	AS NOTED ON DETAILS

HOLES	UNLESS NOTED OTHERWISE	BOLT SPEC	WELDING ELECTRODES	JOB NO.
13/16Ø		A-325N	E70XX	21626-5
DRAWN CHT		CHECKED UBK		SHEET NO. AB1
DATE 11-09-22		DATE 11-10-22		

FIRE STATION #5

McCownGordon
850 Main Street
Kansas City, Missouri 64105
P: (816) 960-1111
F: (816) 960-1182

Project: 1-07-1512 Lee's Summit Fire Stations 4 & 5
#4 - 5031 Northeast Lakewood Way/ #5 - 801 Missouri HWY 150
Lee's Summit, Missouri 64082
P: 816-960-1111
F: 816-960-1182

RFI #64: LSFS 5 - Broken Anchor Bolts

Status	Closed on 05/10/23		
To	Chad Bard (GLMV Architecture) Ken Kasper (GLMV Architecture)	**From**	Andrew Calderwood (McCownGordon Construction, LLC) 850 Main Street Kansas City, Missouri 64105
Date Initiated	Apr 18, 2023	**Due Date**	Apr 21, 2023
Location	Fire Station 5	**Project Stage**	
Cost Impact		**Schedule Impact**	
Spec Section		**Cost Code**	
Drawing Number	S-100	**Reference**	
Linked Drawings	S-100		
Received From		**Sub Job**	
Copies To	Andrew Calderwood (McCownGordon Construction, LLC), Nate Henson (McCownGordon Construction, LLC), Chloe Huxol (McCownGordon Construction, LLC), Mike Morgan (McCownGordon Construction, LLC)		

Activity

Question

Question from Andrew Calderwood McCownGordon Construction, LLC *on Tuesday, Apr 18, 2023 at 04:14 PM CDT*

One (1) anchor bolt at grid E/11 was struck and damaged. When the steel contractor tried to straighten it, the bolted snapped off. Please provide a fix for this condition.

Attachments
KIMG0376.JPG

Official Response

Response from Ken Kasper GLMV Architecture *on Wednesday, May 10, 2023 at 11:07 AM CDT*

Confirming structural engineer's response.

Attachments
RFI #64 - LSFS5_Broken Anchor Bolts_Response.pdf

Official Response

Response from Ken Kasper GLMV Architecture *on Tuesday, May 2, 2023 at 10:40 AM CDT*

Please see structural engineer's response.

Attachments
RFI #64 - LS FS5 - Broken Anchor BoltV2_LEOK.pdf

All Replies

Response from Ken Kasper GLMV Architecture *on Wednesday, May 10, 2023 at 11:07 AM CDT*

Confirming structural engineer's response.

Attachments
RFI #64 - LSFS5_Broken Anchor Bolts_Response.pdf

Response from Ken Kasper GLMV Architecture *on Monday, May 8, 2023 at 04:09 PM CDT*

Andrew, can you please provide the location of most recent anchor bolt at E/11?

Response from Andrew Calderwood McCownGordon Construction, LLC *on Monday, May 8, 2023 at 12:48 PM CDT*

In addition to the previously mentioned anchor bolts, one additional bolt was discovered to be broken at E/11. Please see attached for fix from LEOK. Please confirm.

Attachments
E-11 ANCHOR BOLT FIX.pdf

Response from Ken Kasper GLMV Architecture *on Tuesday, May 2, 2023 at 10:40 AM CDT*

Please see structural engineer's response.

Attachments
RFI #64 - LS FS5 - Broken Anchor BoltV2_LEOK.pdf

Response from Andrew Calderwood McCownGordon Construction, LLC *on Friday, Apr 28, 2023 at 03:24 PM CDT*

(2) more bolts were damaged and will need to be fixed. Please see attached for locations of damaged bolts. Would it be acceptable to offset new drilled and epoxied anchor bolts and drill new holes in base plates?

Attachments
FS5 Damage Anchor Bolt Locations.pdf

Response from Andrew Calderwood McCownGordon Construction, LLC *on Thursday, Apr 27, 2023 at 04:09 PM CDT*

Per the structural steel pre-install meeting on 4.27.23, Lico has requested permission to offset this bolt and drill a new hole in the column base plate. Would this be acceptable? If so, how far away from the existing hole?

Response from Ken Kasper GLMV Architecture *on Thursday, Apr 20, 2023 at 08:13 AM CDT*

Please see attached response from structural engineer.

Attachments
RFI #64 - LSFS_5 - Broken Anchor Bolt_LEOK.pdf

McCownGordon
850 Main Street
Kansas City, Missouri 64105
P: (816) 960-1111
F: (816) 960-1182

Project: 1-07-1512 Lee's Summit Fire Stations 4 & 5
#4 - 5031 Northeast Lakewood Way/ #5 - 801 Missouri HWY 150
Lee's Summit, Missouri 64082

RFI #64: LSFS 5 - Broken Anchor Bolt

Status	Open		
To	Ken Kasper (GLMV Architecture) Chad Bard (GLMV Architecture)	**From**	Andrew Calderwood (McCownGordon Construction, LLC) 850 Main Street Kansas City, Missouri 64105
Date Initiated	Apr 18, 2023	**Due Date**	Apr 21, 2023
Location	Fire Station 5	**Project Stage**	
Cost Impact		**Schedule Impact**	
Spec Section		**Cost Code**	
Drawing Number	S-100	**Reference**	
Linked Drawings	S-100		
Received From		**Sub Job**	
Copies To	Andrew Calderwood (McCownGordon Construction, LLC), Nate Henson, STSC (McCownGordon Construction, LLC), Chloe Huxol (McCownGordon Construction, LLC), Michael Morgan (McCownGordon Construction, LLC)		

Activity

Question

Question from Andrew Calderwood McCownGordon Construction, LLC *on Tuesday, Apr 18, 2023 at 04:14 PM CDT*

One (1) anchor bolt at grid E/11 was struck and damaged. When the steel contractor tried to straighten it, the bolted snapped off. Please provide a fix for this condition.

Attachments
KIMG0376.JPG

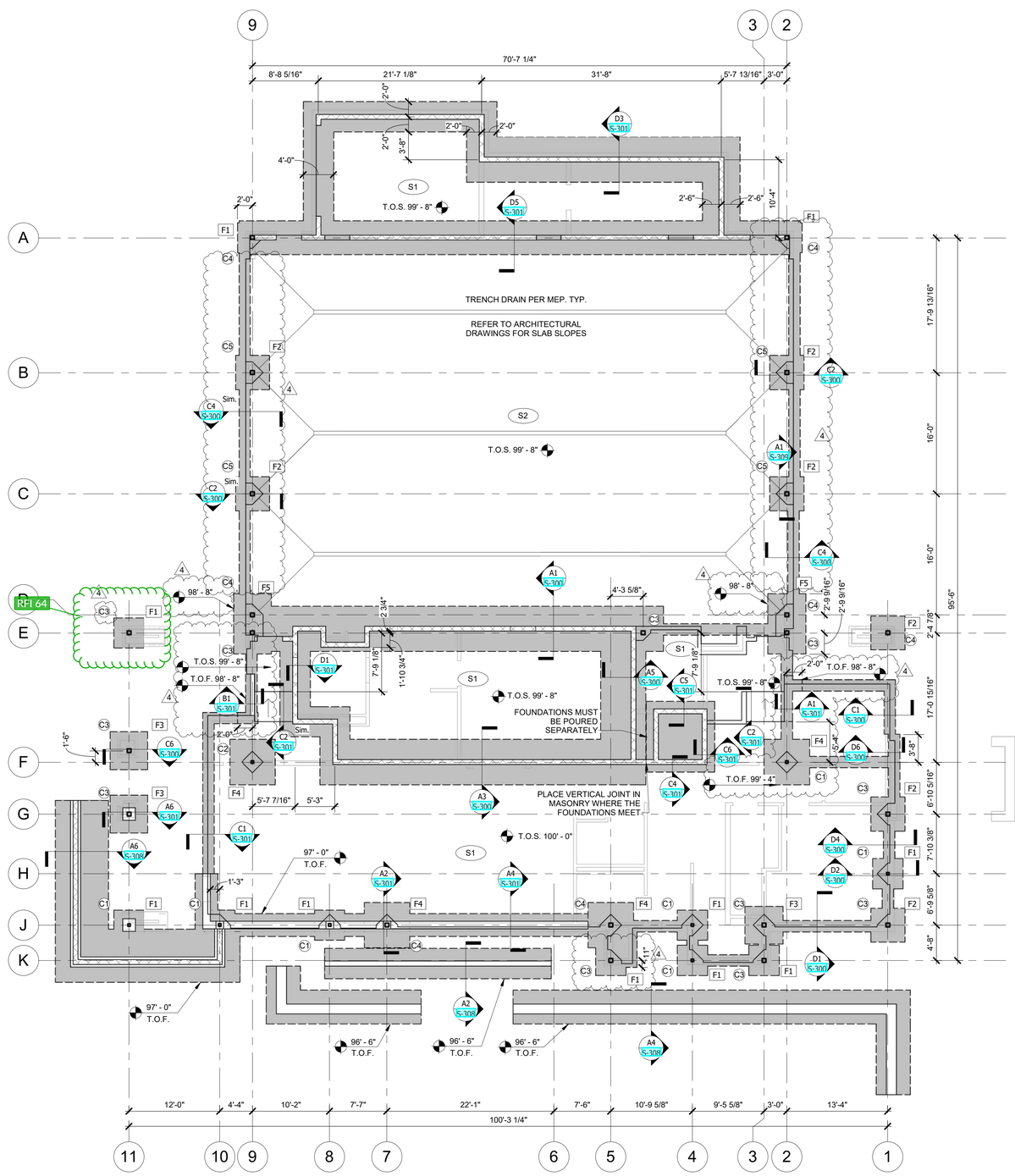
Awaiting an Official Response

EXISTING ANCHOR BOLT WILL HAVE TO BE DRILLED OUT AND REPLACED. ONCE DRILLED AND THE HOLE HAS BEEN CLEANED, REPLACE BOLT USING HILTI HY-200 . 8" EMBED INTO FOUNDATION.

JORDAN BENNETT, LEIGH + O'KANE 4-20-2023

RFI 50

RFI 41



A1 APP BAY FF
1/8" = 1'-0"

FOUNDATION PLAN NOTES:

1. TOP OF CONCRETE SLAB ELEVATION = 100'-0" U.N.O.
2. SLAB REINFORCEMENT PER SCHEDULE
3. SLAB CONTROL AND CONSTRUCTION JOINTS PER TYPICAL DETAILS. CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR CONTROL JOINTS AT THE CONTRACTOR'S DISCRETION.
4. ISOLATION JOINTS PER DETAIL S500 4
5. FOOTING STEPS PER DETAIL S500
6. CONTRACTOR TO COORDINATE ALL FLOOR AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINES.
7. DURING INSTALLATION OF ALL POST CONSTRUCTION ANCHORS, CARE MUST BE TAKEN TO AVIOD ALL REINFORCING.
8. REFER TO ARCHITECTURAL FOR NON-LOAD BEARING WALL LOCATIONS.
9. REFER TO ARCHITECTURAL FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.
10. REFER TO ARCHITECRURAL AND CIVIL DRAWINGS FOR EXTERIOR RETAINING WALL AND RAMP LOCATION AND ELEVATION INFORMATION.
11. GENERATOR PADS TO BE 12" THICK CONCRETE W/#5 @ 8" O.C. EACH WAY TOP AND BOTTOM, REFER TO MANUFACTURER'S INFORMATION FOR REQUIRED PAD SIZE. REFER TO CIVIL & MEP DRAWINGS FOR LOCATIONS.

STRUCTURAL FOUNDATION SCHEDULE

MARK	LENGTH	WIDTH	DEPTH	REINFORCEMENT
F1	4' - 0"	4' - 0"	2' - 4"	#6 @8" O.C. EW TB
F2	4' - 6"	4' - 6"	2' - 4"	#6 @8" O.C. EW TB
F3	5' - 0"	5' - 0"	2' - 4"	#6 @8" O.C. EW TB
F4	6' - 0"	6' - 0"	2' - 4"	#6 @8" O.C. EW TB
F5	8' - 0"	5' - 0"	2' - 4"	#6 @8" O.C. EW TB

STRUCTURAL COLUMN SCHEDULE

MARK	COLUMN
C1	HSS4X4X3/8
C2	HSS4X4X1/2
C3	HSS6X6X3/8
C4	HSS6X6X1/2
C5	HSS6X6X5/8

SLAB SCHEDULE

MARK	TYPE	REINFORCEMENT
S1	4" SLAB ON GRADE	#4 @ 16" O.C. E.W.
S2	8" SLAB ON GRADE	#6 @ 18" O.C. E.W.
S3	12" STORM SHELTER LID	#5 @ 8" O.C. T/B E.W.

GLMVArchitecture

9229 WARD PARKWAY
SUITE # 210
KANSAS CITY, MO 64114
TEL: (816) 444-4200
FAX: (316) 265-5646
www.glmv.com

GLMV ARCHITECTURE, INC.
MISSOURI STATE CERTIFICATE OF AUTHORITY #000305

LANDSCAPE ARCHITECT
GLMV ARCHITECTURE, INC
MISSOURI COA #000008
9229 WARD PARKWAY, SUITE # 210
KANSAS CITY, MO 64114
TEL: (816) 444-4200

CIVIL ENGINEER
GLMV ARCHITECTURE, INC
MISSOURI COA #2018033898
9229 WARD PARKWAY, SUITE # 210
KANSAS CITY, MO 64114
TEL: (816) 444-4200

STRUCTURAL ENGINEER
LEIGH + O'KANE
MISSOURI COA #001644
250 NE MULBERRY, SUITE 201
LEE'S SUMMIT, MO 64086
(816) 444-3144

MECH., ELECT. & PLMG. ENGINEERS
HOSS & BROWN ENGINEERS
MISSOURI COA #01022
15902 MIDLAND DRIVE
SHAWNEE, KS 66217
(913) 362.9090

SECURITY & IT ENGINEERS
HENDERSON ENGINEERS
MISSOURI COA #000556
1801 MAIN STREET, SUITE 300
KANSAS CITY, MO 64108
(816) 663-8700

FIRE STATION #5
CITY OF LEE'S SUMMIT

801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

ISSUED FOR CONSTRUCTION

REVISIONS:

#	Description	Date
4	Rev 04 - ASI04	02/01/2023

STATE OF MISSOURI
JORDAN M. BENNETT
NUMBER PE-2022019960
PROFESSIONAL ENGINEER
2-1-2023

PROJECT NO:	18225R21001
DATE:	02/01/2023
DRAWN BY:	JMB
CHK'D BY:	WNH

FOUNDATION PLAN

S-100

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

McCownGordon
850 Main Street
Kansas City, Missouri 64105
P: (816) 960-1111
F: (816) 960-1182

Project: 1-07-1512 Lee's Summit Fire Stations 4 & 5
#4 - 5031 Northeast Lakewood Way/ #5 - 801 Missouri HWY 150
Lee's Summit, Missouri 64082

RFI #64: LSFS 5 - Broken Anchor Bolts

Status	Open		
To	Ken Kasper (GLMV Architecture) Chad Bard (GLMV Architecture)	**From**	Andrew Calderwood (McCownGordon Construction, LLC) 850 Main Street Kansas City, Missouri 64105
Date Initiated	Apr 18, 2023	**Due Date**	Apr 21, 2023
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Cost Impact		**Schedule Impact**	
Spec Section		**Cost Code**	
Drawing Number	S-100	**Reference**	
Linked Drawings	S-100		
Received From		**Sub Job**	
Copies To	Andrew Calderwood (McCownGordon Construction, LLC), Nate Henson, STSC (McCownGordon Construction, LLC), Chloe Huxol (McCownGordon Construction, LLC), Michael Morgan (McCownGordon Construction, LLC)		

Activity

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Question from Andrew Calderwood McCownGordon Construction, LLC *on Tuesday, Apr 18, 2023 at 04:14 PM CDT*

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Attachments
KIMG0376.JPG

Awaiting an Official Response

Hilti HIT-RE 500 allows for the anchors to be cored out as opposed to drilled out. Maximum core diameter for a 3/4"Ø rod is 1 1/8". Embed 3/4"Ø rod a min. of 8" into foundation. Coring through foundation reinforcement is not permitted. If this is not possible, drilling out the anchors will be the default approach.

Jordan Bennett, Leigh + O'Kane 5-1-2023

All Replies

Response from Andrew Calderwood McCownGordon Construction, LLC *on Friday, Apr 28, 2023 at 03:24 PM CDT*

(2) more bolts were damaged and will need to be fixed. Please see attached for locations of damaged bolts. Would it be acceptable to offset new drilled and epoxied anchor bolts and drill new holes in base plates?

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Response from Ken Kasper GLMV Architecture *on Thursday, Apr 20, 2023 at 08:13 AM CDT*

Please see attached response from structural engineer.

Attachments
RFI #64 - LSFS_5 - Broken Anchor Bolt_LEOK.pdf

ANCHOR BOLT SETTING PLAN

(REF:S-100) (FIRE STATION #5)

GENERAL NOTES:
1) BOTTOM OF BASE PLATE (B.O.B.P) EL: 99-5 1/2 (U.N.O).
2) REFER SHEET AB2 FOR TYPICAL ANCHOR ROD SETTING DETAIL.

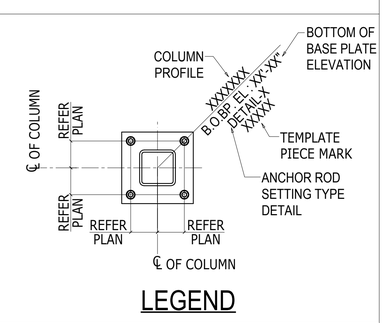
PROJECT NORTH

TRUE NORTH

Bolt locations that are damaged and need replaced.

THIS DRAWING HAS BEEN REVISED. PLEASE DESTROY ANY PREVIOUS COPIES OF THIS SHEET.

LEGEND:
B.O.B.P EL.- BOTTOM OF BASE PLATE ELEVATION



LEGEND

THESE DRAWINGS HAVE BEEN REVISED
PLEASE DESTOY ANY PREVIOUS DRAWINGS

AISC CODE OF STANDARD PRACTICE: 7.14. Correction of Errors
The correction of minor misfits by moderate amounts of reaming, grinding, welding or cutting, and the drawing of elements into line with drift pins, shall be considered to be normal erection operations. Errors that cannot be corrected using the foregoing means, or that require major changes in member or connection configuration, shall be promptly reported to the owner's designated representatives for design and construction and the fabricator by the erector, to enable the responsible entity to either correct the error or approve the most efficient and economical method of correction to be used by others.

FINAL PLANS FOR FIELD USE
RESPONSIBILITY FOR FIELD MODIFICATIONS OR ADDITIONAL MATERIAL WILL NOT BE ACCEPTED UNLESS PREVIOUSLY AUTHORIZED BY CHILLICOTHE IRON & STEEL, INC.

REVISIONS				RELEASED FOR FIELD USE
0	01-24-23			DATE 02-03-23
A	11-11-22	1	02-03-23	

CHILLICOTHE IRON & STEEL, INC.
330 MITCHELL ROAD P.O. BOX 650
PHONE (660) 646-2250 FAX (660) 646-6343
CHILLICOTHE, MISSOURI 64601

SHEET TITLE	ANCHOR BOLT SETTING PLAN
PROJECT	CITY OF LEE'S SUMMIT FIRE STATION #5
LOCATION	5031 NORTHEAST LAKEWOOD WAY LEE'S SUMMIT, MISSOURI-64064
ARCHITECT	GLMV ARCHITECTURE
ENGINEER	LEIGH + O'KANE
CONTRACTOR	McCOWNGORDON CONSTRUCTION
PAINT	AS NOTED ON DETAILS

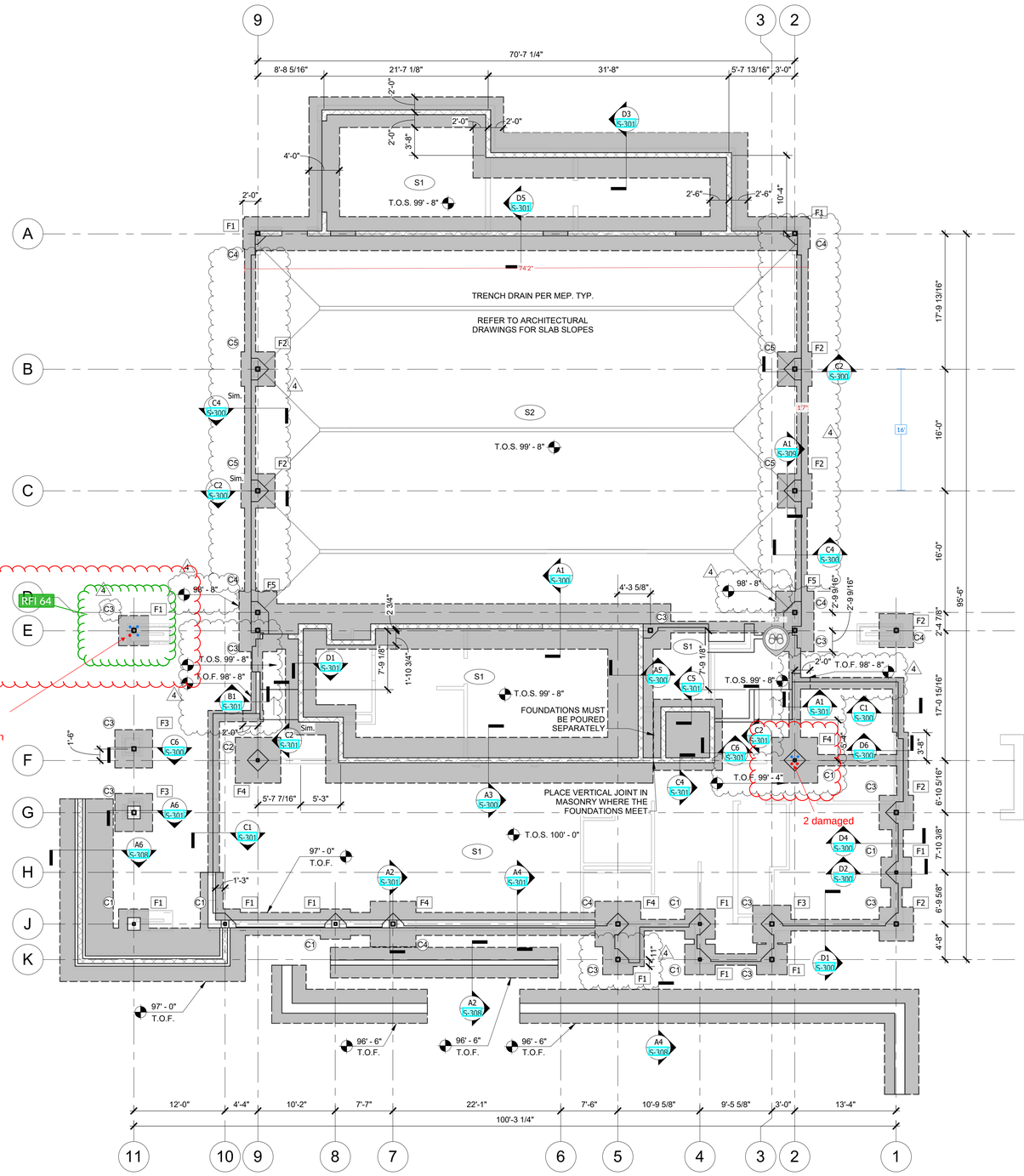
HOLES	UNLESS NOTED OTHERWISE	BOLT SPEC	WELDING ELECTRODES	JOB NO.
13/16ø		A-325N	E70XX	21626-5

DRAWN	CHECKED	SHEET NO.
CHT	UBK	AB1
DATE 11-09-22	DATE 11-10-22	

FIRE STATION #5

RFI 50

RFI 41



A1 APP BAY FF
1/8" = 1'-0"

FOUNDATION PLAN NOTES:

1. TOP OF CONCRETE SLAB ELEVATION = 100'-0" U.N.O.
2. SLAB REINFORCEMENT PER SCHEDULE
3. SLAB CONTROL AND CONSTRUCTION JOINTS PER TYPICAL DETAILS. CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR CONTROL JOINTS AT THE CONTRACTOR'S DISCRETION.
4. ISOLATION JOINTS PER DETAIL S500 4
5. FOOTING STEPS PER DETAIL S500
6. CONTRACTOR TO COORDINATE ALL FLOOR AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINES.
7. DURING INSTALLATION OF ALL POST CONSTRUCTION ANCHORS, CARE MUST BE TAKEN TO AVIOD ALL REINFORCING.
8. REFER TO ARCHITECTURAL FOR NON-LOAD BEARING WALL LOCATIONS.
9. REFER TO ARCHITECTURAL FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.
10. REFER TO ARCHITECRURAL AND CIVIL DRAWINGS FOR EXTERIOR RETAINING WALL AND RAMP LOCATION AND ELEVATION INFORMATION.
11. GENERATOR PADS TO BE 12" THICK CONCRETE W/#5 @ 8" O.C. EACH WAY TOP AND BOTTOM, REFER TO MANUFACTURER'S INFORMATION FOR REQUIRED PAD SIZE. REFER TO CIVIL & MEP DRAWINGS FOR LOCATIONS.

STRUCTURAL FOUNDATION SCHEDULE

MARK	LENGTH	WIDTH	DEPTH	REINFORCEMENT
F1	4' - 0"	4' - 0"	2' - 4"	#6 @8" O.C. EW TB
F2	4' - 6"	4' - 6"	2' - 4"	#6 @8" O.C. EW TB
F3	5' - 0"	5' - 0"	2' - 4"	#6 @8" O.C. EW TB
F4	6' - 0"	6' - 0"	2' - 4"	#6 @8" O.C. EW TB
F5	8' - 0"	5' - 0"	2' - 4"	#6 @8" O.C. EW TB

STRUCTURAL COLUMN SCHEDULE

MARK	COLUMN
C1	HSS4X4X3/8
C2	HSS4X4X1/2
C3	HSS6X6X3/8
C4	HSS6X6X1/2
C5	HSS6X6X5/8

SLAB SCHEDULE

MARK	TYPE	REINFORCEMENT
S1	4" SLAB ON GRADE	#4 @ 16" O.C. E.W.
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GLMVArchitecture

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TEL: (816) 444-4200
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www.glmv.com

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MISSOURI STATE CERTIFICATE OF AUTHORITY
#000305

LANDSCAPE ARCHITECT
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MISSOURI COA #000008
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STRUCTURAL ENGINEER
LEIGH + O'KANE
MISSOURI COA #001644
250 NE MULBERRY, SUITE 201
LEE'S SUMMIT, MO 64086
(816) 444-3144

MECH., ELECT. & PLMG. ENGINEERS
HOSS & BROWN ENGINEERS
MISSOURI COA #01022
15902 MIDLAND DRIVE
SHAWNEE, KS 66217
(913) 362.9090

SECURITY & IT ENGINEERS
HENDERSON ENGINEERS
MISSOURI COA #000556
1801 MAIN STREET, SUITE 300
KANSAS CITY, MO 64108
(816) 663-8700

FIRE STATION #5
CITY OF LEE'S SUMMIT

801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

ISSUED FOR CONSTRUCTION

REVISIONS:

#	Description	Date
4	Rev 04 - ASI04	02/01/2023

STATE OF MISSOURI
JORDAN M. BENNETT
NUMBER PE-2022019960
PROFESSIONAL ENGINEER
2-1-2023

PROJECT NO:	18225R21001
DATE:	02/01/2023
DRAWN BY:	JMB
CHK'D BY:	WNH

FOUNDATION PLAN

S-100

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

McCownGordon
850 Main Street
Kansas City, Missouri 64105
P: (816) 960-1111
F: (816) 960-1182

Project: 1-07-1512 Lee's Summit Fire Stations 4 & 5
#4 - 5031 Northeast Lakewood Way/ #5 - 801 Missouri HWY 150
Lee's Summit, Missouri 64082

RFI #64: LSFS 5 - Broken Anchor Bolts

Status	Open		
To	Ken Kasper (GLMV Architecture) Chad Bard (GLMV Architecture)	**From**	Andrew Calderwood (McCownGordon Construction, LLC) 850 Main Street Kansas City, Missouri 64105
Date Initiated	Apr 18, 2023	**Due Date**	Apr 21, 2023
Location	Fire Station 5	**Project Stage**	
Cost Impact		**Schedule Impact**	
Spec Section		**Cost Code**	
Drawing Number	S-100	**Reference**	
Linked Drawings	S-100		
Received From		**Sub Job**	
Copies To	Andrew Calderwood (McCownGordon Construction, LLC), Nate Henson, STSC (McCownGordon Construction, LLC), Chloe Huxol (McCownGordon Construction, LLC), Michael Morgan (McCownGordon Construction, LLC)		

Activity

Question

Question from Andrew Calderwood McCownGordon Construction, LLC *on Tuesday, Apr 18, 2023 at 04:14 PM CDT*

One (1) anchor bolt at grid E/11 was struck and damaged. When the steel contractor tried to straighten it, the bolted snapped off. Please provide a fix for this condition.

Attachments
KIMG0376.JPG

Official Response

Response from Ken Kasper GLMV Architecture *on Tuesday, May 2, 2023 at 10:40 AM CDT*

Please see structural engineer's response.

Attachments
RFI #64 - LS FS5 - Broken Anchor BoltV2_LEOK.pdf

All Replies

Response from Andrew Calderwood McCownGordon Construction, LLC *on Monday, May 8, 2023 at 12:48 PM CDT*

In addition to the previously mentioned anchor bolts, one additional bolt was discovered to be broken at E/11. Please see attached for fix from LEOK. Please confirm.

Attachments
E-11 ANCHOR BOLT FIX.pdf

Response from Ken Kasper GLMV Architecture *on Tuesday, May 2, 2023 at 10:40 AM CDT*

Please see structural engineer's response.

Attachments
RFI #64 - LS FS5 - Broken Anchor BoltV2_LEOK.pdf

ARCH confirms.
Ken Kasper, GLMV 05/10/23

Response from Andrew Calderwood McCownGordon Construction, LLC *on Friday, Apr 28, 2023 at 03:24 PM CDT*

(2) more bolts were damaged and will need to be fixed. Please see attached for locations of damaged bolts. Would it be acceptable to offset new drilled and epoxied anchor bolts and drill new holes in base plates?

Attachments
FS5 Damage Anchor Bolt Locations.pdf

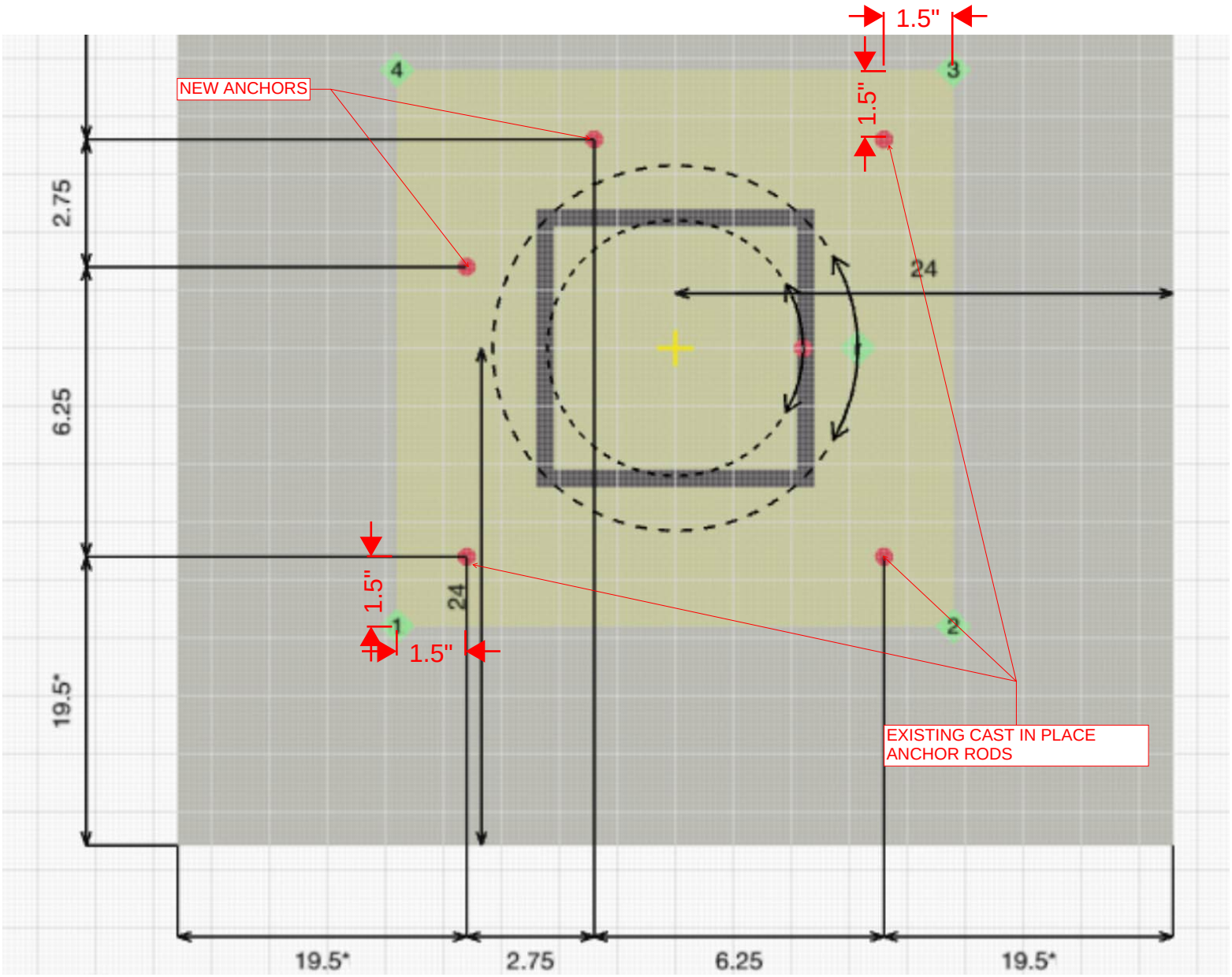
Response from Andrew Calderwood McCownGordon Construction, LLC *on Thursday, Apr 27, 2023 at 04:09 PM CDT*

Per the structural steel pre-install meeting on 4.27.23, Lico has requested permission to offset this bolt and drill a new hole in the column base plate. Would this be acceptable? If so, how far away from the existing hole?

Response from Ken Kasper GLMV Architecture *on Thursday, Apr 20, 2023 at 08:13 AM CDT*

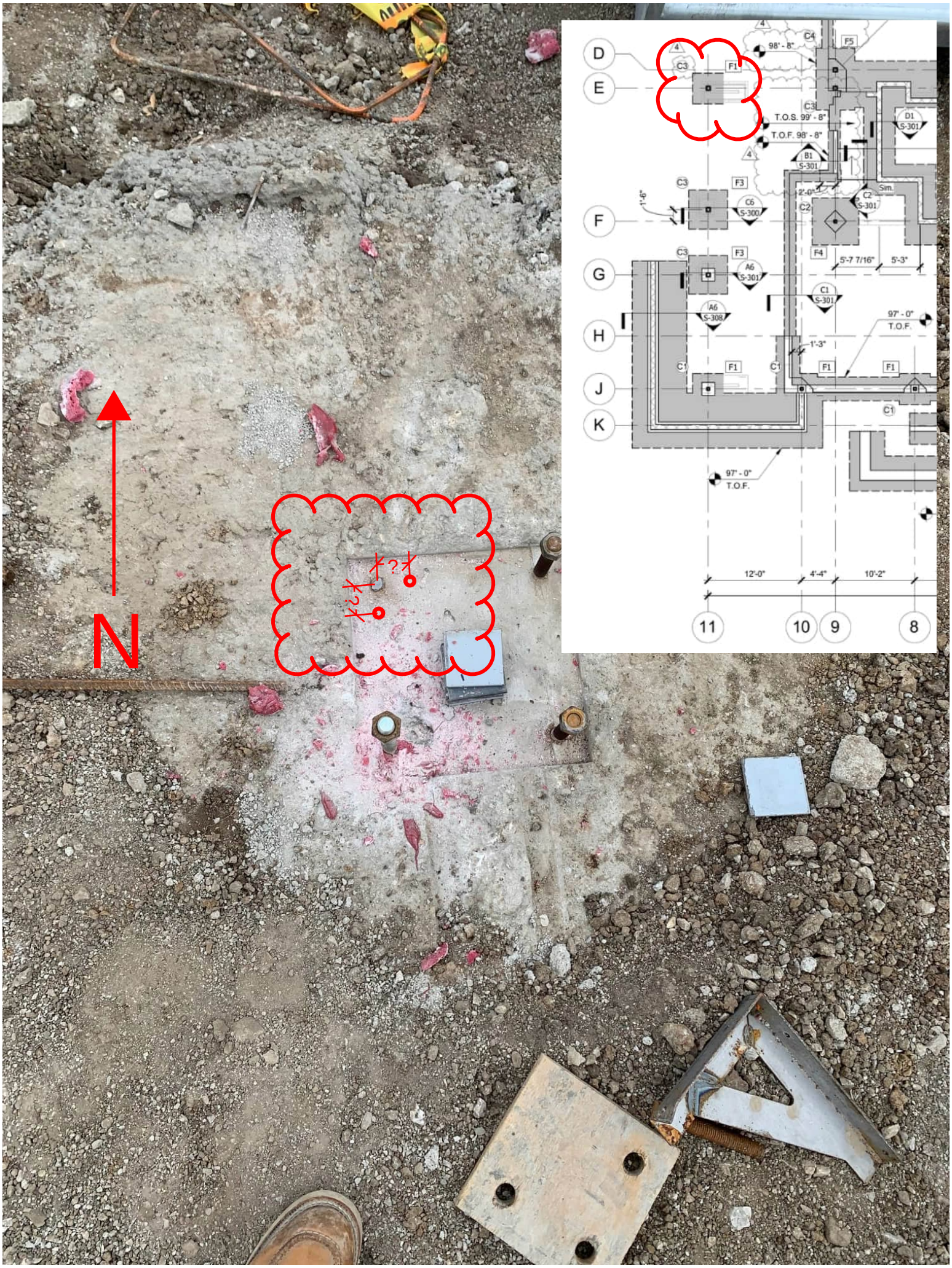
Please see attached response from structural engineer.

Attachments
RFI #64 - LSFS_5 - Broken Anchor Bolt_LEOK.pdf



NEW ANCHORS TO BE 3/4" DIAMETER THREADED ROD W/ 8" EMBED. USE HILTI HY-200 EPOXY.

Jordan Bennett, Leigh + O'Kane 5-5-2023


N
D
E
F
G
H
J
K
11
10
9
8
12'-0"
4'-4"
10'-2"
98' - 8"
T.O.S. 99' - 8"
T.O.F. 98' - 8"
97' - 0"
T.O.F.
5'-7 7/16"
5'-3"
1'-3"
2'-0"
1'-6"
Sim.
C1
C2
C3
C4
C6
A6
B1
D1
F1
F2
F3
F4
F5
S-300
S-301
S-308

McCownGordon
850 Main Street
Kansas City, Missouri 64105
P: (816) 960-1111
F: (816) 960-1182

Project: 1-07-1512 Lee's Summit Fire Stations 4 & 5
#4 - 5031 Northeast Lakewood Way/ #5 - 801 Missouri HWY 150
Lee's Summit, Missouri 64082
P: 816-960-1111
F: 816-960-1182

RFI #102: LSFS 4&5 - Column Framing and Masonry Bearing

Status	Open		
To	Rich Arave (GLMV Architecture) Ken Kasper (GLMV Architecture) Chad Bard (GLMV Architecture)	**From**	Andrew Calderwood (McCownGordon Construction, LLC) 850 Main Street Kansas City, Missouri 64105
Date Initiated	Jul 18, 2023	**Due Date**	Jul 21, 2023
Location	Fire Station 4 & 5	**Project Stage**	
Cost Impact	Yes (Unknown)	**Schedule Impact**	Yes (Unknown)
Spec Section		**Cost Code**	
Drawing Number	S-100, A-101, A-103, C-100	**Reference**	
Linked Drawings			
Received From		**Sub Job**	
Copies To	Andrew Calderwood (McCownGordon Construction, LLC), Nate Henson, STSC (McCownGordon Construction, LLC), Chloe Huxol (McCownGordon Construction, LLC), Michael Morgan (McCownGordon Construction, LLC)		

Activity

Question

Question from Andrew Calderwood McCownGordon Construction, LLC *on Tuesday, Jul 18, 2023 at 02:27 PM CDT*

The columns at grid lines E11, F11, G11, J11, and E1 are shown to be covered with framing, sheathing, and cast stone. Please provide direction regarding the following clarifications:

1. For the columns at grid lines G11 and J11, detail A6/S-301 shows framing, sheathing, insulation, and cast stone bearing on the exterior patio slab. Please confirm this is acceptable and advise if any isolation is needed at these locations. Please also provide all necessary waterproofing details at these locations. (Please note that the column cover at J11 is larger than the footing at that column.)
2. For the columns at grid lines F11, E11, and E1, there is no exterior slab to bear on. Please note that the column covers at E11 and E1 are larger than the footings at these locations. Please provide direction regarding what the framing, sheathing, insulation, and cast stone are to bear on at these locations.

Attachments
LSFS 4&5 - RFI-102 - Column Framing and Masonry Bearing.pdf

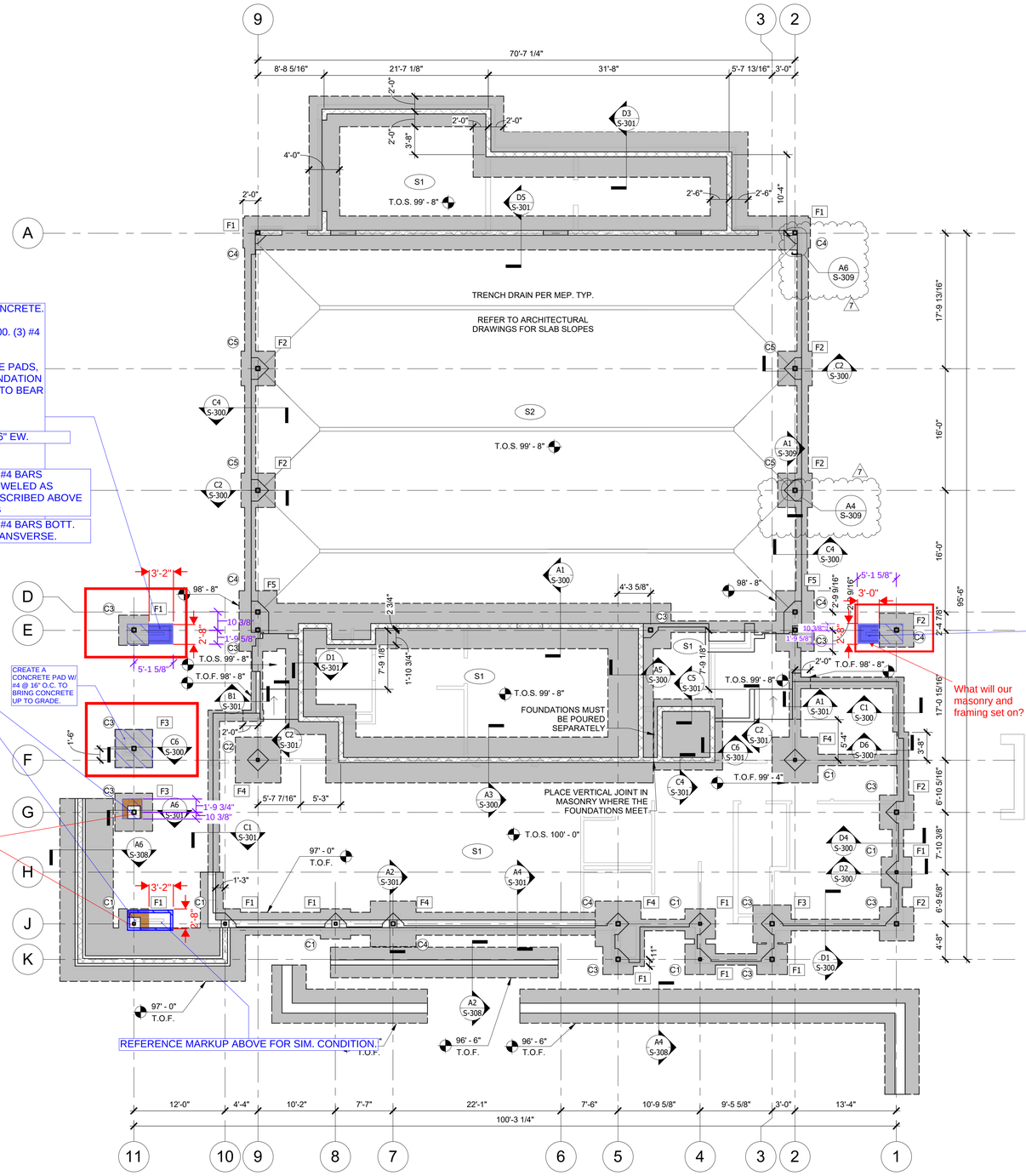
Awaiting an Official Response

Additional concrete will be needed for the bricks and framing to bear on. Please see the mark up and updated structural details.

Sheets will be formally included in an upcoming ASI.

Ken Kasper, GLMV

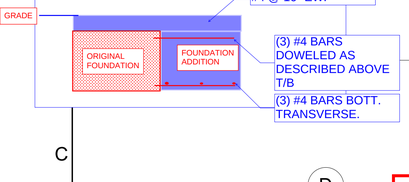
FS 5



BLUE HIGHLIGHTS DENOTE ADDITIONAL CONCRETE.

DOWEL INTO EXISTING 8" USING HILTI HY-200. (3) #4 TOP (3) #4 BARS BOTTOM.

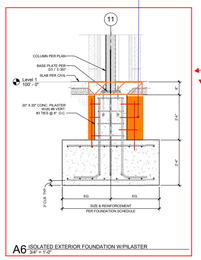
WHERE THERE IS NO PAVEMENT/CONCRETE PADS, WE WILL WANT TO BRING THE ENTIRE FOUNDATION UP TO GRADE FOR THE BRICK/COLD FORM TO BEAR ON.



WHERE ORANGE, BRING CONCRETE UP TO TOP OF PILASTER.

DOWEL #4 BARS @16" VERTICALLY AND HORIZONTALLY INTO FOUNDATION/PILASTER USING HILTI HY-200, EMBED 6" MIN.

#4 @ 16" O.C. VERT/HORIZ.



A6 ISOLATED EXTERIOR FOUNDATION W/PILASTER 3/4" = 1'-0"

FOUNDATION PLAN NOTES:

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SLAB SCHEDULE

MARK	TYPE	REINFORCEMENT
S1	4" SLAB ON GRADE	#4 @ 16" O.C. E.W.
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S3	12" STORM SHELTER LID	#5 @ 8" O.C. T/B E.W.

A1 APP BAY FF
1/8" = 1'-0"

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MISSOURI COA #000556
1801 MAIN STREET, SUITE 300
KANSAS CITY, MO 64108
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FIRE STATION #5
CITY OF LEE'S SUMMIT
801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

ISSUED FOR CONSTRUCTION

REVISIONS:

#	Description	Date
4	Rev 04 - ASI04	02/01/2023
7	Rev 07 - ASI07	05/02/2023

STATE OF MISSOURI
JORDAN M. BENNETT
NUMBER PE-2022019960
PROFESSIONAL ENGINEER
05-02-2023

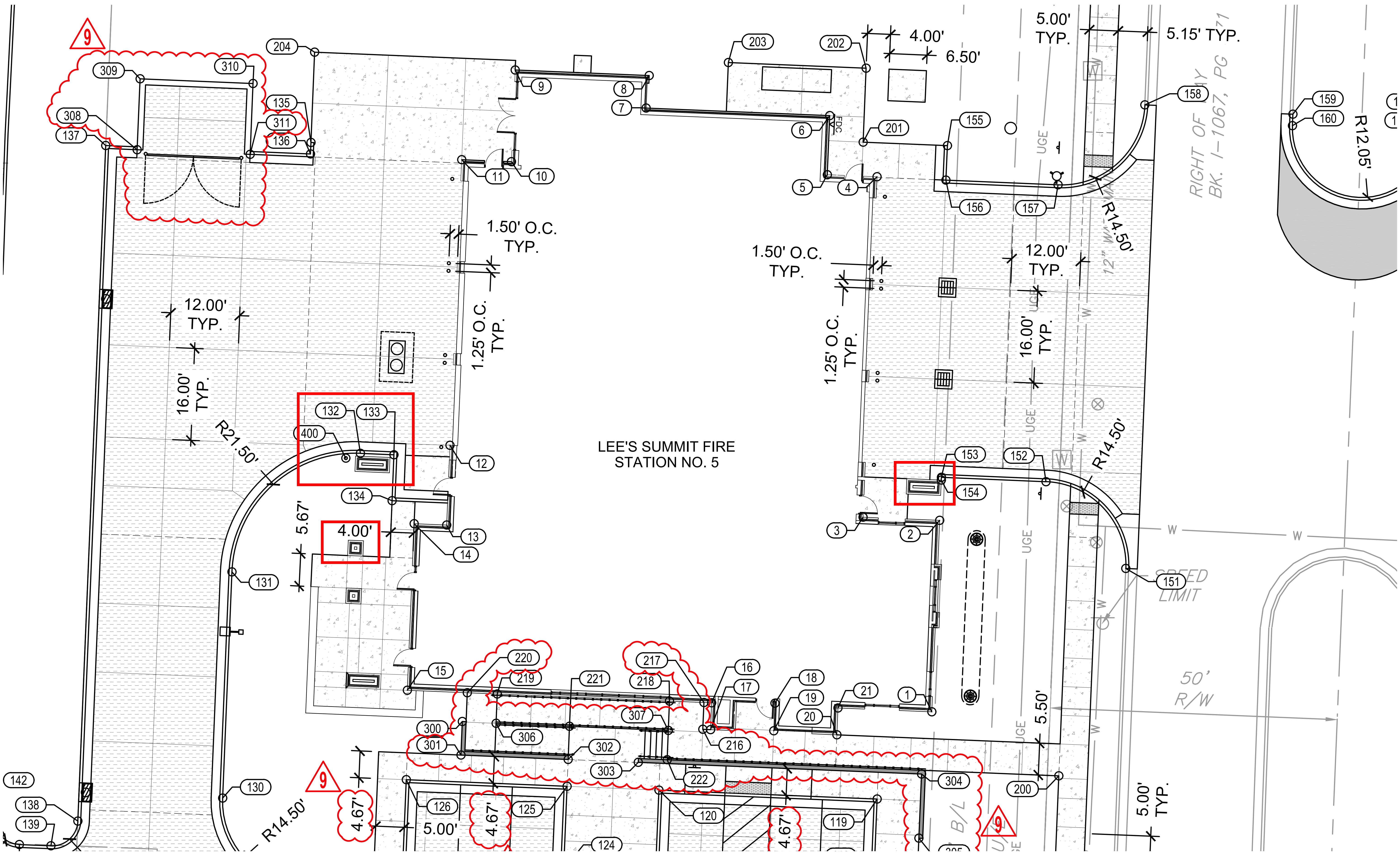
PROJECT NO:	18225R21001
DATE:	05/02/2023
DRAWN BY:	JMB
CHK'D BY:	WNH

FOUNDATION PLAN

S-100

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

FS 5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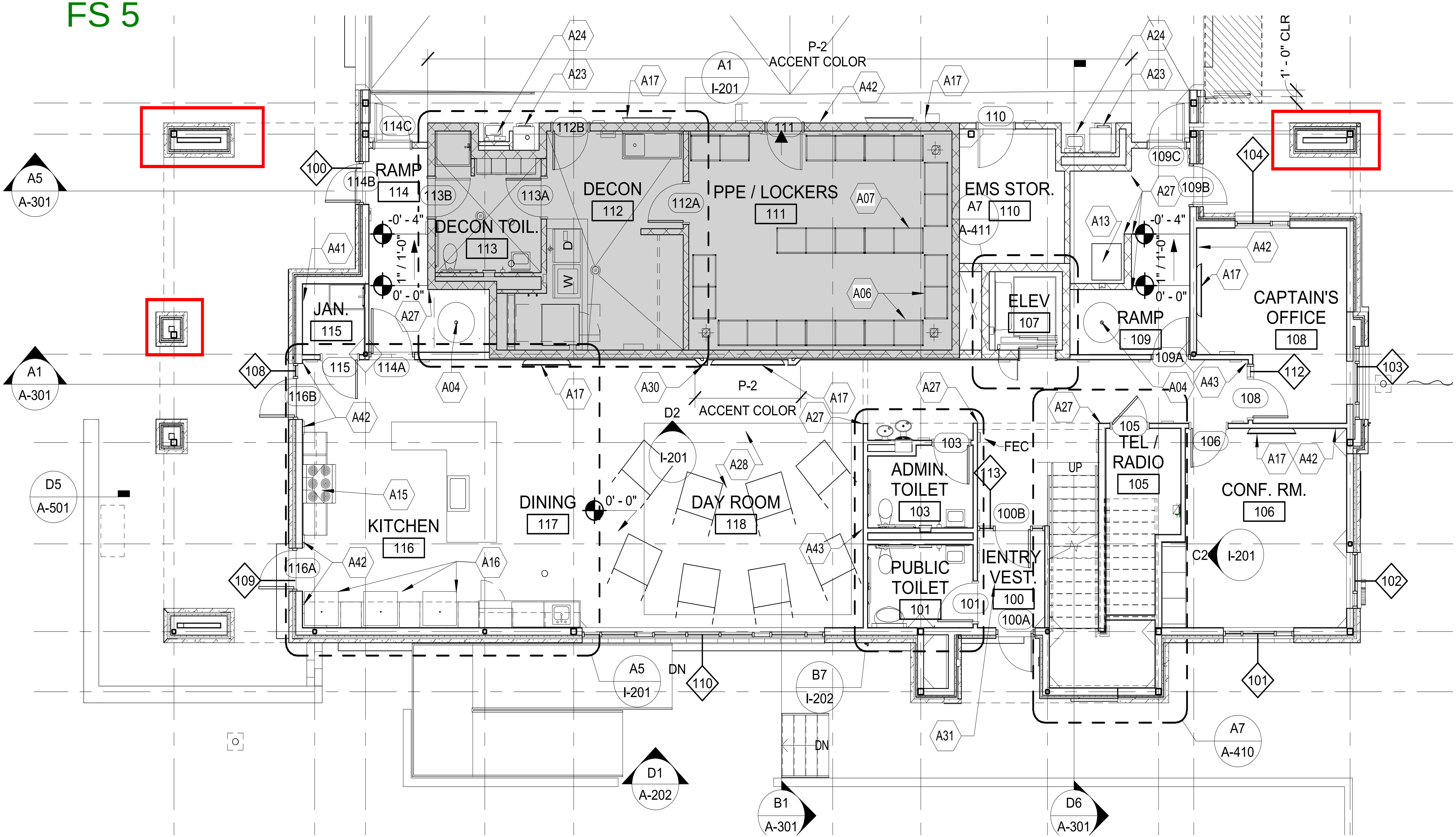
1.50' O.C. TYP.
1.25' O.C. TYP.
R21.50'
R14.50'
R12.05'
4.00'
6.50'
5.00' TYP.
5.15' TYP.
5.67'
4.67'
5.50'
RIGHT OF WAY BK. I-1067, PG 71
SPEED LIMIT
50' R/W
UGE
W
FDC

FS 5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PPE / LOCKERS
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EMS STOR.
110
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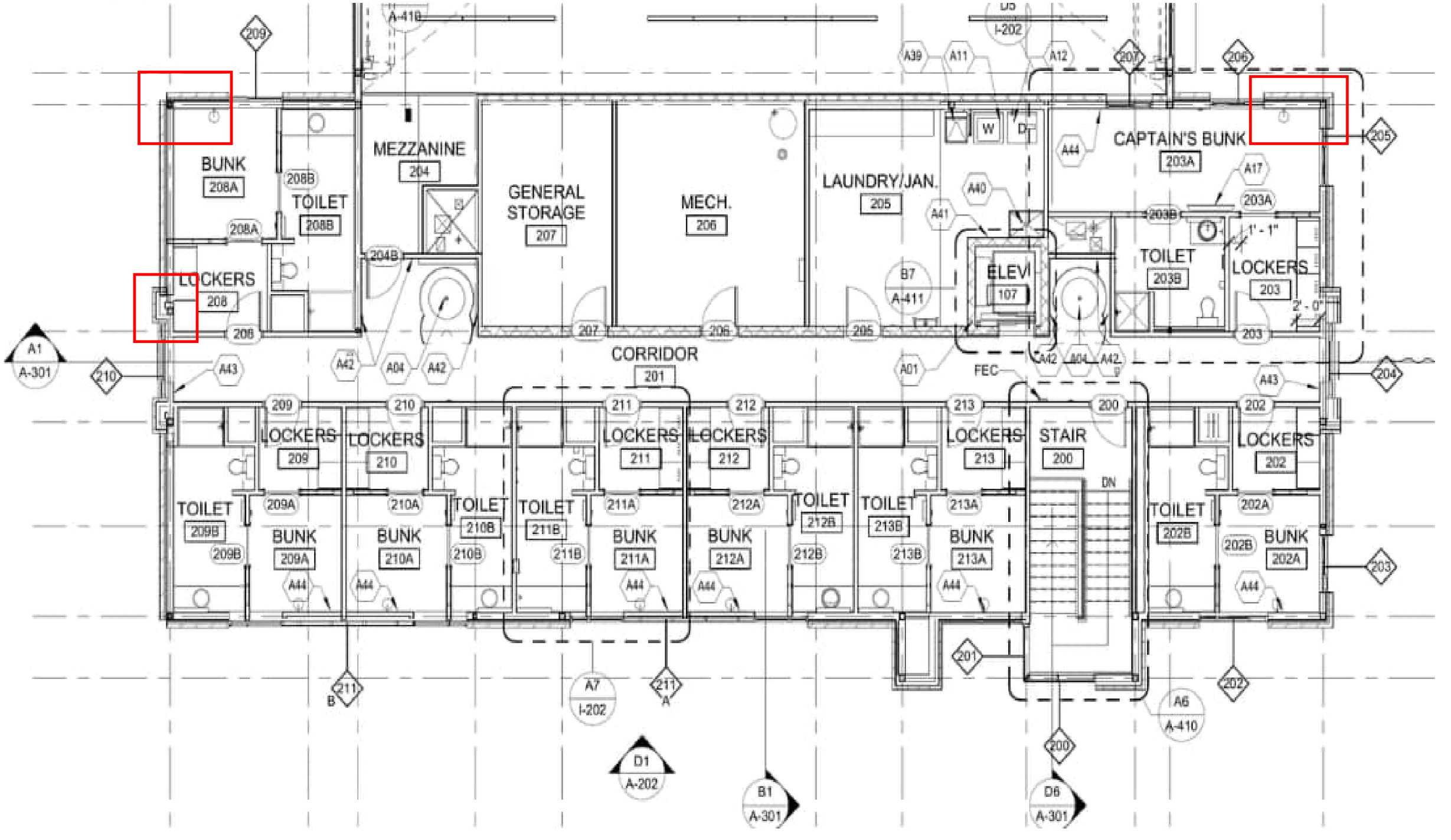
RAMP
114
JAN.
115
ELEV
107
RAMP
109
CAPTAIN'S OFFICE
108
KITCHEN
116
DINING
117
DAY ROOM
118
ADMIN. TOILET
103
PUBLIC TOILET
101
ENTRY VEST.
100
TEL / RADIO
105
CONF. RM.
106
P-2
ACCENT COLOR
1' - 0" CLR
FEC
UP
DN

FS 5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TOILET
208B
MEZZANINE
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GENERAL
STORAGE
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MECH.
206
LAUNDRY/JAN.
205
CAPTAIN'S BUNK
203A
TOILET
203B
LOCKERS
203
LOCKERS
208
ELEV
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CORRIDOR
201
LOCKERS
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LOCKERS
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LOCKERS
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212
LOCKERS
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STAIR
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LOCKERS
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TOILET
209B
BUNK
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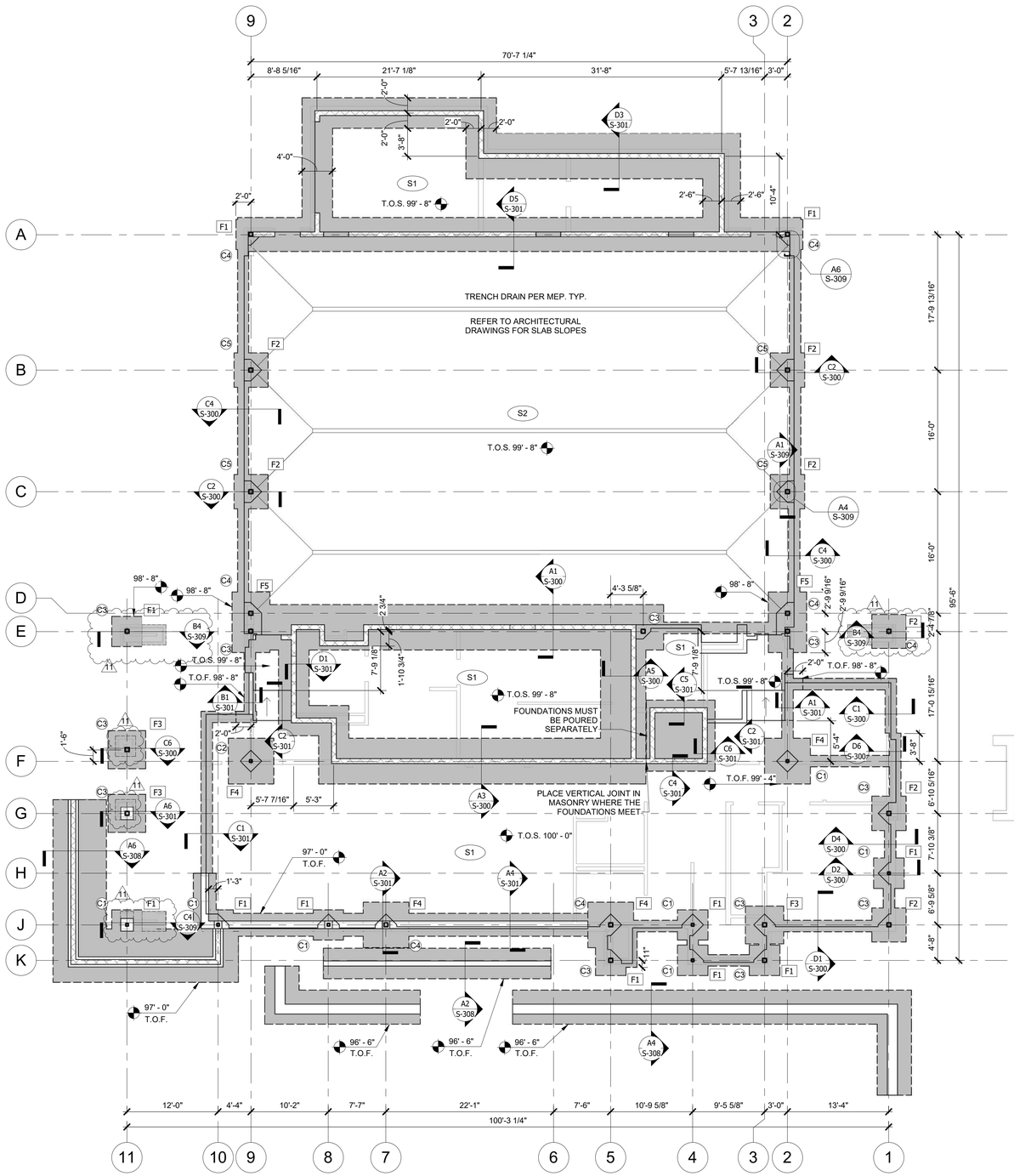

A1 APP BAY FF
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F3	5' - 0"	5' - 0"	2' - 4"	#6 @8" O.C. EW TB
F4	6' - 0"	6' - 0"	2' - 4"	#6 @8" O.C. EW TB
F5	8' - 0"	5' - 0"	2' - 4"	#6 @8" O.C. EW TB

STRUCTURAL COLUMN SCHEDULE

MARK	COLUMN
C1	HSS4X4X3/8
C2	HSS4X4X1/2
C3	HSS6X6X3/8
C4	HSS6X6X1/2
C5	HSS6X6X5/8

SLAB SCHEDULE

MARK	TYPE	REINFORCEMENT
S1	4" SLAB ON GRADE	#4 @ 16" O.C. E.W.
S2	8" SLAB ON GRADE	#6 @ 18" O.C. E.W.
S3	12" STORM SHELTER LID	#5 @ 8" O.C. T/B E.W.

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FIRE STATION #5
CITY OF LEE'S SUMMIT

801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

ISSUED FOR CONSTRUCTION

REVISIONS:

#	Description	Date
4	Rev 04 - ASI04	02/01/2023
7	Rev 07 - ASI07	05/02/2023
11	Rev 11- ASI11	08/08/2023

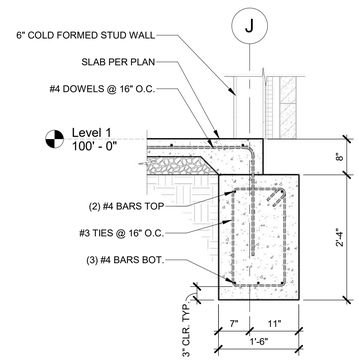
ARCHITECT NAME - ARCHITECT
MO# A-XXXXXXX

PROJECT NO:	18225R21001
DATE:	05/02/2023
DRAWN BY:	JMB
CHK'D BY:	WNH

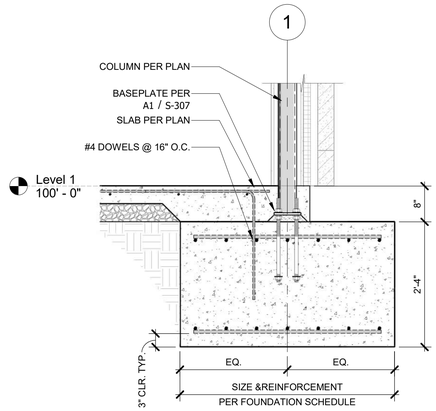
FOUNDATION PLAN

S-100

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS



D1 SOUTH TRENCH FOUNDATION
3/4" = 1'-0"



D2 EXTERIOR ISOLATED FOUNDATION
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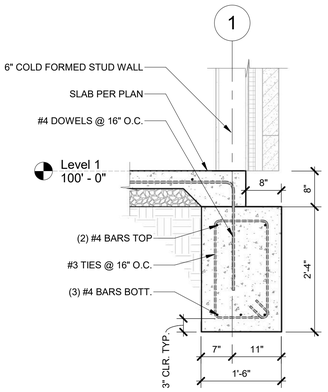
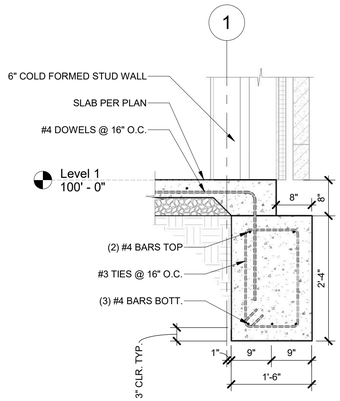


D4 EAST TRENCH FOUNDATION BTWN J & G
3/4" = 1'-0"



D6 EAST TRENCH FOUNDATION BWTN G & F
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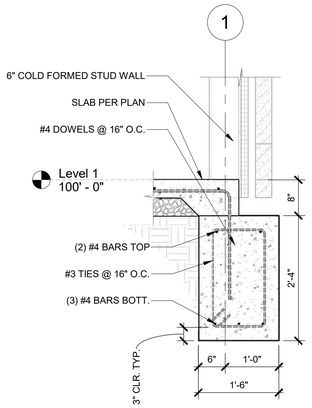
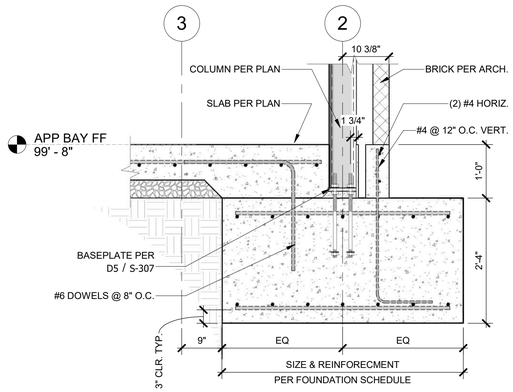
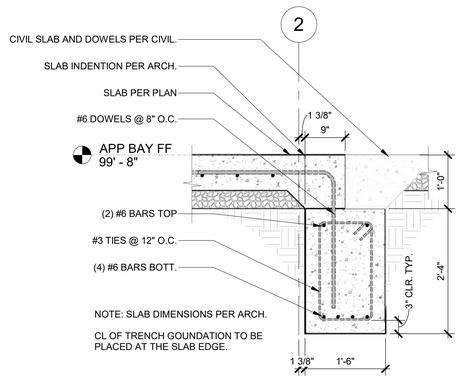


C1 EAST TRENCH FOUNDATION BTWN F & E
3/4" = 1'-0"



C2 APP BAY ISOLATED FOUNDATION
3/4" = 1'-0"



C4 APP BAY TRENCH FOUNDATION
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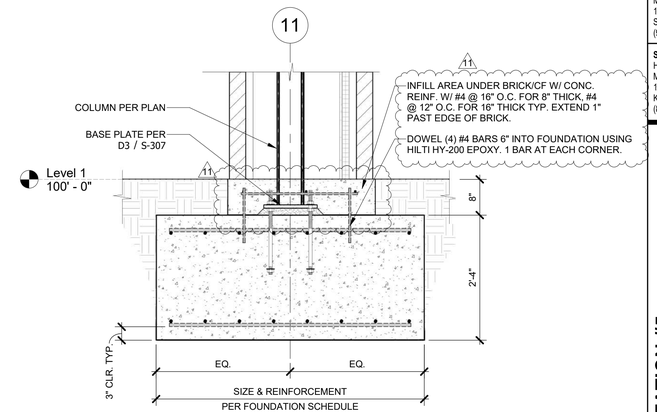
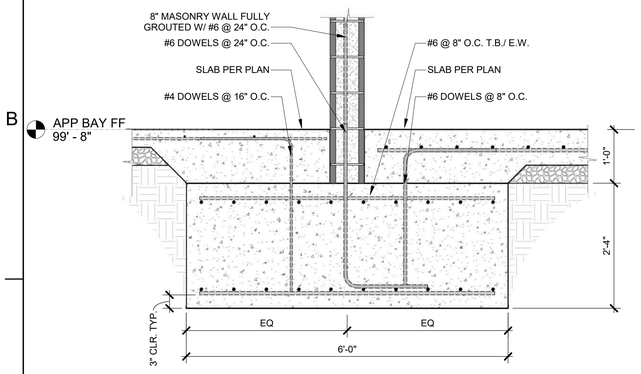
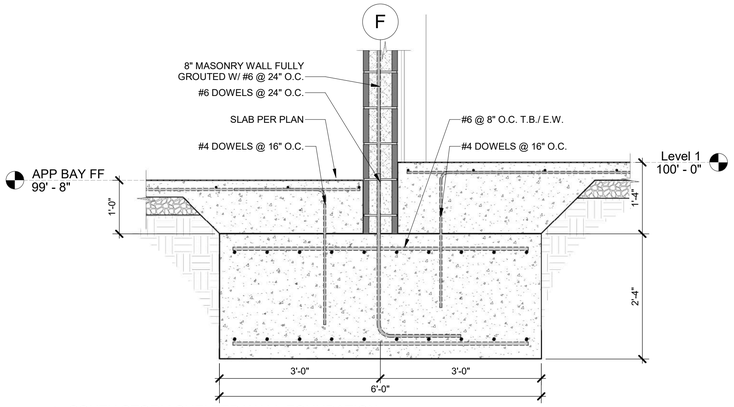


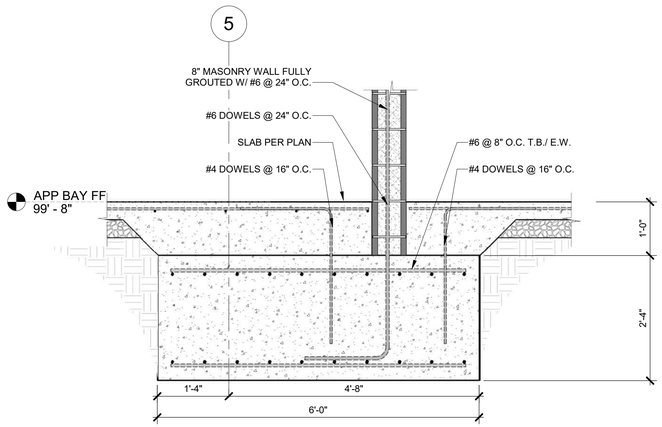
C6 ISOLATED EXTERIOR FOUNDATION
3/4" = 1'-0"



A1 NORTH STORM SHELTER FOUNDATION
3/4" = 1'-0"



A3 SOUTH STORM SHELTER WALL FOUNDATION
3/4" = 1'-0"



A5 EAST STORM SHELTER FOUNDATION
3/4" = 1'-0"

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FIRE STATION #5
CITY OF LEE'S SUMMIT

801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

ISSUED FOR CONSTRUCTION

REVISIONS:

#	Description	Date
4	Rev 04 - ASI04	02/01/2023
11	Rev 11- ASI11	06/08/2023

ARCHITECT NAME - ARCHITECT
MO# A-XXXXXXX

PROJECT NO:	18225R21001
DATE:	05/02/2023
DRAWN BY:	JMB
CHK'D BY:	WNH

FOUNDATION SECTIONS

S-300

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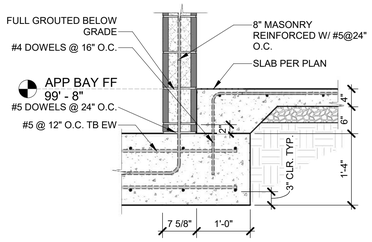
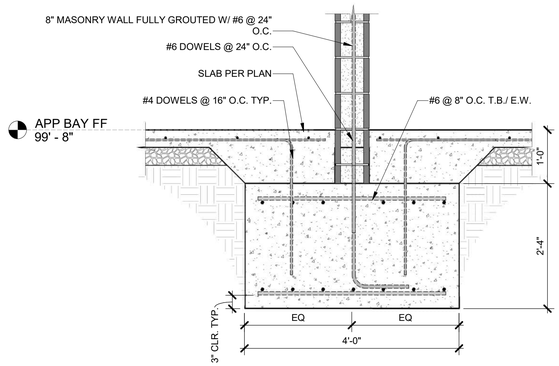
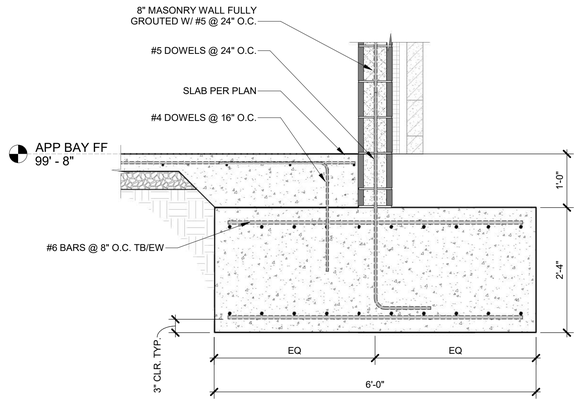


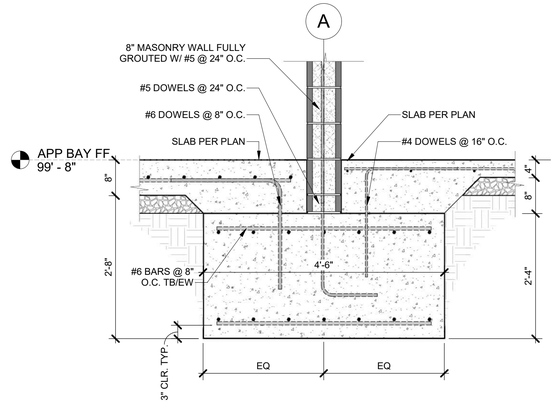
C5 SECTION
3/4" = 1'-0"



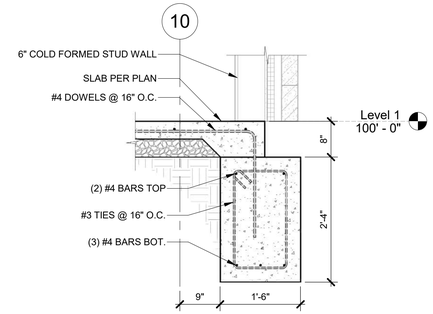
D1 WEST STORM SHELTER FOUNDATION
3/4" = 1'-0"



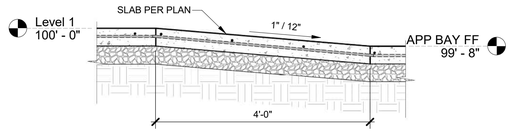
D3 EXTERIOR MASONRY WALL FOUNDATION
3/4" = 1'-0"



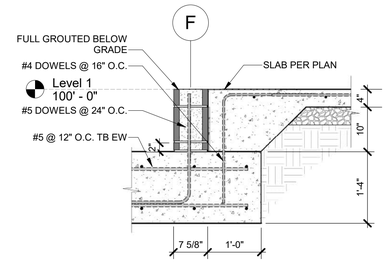
D5 APP BAY NORTH MASONRY WALL FOUNDATION
3/4" = 1'-0"



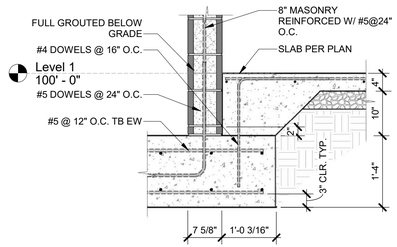
C1 WEST TRENCH FOUNDATION
3/4" = 1'-0"



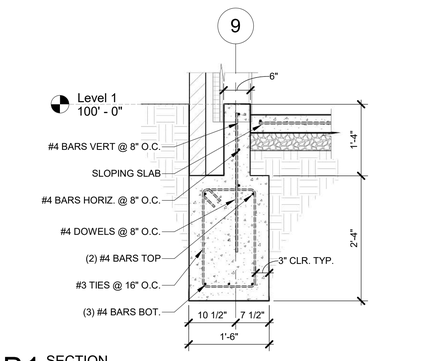
C2 FLOOR SLAB RAMP SECTION
3/4" = 1'-0"



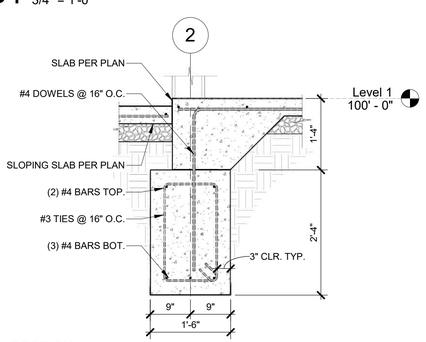
C4 ELEVATOR FOUNDATION SECTION
3/4" = 1'-0"



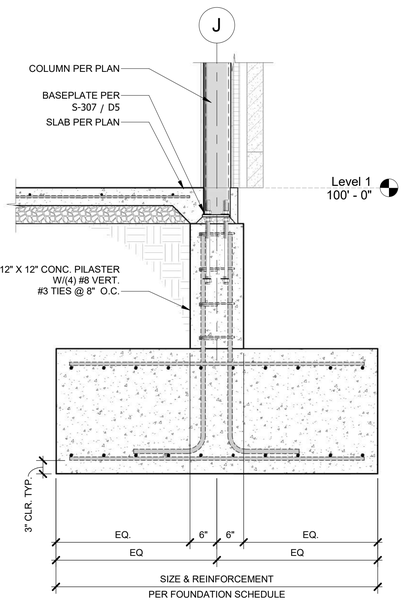
C6 SECTION
3/4" = 1'-0"



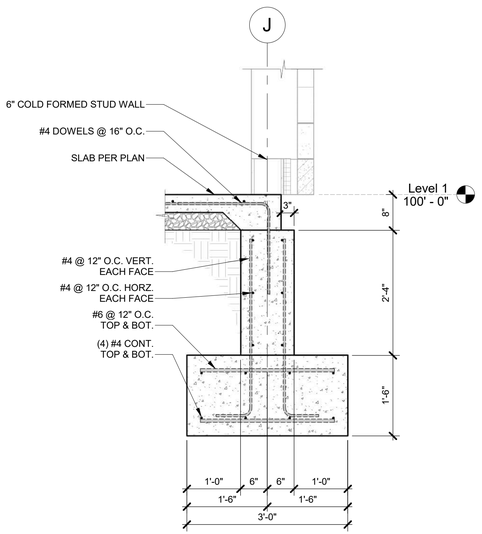
B1 SECTION
3/4" = 1'-0"



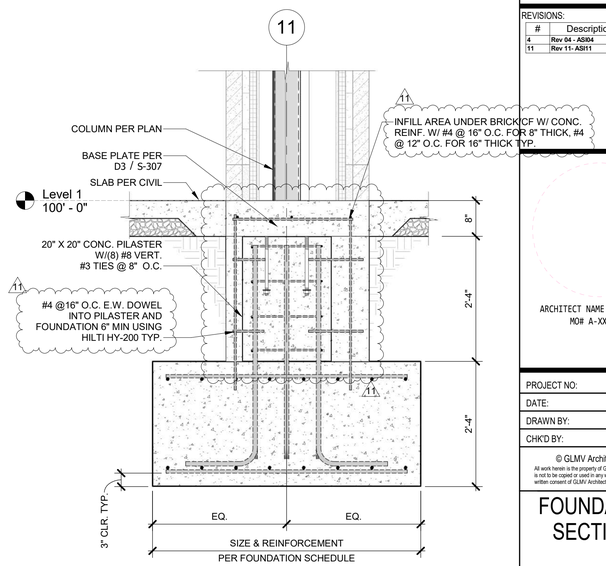
A1 SECTION
3/4" = 1'-0"



A2 EXTERIOR ISOLATED FOUNDATION SOUTH
3/4" = 1'-0"



A4 SOUTH STEM WALL FOUNDATION
3/4" = 1'-0"



A6 ISOLATED EXTERIOR FOUNDATION W/PILASTER
3/4" = 1'-0"

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FIRE STATION #5
CITY OF LEE'S SUMMIT

801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

REVISIONS:

#	Description	Date
4	Rev 04 - ASI04	02/01/2023
11	Rev 11- ASI11	05/08/2023

ARCHITECT NAME - ARCHITECT
MO# A-XXXXXXX

PROJECT NO:	18225R21001
DATE:	05/02/2023
DRAWN BY:	JMB
CHK'D BY:	WNH

FOUNDATION SECTIONS

S-301

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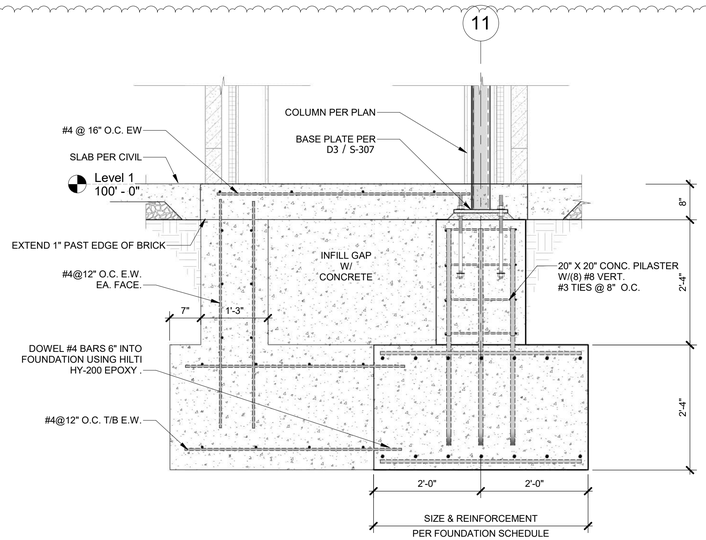
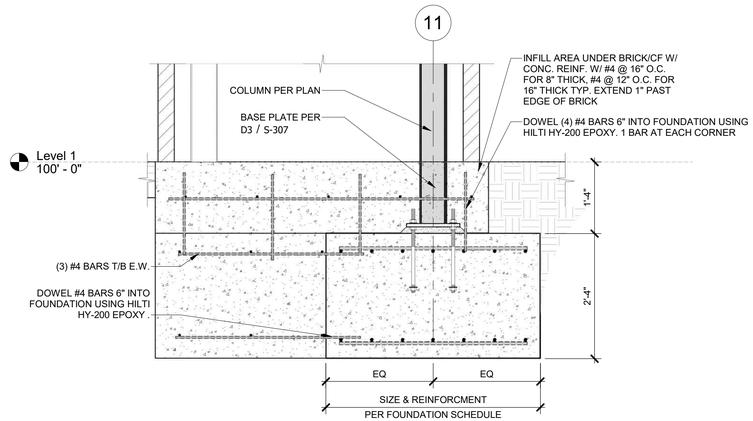
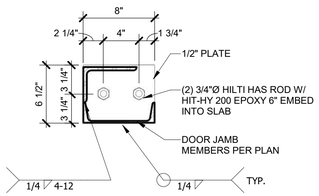


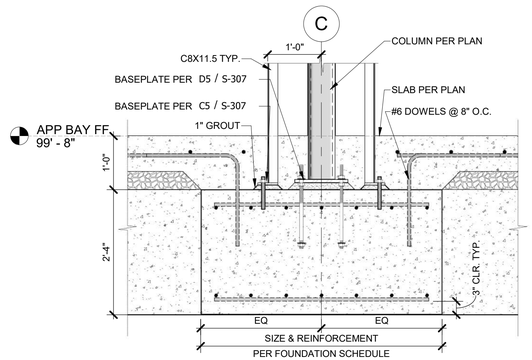
C4 BRICK SUPPORT
3/4" = 1'-0"



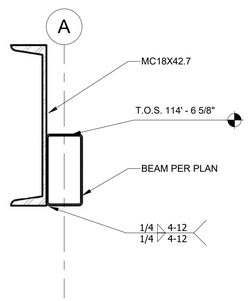
B4 BRICK SUPPORT
3/4" = 1'-0"



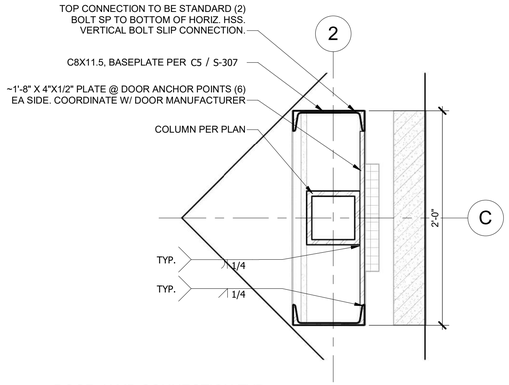
B1 CORNER DOOR JAMB
1 1/2" = 1'-0"



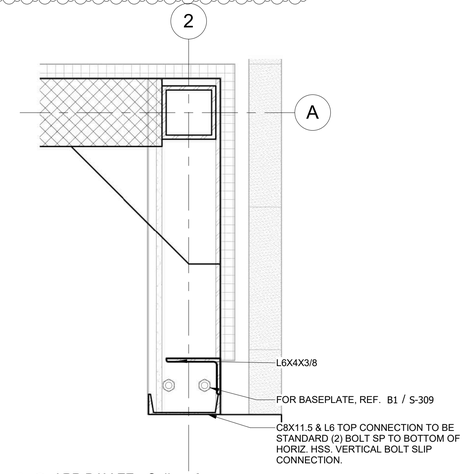
A1 APP BAY COLUMN DETAIL
3/4" = 1'-0"



A3 END CANOPY ARM
1 1/2" = 1'-0"



A4 DOOR JAMB CONNECTION TYP.
1 1/2" = 1'-0"



A6 APP BAY FF - Callout 3
1 1/2" = 1'-0"

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FIRE STATION #5
CITY OF LEE'S SUMMIT
801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

ISSUED FOR CONSTRUCTION

REVISIONS:

#	Description	Date
4	Rev 04 - ASI04	02/01/2023
7	Rev 07 - ASI07	05/02/2023
11	Rev 11- ASI11	08/08/2023

ARCHITECT NAME - ARCHITECT
MO# A-XXXXXXX

PROJECT NO:	18225R21001
DATE:	05/02/2023
DRAWN BY:	JMB
CHK'D BY:	WNH

ADDITIONAL SECTIONS

S-309

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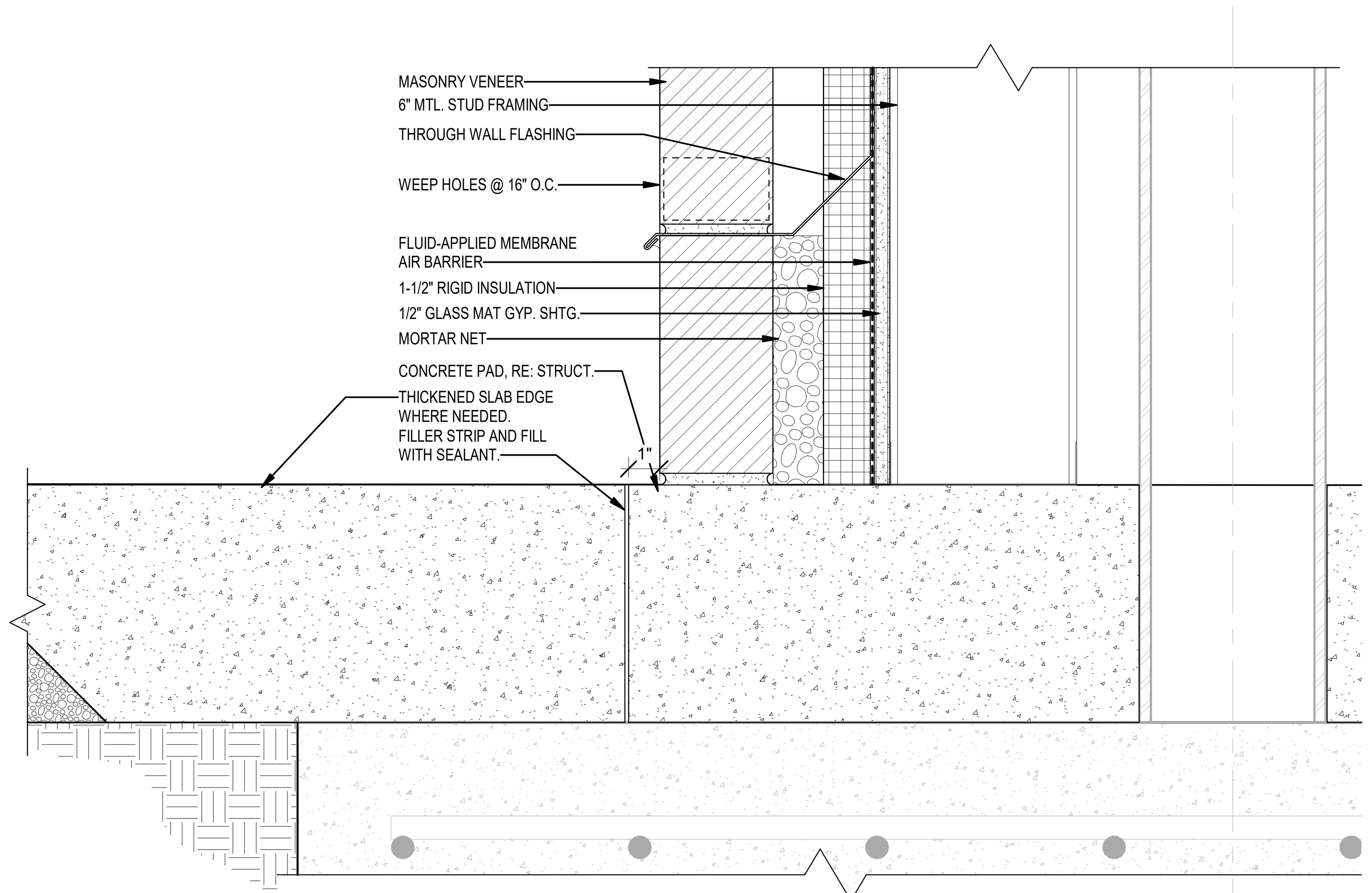
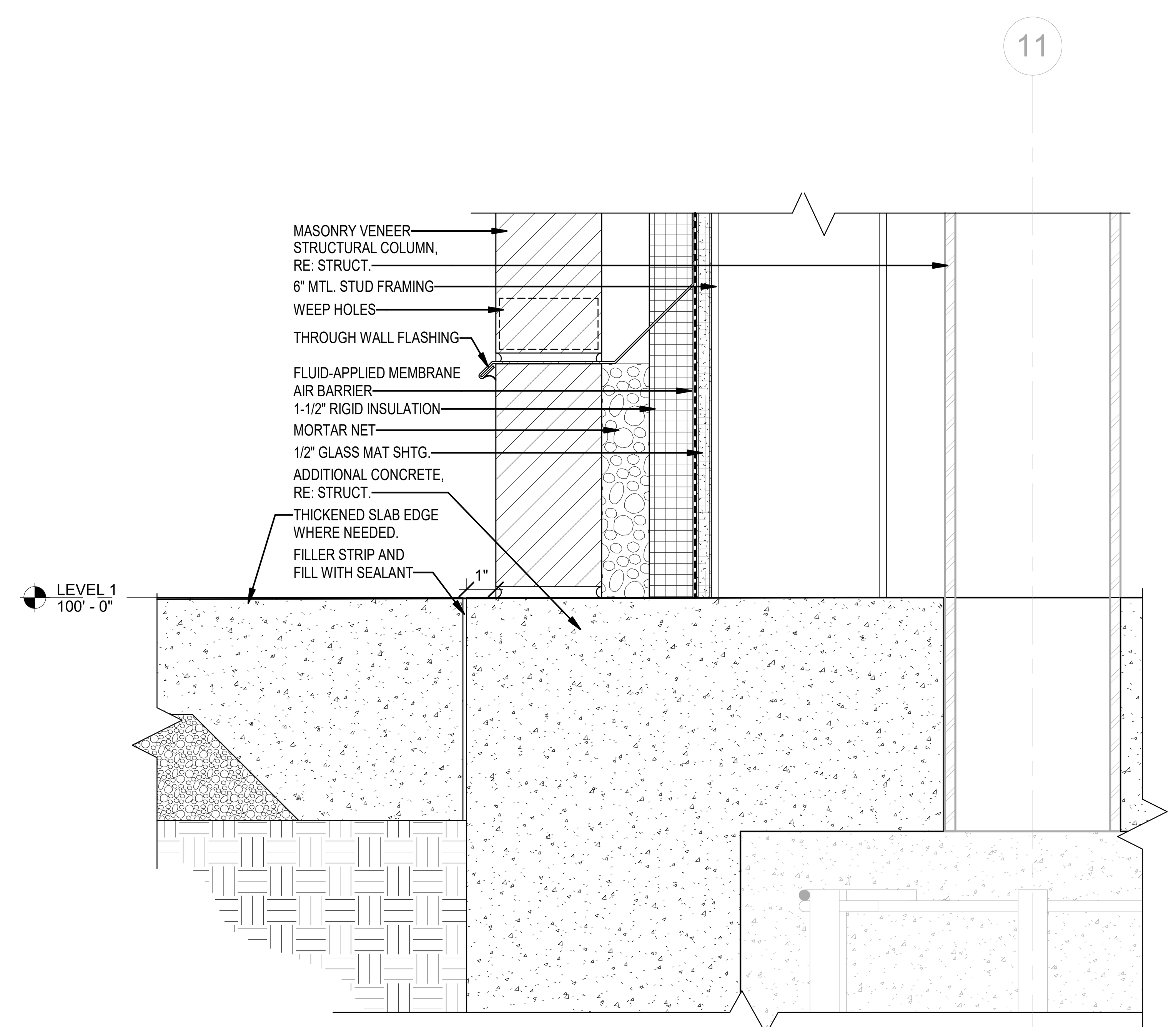


A1 COLUMN F11, E11 & E1
3" = 1'-0"
0 3" 6" 9"



A4 COLUMN G11 & J11
3" = 1'-0"
0 3" 6" 9"

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FGMA ARCHITECTS
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FIRE STATION #5
CITY OF LEE'S SUMMIT

801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64082

ISSUED FOR CONSTRUCTION

REVISIONS:

#	Description	Date
11	ASI 11	Date 11

CHAD R. BARD - ARCHITECT
MO# A-2018024473

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PROJECT NO:	18225R21001
DATE:	07.24.2023
DRAWN BY:	KSK
CHK'D BY:	CRB

WALL DETAILS

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