CORDOGAN CLARK
ARCHITECTURE · ENGINEERING · CONSTRUCTION

ARCHITECT'S ADDENDUM

Addendum Number: 01

Date:	August 29, 2024	RE: Fort Zumwalt School District Transportation Center
Prepared By:	John Strassburger Cordogan Clark	CC Project No.: 224205

To: Prospective Bidders

Subject: Addendum No. 01 to the Construction Documents for the Fort Zumwalt School District North Middle School Additions and Renovations.

This Addendum forms a part of the Construction Documents and modifies the original Construction Documents, dated August 13, 2024. Acknowledge receipt of this Addendum in space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

THE FOLLOWING ITEMS ARE TO BE INCLUDED IN THE PROPOSAL.

General Clarifications:

1. Non-mandatory pre-bid meeting was held on 08-21-2024 agenda and attendees list is attached.
2. Deadline for questions is 09-04-2024
3. Final Addendum issued 09-05-2024

Bidder Questions with Answers:

Q – Can it please be verified that no additional backflow protection will be required in the parts storage area to isolate the car washing equipment from the domestic system supplying the rest of the facility? If the car wash equipment will include a chemical feed system for soaps/detergents the AHJ may require additional backflow protection for this equipment.
A – See revised drawing this addendum

Q - On sheet A0.02 it refers to a Bio Retention area – it is not shown on civil utility plan, please advise.
A – See revised drawings this addendum

Q - The specification section 211313 Wet-Pipe Sprinkler Systems mentions dry-pipe sprinkler systems. Are the service bays being heated to a minimum of 40 degrees Fahrenheit? Is it the intent for a wet-pipe sprinkler system throughout the building?
A - It is the intent for wet-pipe sprinkler system throughout the building. The service bays are heated.

Q - We would like clarification on whether seismic analysis, design, calculations, and materials should be included in our base bid or if these items will be handled after award.
A - The seismic requirements for analysis, design, calculations, and materials should be included in the base bid. Seismic design class is "D" per sheets A3.01, S1.01, M0.00, and EPFT1.00

Clarifications to the Specifications:

1. Specification Section 074113.16 - Standing-Seam Metal Roof Panels
    a. Substitution request for Falk SSR - 42 Standing Seam insulated metal roof panels is rejected.

2. Specification Section 075423 Thermoplastic Polyolefin (TPO) Roofing
    a. Substitution request for Falk RDEK 40 insulated metal roof panels is rejected.

3. Specification Section 105113 Metal Lockers
    a. Substitution request for All-welded Metal Lockers by Lockers Manufacturing is accepted

4. Specification Section 105113 Metal Lockers
    a. Substitution request for Phenolic Lockers by Summit Lockers in lieu of metal lockers is accepted.

5. Specification Section 107000 Aluminum Canopy
    a. Substitution request for Aluminum Canopy system by Archetype Canopies is accepted.

6. Specification Section 111126 Vehicle Washing Equipment
    a. Substitution request for the XJ Series Wash System by InterClean is rejected.

Clarifications to the Drawings:

1. G1.01
    a. Added wall type C3 – 6" nominal width CMU wall.

2. C1
    a. Added Grading Quantity table

3. C3
    a. Revised Heavy Duty pavement label in legend to match detail

4. C4
    a. Added callout for 8" water valve, yard hydrant and rain garden areas. Revised dimensions of pump island.

5. C5
    a. Revised grading at Rain Garden Area 2. Added location of construction entrance and washdown area

6. C6
    a. Revised Erosion Control details, added Rain Garden Area details

7. C9
    a. Removed details for trash enclosure, fence and pipe bollard

8. C10
    a. Revised sewer details, added Rain Garden Plan View.

9. A0.02
    a. Revise note "BIO-RETENTION AREA" to "RAIN GARDEN AREA" per Civil.
    b. Revise note "LANDSCAPE AREA" to RAIN GARDEN AREA" per Civil.

10. A2.01
    a. Added enclosures at the columns located in Wash Bay 152.

11. A3.01
    a. Added note 9 under General Reflected Ceiling Plan Notes.

12. S2.01
    a. Increased the pier size at the columns in Wash Bay 152 to accommodate the column enclosures.

13. S2.02
    a. Added enclosures at the columns located in Wash Bay 152.
    b. Added note to coordinate mechanical equipment opening locations
    c. Added note that all structural steel elements within Wash Bay 152 to be hot-dipped galvanized.

14. M0.01
    a. Grille Schedule clarification – Grille schedule updated to show 'SH', 'SI', and 'EG'. Grille 'ED' size was revised.

15. M2.01
    a. Grille revision – Grille in Locker Room 146 was changed from 'SH' to 'SG'.
    b. Exhaust clarification – duct size added to Wash Bay 152 exhaust duct (16"x16").

16. PF1.21
    a. Added RPZ to keyed note 12 for automated washbay equipment feed water.

17. E1.01
    a. Added power requirements for auto flush valves at restrooms.

Attachments:

1. Pre-bid meeting agenda
2. Pre-bid meeting attendees list
3. Sheet G1.01
4. Sheet C1
5. Sheet C3
6. Sheet C4
7. Sheet C5
8. Sheet C6
9. Sheet C9

10. Sheet C10
11. Sheet A0.02
12. Sheet A2.01
13. Sheet A3.01
14. Sheet S2.01
15. Sheet S2.02
16. Sheet M0.01
17. Sheet M2.01
18. Sheet PF1.21
19. Sheet E1.01

End Of Addendum No. 01

PRE-BID MEETING

Transportation Center

Fort Zumwalt School District

August 21, 2024

1. Introductions

All attendees should sign the pre-bid attendance sheet.

Owner — Board of Education
Fort Zumwalt School District
555 East Terra Lane
O'Fallon, MO 63366
Telephone: 636-272-6620
Contact: Lisa Koester, Louie Gilbert or Niki Jarmuszkiewcz
Email: lkoester@fz.k12.mo.us
dallen@fz.k12.mo.us
nicolej@fz.k12.mo.us

Architect/Engineers: **During the bidding period, please address all questions to Rick Keisker at Cordogan Clark.**

Architect & Structural:
Cordogan Clark
611 North 10th Street, Suite 200
St. Louis, MO 63101
Contact: Rick Keisker & John Strassburger
Office: 314-421-3542
Email: rkeisker@cordoganclark.com
jstrassburger@cordoganclark.com

Civil Engineer:
Bax Engineering
221 Point West Blvd.
St. Charles, MO 63301
Contact: Jeff Moon
Office: 636.928.5552
Email: jmoon@baxengineering.com

Plumbing / Electrical Engineer
ECS Consulting Engineers Inc.
9986 Manchester Rd.
St. Louis, MO 63122
Contact: Jason Bolzenius
Office: 31755-1920
Email: jason@ecsstl.com

Mechanical Engineer
Facility Solutions Group
901 Horan Drive, STE 100
Fenton, MO 63026
Contact: Chris Jerden
Office: 314-956-5776
Email: cjerden@fsg-stl.com

2. **Bidding Documents**

Bidding documents may be obtained from either Fort Zumwalt School District, Cross Rhodes Reprographics or Dodge.

- Fort Zumwalt School District, 555 E. Terra Lane, O'Fallon, MO 63366 (626-272-6620)
  Electronic document requests should be directed to Niki Jarmuszkiewcz at: nicolej@fz.k12.mo.us. Please include contact information for plan holders list. Printed bid documents are available upon request and require a $100 refundable deposit per set. This deposit will be refunded to bidders submitting a bona fide bid, and upon return of the documents to the school district in good condition within two weeks following the opening of bids, otherwise the deposit shall be forfeited.
- Cross Rhodes Print & Technologies, 2731 South Jefferson, St. Louis, MO 63118 (314.421.5141)
  The drawings and Project manual are available from Cross Rhodes in either printed and/or electronic format at the contractor's expense.
- Dodge Plan Room
  Documents can be viewed through the following link: www.construction.com. Plans and specs obtained through Dodge will be at the contractor's expense.

3. **Bids Requested**

Prime contractor, lump sum bid for constructing the project in its entirety, are to be submitted directly to Fort Zumwalt School District on bid forms provided in the Project Manual. Bidders submitting a bid for this project are entirely responsible for providing all labor, materials, equipment and full-time supervision to properly complete the project, and for scheduling and coordinating the various aspects of the work within the overall project.

4. **Alternate Bids**

Alternate No. 1 – Lift: Indicate the amount to be ADDED to the base bid to include the vertical parts / equipment lift at the mezzanine. Utilities for lift to be in base bid in preparation for future installation.

Alternate No. 2 Automatic Wash bay Equipment: Indicate the amount to be ADDED to the base bid to include automatic bas washing equipment at wash bay. Manual spray wand style washing system and utilities for automatic wash equipment to be included in base bid in preparation for future installation.

Alternate No. 3 – Sanitary Sewer Connection: Indicate the amount to be ADDED to the base bid to install 10" PVC from MH1 to MH5 and 303' of 6" PVC lateral in lieu of 8" PVC from MH1 to MH3 and 303' of 8" PVC from MH1 to MH3.

5. Unit Pricing:

- Reference Section 012200 Unit Price and the bid form.
- Unit Price #1: For remediation of unsuitable soils. Provide a unit price per cubic yard to remediate plastic soil, haul off site and replace with fill per Geotechnical Report included in the project manual.
- Unit Price #2 (listed as unit price #1 in the spec): For boring under Salt River Road for sanitary line to project site. Provide cost for boring for both an 8" or 10" line depending if Alternate #2 is accepted.

6. Allowances:

- Allowance #1: $15,000 for remediating soil conditions or unforeseen conditions that may be encountered in areas under the building or parking lot outside of the areas already requiring remediation under the base bid. See Civil drawings for areas designated for soil remediation under the base bid.

7. Site Visits and Pre-Bid:

- This is a brand new site and access is limited due to the road frontage is primarily not owned by the district. Contractors should contact Lisa Koester's office if a site visit is necessary.

8. Bid Due Date & Time

General Contractor bids must be delivered to Fort Zumwalt School District. Bid opening will be at the Fort Zumwalt School District Administration Building, 555 East Terra Lane, O'Fallon, MO 63366 at:

Time: 3:00 PM
Date: Tuesday, September 10, 2024

If bids are dropped off early, please make sure they are sealed and marked BID FOR: **TRANSPORTATON CENTER**, so that our staff is aware of the contents, and it gets processed correctly. Bids will be publicly opened, and you are welcome to attend the bid opening.

9. Temporary Facilities and Services

The bidder's responsibility for providing and including certain temporary facilities and services are addressed in Division 015000, Temporary Facilities and Controls.

10. Bid Bond

Bids must be accompanied by a bid bond, cashier's check, or certified check in an amount equal to 5% of the bid.

11. Performance & Payment Bonds

The successful bidder will be required to provide 100% performance and payment bonds. Bidders are to include the cost of all bonds in their bids.

12. Permits

The Owner will pay the cost of the construction permits issued by the City of St. Peters and Central County Fire and Rescue. The cost of any/all other permits and licenses is the responsibility of the Contractor.

13. Commencement & Completion

It is the intent of the District to take a recommendation to the September 16, 2024 Board Meeting. On-site work is to start on or about September 23, 2024, with substantial completion not later than Friday, October 31, 2025 for the whole project.

14. Liquidated Damages

$300 per calendar day that the work extends beyond the substantial completion dates for each date listed above, as determined by the Architect.

15. Taxes

Bidders are to exclude Missouri sales and use taxes from their bids.

16. Prevailing Wage Rates

Workmen are to be paid wages not less than the prevailing hourly rate of wages as determined by the Missouri Department of Labor and Industrial Relations. The wage rates (Annual Wage Order No. 31) are included in the Project Manual.

17. Federal Work Authorization Program (E-Verify)

All business entities awarded any contract in excess of $5,000 with a Missouri public school district must be enrolled and participate in a federal work authorization program, and must also provide documentation that it does not knowingly employ any person who is an unauthorized alien. See the Project Manual for additional information.

18. Owner's Special Supplementary Instructions.

See the Project Manual, Division 007300 Supplementary Conditions, Owner's Special Supplementary Instructions for the following. Please make sure you are familiar with these items as they are legal requirements.

- **On-Site Safety Training**
- **Drug & Alcohol Testing Program**
- **Convicted Sex Offenders**
- **Transient Employers**
- **Wage & Subsidies, Supplements and Rebates**

19. Contractor's Insurance Requirements

See the Project Manual, Division 007300 Supplementary Conditions

20. Addenda

Any Addenda issued will be e-mailed to all plan-holders of record and posted on Dodge and Cross Rhodes Print & Technologies. Neither the Architect nor Fort Zumwalt assume responsibility for issuing addenda to bidders not of record, or for ensuring that bidders of record have received issued addenda. Bidders are responsible for contacting Fort Zumwalt School District prior to submitting their bids to ensure that they have received any/all addenda issued.

21. Project Overview

- Civil drawings
- Architectural/MEP

22. Questions & Comments:

ATTENDANCE LIST
PRE-BID MEETING - August 21, 2024

Transportation Center

Fort Zumwalt School District

** Please leave a business card if you have one

Your Name	Your Company's Name	Company's Mailing Address	Company/Cell Phone #	E-Maill Address
Lisa Koester	Fort Zumwalt School District	555 E. Terra Lane, O'Fallon, MO 63366	636-272-6620	lkoester@fz.k12.mo.us
Niki Jarmuszkiewcz	Fort Zumwalt School District	555 E. Terra Lane, O'Fallon, MO 63366	636-272-6620	nicolej@fz.k12.mo.us
Davin Allen	Fort Zumwalt School District	555 E. Terra Lane, O'Fallon, MO 63366	636-272-6620	dallen@fz.k12.mo.us
Jeremy Moore	Fort Zumwalt School District	555 E. Terra Lane, O'Fallon, MO 63366	636-272-6620	jmoore@fz.k12.mo.us
John Strassburger	Cordogan Clark	611 N. 10th St, Ste 200, St. Louis, MO 63101	314-421-3542	jstrassburger@cordoganclark.com
Rick Keisker	Cordogan Clark	611 N. 10th St, Ste 200, St. Louis, MO 63101	314-421-3542	rkeisker@cordoganclark.com
Jeff Moon	Bax Engineering	221 Point West Blvd., St. Charles, MO 63301	636-928-5552	jmoon@baxengineering.com
JEFF HOLLENBECK	INTEGRA INC.	3011 MERCANTILE INDUSTRIAL ST. CHARLES, MO. 63301	636-946-300	BIDS@ICCSTLMO.COM
Jake O'Brien	C. Rallo GC	5000 Kemper Ave St. Louis, Mo 63139	314-633-9702	jakeo@crallo.com

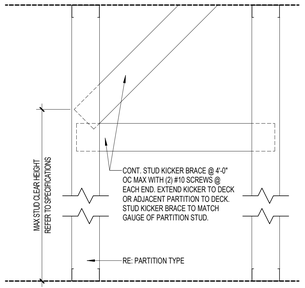
Your Name	Your Company's Name	Company's Mailing Address	Company/Cell Phone #	E-Maill Address
Danny Lamb	LCS	1024 Cool Springs Ind Dr O'Fallon, MO 63366	636-294-6245	bids@lcsconstruct.com
Colby Patterson	Wright Construction	11 Lamii Industrial Dr. St. Peters, Mo 63304	636-220-6800	bids@wrightconstruct.com
Joe Stockmann	Hankins Construction	9889 Page St. Louis, MO 63132	314-426-7030	BIDS@HANKINSMIDWEST.COM
Ryan Hill	G.S.+S. Construction	2914 S. Brentwood Blvd. Brentwood, MO 63144	314-298-8100	RHill@gssconstruction.com
Cole Simington	Aspire	305 Parkway industral Lake St. Louis MO 63367	314-591-1667	Csimington@aspire-stl.com
Tom Drohr	Freise	17 Reckamp Rd. Old Monroe, MO 63369	636-706-8985	tom@freiseconstruction.com
Nick Boggs	Bell Electrical	1311 N. Highway Dr. Fenton, MO 63099	319-581-4023	nicholas.boggs@bellelectrical.com
Tony Marlo	ICS	2930 Market St. St. Louis MO 63103	314-534-6664	TMarlo@ics-stl.com

PARTITION GENERAL NOTES

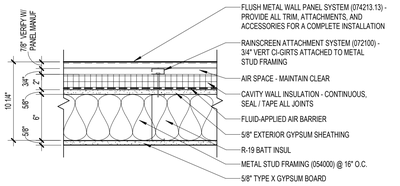
1. WHERE PARTITION IS INDICATED TO BE RATED, THE CONSTRUCTION OF THE PARTITION WILL BE IN ACCORDANCE WITH THE UL DESIGN NUMBER DESIGNATED, OR, IN CASE OF CMU PARTITIONS, WITH MATERIALS QUALIFIED TO MEET THE CODE APPROVED RATINGS. FIRE SAFING/FIRE SEALANTS ARE REQUIRED BETWEEN THE TOPS OF PARTITION AT INTERSECTION WITH DECK STRUCTURE. REFER TO SPECIFICATIONS.
2. THE PARTITION SYMBOLS ARE KEYED IN FLOOR PLAN SHEETS. WHEN A PARTITION TYPE SYMBOL IS "FLAGGED" ON A PARTITION ON THE PLAN, "THIS TYPE" IS CONSIDERED TO EXTEND CONTINUOUS IN BOTH DIRECTIONS, AND CHANGES TYPE ONLY AT INTERSECTING PARTITIONS THAT ARE DESIGNATED BY SYMBOL TO BE A DIFFERING TYPE, U.N.O.
3. PARTITION TYPES INDICATING MATERIALS TO EXTEND EITHER A SPECIFIED HEIGHT ABOVE THE FINISHED CEILING OR FULL HEIGHT, SHALL BE FULL HEIGHT IF NO CEILING IS CALLED FOR ON THE REFLECTED CEILING PLANS OR ROOM FINISH SCHEDULE, OR IF SHOWN ON DETAILS TO EXTEND TO THE DECK.
4. EXTEND ALL PARTITIONS TO UNDERSIDE OF DECK, U.N.O. PROVIDE PRE-MOLDED STYROFOAM FLUTE FILLER INSULATION IN DECK FLUTE OPENING AT TOP OF PARTITION. USE ACOUSTIC-RATED OR FIRE-RATED FILLER TO MATCH PARTITION ASSEMBLY.
5. "FIRE CODE" OR (X) GYPSUM WALL BOARD (GWB) TO BE USED IN ALL GWB PARTITIONS REQUIRNG A FIRE RATING. REFER TO SPECIFICATIONS.
6. ALL CONTRACTORS ARE RESPONSIBLE FOR PROVIDING PROPER UL LISTED ASSEMBLIES FOR ALL FIRE RATED WALLS, AS INDICATED IN THE DRAWINGS. REFER TO LIFE SAFETY PLANS FOR LOCATIONS OF ALL RATED WALLS AND BUILDING SEPARATIONS.
7. REFER TO UL ASSEMBLIES AND GYP BD MANUFACTURER'S INSTALLATION GUIDELINES FOR RATED PARTITION INSTALLATION DETAILS AT INTERSECTING WALLS, CORNERS, ETC. PROVIDE APPROPRIATE JOINT FIRESTOPPING SYSTEMS AS ALL FIRE-RATED HEAD, SIDE, AND BASE OF WALL CONDITIONS AS APPLICABLE FOR JOINT CONDITION. FIRE SAFE AND FIRE CAULK ALL RATED CONSTRUCTION AS REQUIRED, INCLUDING, BUT NOT LIMITED TO PIPE, DUCTWORK PENETRATIONS AND TOP OF WALLS AT DECK FLUTES.
8. **SUBSTRATE**: PROVIDE 5/8" GYPSUM BOARD U.N.O.
   A. PROVIDE CONTROL JOINTS IN GYPSUM BOARD PARTITIONS AT LOCATIONS SPECIFICALLY SHOWN. IF NOT SHOWN, PROVIDE IN ACCORDANCE WITH SPECIFICATIONS (NO MORE THAN 30' O.C.) CONFIRM FINAL LOCATIONS WITH ARCHITECT.
   B. HOLD ALL GYPSUM BOARD 1/2" ABOVE FLOOR AT BASE OF WALL, TYPICALLY. PROVIDE ACOUSTIC/FIRE CAULK TO SEAL GAP, TYPICAL.
   C. PROVIDE MOISTURE RESISTANT GYPSUM BOARD IN TOILET ROOMS AND JANITOR CLOSETS TO RECEIVE A PAINTED FINISH AS INDICATED IN FINISH SCHEDULE.
   D. PROVIDE WATER RESISTANT GYP BD IN WET LOCATIONS SUCH AS RESTROOMS AND CUSTODIAN CLOSETS. PROVIDE GLAS-MAT BACKER BOARD IN LIEU OF GYP BD BEHIND CERAMIC, PORCELAIN, OR GLASS WALL TILE.
   E. ON ALL WALLS TO RECEIVE TILE, APPLY WATERPROOFING AND CRACK PREVENTION MEMBRANE OVER BACKER BOARD TO RECEIVE TILE.
   F. PROVIDE 5/8" TYPE 'X' GYPSUM BOARD UP TO STRUCTURE ABOVE AND FIRE-RESISTANT SEALANT ON ENTIRE PERIMETER AND PENETRATIONS IN FIRE-RATED STUD PARTITIONS. (REFER TO SAFETY REFERENCE PLANS AND UL DESIGN NUMBER OF PARTITION).
12. PROVIDE WOOD BLOCKING AS REQUIRED PRIOR TO SHEATHING WALLS FOR INSTALLATION OF EQUIPMENT, SUCH AS BUT NOT LIMITED TO: CASEWORK, WHITE BOARDS, TACKBOARDS, GRAB BARS, LOCKERS, AND OTHER WALL MOUNTED EQUIPMENT.

LIGHT GAUGE METAL FRAMING NOTES

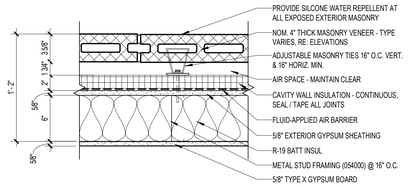
1. ALL LIGHT GAUGE MEMBERS SHALL BE DESIGNED IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."
2. ALL STUDS, JOISTS, AND ACCESSORIES SHALL BE PRIMED WITH RUST INHIBITIVE PAINT MEETING THE PERFORMANCE REQUIREMENTS OF TT-P-636C, OR SHALL BE FORMED FROM STEEL HAVING A G-60 GALVANIZED COATING CONFORMING TO ASTM A924.
3. ALL PAINTED 97, 68 AND 54 ML. MEMBERS SHALL MEET THE REQUIREMENTS OF ASTM A570 WITH A MINIMUM YIELD OF 50,000 PSI. ALL GALVANIZED 97, 68, 54 ML. MEMBERS SHALL MEET THE REQUIREMENTS OF ASTM A653 WITH A MINIMUM YIELD OF 50,000 PSI.
4. ALL PAINTED 43 AND 33 MIL. MEMBERS SHALL MEET THE REQUIREMENTS OF ASTM A611 WITH A MINIMUM YIELD OF 33,000 PSI. ALL GALVANIZED 43 AND 33 MIL. MEMBERS SHALL MEET REQUIREMENTS OF ASTM A653 WITH A MINIMUM YIELD OF 33,000 PSI.
5. WELDING, WHERE PERMITTED, IS TO BE DONE PER MANUFACTURER'S RECOMMENDATIONS ON ROD TYPE AND AMPERAGE. MINIMUM GAUGE FOR WELDING SHALL BE 54 MIL. WELDS WITH EXTERIOR FRAMING WALLS SHALL BE TOUCHED UP WITH ZINC RICH PRIMER.
6. ALL LIGHT GAUGE METAL STUDS AND JOIST SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS REGARDING MINIMUM INSTALLATION STANDARDS FOR BEARING, BRIDGING AND BRACING.
7. LIGHT GAUGE STUDS USED AS BACKUP FOR MASONRY SHALL BE OF A CONFIGURATION AND GAUGE (54 MIL. MIN) TO PROVIDE SUFFICIENT STIFFNESS AS CONTROLLED BY A MAXIMUM DEFLECTION OF L/600 UNDER FULL LATERAL LOAD. ALL STUDS AND ACCESSORIES USED AS BACKUP FOR MASONRY SHALL BE FORMED FROM STEEL HAVING A G-90 GALVANIZED COATING CONFORMING TO ASTM A653. FIELD WELDING SHALL NOT BE PERMITTED.
8. IN AREAS WHERE BUILDING SERVICES PENETRATE FRAMING WALLS PROVIDE FRAMED OPENINGS. WHERE BUILDING SERVICED RUN PARALLEL TO FAMED WALLS PROVIDE ADDITIONAL FRAMING, BRACING OR MODIFICATIONS TO GAUGE, STEEL STRENGTH, DIMPLING, AND FASTENERS AS REQUIRED ACCOMMODATE SAID SERVICES.
9. PROVIDE SLIP OR SLOTTED CONNECTION BETWEEN TOP OF METAL STUD WALLS ABUTTING STRUCTURE - REFER DETAIL THIS SHEET - TYPICAL ALL METAL STUD PARTITION TYPES.
10. FOR ALL STUD PARTITIONS, REFER TO SPECIFICATIONS FOR STUD GAUGE. PARTITIONS INDICATED TO BE "BRACED AS REQUIRED" SHALL BE HORIZONTALLY AND/OR DIAGONALLY BRACED AS NOTED TO ALLOW AN L/360 DESIGN, AND PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DETAIL FOR TYPICAL STUD BRACING. PROVIDE NECESSARY FRAMING, BRACING, GAUGE, STEEL STRENGTH, DIMPLING, FASTENERS, ETC. TO ARCHIVE THE FOLLOWING PERFORMANCE REQUIREMENTS:
    a. MAXIMUM DEFLECTION: L/360
    b. MAXIMUM SPACING: 24"



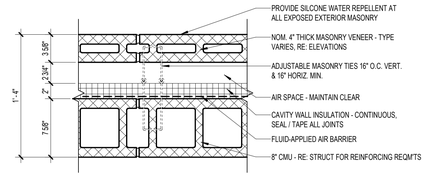
5 G1.01 TYPICAL STUD BRACING
1 1/2" = 1'-0"



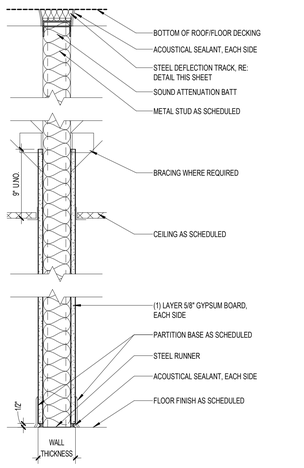
4 G1.01 EXTERIOR WALL SYSTEM - METAL PANEL OVER METAL STUD
1 1/2" = 1'-0"



3 G1.01 EXTERIOR WALL SYSTEM - MASONRY OVER METAL STUD
1 1/2" = 1'-0"

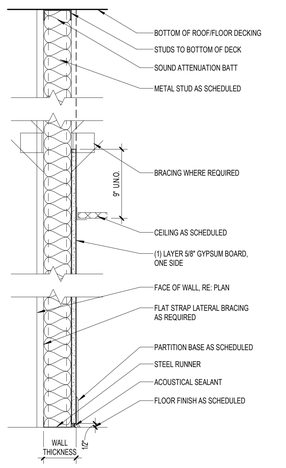


2 G1.01 EXTERIOR WALL SYSTEM - MASONRY OVER CMU
1 1/2" = 1'-0"



PARTITION TYPE A - INTERIOR STUDS

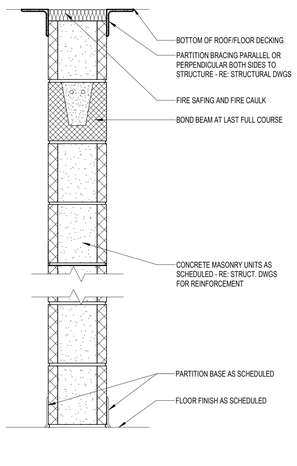
PARTITION TYPE	STUD SIZE	STUD SPACING	PARTITION THICKNESS	FIRE RATING	FIRE TEST NO.
A1	3 5/8"	16" O.C.	4 7/8"	----	----
A2	6"	16" O.C.	7 1/4"	----	----



PARTITION TYPE B - INTERIOR CHASE STUDS

PARTITION TYPE	STUD SIZE	STUD SPACING	PARTITION THICKNESS	FIRE RATING	FIRE TEST NO.
B1	1 1/2"	16" O.C.	2 1/8"	----	----
B2	3 5/8"	16" O.C.	4 1/4"	----	----
B3	6"	16" O.C.	6 5/8"	----	----
B4	8"	16" O.C.	8 5/8"	----	----

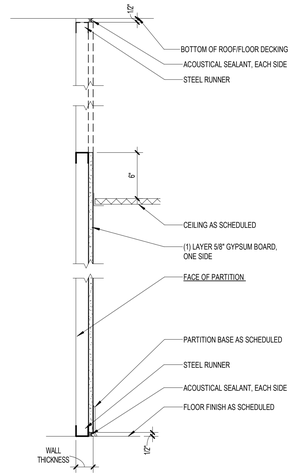
NOTE: IF A CEILING IS NOT SCHEDULED ADJACENT TO 'B' PARTITION TYPES, GYP. BD. SHALL EXTEND TO BOTTOM OF DECK.



PARTITION TYPE C - INTERIOR CMU

PARTITION TYPE	CMU SIZE	FIRE RATING	FIRE TEST NO.
C1	7 5/8"	2 HR	U905
C2	11 5/8"	2HR	U905
C3	5 5/8"	----	----

1



PARTITION TYPE D - INTERIOR STUD

PARTITION TYPE	STUD SIZE	STUD SPACING	PARTITION THICKNESS	FIRE RATING	FIRE TEST NO.
D1	1 5/8"	16" O.C.	2 1/4"	----	----

NOTE: IF A CEILING IS NOT SCHEDULED ADJACENT TO 'D' PARTITION TYPES, FRAMING AND GYP. BD. SHALL EXTEND TO BOTTOM OF DECK.

1 G1.01 INTERIOR PARTITION TYPES
1 1/2" = 1'-0"

CORDOGAN CLARK
ARCHITECTURE + ENGINEERING + CONSTRUCTION

CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION
CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER:
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
AURORA, IL 60506
(630) 896-4679
MO. CERTIFICATE OF AUTHORITY NO. 2019017445

MECHANICAL ENGINEER:
FACILITY SOLUTIONS GROUP, INC.
901 HORAN DRIVE, SUITE 200
FENTON, MO 63026
(636) 537-0203
MO. CERTIFICATE OF AUTHORITY NO. 2013042069

ELEC. & PLUMB ENGINEER:
ECS CONSULTING ENGINEERS, INC.
9986 MANCHESTER ROAD, SUITE 202
ST. LOUIS, MO 63122
(314) 755-1920
MO. CERTIFICATE OF AUTHORITY NO. E-2018042187

OWNER CONSULTANTS:

CIVIL ENGINEER
BAX ENGINEERING CO., INC.
221 POINT WEST BLVD.
ST. CHARLES, MO 63301
(636) 928-5552
MISSOURI CERTIFICATE OF AUTHORITY NO. ENG. 000855
MISSOURI CERTIFICATE OF AUTHORITY NO. SURVEYING 000144

FORT ZUMWALT
TRANSPORTATION CENTER
TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

PARTITION TYPES AND TYPICAL DETAILS

STATE OF MISSOURI
RICHARD JAY KEISKER
NUMBER A-2007388
REGISTERED ARCHITECT
FZ Trans 08-13-24
RICHARD KEISKER, AIA, LEED AP
MO ARCHITECTURAL REGISTRATION NO. 2007027388

JOB NUMBER
224205

DATE
08/13/2024

ISSUED FOR BID & PERMIT

REVISIONS:
1 Addendum 01 08-29-2024

G1.01

A SET OF CONSTRUCTION PLANS FOR
FORT ZUMWALT SCHOOL DISTRICT TRANSPORTATION CENTER
A TRACT OF LAND BEING PART OF LOT 14 IN BLOCK 8 OF
STEEN AND CUNNINGHAM'S SUBDIVISION OF THE COMMONS OF
ST. CHARLES AND BEING PART OF FRACTIONAL SECTION 3
AND PART OF FRACTIONAL SECTION 10, T46N, R4E
CITY OF ST. PETERS,
ST. CHARLES COUNTY, MISSOURI

LOCATION MAP

LEGEND:

- FLARED END SECTION
- CURB/AREA INLET
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- FOM FIBER OPTIC MARKER
- CTV CABLE TV BOX
- EB ELECTRIC BOX
- ET ELECTRIC TRANSFORMER
- TP TELEPHONE CABLE PEDESTAL
- GAS VALVE
- FIRE HYDRANT
- SIGN
- POWER POLE
- GUY WIRE
- TREE
- TREE STUMP
- FOUND PIPE
- SET PIPE
- ROW MARKER
- BM BENCHMARK
- CONTROL
- CROSS

VEGETATION ESTABLISHMENT
For Urban Development Sites
APPENDIX A

SEEDING RATES:

PERMANENT:
Tall Fescue – 30 lbs./ac.
Smooth Brome – 20 lbs./ac.
Combined – Fescue @ 15 lbs./ac. AND
Brome @ 10 lbs./ac.

TEMPORARY:
Wheat or Rye – 150 lbs./ac. (3.5 lbs. per 1,000 s.f.)
Oats – 120 lbs./ac. (2.75 lbs. per 1,000 s.f.)

SEEDING PERIODS:
Fescue or Brome – March 1 to June 1
August 1 to October 1
Wheat or Rye – March 15 to November 1
Oats – March 15 to September 15

MULCH RATES:
100 lbs. per 1000 sq. ft. (4,356 lbs. per ac.)

FERTILIZER RATES:

Nitrogen	30 lbs./ac.
Phosphate	30 lbs./ac.
Potassium	30 lbs./ac.
Lime	600 lbs./ac. ENM*

* ENM = effective neutralizing material as per State evaluation of quarried rock.

GRADING NOTES:

1. A Geotechnical Engineer shall be employed by the owner and be on site during grading operations. All soils tests shall be verified by the Geotechnical Engineer concurrent with the grading and back filling operations.

2. The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes, or reasonably implied there from, all in accordance with the plans and notes as interpreted by the Geotechnical Engineer.

3. The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation. The contractor shall provide to the City Engineer, a copy of grading compaction test results.

4. All areas shall be allowed to drain. All low points shall be provided with temporary ditches.

5. A sediment control plan that includes monitored and maintained sediment control basins and/or straw bales should be implemented as soon as possible. No graded area is to be allowed to remain bare over the winter without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage system.

6. Any existing trash and debris currently on this property must be removed and disposed of off-site.

7. Soft soil in the bottom and banks of any existing or former pond sites or tributaries should be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material should be placed in proposed right-of-way locations or on storm sewer locations.

8. Site preparation includes the clearance of all stumps, trees, bushes, shrubs, and weeds; the grubbing and removal of roots and other surface obstructions from the site; and the demolition and removal of any man-made structures. The unsuitable material shall be properly disposed of off-site. Topsoil and grass in the fill areas shall be thoroughly disced prior to the placement of any fill. The Soils Engineer shall approve the discing operation.

9. Compaction equipment shall consist of tamping rollers, pneumatic-tired rollers, vibratory roller, or high speed impact type drum rollers acceptable to the Soils Engineer. The roller shall be designed so as to avoid the creation of a layered fill without proper blending of successive fill layers.

10. The Soils Engineer shall observe and test the placement of the fill to verify that specifications are met. A series of fill density tests will be determined on each lift of fill. Interim reports showing fill quality will be made to the Owner at regular intervals.

11. The Soils Engineer shall notify the Contractor of rejection of a lift of fill or portion thereof. The Contractor shall rework the rejected portion of fill and obtain notification from the Soils Engineer of its acceptance prior to the placement of additional fill.

12. All areas to receive fill shall be scarified to a depth of not less than 6 inches and then compacted in accordance with the specifications given below. Natural slopes steeper than 1 vertical to 5 horizontal to receive fill shall have horizontal benches, cut into the slopes before the placement of any fill. The width and height to be determined by the Soils Engineer. The fill shall be loosely placed in horizontal layers not exceeding 8 inches in thickness and compacted in accordance with the specifications given below. The Soils Engineer shall be responsible for determining the acceptability of soils placed. Any unacceptable soils placed shall be removed at the Contractor's expense.

13. The sequence of operation in the fill areas will be fill, compact, verify acceptable soil density, and repetition of the sequence. The acceptable moisture contents during the filling operation are those at which satisfactory dry densities can be obtained. The acceptable moisture contents during the filling operation in the remaining areas are from 2 to 8 percent above the optimum moisture control.

14. The surface of the fill shall be finished so that it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the layer under placement to freeze.

15. All siltation control devices shall be inspected by the contractor after any rain of 1/4" or more with any appreciable accumulation of mud to be removed and siltation measures repaired where necessary.

16. No slope shall be steeper than 3(Horizontal):1(Vertical). All slopes shall be sodded or seeded and mulched.

17. Fill and back fill shall be compacted per the Excavation Specifications (Section 02200) under the supervision of the Owner's Special Testing Agency.

18. Any contaminated soil encountered during excavation shall be hauled and placed as directed by the owners environmental engineering representative.

19. All grades shall be within 0.2 feet of those shown on the grading plans.

20. All compaction test reports shall be given to the City of St. Peters inspector.

GENERAL NOTES:

1. Underground utilities have been plotted from available information and therefore their locations shall be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans shall be the responsibility of the contractor, and shall be located prior to any grading or construction of the improvements.

2. All manhole tops built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.

3. 8" P.V.C. sanitary sewer pipe shall meet the following standards. A.S.T.M.–D–3034 SDR–35, with wall thickness compression joint A.S.T.M.–D–3212. An appropriate rubber seal watertop as approved by the sewer district shall be installed between P.V.C. pipe and masonry structures.

4. All fill, including places under proposed storm and sanitary sewer lines and paved areas within and off the road right–of–way shall be compacted to 90% of maximum density as determined by the "Modified Proctor Test (ASTM–D–698). All tests shall be verified by a Soils Engineer concurrent with grading and back filling operations. The compacted fill shall be free of rutting and shall be non–yielding and non–pumping during proof rolling and compaction. All trench backfills in paved areas shall be granular fill.

5. No area shall be cleared without the permission of the Project Engineer or Developer.

6. All construction and materials shall conform to the current construction standards of the City of St. Peters and OSHA.

7. All P.V.C. sanitary sewer is to be SDR–35 or equal with clean 1/2" to 1" granular stone bedding uniformly graded. This bedding shall extend from 4" below the pipe to the springline of the pipe. Immediate backfill over pipe shall consist of same size "clean" or minus stone from springline of pipe to 6" above the top of pipe.

8. All water lines shall be laid at least 10 feet horizontally, from any sanitary sewer, storm sewer, or storm drain. Wherever water lines must cross sanitary sewers, laterals, or storm drains the water line shall be laid at such an elevation that the bottom of the water line is above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote therefrom as possible. This vertical separation shall be maintained for that portion of the water line located within 10 feet horizontally, of any sewer or drain it crosses.

9. Water lines, valves, sleeves, meters, and fittings shall meet all specifications and installation requirements of The City of St. Peters Water Company.

10. All lines to fire hydrants shall be C900 and installed in accordance with plans and details. All piping for water mains shall conform to A.W.W.A. Specifications C–106 and/or C–108. The ductile iron fittings shall conform to A.W.W.A. Specification CC–110. All rubber gasket joints for water ductile iron pressure pipe and fittings shall conform to A.W.W.A. Specification C–111.

11. All sanitary manholes shall be waterproofed on the exterior in accordance with Missouri Department of Natural Resources specifications 10 CSR–8.120 (7)E.

12. Brick will not be used in the construction of sanitary sewer manholes.

13. City of St. Peters shall be notified 48 hours prior to grading and/or construction for coordination and inspection.

14. Where natural vegetation is removed during grading, vegetation shall be re–established per City of St. Peters Standards for Erosion and Sediment Management Practices. (Section 880)

15. The Developer and his contractors shall comply with the City of St. Peters' City Code Chapter 530 Grading Regulations and Chapter 550 Storm Water Management during grading operations.

16. All PVC water pipe shall have a minimum pressure rating of PR–200 or SDR–21.

17. All water hydrants and valves shall be ductile iron and installed in accordance with City Water Department and local Fire Department Standards. All hydrants to be three way.

18. If straw bales or siltation fence devices are destroyed by heavy rains, vandalisim, etc., they are to be replaced immediately by Contractor.

19. Additional siltation control devices may be required by the City of St. Peters during the project construction.

20. No blow–off valves or water meters shall be constructed in driveways.

21. Per the City of St. Peters no doweled–on curbing shall be allowed.

22. The fire hydronts shall be flow tested and painted per flow test results per City Article III, section 220.100.

23. Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary and storm sewers, including building laterals.

24. The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing storm sewer system.

25. All water lines are to be private.

26. A building permit is required from the Building Department for all retaining walls greater than 4 feet in height.

PRINCIPLES & STANDARDS:

1. All excavations, grading, or filling shall have a finished grade not to exceed a 3:1 slope (33 %). Steeper grades may be approved by the designated official if the excavation is through rock or the excavation or the fill is adequately protected (a designed head wall or toe wall may be required). Retaining walls that exceed a height of four (4) feet shall require the construction of safety guards as identified in the appropriate section(s) of the adopted BOCA Codes and must be approved by the Building Department. Permanent safety guards will be constructed in accordance with the appropriate section(s) of the adopted BOCA Codes.

2. Sediment and erosion control plans for sites that exceed 20,000 square feet of grading shall provide for sediment or debris basins, silt traps or filters, staked straw bales or other approved measures to remove sediment from run–off waters. The design to be approved by the Designated Official. Temporary siltation control measures (structural) shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.

3. When grading operations are completed or suspended for more than 14 days permanent grass must be established at sufficient density to provide erosion control on the site. Between permanent grass seeding periods, temporary cover shall be provided according to the City Engineer's recommendations. All finished grades (areas not to be disturbed by future improvement) in excess of 20% slopes (5:1) shall be mulched and tacked at the rate of 100 pounds per 1,000 square feet when seeded.

4. Provisions shall be made to accommodate the increased runoff caused by changed soils and surface conditions during and after grading. Unvegetated open channels shall be designed so that gradients result in velocities of 2 fps (feet per second) or less. Open channels with velocities more than 2 fps and less that 5 fps shall be established in permanent vegetation by use of commercial erosion control blankets or lined with rock rip rap or concrete or other suitable materials as approved by the City Engineer. Detention basins, diversions, or other appropriate structures shall be constructed to prevent velocities above 5 fps.

5. The adjoining ground to development sites (lots) shall be provided with protection from accelerated and increased surface water, silt from erosion, and any other consequence of erosion. Run–off water from developed areas (parking lots, paved sites and buildings) above the area to be developed shall be directed to diversions, detention basins, covered gutters and/or underground outlet systems. Sufficiently anchored straw bales may be temporarily substituted with the approval of the City Engineer.

6. Development along natural watercourses shall have residential lot lines, commercial or industrial improvements, parking areas or driveways set back a minimum of 25 feet from the top of the existing stream bank. The watercourse shall be maintained and made the responsibility of the subdivision trustees or in the case of a site plan by the property owner. Permanent vegetation should be left intact. Variances will include designed stream bank erosion control measures and shall be approved by the City Engineer. FEMA and U.S. Army Corps of Engineers guidelines shall be followed where applicable regarding site development areas designated as flood plains and wetlands.

7. All lots shall be seeded and mulched or sodded at the minimum rates defined in the specifications before an occupancy permit shall be issued except that a temporary occupancy permit may be issued by the Building Department in cases of undue hardship because of unfavorable ground conditions. Seeding shall be done with Lesco Gateway Green Tall Fescue Blend (refer to LESCO.com)

SHEET INDEX

DEVELOPMENT NOTES:

1. AREA OF TRACT: 19.467 ACRES (12.59 ACRES SCHOOL SITE)
2. PRESENT ZONING: I–2 HEAVY INDUSTRIAL DISTRICT (CITY OF ST.PETERS)
3. PROPOSED USE: BUS PARKING AND MAINTENANCE FACILITY
4. BUILDING SETBACKS ARE AS FOLLOWS UNDER CURRENT PUD:
FRONT YARD: 30 FEET
SIDE YARD: 10 FEET
REAR YARD: 15 FEET
5. CITY REQUIRED PARKING CALCULATIONS:
WAREHOUSE – REQUIRES 5 SPACES PER 1,000 SQ.FT. GROSS FLOOR AREA
OFFICE – REQUIRES 3.3 SPACES PER 1,000 SQ.FT. GROSS FLOOR AREA

WAREHOUSE – 8,965 / 1,000 = 9 X 5 = 45
OFFICE – 9,280 / 1,000 = 10 X 3.3 = 33

78 PARKING SPACES REQUIRED
243 TOTAL PROPOSED PARKING SPACES W/7 ADA STALLS (2 LIFT VAN ONLY)
6. WE HAVE DETERMINED THE HORIZONTAL LOCATION OF THIS TRACT OF LAND IN ST. CHARLES COUNTY, MISSOURI, BY SCALING THE PROPERTY IN REFERENCE TO THE FOLLOWING FLOOD INSURANCE RATE MAPS (FIRM), ST. CHARLES COUNTY, MISSOURI AND INCORPORATED AREAS, MAP NUMBER 29183C0261G, COMMUNITY PANEL NUMBER (CITY OF ST. PETERS, 290319 00261 G), WITH AN EFFECTIVE DATE OF JANUARY 20, 2016. BY EXPRESS REFERENCE TO THESE MAPS AND THEIR LEGENDS, THIS TRACT OF LAND IS INDICATED TO BE WITHIN THE FOLLOWING ZONE:

ZONE X – AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN

7. PROPERTY OWNER: FORT ZUMWALT SCHOOL DISTRICT
555 E. TERRA LANE
O'FALLON, MO 63366
8. THIS PROPERTY IS SERVED BY THE FOLLOWING UTILITIES:

AMEREN MO	636–639–8306
CENTURYLINK	636–332–7261
SPIRE ENERGY	314–575–4831
CITY OF ST. PETERS SANITARY	636–278–2244
CITY OF ST. PETERS WATER	636–278–2244
CENTRAL COUNTY FIRE & RESCUE	636–970–9700

9. LANDSCAPING CALCULATIONS:

REQUIRED LANDSCAPING
TOTAL LOT IS 19.467 ACRES
LOTS HAVING 40% OR LESS OPEN SPACE MUST HAVE 20% OF SPACE LANDSCAPED.
LOTS HAVING MORE THAN 40% OPEN SPACE MUST HAVE MINIMUM 10% OF TOTAL LOT LANDSCAPED.
PROPERTY HAS 15% OPEN SPACE.
19.467 x 15% = 2.92AC. 2.92 x 20% = 0.58
TOTAL EXISTING TREES = 0AC.
PROPOSED LANDSCAPE AREAS = 0.58AC.
10 SQUARE FEET OF LANDSCAPING SHALL BE PROVIDED FOR EACH SPACE WITHIN THE PARKING LOT AREA OR LOT.
243 SPACES x 10 = 2,430 SQUARE FEET OF LANDSCAPING REQUIRED.
3,000 SQUARE FEET OF TOTAL INTERIOR LANDSCAPING PROVIDED.
TREE SHALL BE PLANTED WITHIN 10' OF PROPERTY ALONG RIGHT–OF–WAY EVERY 60 FEET.
ALL LANDSCAPING SHALL FOLLOW THE "ARBORICULTURAL SPECIFICATIONS MANUAL" FOR GUIDELINES, REMOVAL/INSTALLATION AND MAINTENANCE.
10. ALL SIGNS SHALL REQUIRE A SEPARATE PERMIT BY THE CITY OF ST. PETERS.
11. SITE SHALL COMPLY WITH CHAPTER 550 STORMWATER MANAGEMENT.
12. BASIC SOIL EROSION AND CONTROL MEASURES TO BE UTILIZED DURING SITE DEVELOPMENT.
SITE SHALL COMPLY WITH CHAPTER 530 GRADING REGULATIONS (FORMERLY ORDINANCE 1735 & 1931).
13. ACCESS TO DISABLED PERSON PARKING SPACES MUST COMPLY WITH ADA; THE ACCESS MUST BE AT GRADE OR THE RAMP MAY NOT BLOCK THE SIDEWALK, ALLOWING A FOUR FOOT CLEAR WALKWAY.
14. CONTACT CENTRAL COUNTY FIRE DEPARTMENT TO DETERMINE ANY ADDITIONAL REQUIRED APPROVALS (NOTE: THE FIRE DISTRICTS ARE INDEPENDENT AGENCIES AND NOT UNDER THE JURISDICTION OF THE CITY).
15. ALL ROOFTOP EQUIPMENT TO BE SCREENED TO THE FULL HEIGHT OF THE UNITS ON ALL SIDES.
16. ALL DOMESTIC, FIRE AND IRRIGATION WATER LINES SHALL HAVE BACKFLOW DEVICES.
17. ALL POLE AND BUILDING MOUNTED LIGHT FIXTURES TO BE DOWNCAST UNLESS DECORATIVE APPROVED BY THE PLANNING DEPARTMENT.
18. LOT 1 AND LOT 2 WILL HAVE NO ADDITIONAL FULL CURB CUT ACCESS TO MID RIVERS MALL DRIVE OR SALT RIVER ROAD.

1

GRADING QUANTITIES:

CUT = 305 CY
FILL = 8,015 CY

SHORT = 7,710 CY

CONTRACTOR TO HAUL–ON 2" MINUS ROCK FOR HEAVY DUTY PAVEMENT AREA TO ACHIEVE BALANCE SITE AND PROVIDE CITY WITH HAULING ROUTES.

MISSOURI ONE CALL SYSTEM, INC. 1-800-DIG-RITE STOP! CALL BEFORE YOU DIG!

CALL BEFORE YOU DIG! 1–800–DIG–RITE

NOT APPROVED FOR CONSTRUCTION

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

FORT ZUMWALT TRANSPORTATION CENTER
A SET OF CONSTRUCTION PLANS FOR
SALT RIVER ROAD
ST. PETERS, MO

PREPARED FOR:
FORT ZUMWALT SCHOOL DISTRICT
555 E. TERRA LANE
O'FALLON, MO 63366
636-240-2072

ENGINEERING PLANNING SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636–928–5552
FAX 928–1718

Box Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

REVISIONS

DISCLAIMER OF RESPONSIBILITY
I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey other than these authenticated by my seal.

BID PERMIT SET 08/13/24

1 ADDENDUM 1 08/28/24

Cliff L. Heitmann
Civil Engineer
E29817

07/26/24
DATE
21–18979A
PROJECT NUMBER
18979A con.DWG
FILE NAME
BWF
DRAWN
JCM JCM
DESIGNED CHECKED

COVER SHEET

C1

GRAPHIC SCALE

40 0 20 40

(IN FEET)
1 inch = 40 ft.

LANDSCAPE LEGEND

QTY. (10) ~ INDICATES PROPOSED BEAUTYBERRY, GOLDEN CURRANT OR WILD HYDRANGEA

QTY. (16) ~ INDICATES PROPOSED RED SUNSET MAPLE (MIN. 2" CALIPER)

QTY. (18) ~ INDICATES PROPOSED WHITE PINE (MIN. 2" CALIPER)

NOTE:
LANDSCAPING AS DEPICTED IS SHOWN TO MEET CITY CODE REQUIREMENTS AND SHOULD BE USED FOR BID PURPOSES. REVISIONS OR ALTERATIONS SUGGESTED BY CONTRACTOR (USING A QUALIFIED LANSCAPE DESIGNER) SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR SHALL COORDINATE WITH OWNER ON MATERIALS AND PLACEMENT.

NOTE:
STREET TREES ARE TO BE PLACED OUTSIDE OF RIGHT-OF-WAY. DO NOT PLACE OVER EXISTING UTILITIES.

LEGEND:

- 6" CONCRETE OVER 4" ROCK
- 8" CONCRETE OVER 10" ROCK
- 6" CONCRETE OVER 4" ROCK
- SODDED AREAS

SEE CONCRETE DETAILS SHEET C9

INTERNATIONAL SOCIETY OF ARBORICULTURE

INTERNATIONAL SOCIETY OF ARBORICULTURE
1400 WEST ANTHONY DRIVE
CHAMPAIGN, IL 61821
(217) 355-9411
(217) 355-9516 FAX

WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
TREES UP TO 65 MM (2.5 IN.) CALIPER – 14 GAUGE
TREES 65 MM (2.5 IN.) TO 75 MM (3 IN.) CALIPER – 12 GAUGE

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 25MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.

TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.

INSTALL THREE GUY WIRES PER TREE, SPACED EVENLY AROUND THE TRUNK.

ALL STAKES SHALL BE DRIVEN OUTSIDE THE EDGE OF THE ROOT BALL.

ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT.

- o TREES WITH POOR-QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.
- o TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
- o PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
- o ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
- o ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
- o TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.

NOTES:
1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.

TREE STAKING DETAIL – TREES 75MM (3 IN.) CALIPER OR LARGER

www.caddetails.com

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FORT ZUMWALT TRANSPORTATION CENTER

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SALT RIVER ROAD
ST. PETERS, MO

PREPARED FOR:
FORT ZUMWALT SCHOOL DISTRICT
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Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

REVISIONS

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BID PERMIT SET 08/13/24

1 ADDENDUM 1 08/28/24

Cliff L. Heitmann
Civil Engineer
E29817

07/26/24
DATE

21-18979A
PROJECT NUMBER

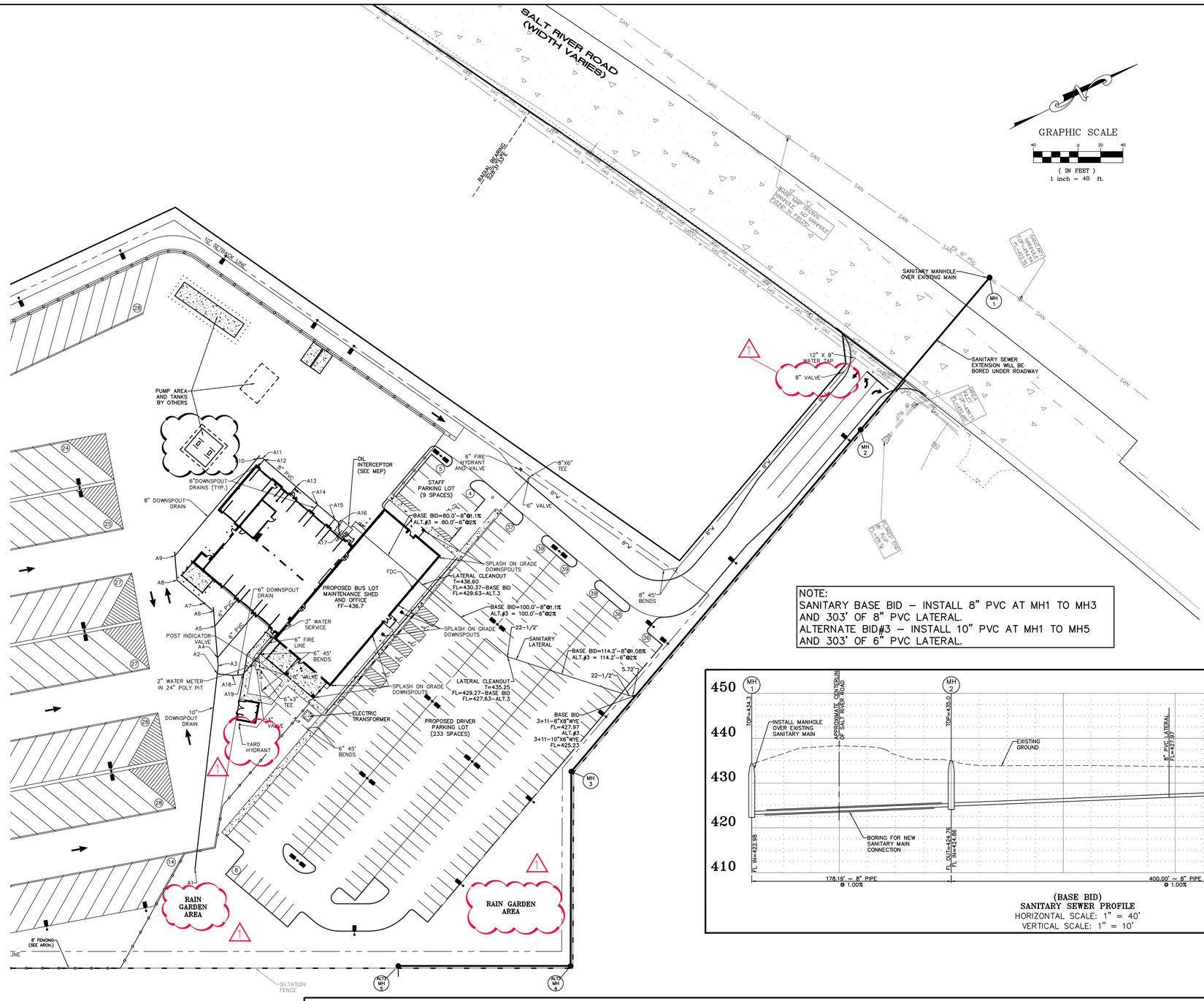
18979A con.DWG
FILE NAME

BWF
DRAWN

JCM JCM
DESIGNED CHECKED

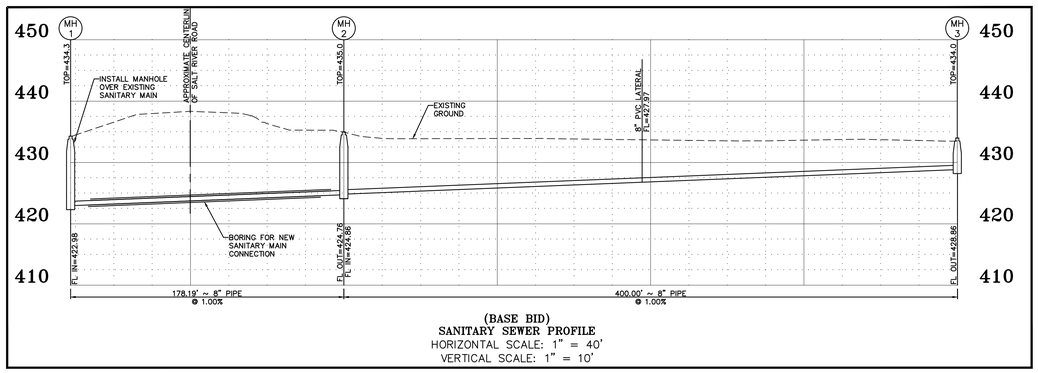
SITE PLAN

C3

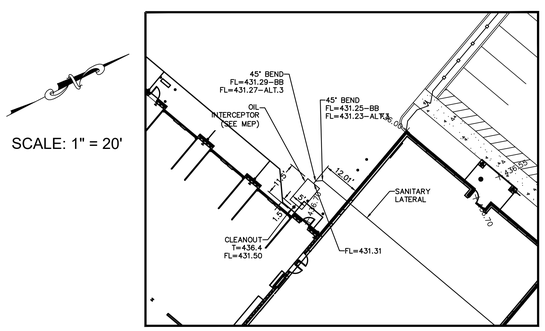


NOTE:
SANITARY BASE BID – INSTALL 8" PVC AT MH1 TO MH3 AND 303' OF 8" PVC LATERAL.
ALTERNATE BID#3 – INSTALL 10" PVC AT MH1 TO MH5 AND 303' OF 6" PVC LATERAL.

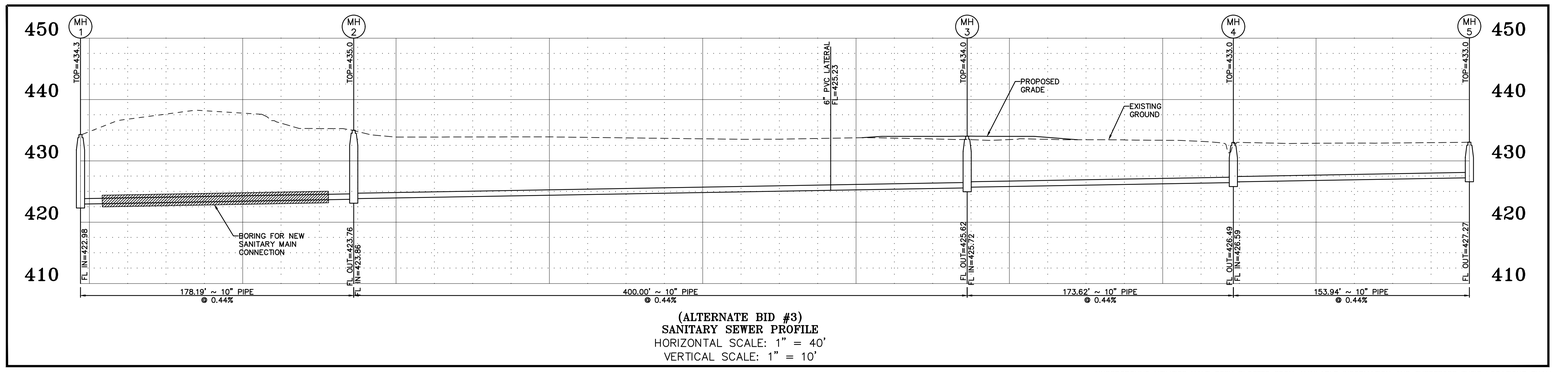
DOWNSPOUT SYSTEM A			
No.	Sta.	Type	Elevation
A1	0+00	END OF PIPE	FL=431.00
A2	1+76	10"X6" TEE WYE	FL=431.05
A3	1+83	10" 11-1/4° BEND	FL=431.10
A4	1+90	10" 45° WYE	FL=431.14
A5	2+18	10" 45° WYE	FL=432.31
A6	2+31	10" 45° WYE W/C.O.	FL=432.39 T=436.51
A7	2+42	10"X8" REDUCER	FL=432.45
A8	2+74	8" 45° BEND	FL=432.64
A9	2+96	8" 45° BEND W/C.O.	FL=432.77 T=436.92
A10	4+10	8" 45° BEND W/C.O.	FL=433.46 T=436.63
A11	4+15	8" 45° BEND	FL=433.49
A12	4+17	8"X6" TEE WYE	FL=433.50
A13	4+54	8"X6" TEE WYE	FL=433.72
A14	4+79	8"X6" TEE WYE	FL=433.87
A15	4+99	8"X6" TEE WYE	FL=433.99
A16	5+03	8" 45° BEND	FL=434.15
A17	5+14	8" 45° BEND	FL=434.16
A18	A2+14'R	6" 11-1/4" BEND	FL=431.33
A19	A2+23'R	6" 45° BEND	FL=431.79



(BASE BID)
SANITARY SEWER PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 10'



OIL INTERCEPTOR DETAIL



(ALTERNATE BID #3)
SANITARY SEWER PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 10'

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A SET OF CONSTRUCTION PLANS FOR
FORT ZUMWALT TRANSPORTATION CENTER
SALT RIVER ROAD
ST. PETERS, MO

PREPARED FOR:
FORT ZUMWALT SCHOOL DISTRICT
555 E. TERRA LANE
O'FALLON, MO 63366
636 240-2072

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718
Box Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

REVISIONS

DISCLAIMER OF RESPONSIBILITY
I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey other than these authenticated by my seal.

BID PERMIT SET 08/13/24

ADDENDUM 1 08/28/24

Cliff L. Heitmann
Civil Engineer
E29817

07/26/24 DATE
21-18979A PROJECT NUMBER
18979A con.DWG FILE NAME
BWF DRAWN
JCM JCM DESIGNED CHECKED

UTILITY PLAN AND SANITARY SEWER PROFILE

C4

MID RIVERS MALL DRIVE (80' WIDE)

SALT RIVER ROAD (WIDTH VARIES)

RADIAL BEARING N43°55'10"W

RADIAL BEARING S28°51'53"E

10' SETBACK LINE

15' SETBACK LINE

20' X 50' CONSTRUCTION WASHDOWN AREA

STAFF PARKING LOT (9 SPACES)

PROPOSED BUS LOT MAINTENANCE SHED AND OFFICE FF=436.7

PROPOSED DRIVER PARKING LOT (233 SPACES)

ELECTRIC TRANSFORMER

RAIN GARDEN AREA

RAIN GARDEN AREA

AREA FOR GRASS FILTRATION STRIP

AREA FOR GRASS FILTRATION STRIP

TEST BORE 1

TEST BORE 2

TEST BORE 3

TEST BORE 4

TEST BORE 5

TEST BORE 6

SILTATION FENCE

MH 1

MH 2

MH 3

ALT'N MH 5

ALT'N MH 4

GRAPHIC SCALE

40 0 20 40

(IN FEET)

1 inch = 40 ft.

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E29817

07/26/24
DATE

21-18979A
PROJECT NUMBER

18979A con.DWG
FILE NAME

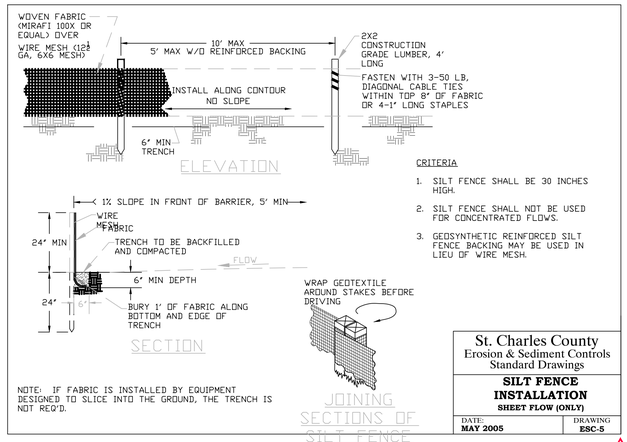
BWF
DRAWN

JCM JCM
DESIGNED CHECKED

GRADING AND STORMWATER POLLUTION PREVENTIONPLAN

C5

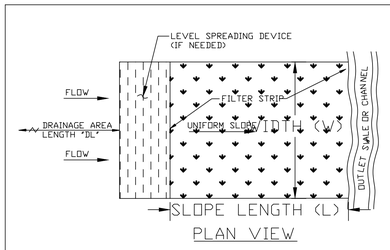
ENGINEERS SEAL DOES NOT APPLY TO ST. CHARLES COUNTY DETAILS



St. Charles County
Erosion & Sediment Controls
Standard Drawings

SILT FENCE INSTALLATION
SHEET FLOW (ONLY)

DATE:	DRAWING
MAY 2005	ESC-5



FILTER STRIP DIMENSIONS

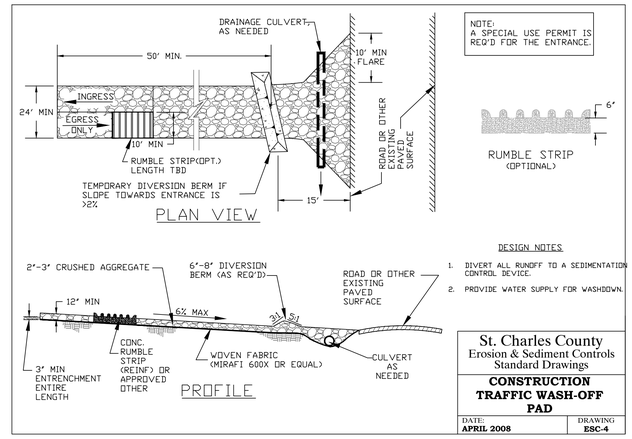
SLOPE (%)	WIDTH "W" GRASS	WIDTH "W" WOODED	LENGTH "L"
0	20'	50'	DL (50'MIN)
2	20'	50'	DL + 8'
4	20'	50'	DL + 16'
6	20'	50'	DL + 24'
8	25'	60'	DL + 32'
10	30'	60'	DL + 40'
15	50'	75'	DL + 60'

CRITERIA:
1. DRAINAGE AREA TO BE LESS THAN 5 ACRES.
2. NO SHRUBS, PLANTS OR TREES TO BE PLANTED IN GRASSED FILTER STRIP.
3. VEGETATION SHOULD BE NATIVE GRASSES.
4. VEGETATION SHOULD BE MAINTAINED BETWEEN 6"-12" TALL.

St. Charles County
Erosion & Sediment Controls
Standard Drawings

FILTER STRIP

DATE:	DRAWING
APRIL 2008	ESC-8

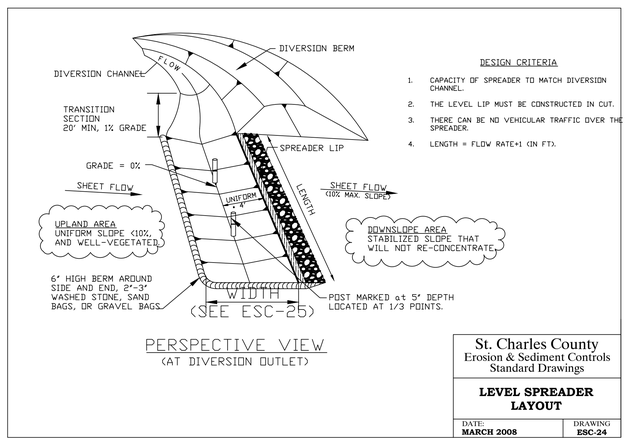


DESIGN NOTES
1. DIVERT ALL RUNOFF TO A SEDIMENTATION CONTROL DEVICE.
2. PROVIDE WATER SUPPLY FOR WASHDOWN.

St. Charles County
Erosion & Sediment Controls
Standard Drawings

CONSTRUCTION TRAFFIC WASH-OFF PAD

DATE:	DRAWING
APRIL 2008	ESC-4

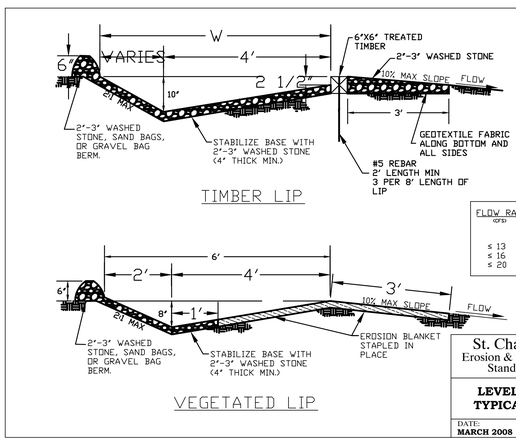


DESIGN CRITERIA
1. CAPACITY OF SPREADER TO MATCH DIVERSION CHANNEL.
2. THE LEVEL LIP MUST BE CONSTRUCTED IN CUT.
3. THERE CAN BE NO VEHICULAR TRAFFIC OVER THE SPREADER.
4. LENGTH = FLOW RATE÷1 (IN FT).

St. Charles County
Erosion & Sediment Controls
Standard Drawings

LEVEL SPREADER LAYOUT

DATE:	DRAWING
MARCH 2008	ESC-24

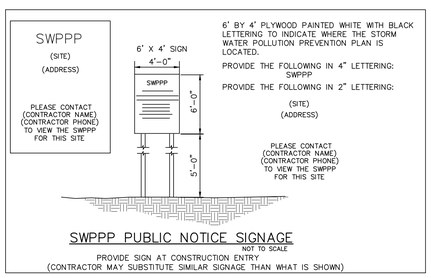


FLOW RATE (CFS)	LIP TYPE	W (FT)
≤ 8	VEG.	6
≤ 13	TIMBER	8
≤ 16	TIMBER	10
≤ 20	TIMBER	12

St. Charles County
Erosion & Sediment Controls
Standard Drawings

LEVEL SPREADER TYPICAL SECTIONS

DATE:	DRAWING
MARCH 2008	ESC-25



SPILL AND SITE POLLUTION:

SHOULD AN ACCIDENTAL SPILL OCCUR REFER TO MATERIAL SAFETY DATA SHEETS. ANY SPILLS OF HAZARDOUS MATERIALS IN QUANTITIES IN EXCESS OF REPORTABLE QUANTITIES AS DEFINED BY EPA OR THE STATE AGENCY REGULATIONS, SHALL BE IMMEDIATELY REPORTED TO THE EPA NATIONAL RESPONSE CENTER (800-424-8802) AND MISSOURI DEPARTMENT OF NATURAL RESOURCES (573-634-2436) AND THE ST. CHARLES COUNTY DIVISION OF ENVIRONMENTAL SERVICES, SOLID WASTE ENFORCEMENT (636-949-7415). REPORTABLE SPILLS FOR PETROLEUM PRODUCTS IS GREATER THAN 50 GALLONS. ALL OTHER REPORTABLE HAZARDOUS MATERIALS AND THEIR QUANTITIES MAY BE FOUND ON THE WEB SITE AT HTTP://WWW.DNR.MO.GOV AND THE LOCAL NUMBER IS 573-840-9750. FEDERAL LAW REQUIRES THE RESPONSIBLE PARTY TO REPORT ANY RELEASE OF OIL IF IT REACHES OR THREATENS A SEWER, LAKE, CREEK, STREAM, RIVER, GROUNDWATER, WETLANDS, OR AREA LIKE A ROAD DITCH, THAT DRAINS INTO THE ABOVE.

AN EMERGENCY SPILL KIT IS REQUIRED TO BE ONSITE.

THE CONTRACTOR IS TO PROVIDE THE CITY WITH ALL SWPPP INSPECTION REPORTS.

Table 60-5 Soil Stabilization Schedule

Soil Disturbance Activity or Condition	Required Stabilization Time
Soil disturbance has ceased in areas greater than 2,000 square feet.	14 days
After construction of dikes, swales, diversions, and other concentrated flow areas	5 days
When slopes are steeper than 3 horizontal to1 vertical	7 days
When slopes are greater than 3% and longer than 150 feet.	14 days
Perimeter controls around soil stockpiles.	End of workday
Stabilization or covering of inactive stockpiles.	30 days
When land disturbance is completed, permanent soil stabilization must be installed.	30 days

Storm Water Pollution Prevention Plan

A. PURPOSE:

The purpose of the Storm Water Pollution Prevention Plan (SWPPP) is to inform the Developer/Contractor of the following objectives they are required to meet:

- Prevent erosion where construction activities shall occur.
- Prevent pollutants from mixing with storm water.
- Prevent pollutants from being discharged by trapping them on-site, before they can affect the receiving waters.
- All regulations of Missouri Department of Natural Resources are met.
- All regulations of the Environmental Protection Agency are met.
- All regulations of the local municipality are met.

B. PROJECT DESCRIPTION:

The project is located in the Dardenne Creek watershed in St. Peters, Missouri. This project disturbs approximately 12.03 acres.

The project activities consist of new transportation center parking areas. The site will be protected by the various erosion protection measures listed below:

1. Silt Fence: The perimeter of the project that allows storm water to exit will have silt fence installed. These fences shall be composed of either straw bales or a fabric material. Details of these devices are depicted on the construction plans prepared by Bax Engineering Company, Inc.
2. Stabilized Construction Entrance: During construction the entrance at the north end of the site will be used. Once the north end has been graded, a stabilized construction washdown area will be installed to prevent sediment form being tracked onto public roads. The area shall consist of 2"-3" washed stone 6" thick.
3. Re-vegetation: The site will consist of varying ground slopes upon completion of the grading activities and will be seeded and strawed to stabilize the slope and prevent erosion.

C. MAINTENANCE AND INSPECTION:

Regular Maintenance: Weekly inspections of the project will include: (a) The repair of any sediment (silt) fence damaged or out of place; (b) The removal of any accumulated trash and/or debris; and (c) The remove of any externally deposited waste materials.

Periodic Inspections: Following each rain of more than 0.25 inch in 24 hours, the site will be inspected, and any necessary maintenance will be provided for a period of one year following the completion of the above remediation measures. Summaries of the maintenance and the inspections will be maintained and shall be kept available from the owner. An inspection report shall be filed and kept on site for every inspection. The report shall detail the findings of the inspection and if any action was required. The inspection form needs to include, name of the site, name of the inspector, permit number, date of inspection, major observations and actions taken to correct problems and the signature of the inspector. The inspection reports need to be kept on file by the permittee for three years after the project is completed.

The field inspections will be conducted in a systematic manner to minimize the possibility of any significant feature being overlooked. A detailed checklist will be developed and followed for the examination. Particular attention will be given to detecting evidence of erosion, slope instability, undue settlement, displacement, and tilting. Photographs and drawings will be used freely to record conditions in order to minimize descriptions. The field inspection will include appropriate features and items, including potential hazards to human life or property.

The condition of the slopes and vegetative cover will be evaluated and examined for erosion.

Measures will be taken to promote the growth of vegetation and repair of damage caused by erosion and sedimentation. The inspection will also provide recommendations for measures that need to be undertaken immediately, based on the experience and judgment of the inspector. Necessary follow up inspections will be made as necessary to verify that any maintenance, alteration, or repair measures are accomplished by methods acceptable by standard engineering practice.

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Surveying #000144

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BID PERMIT SET 08/13/24

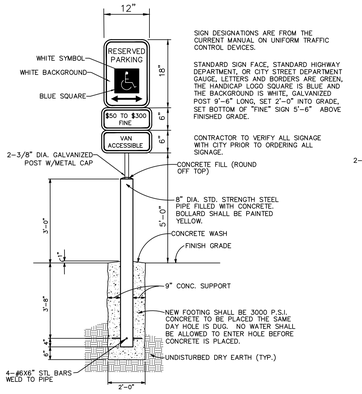
1 ADDENDUM 1 08/28/24

Cliff L. Heitmann
Civil Engineer
E29817

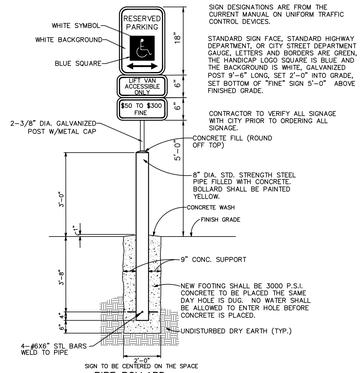
07/26/24 *DATE*
21-18979A *PROJECT NUMBER*
18979A con.DWG *FILE NAME*
BWF *DRAWN*
JCM JCM *DESIGNED CHECKED*

STORMWATER POLLUTION PREVENTION DETAILS

C6

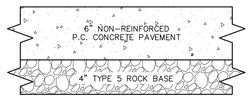


PIPE BOLLARD
ACCESSIBLE CAR PARKING SIGN
NOT TO SCALE

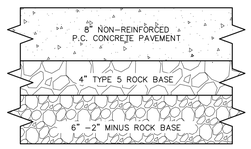


PIPE BOLLARD
ACCESSIBLE VAN PARKING SIGN
NOT TO SCALE

NOTE: SIGN POST AND SIGN BACK SHALL BE PAINTED BLACK PER ROADWAY NOTE 19 ON SHEET C2.

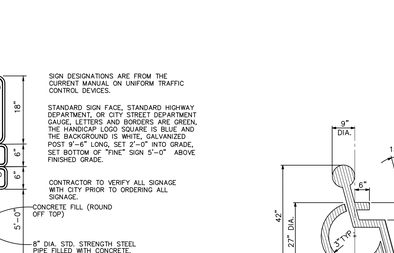


LIGHT DUTY CONCRETE DETAIL
NOT TO SCALE



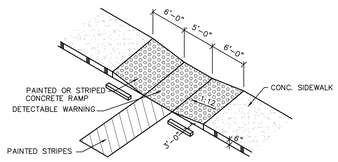
HEAVY DUTY CONCRETE DETAIL
NOT TO SCALE

CONCRETE CURB DETAIL
NOT TO SCALE

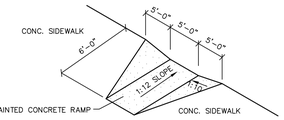


PROVIDE 1/2" PREMOLDED EXPANSION JOINT FILLER AT 60' CENTERS
PROVIDE TOOLED CONTRACTION JOINTS AT 10' C.C.

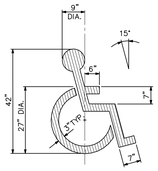
TURNED DOWN CONCRETE WALK
NOT TO SCALE



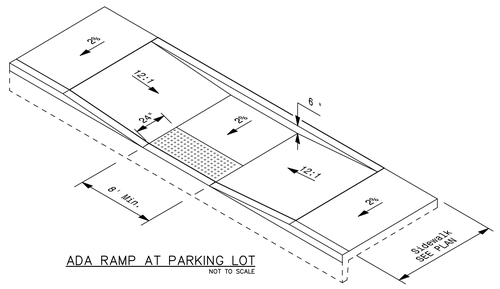
HANDICAPPED RAMP DETAIL
NOT TO SCALE



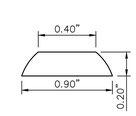
HANDICAPPED RAMP DETAIL
NOT TO SCALE



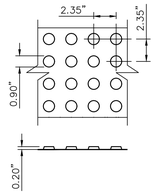
PAINTED ACCESSIBLE
PARKING SYMBOL
NOT TO SCALE



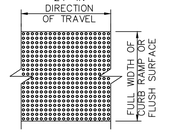
ADA RAMP AT PARKING LOT
NOT TO SCALE



SECTION VIEW OF DOME

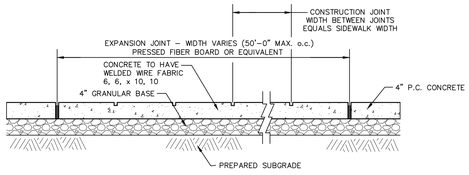


PLAN AND SECTION VIEWS OF DETECTABLE WARNING DOMES AND THEIR RELATIVE SPACING ON THE X AND Y AXIS

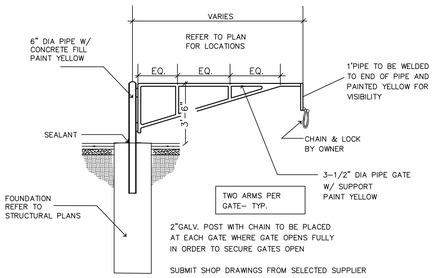


PLAN VIEW OF A DETECTABLE WARNING SURFACE SHOWING DOMES ALIGNED IN ROWS, NOT SKEWED DIAGONALLY.

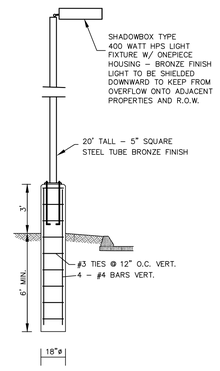
TYPICAL DETAIL OF DETECTABLE WARNING SURFACE
NOT TO SCALE



CONCRETE SIDEWALK WITH BASE DETAIL
NOT TO SCALE



TYPICAL SWING GATE DETAIL
NOT TO SCALE



LIGHT POLE & BASE
NOT TO SCALE

ADDENDUM 1
DETAILS FOR TRASH ENCLOSURE, FENCE AND PIPE BOLLARD HAVE BEEN REMOVED.
(SEE ARCHITECTURAL)

CALL BEFORE YOU DIG!
1-800-DIG-RITE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

A SET OF CONSTRUCTION PLANS FOR
FORT ZUMWALT TRANSPORTATION CENTER
SALT RIVER ROAD
ST. PETERS, MO

PREPARED FOR:
FORT ZUMWALT SCHOOL DISTRICT
555 E. TERRA LANE
O'FALLON, MO 63366
636 240-2072

ENGINEERING PLANNING SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

Box Engineering Company, Inc.
Missouri State Certificate of Authority Engineering #000655
Missouri State Certificate of Authority Surveying #000144

REVISIONS

DISCLAIMER OF RESPONSIBILITY
I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey other than these authenticated by my seal.

BID PERMIT SET 08/13/24

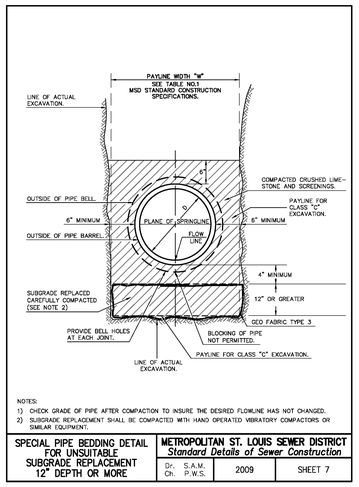
⚠ ADDENDUM 1 08/28/24

Cliff L. Heitmann
Civil Engineer
E29817

07/26/24
DATE
21-18979A
PROJECT NUMBER
18979A con.DWG
FILE NAME
BWF
DRAWN
JCM JCM
DESIGNED CHECKED

DETAILS

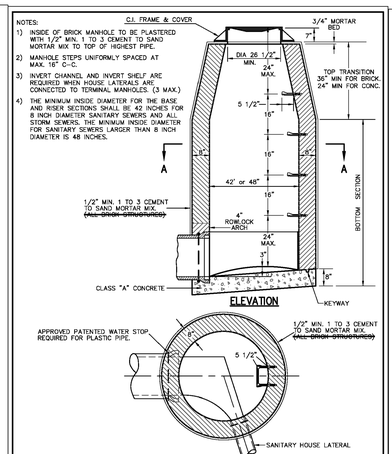
C9



NOTES:
1) CHECK GRADE OF PIPE AFTER COMPACTION TO INSURE THE DESIRED FLOWLINE HAS NOT CHANGED.
2) SUBGRADE REPLACEMENT SHALL BE COMPACTED WITH HAND OPERATED VIBRATORY COMPACTORS OR SIMILAR EQUIPMENT.

SPECIAL PIPE BEDDING DETAIL FOR UNSUITABLE SUBGRADE REPLACEMENT 12" DEPTH OR MORE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. S.A.M. Ch. P.W.S.	2009	SHEET 7

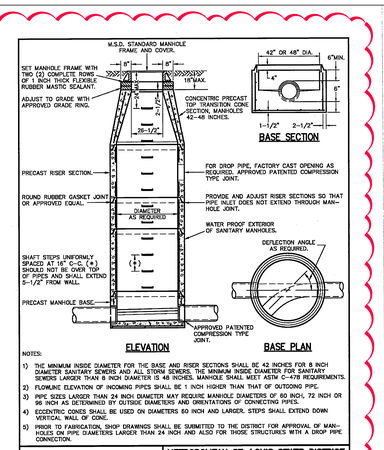
NOTES:
1) INSIDE OF BRICK MANHOLE TO BE PLASTERED WITH 1/2" MIN. 1 TO 3 CEMENT TO SAND MORTAR MIX TO TOP OF HIGHEST PIPE.
2) MANHOLE STEPS UNIFORMLY SPACED AT MAX. 16" C-C.
3) INVERT CHANNEL AND INVERT SHELF ARE REQUIRED WHEN HOUSE LATERALS ARE CONNECTED TO TERMINAL MANHOLES. (3 MAX.)
4) THE MINIMUM INSIDE DIAMETER FOR THE BASE AND RISER SECTIONS SHALL BE 42 INCHES FOR 8 INCH DIAMETER SANITARY SEWERS AND ALL STORM SEWERS. THE MINIMUM INSIDE DIAMETER FOR SANITARY SEWERS LARGER THAN 8 INCH DIAMETER IS 48 INCHES.



ELEVATION

SECTION A-A

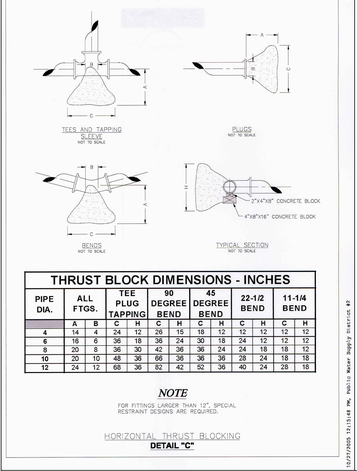
TERMINAL MANHOLE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. WSH/SAM Ch. J.C.K.	2009	SHEET 20



ELEVATION — BASE PLAN

NOTES:
1) THE MINIMUM INSIDE DIAMETER FOR THE BASE AND RISER SECTIONS SHALL BE 42 INCHES FOR 8 INCH DIAMETER SANITARY SEWERS AND ALL STORM SEWERS. THE MINIMUM INSIDE DIAMETER FOR SANITARY SEWERS LARGER THAN 8 INCH DIAMETER IS 48 INCHES. MANHOLE SHALL MEET ASTM C-478 REQUIREMENTS.
2) FLOWLINE ELEVATION OF INCOMING PIPES SHALL BE 1 INCH HIGHER THAN THAT OF OUTGOING PIPE.
3) PIPE SIZES LARGER THAN 24 INCH DIAMETER MAY REQUIRE MANHOLE DIAMETERS OF 60 INCH, 72 INCH OR 96 INCH AS DETERMINED BY OUTSIDE DIAMETERS AND ORIENTATIONS OF CONNECTING PIPES.
4) ECCENTRIC CONES SHALL BE USED ON DIAMETERS 60 INCH AND LARGER. STEPS SHALL EXTEND DOWN VERTICAL WALL OF CONE.
5) PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL OF MAN-HOLES ON PIPE DIAMETERS LARGER THAN 24 INCH AND ALSO FOR THOSE STRUCTURES WITH A DROP PIPE CONNECTION.

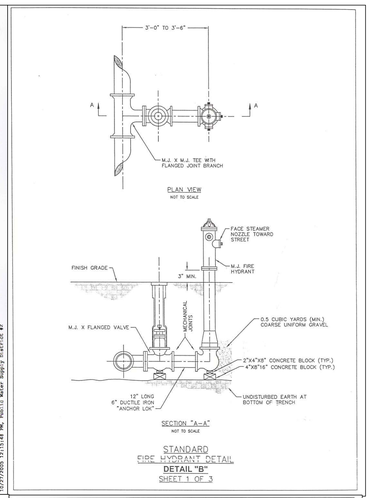
PRECAST CONCRETE MANHOLE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. WSH/SAM Ch. J.C.K.	2009	SHEET 21



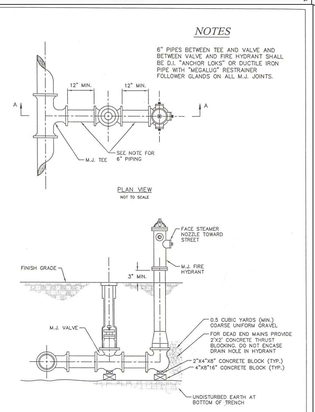
THRUST BLOCK DIMENSIONS - INCHES												
PIPE DIA.	ALL FTGS.		TEE PLUG TAPPING		90 DEGREE BEND		45 DEGREE BEND		22-1/2 BEND		11-1/4 BEND	
	A	B	C	H	C	H	C	H	C	H	C	H
4	14	4	24	12	26	15	18	12	12	12	12	12
6	16	6	36	18	36	24	30	18	24	12	12	12
8	20	8	36	30	42	36	36	24	24	18	18	12
10	20	10	48	36	66	36	36	36	28	24	18	18
12	24	12	68	36	82	42	52	36	40	24	28	18

NOTE
FOR FITTINGS LARGER THAN 12", SPECIAL RESTRAINT DESIGNS ARE REQUIRED.

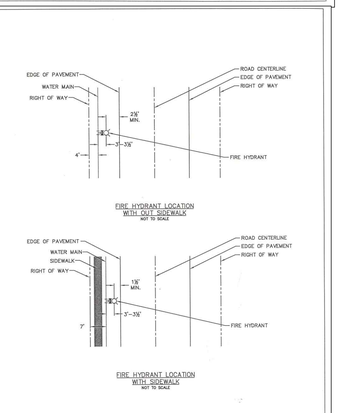
HORIZONTAL THRUST BLOCKING
DETAIL "C"



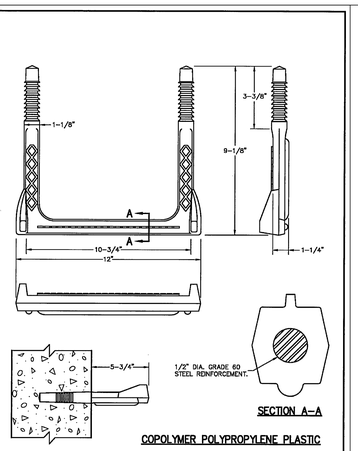
STANDARD
FIRE HYDRANT DETAIL
DETAIL "B"
SHEET 1 OF 3



OPTIONAL
FIRE HYDRANT DETAIL
DETAIL "B"
SHEET 2 OF 3



LOCATION
FIRE HYDRANT DETAIL
DETAIL "B"
SHEET 3 OF 3



MANHOLE STEP FOR PRECAST & CAST-IN-PLACE MANHOLE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. D.A.B. Ch. J.C.K.	2009	SHEET 58

ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
INSIDE DIAMETER OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASEMENT	INSIDE DIMENSIONS OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASEMENT
4	30	2.50	3.28				
6	30	2.50	3.59				
8	30	2.50	3.87				
10	30	2.50	4.09				
12	30	2.50	4.25				
15	36	3.00	5.55				
18	36	3.00	5.77	14 x 23	41	3.42	5.94
21	39	3.25	6.61				
24	42	3.50	7.39	19 x 30	49	4.08	7.68
27	45	3.75	8.18	22 x 34	53	4.42	8.61
30	49	4.08	9.30	24 x 38	58	4.83	9.70
33	53	4.42	10.53	27 x 42	62	5.17	10.71
36	56	4.67	11.43	29 x 45	66	5.50	11.72
39	DISCONTINUED			32 x 49	71	5.92	13.14
42	63	5.25	13.38	34 x 53	75	6.25	14.05
48	70	5.83	15.67	38 x 60	83	6.92	16.18
54	77	6.42	18.15	43 x 68	92	7.67	18.81
60	84	7.00	20.73	48 x 76	101	8.42	21.59
66	91	7.58	23.45	53 x 83	109	9.08	24.35
72	98	8.17	26.37	58 x 91	118	9.83	27.45
78	105	8.75	29.39	63 x 98	126	10.50	30.50
84	112	9.33	32.57	68 x 106	135	11.25	33.91
90	119	9.92	35.90	72 x 113	143	11.92	36.99
96	126	10.50	39.37	77 x 121	152	12.67	40.69
102	133	11.08	42.99	82 x 128	160	13.33	44.45
108	140	11.67	46.75	87 x 136	168	14.00	47.79
114	147	12.25	50.66	92 x 143	176	14.67	51.70
120	154	12.83	54.72	97 x 151	185	15.42	56.01
126	161	13.42	58.92				
132	168	14.00	63.27	106 x 166	202	16.83	64.48
144	182	15.17	72.40	116 x 180	218	18.17	73.59

TABLE 1 PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. B.E.B. Ch. J.C.K.	2009	SHEET 1

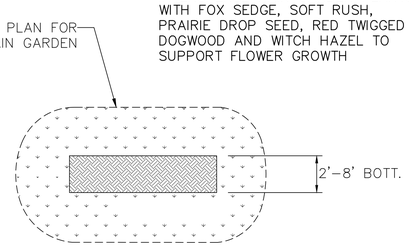
PIPE SIZE	DEGREE BEND	DOWN BENDS W	DOWN BENDS H	DOWN BENDS L	UP BENDS W	UP BENDS H	UP BENDS L
4"	11 1/4°	18	12	18	12	12	12
	22 1/2°	18	18	24	12	12	12
	45°	18	18	30	12	12	18
6"	11 1/4°	24	18	18	12	12	12
	22 1/2°	24	18	24	12	12	12
	45°	24	18	48	12	12	18
8"	11 1/4°	24	18	24	12	12	18
	22 1/2°	24	18	42	12	12	24
	45°	24	18	48	18	12	24
10"	11 1/4°	30	24	24	18	18	18
	22 1/2°	30	24	42	18	18	24
	45°	30	24	72	18	18	36
12"	11 1/4°	30	24	30	18	18	18
	22 1/2°	30	24	54	18	18	30
	45°	30	36	72	24	18	36

DIMENSIONS FOR VERTICAL BENDS
(IN INCHES)
DETAIL "D"
PAGE 2 OF 2

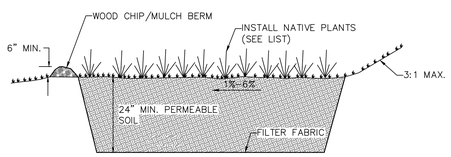
1

PLANTING LIST:
CARDINAL FLOWER, GREAT BLUE LOBELIA, MARSH MILKWEED, BLUE FLAG IRIS, YELLOW CONEFLOWER, LITTLE BLUESTEM OR EQUAL

INTERSPERSE RAIN GARDEN PLANTS WITH FOX SEDGE, SOFT RUSH, PRAIRIE DROP SEED, RED TWIGGED DOGWOOD AND WITCH HAZEL TO SUPPORT FLOWER GROWTH



RAIN GARDEN PLAN VIEW



RAIN GARDEN PROFILE

FORT ZUMWALT TRANSPORTATION CENTER
A SET OF CONSTRUCTION PLANS FOR
SALT RIVER ROAD
ST. PETERS, MO

PREPARED FOR:
FORT ZUMWALT SCHOOL DISTRICT
555 E. TERRA LANE
O'FALLON, MO 63366
(636) 240-2072

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FAX 928-1718

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Engineering #000655
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REVISIONS

DISCLAIMER OF RESPONSIBILITY
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BID PERMIT SET 08/13/24

1 ADDENDUM 1 08/28/24

REFERENCE ONLY

Cliff L. Heitmann
Civil Engineer
E29817

07/26/24 DATE
21-18979A PROJECT NUMBER
18979A con.DWG FILE NAME
BWF DRAWN
JCM JCM DESIGNED CHECKED

DETAILS

C10

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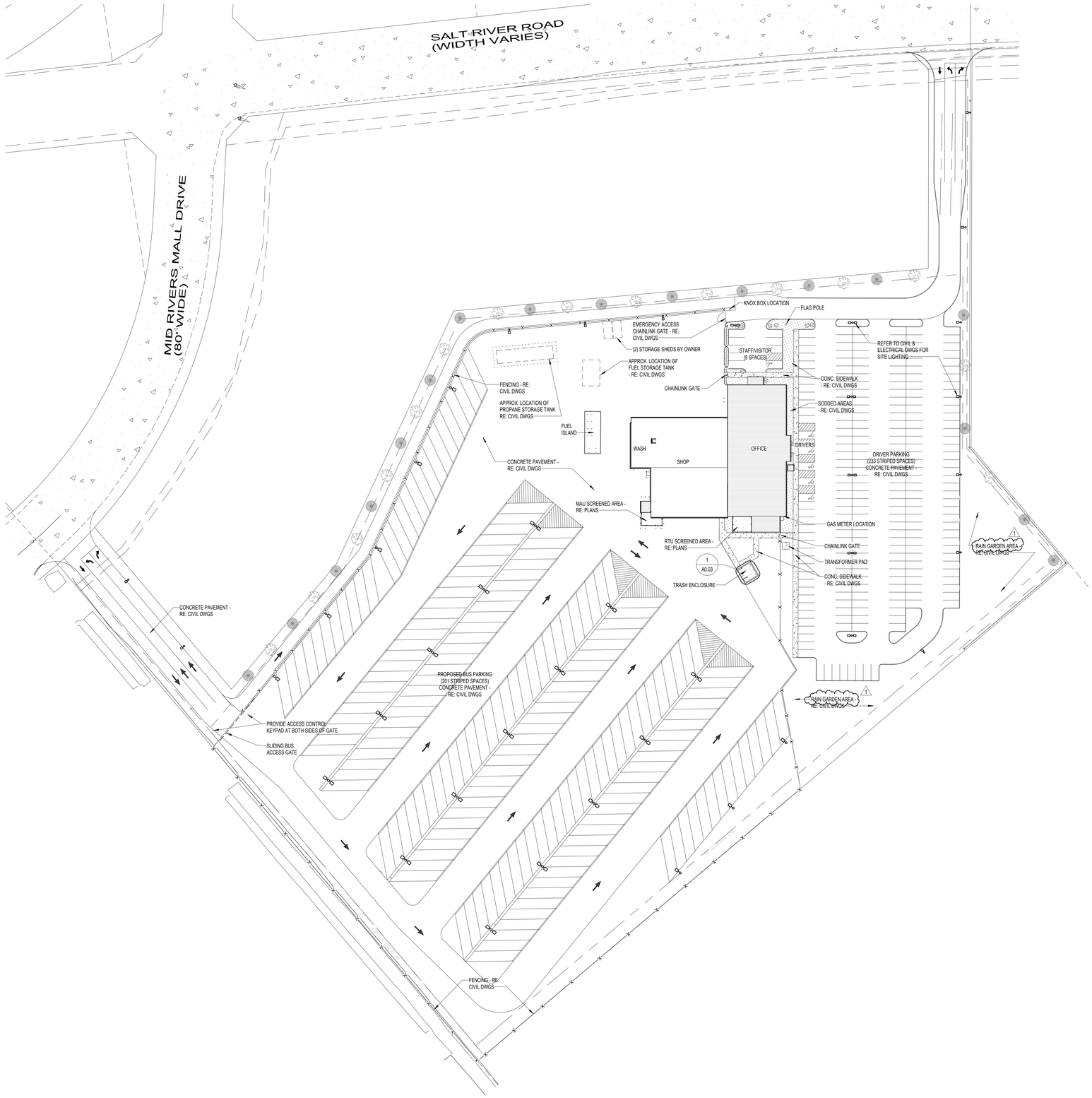
ARCHITECTURAL SITE PLAN - GENERAL NOTES

1. ALL NON-PAVED / NON-MULCH AREAS TO BE SOD - RE: CIVIL DWGS.
2. PROVIDE PRECAST SPLASHES AT ALL OVERFLOR DRAIN LOCATIONS - RE: PLUMBING DWGS.
3. PROVIDE CONCRETE PAVING EXPANSION JOINTS AS REQUIRED PER SPECIFIED STANDARDS TO SEPARATE CONCRETE PAVING FROM BUILDINGS, WALLS, FOOTINGS, POLES AND OTHER POINTS OF RESTRAINT - RE: CIVIL DWGS.



1 A0.02 OVERALL SITE PLAN
1" = 50'-0"

0' 25' 50'

CORDOGAN CLARK
ARCHITECTURE + ENGINEERING + CONSTRUCTION

CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION
CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER:
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
AURORA, IL 60506
(630) 896-4979
MO. CERTIFICATE OF AUTHORITY NO. 2019017445

MECHANICAL ENGINEER:
FACILITY SOLUTIONS GROUP, INC.
901 HORAN DRIVE, SUITE 200
FENTON, MO 63026
(636) 537-0203
MO. CERTIFICATE OF AUTHORITY NO. 2013042069

ELEC. & PLUMB ENGINEER:
ECS CONSULTING ENGINEERS, INC.
9986 MANCHESTER ROAD, SUITE 202
ST. LOUIS, MO 63122
(314) 755-1920
MO. CERTIFICATE OF AUTHORITY NO. E-2018042187

OWNER CONSULTANTS:

CIVIL ENGINEER
BAX ENGINEERING CO., INC.
221 POINT WEST BLVD.
ST. CHARLES, MO 63301
(636) 928-5552
MISSOURI CERTIFICATE OF AUTHORITY NO. ENG. 000855
MISSOURI CERTIFICATE OF AUTHORITY NO. SURVEYING 000144

FORT ZUMWALT
TRANSPORTATION CENTER
TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

ARCHITECTURAL SITE PLAN

STATE OF MISSOURI
RICHARD W. KEISKER
NUMBER A-2010027038
REGISTERED ARCHITECT
FZ Trans 08-13-24
MO ARCHITECTURAL REGISTRATION NO. 2010027388

JOB NUMBER 224205

DATE 08/13/2024

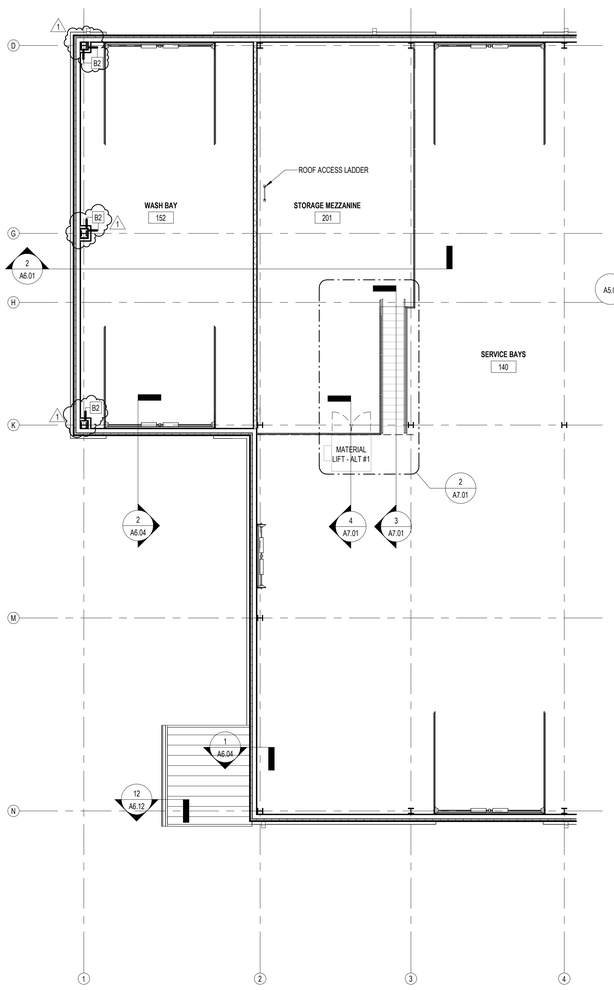
REVISIONS:
1. Addendum 01 08-29-2024

ISSUED FOR BID & PERMIT

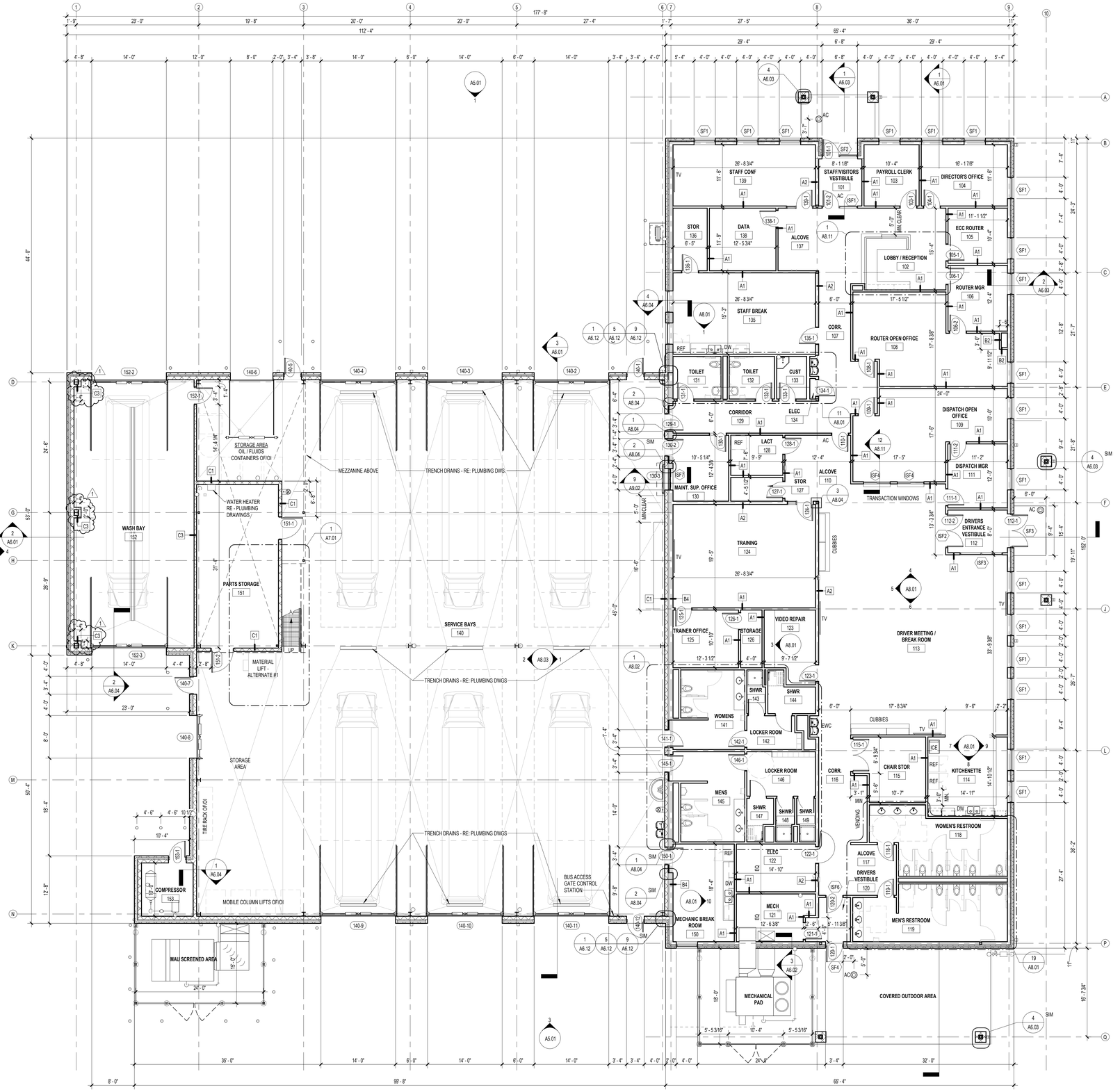
A0.02

GENERAL FLOOR PLAN NOTES

1. FINISHED FLOOR = 0'-0" U.N.O. = ELEVATION 436.7 - REFER TO CIVIL
2. REFER TO DRAWINGS G1.01 FOR PARTITION AND ASSEMBLY TYPES.
3. REFER TO DRAWING A9.01 FOR DOOR SCHEDULE, DOOR AND FRAME TYPES, AND DETAILS.
4. REFER TO DRAWING A9.02 FOR STOREFRONT TYPES, AND DETAILS.
5. REFER TO ENLARGED PLANS FOR ADDITIONAL DIMENSIONAL INFORMATION AND PARTITION TYPES OF TAGGED AREAS SUCH AS TOILET ROOMS.
6. DIMENSIONS SHOWN ARE TO FACE OF FINISH, TO CENTER LINE OF COLUMNS, AND TO FACE OF CONCRETE OR MASONRY WALLS U.N.O.
7. ALL EXTERIOR DIMENSIONS OF OPENINGS ARE MASONRY OPENING DIMENSIONS U.N.O.
8. PROVIDE GYPSUM BOARD CONTROL JOINTS THE FULL HEIGHT OF THE PARTITION AT A SPACING OF 30'-0" O.C. MAX.
9. METAL FRAMING PERFORMANCE CRITERIA: PROVIDE NECESSARY FRAMING, GAUGES, FASTENERS, ETC. TO ACHIEVE L/360 DEFLECTION AT ALL METAL FRAMING INSTALLATIONS.
10. ALL PENETRATIONS WITHIN FIRE RATED WALLS ARE TO BE SEALED WITH FIRE CAULKING TO MAINTAIN THE SPECIFIED U.L. DESIGN. THE CONTRACTOR RESPONSIBLE FOR THE PENETRATION IS RESPONSIBLE FOR THE FIRE CAULKING INSTALLATION.
11. COMBUSTIBLE MATERIALS MUST COMPLY WITH 2021 IBC, SECTION 603.1. COMBUSTIBLE MATERIALS IN CONCEALED SPACES MUST COMPLY WITH 2021 IBC, SECTION 718.5.
12. PROVIDE LEVEL SURFACES AT ALL DOORS IN ACCORDANCE TO IBC 1010.1.4
13. LOCATE DOORS 4" FROM INSIDE CORNER UNLESS OTHERWISE NOTED. PROVIDE MINIMUM 1'-0" CLEAR FLOOR SPACE AT THE PUSH SIDE OF EVERY DOOR WITH A CLOSER. PROVIDE MINIMUM 1'-0" CLEAR AT THE PULL SIDE OF EVERY DOOR, UNLESS SPECIFICALLY DIMENSIONED, NOTED, OR SHOWN OTHERWISE.
14. PROVIDE CORNER GUARDS AS INDICATED ON FINISH PLANS AND ELEVATIONS.
15. COORDINATE MOUNTING DIMENSIONS OF TELEVISION MONITORS, MAGNETIC MARKER BOARDS, GLASS MARKER BOARDS, TACK BOARDS, CLOCKS, SPEAKERS, EQUIPMENT, ETC. WITH OWNER.
16. INSTALL FIRE EXTINGUISHER CABINETS WHERE NOTED IN PLAN AND AS NOTED IN THE FIRE PROTECTION DRAWINGS. REFER TO LIFE SAFETY PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION INCLUDING CABINET TYPES.
17. REFER STRUCTURAL DRAWINGS FOR LOCATIONS OF ALL STEEL REINFORCING IN WALL AND FLOOR CONSTRUCTION.
18. REFER ELEVATIONS AND STRUCTURAL DRAWINGS FOR LOCATIONS OF EXPANSION & CONTROL JOINTS. CONTRACTOR SHALL PROVIDE ADDITIONAL INTERIOR CONTROL JOINTS AS REQUIRED TO COMPLY W/ MAXIMUM SPACING REQ. IN SPECIFICATIONS. COORDINATE FINAL LOCATIONS WITH ARCHITECT.
19. MECHANICAL & ELECTRICAL EQUIPMENT SHALL BE ON HOUSEKEEPING PADS. REFER MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. PADS SHALL BE 4" MIN., 4" THICK WITH W.W.F., U.N.O.



2 A2.01 MEZZANINE
1/8" = 1'-0"



1 A2.01 FLOOR PLAN - LEVEL 01
1/8" = 1'-0"

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CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION
CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER:
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
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FORT ZUMWALT
TRANSPORTATION CENTER
TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

FLOOR PLAN

STATE OF MISSOURI
RICHARD W. KEISKER
2027338
REGISTERED ARCHITECT
FZ Trans 08-13-24
RICHARD KEISKER, AIA, LEED AP
MO ARCHITECTURAL REGISTRATION NO. 2001027388

JOB NUMBER 224205

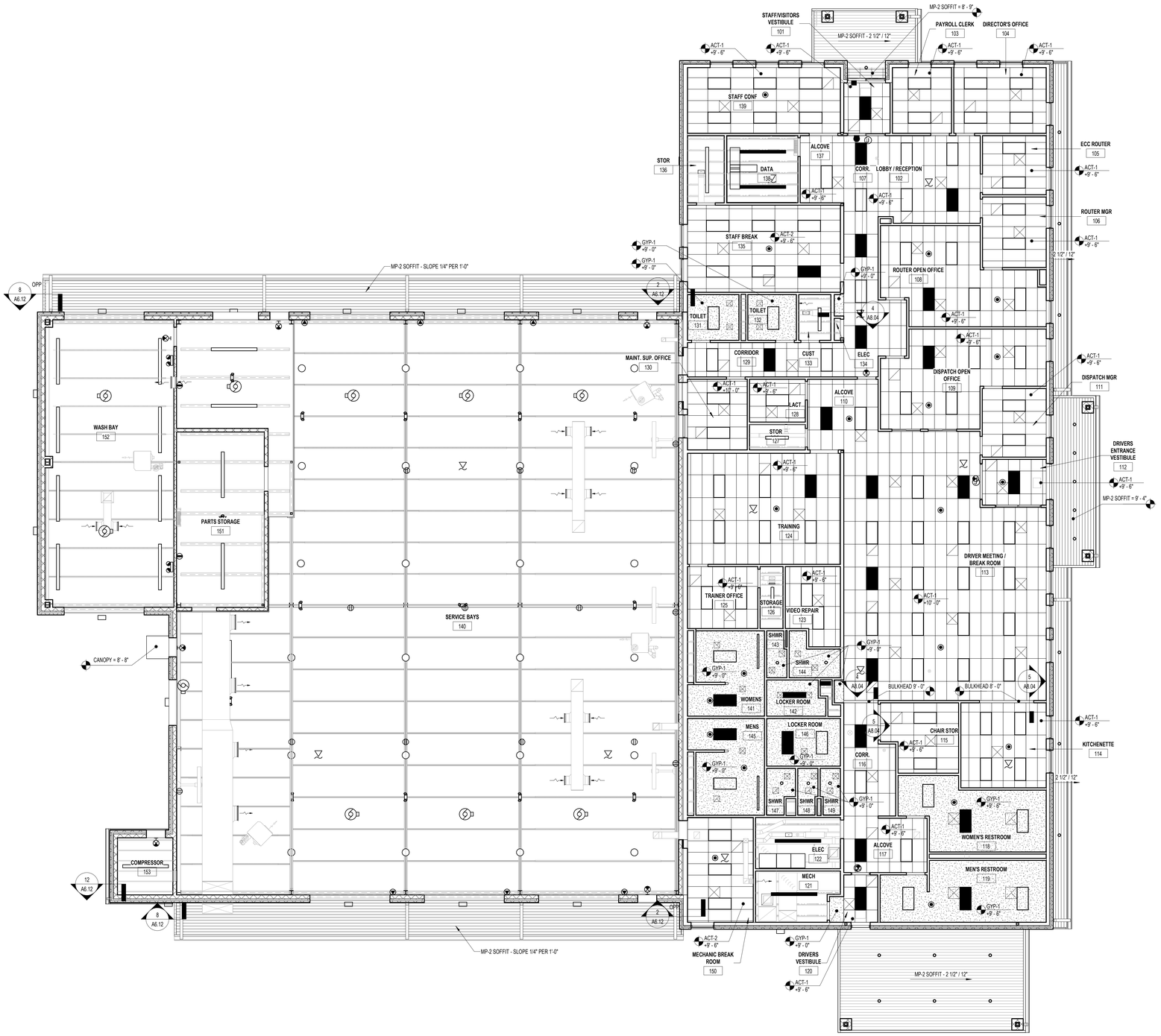
DATE 08/13/2024

08-29-2024

ISSUED FOR BID & PERMIT

REVISIONS:
1 Addendum 01

A2.01



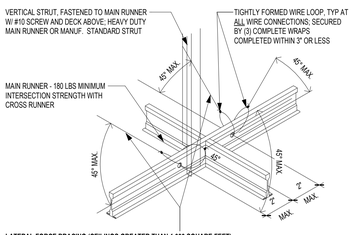
1 A3.01 OVERALL REFLECTED CEILING PLAN
1/8" = 1'-0"

0' 4' 8'

REFLECTED CEILING PLAN LEGEND

- SUSPENDED ACOUSTIC CEILING SYSTEM AS SPECIFIED
- GYPSUM BOARD / HARD SURFACE CEILING OR SOFFIT
- EXPOSED TO STRUCTURE ABOVE
- RECESSED LIGHT FIXTURE - RE: ELECTRICAL DWGS
- SURFACE MOUNTED OR LINEAR PENDANT LIGHT FIXTURE - RE: ELECT. DWGS
- MECHANICAL SUPPLY, RETURN, AND EXHAUST GRILLS SHOWN FOR REFERENCE ONLY - RE: MECH. DWGS FOR EXACT NUMBER & LOCATIONS
- CLG-01 — CEILING TYPE - RE: FINISH KEY
- 18'-0" AFF — CEILING HEIGHT ABOVE FINISH FLOOR

SEISMIC DESIGN CATEGORY 'D' - CEILING LATERAL FORCE BRACING



LATERAL FORCE BRACING (CEILINGS GREATER THAN 1,000 SQUARE FEET):
(4)-NO. 12 GAGE HEAVY-DUTY WIRES (TYPICAL), SPLAYED 90° FROM EACH OTHER IN (4)DIRECTIONS, AT AN ANGLE NOT EXCEEDING 45° FROM THE CEILING PLANE, ATTACHED TO MAIN RUNNER WITHIN 2" OF THE CROSS RUNNER INTERSECTION, AND TO THE BUILDING STRUCTURE ABOVE. SPACE WIRES 6" MIN. FROM ALL HORIZONTAL PIPING OR DUCTWORK NOT BRACED AGAINST HORIZONTAL FORCES.

NOTE:
A. NO. 12 GAUGE VERTICAL HANGER WIRE (NOT SHOWN) AT 4'-0" OC SPACING ALONG MAIN RUNNER. VERTICAL HANGER WIRES SHALL BE STRAIGHT WITH NO BENDS AND SHALL NOT CONNECT TO EQUIPMENT. CONNECTION DEVICE TO STRUCTURE SHALL SUSTAIN NOT LESS THAN 100 LBS. COORDINATE LATERAL FORCE BRACING POINT LOCATIONS WITH LOCATIONS OF NO. 12 GAUGE VERTICAL HANGER WIRE.

GENERAL REFLECTED CEILING PLAN NOTES

1. [X'-X"] DESIGNATES CEILING HEIGHT ABOVE FINISH FLOOR. COORDINATE ALL MEP WORK WITH CEILING HEIGHTS AND ARCHITECTURAL WORK.
2. THE CONTRACTOR SHALL COORDINATE WITH ALL STRUCTURAL, ELECTRICAL LIGHTING PLANS, MECHANICAL AND FIRE PROTECTION DRAWINGS FOR LOCATION OF ALL SUPPLY, RETURN, EXHAUST, GRILLES, REGISTERS, DIFFUSERS, DUCTS, LIGHTS, SPRINKLER HEADS, PIPING, ETC. THE CONTRACTOR SHALL REPORT ANY OMISSIONS OR INCONSISTENCIES TO THE ARCHITECT.
3. ALL CEILING MOUNTED ITEMS SHALL BE CENTERED OR SYMMETRICALLY LOCATED IN LAY-IN PANELS OR IN GYP. BD. CEILINGS LOCATED IN A CONSISTENT PATTERN, UNLESS OTHERWISE INDICATED. COORDINATE FINAL LIGHT FIXTURE LAYOUT AT GYPSUM BOARD CEILINGS WITH ARCHITECT.
4. REFER TO ELECTRICAL DRAWINGS FOR LIGHT FIXTURE TYPES/SPECIFICATIONS.
5. ALL CEILINGS ARE TO COMPLY WITH SEISMIC DESIGN CLASS D WITH LATERAL FORCE POINT BRACING - REFER DETAIL ABOVE.
6. ALL NEW GYPSUM BOARD CEILINGS SHALL BE PAINTED PT-4, U.N.O.
7. REFER TYPICAL CEILING TRANSITION DETAILS NOTED ON SHEET A8.04. COORDINATE GYPSUM BOARD SOFFITS AND FASCIA HEIGHTS WITH STRUCTURAL TRANSITIONS.
8. REFER ELECTRICAL DRAWINGS FOR THE LOCATIONS OF ALL CEILING MOUNTED SMOKE DETECTORS, OCCUPANCY SENSORS, SPEAKERS, EXIT SIGNAGE, FIRE ALARM DEVICE AND WALL MOUNTED EXIT LIGHTS, ETC.
9. AT LOCATIONS WHERE STRUCTURE IS EXPOSED ALL STRUCTURE, DECKING, PIPES, DUCTS, CONDUIT, ETC. TO BE PAINTED

GENERAL SEISMIC NOTES FOR ALL CEILINGS:
1. BRACING OF ACOUSTICAL TILE CEILINGS SHALL COMPLY WITH REQUIREMENTS FOR SEISMIC DESIGN CLASS "D" OF SECTIONS 11.6 AND 13.5.6 OF ASCE 7, IBC SECTION 1613, AND ASTM C635, ASTM C636, AND ASTM E580. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND FOR DELEGATED DESIGN REQUIREMENTS.
2. PERIMETER CLOSURE MUST BE A MINIMUM OF 2", CONNECTED TO PERIMETER ON TWO ADJACENT SIDES, PROVIDED WITH A 3/4" CLEARANCE ON TWO UNATTACHED ADJACENT SIDES, AND SUPPORTED BY VERTICAL HANGER WIRES NOT MORE THAN 8" FROM THE WALL. UNATTACHED PERIMETER RUNNER ENDS SHALL BE TIED TOGETHER.
3. INDEPENDENTLY SUPPORTED PENETRATIONS SHALL HAVE CLOSURES PERMITTING A MINIMUM 1" MOVEMENT IN ALL DIRECTIONS.
4. LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE GRID BY AT LEAST TWO CONNECTIONS, EACH CAPABLE OF SUPPORTING THE WEIGHT OF THE LIGHT FIXTURE. LIGHT FIXTURES SHALL HAVE A MINIMUM OF ONE NO. 12 GAUGE WIRE CONNECTED TO THE HOUSING AND STRUCTURE ABOVE FOR FIXTURES 10 LBS OR LESS, TWO WIRES FOR FIXTURES 10 LBS - 56 LBS. A NO. 12 GAUGE WIRE MUST BE ATTACHED TO THE GRID MEMBERS WITHIN 3" OF EACH CORNER OF THE LIGHT FIXTURE, UNLESS CROSS TEE RATING IS GREATER THAN OR EQUAL TO 16 LBS/LF. PENDANT-HUNG LIGHT FIXTURES SHALL BE SUPPORTED BY A MINIMUM ONE NO. 12 GAUGE WIRE TO STRUCTURE ABOVE.
5. FLEXIBLY MOUNTED MECHANICAL SERVICES SHALL BE POSITIVELY ATTACHED TO MAIN RUNNERS, OR CROSS RUNNERS WITH THE SAME LOAD-CARRYING CAPACITY AS THE MAIN RUNNERS. EQUIPMENT WEIGHING BETWEEN 20 LBS - 56 LBS REQUIRE TWO NO. 12 GAUGE HANGER WIRES CONNECTED TO THE FIXTURE HOUSING ON OPPOSITE CORNERS AND CONNECTED TO STRUCTURE ABOVE.
6. BRACING IS REQUIRED FOR CEILING PLANE ELEVATION CHANGES.
7. PARTITION BRACING SHALL BE INDEPENDENT OF THE CEILING.

GENERAL NOTES FOR LATERAL FORCE BRACING (CEILINGS GREATER THAN 1,000 SQUARE FEET):
A. PROVIDE LATERAL FORCE BRACING POINTS AT ALL CONTINUOUS SUSPENDED ACOUSTICAL LAY-IN PANEL CEILINGS AT 12'-0" OC IN BOTH DIRECTIONS WITH FIRST POINT AND LAST POINTS OF EACH ROW WITHIN 6" OF TWO ADJACENT WALLS. LATERAL FORCE BRACING CONNECTION STRENGTH TO STRUCTURE SHALL BE 250 LBS MINIMUM.
B. SEISMIC SEPARATION JOINTS ARE REQUIRED FOR CEILINGS LARGER THAN 2,500 SQUARE FEET AND MUST HAVE A RATIO OF THE LONG SIDE TO THE SHORT SIDE OF LESS THAN OR EQUAL TO 4:1.

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ARCHITECTURE + ENGINEERING + CONSTRUCTION

CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION
CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER:
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
AURORA, IL 60506
(630) 896-4979
MO. CERTIFICATE OF AUTHORITY NO. 2019017445

MECHANICAL ENGINEER:
FACILITY SOLUTIONS GROUP, INC.
901 HORAN DRIVE, SUITE 200
FENTON, MO 63026
(636) 537-0203
MO. CERTIFICATE OF AUTHORITY NO. 2013042069

ELEC. & PLUMB ENGINEER:
ECS CONSULTING ENGINEERS, INC.
9986 MANCHESTER ROAD, SUITE 202
ST. LOUIS, MO 63122
(314) 755-1920
MO. CERTIFICATE OF AUTHORITY NO. E-2018042187

OWNER CONSULTANTS:

CIVIL ENGINEER
BAX ENGINEERING CO., INC.
221 POINT WEST BLVD.
ST. CHARLES, MO 63301
(636) 928-5552
MISSOURI CERTIFICATE OF AUTHORITY NO. ENG. 000855
MISSOURI CERTIFICATE OF AUTHORITY NO. SURVEYING 2005144

FORT ZUMWALT TRANSPORTATION CENTER
TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

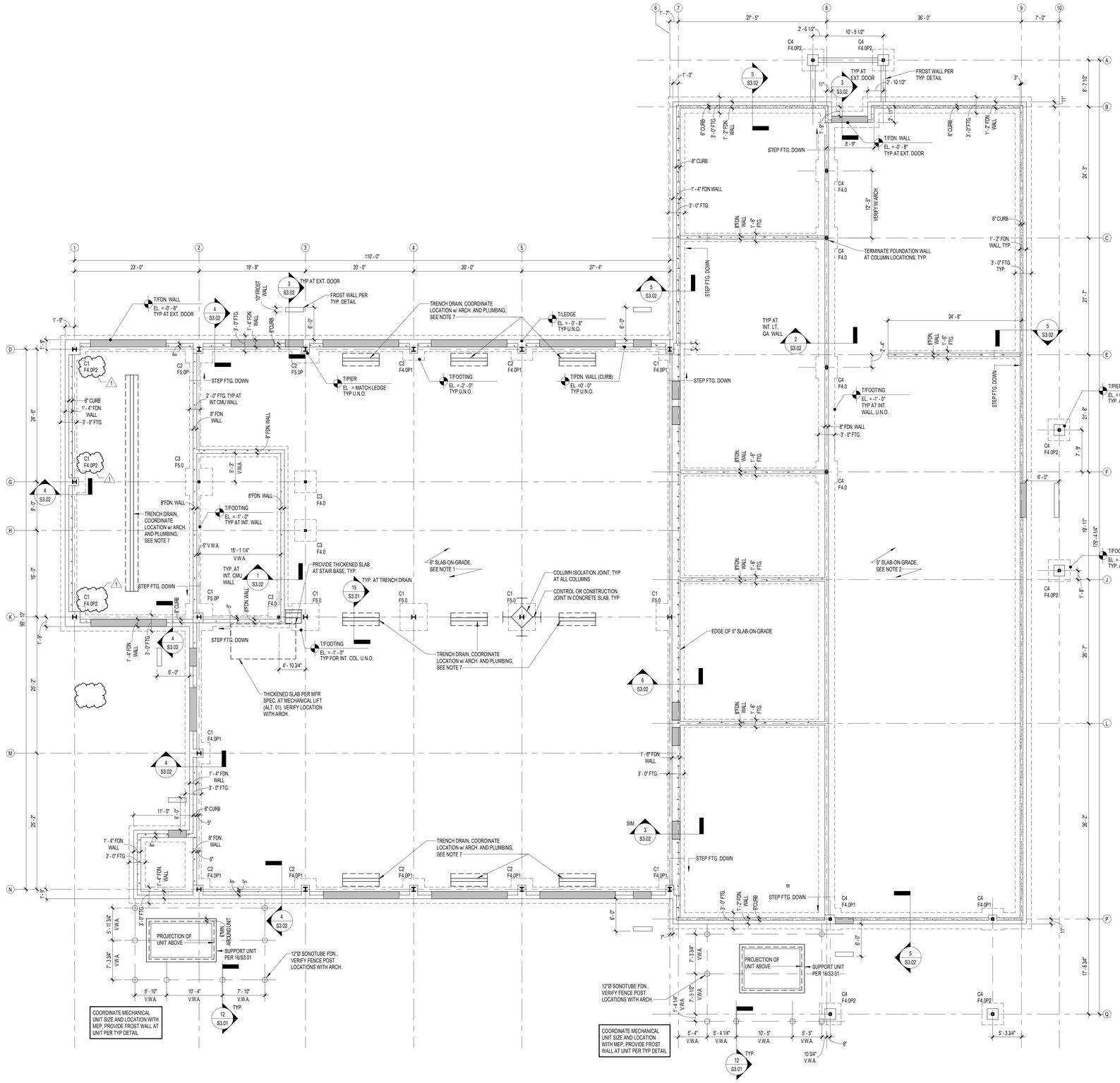
CEILING PLAN

STATE OF MISSOURI
RICHARD W. KEISKER
NUMBER A-027398
REGISTERED ARCHITECT
FZ Trans 08-13-24
RICHARD KEISKER, AIA, LEED AP
MO ARCHITECTURAL REGISTRATION NO. 2001027398

JOB NUMBER 224205
DATE 08/13/2024

ISSUED FOR BID & PERMIT
REVISIONS:

A3.01



STEEL COLUMN SCHEDULE

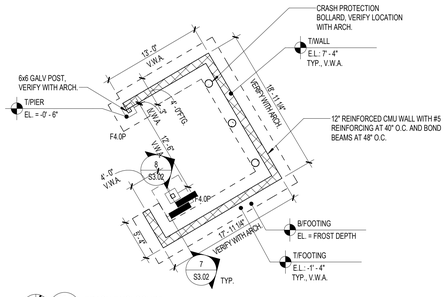
		C1	C2	C3	C4
SHOP ROOF LEVEL					
OFFICE ROOF LEVEL					
MEZZANINE FLOOR LEVEL					
FIRST LEVEL		W8X35	W8X48	HSS 4x4x3/8	HSS 5x5x3/8
BASE PLATE	T	3/4"	3/4"	3/4"	3/4"
	NxB	1'-1"x1'-1"	1'-1"x1'-1"	0'-10"x0'-10"	0'-10"x0'-10"
ANCHOR BOLT	QTY.	4	4	4	4
	SIZE	3/4"Ø	3/4"Ø	3/4"Ø	3/4"Ø

NOTE:
SEE TYPICAL COLUMN BASE PLATE DETAIL FOR ADDITIONAL INFO

CONCRETE FOOTING SCHEDULE

MARK	DIMENSIONS			REINFORCEMENT		PIER			REMARKS
	LENGTH	WIDTH	THICKNESS	LONGWAY	SHORTWAY	SIZE	VERT.	TIES	
F4.0P1	4'-0"	4'-0"	1'-0"	#5 AT 12"	#5 AT 12"	18"x18"	(4)#6	#3 AT 12"	
F4.0P2	4'-0"	4'-0"	1'-0"	#5 AT 12"	#5 AT 12"	24"x24"	(8)#6	#3 AT 12"	
F4.0	4'-0"	4'-0"	1'-0"	#5 AT 12"	#5 AT 12"	---	---	---	SEE NOTE 1
F5.0P	5'-0"	5'-0"	1'-0"	#5 AT 12"	#5 AT 12"	18"x18"	(4)#6	#3 AT 12"	
F5.0	5'-0"	5'-0"	1'-0"	#5 AT 12"	#5 AT 12"	---	---	---	

NOTE:
1. PROVIDE TOP AND BOTTOM BARS AT TRASH ENCLOSURE FOOTINGS. FOOTING THICKNESS TO MATCH NEARBY STRIP FOOTING DEPTH



1 / S2.01 FOUNDATION PLAN
1/8" = 1'-0"

NOTES:
1. AT SHOP, PROVIDE 6" SLAB -ON-GRADE REINFORCED WITH (2) 6X6-W2.9XW2.9 WWF OVER VAPOR RETARDER, 6" GRANULAR FILL AND ENGINEERED SUBGRADE. PROVIDE CONTROL OR CONSTRUCTION JOINTS PER ARCH. AND AT 15'-0" MAX.
2. AT OFFICES, PROVIDE 5" SLAB -ON-GRADE REINFORCED WITH 6X6-W2.9XW2.9 WWF OVER VAPOR RETARDER, 6" GRANULAR FILL AND ENGINEERED SUBGRADE. PROVIDE CONTROL OR CONSTRUCTION JOINTS PER ARCH. AND AT 15'-0" MAX.
3. TOP OF SLAB REFERENCE ELEVATION = 0' - 0", VERIFY W/ CIVIL
4. EXISTING FILL, TOP SOIL, DEBRIS AND ETC. SHALL BE REMOVED UNTIL NATURAL UNDISTURBED SOIL IS REACHED PER RECOMMENDATIONS FROM GEOTECHNICAL ENGINEER. 2' - 0" SOIL REMEDIATION IS REQUIRED AT FOOTING AND 3' - 0" SOIL REMEDIATION IS REQUIRED AT SLAB-ON-GRADE ON SOIL/FILL AS DESCRIBED IN THE GEOTECHNICAL REPORT
5. ALL EXCAVATION, SUBGRADE PREPARATION AND BACKFILL TO PROJECT ELEVATIONS SHALL BE PERFORMED UNDER DIRECT SUPERVISION OF GEOTECHNICAL ENGINEER RETAINED BY THE CONTRACTOR, AND IBC SPECIAL INSPECTIONS SHALL BE PROVIDED PER GENERAL NOTE
6. "Cx", "Fx", AND "Fx/P" DENOTE COLUMN, CONCRETE FOOTING AND CONCRETE FOOTING WITH PIER, SEE SCHEDULES
7. REINFORCED THICKENED SLAB, OFFSET CONTROL/CONSTRUCTION JOINT PER TYPICAL DETAIL WHERE JOINT COINCIDES WITH THICKENED SLAB
8. MISC. STEEL, WOOD OR CONCRETE REQUIRED BY OTHER DISCIPLINES MAY NOT BE INDICATED ON STRUCTURAL DRAWINGS

2 / S2.01 TRASH ENCLOSURE
1/8" = 1'-0"

NOTE:
1. VERIFY LOCATION OF TRASH ENCLOSURE WITH ARCH.

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CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION
CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER:
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
AURORA, IL 60506
(630) 896-4979
MO. CERTIFICATE OF AUTHORITY NO. 2019017445

MECHANICAL ENGINEER:
FACILITY SOLUTIONS GROUP, INC.
901 HORAN DRIVE, SUITE 200
FENTON, MO 63026
(636) 537-0203
MO. CERTIFICATE OF AUTHORITY NO. 2013042069

ELEC. & PLUMB ENGINEER:
ECS CONSULTING ENGINEERS, INC.
9986 MANCHESTER ROAD, SUITE 202
ST. LOUIS, MO 63122
(314) 755-1920
MO. CERTIFICATE OF AUTHORITY NO. E-2018042187

OWNER CONSULTANTS:

CIVIL ENGINEER
BAX ENGINEERING CO., INC.
221 POINT WEST BLVD.
ST. CHARLES, MO 63301
(636) 928-5552
MISSOURI CERTIFICATE OF AUTHORITY NO. ENG. 000855
MISSOURI CERTIFICATE OF AUTHORITY NO. SURVEYING 000144

FORT ZUMWALT
TRANSPORTATION CENTER
TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

FOUNDATION PLAN

STATE OF MISSOURI — WAI CHEONG SE — PE-2010037639 — PROFESSIONAL ENGINEER — WAI-CHEONG SE
MO PROFESSIONAL ENGINEER REG NO. PE-2010037639

JOB NUMBER 224205

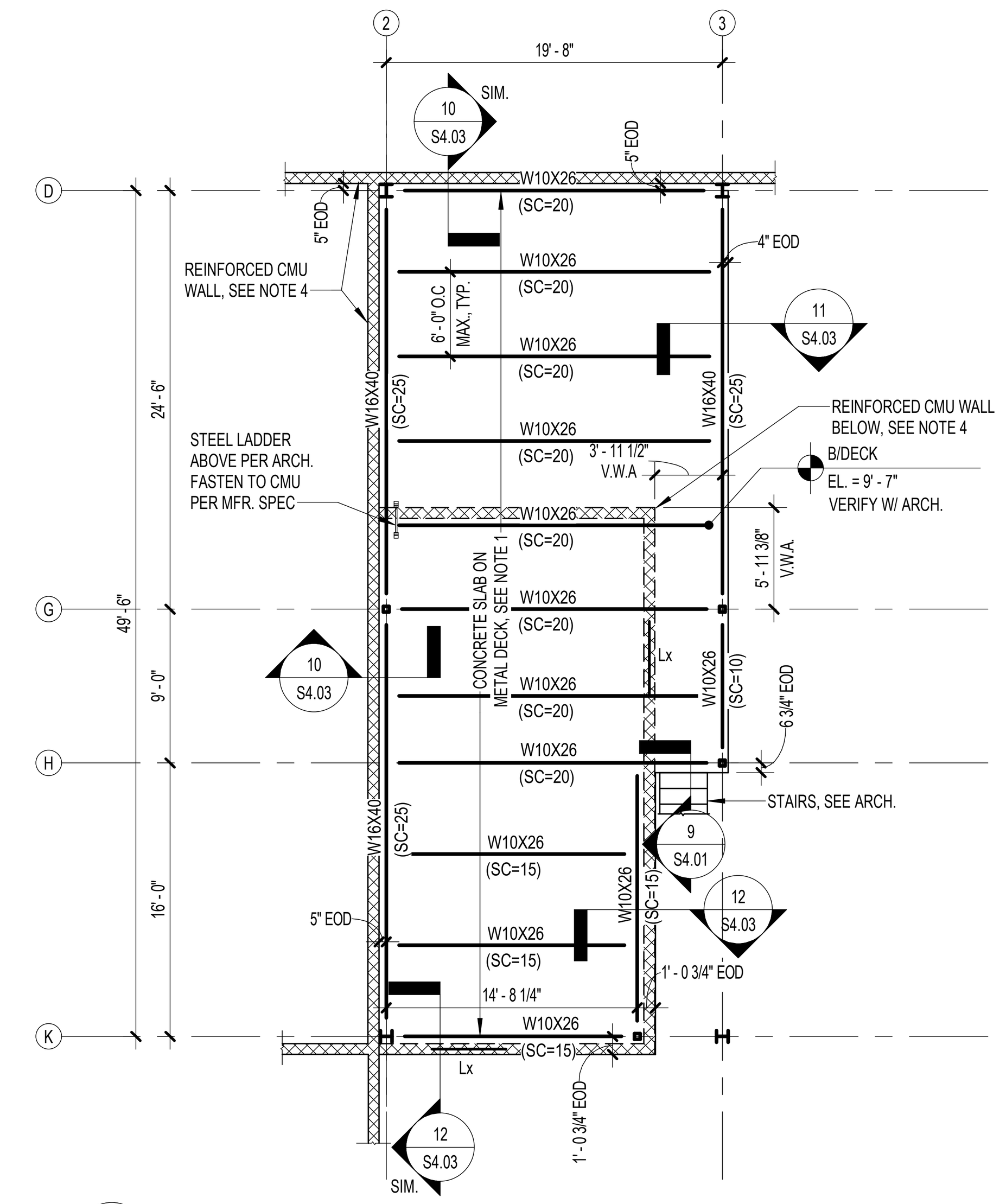
DATE 08/13/2024

08-29-2024

ISSUED FOR BID & PERMIT

REVISIONS:
1 Addendum 01

S2.01

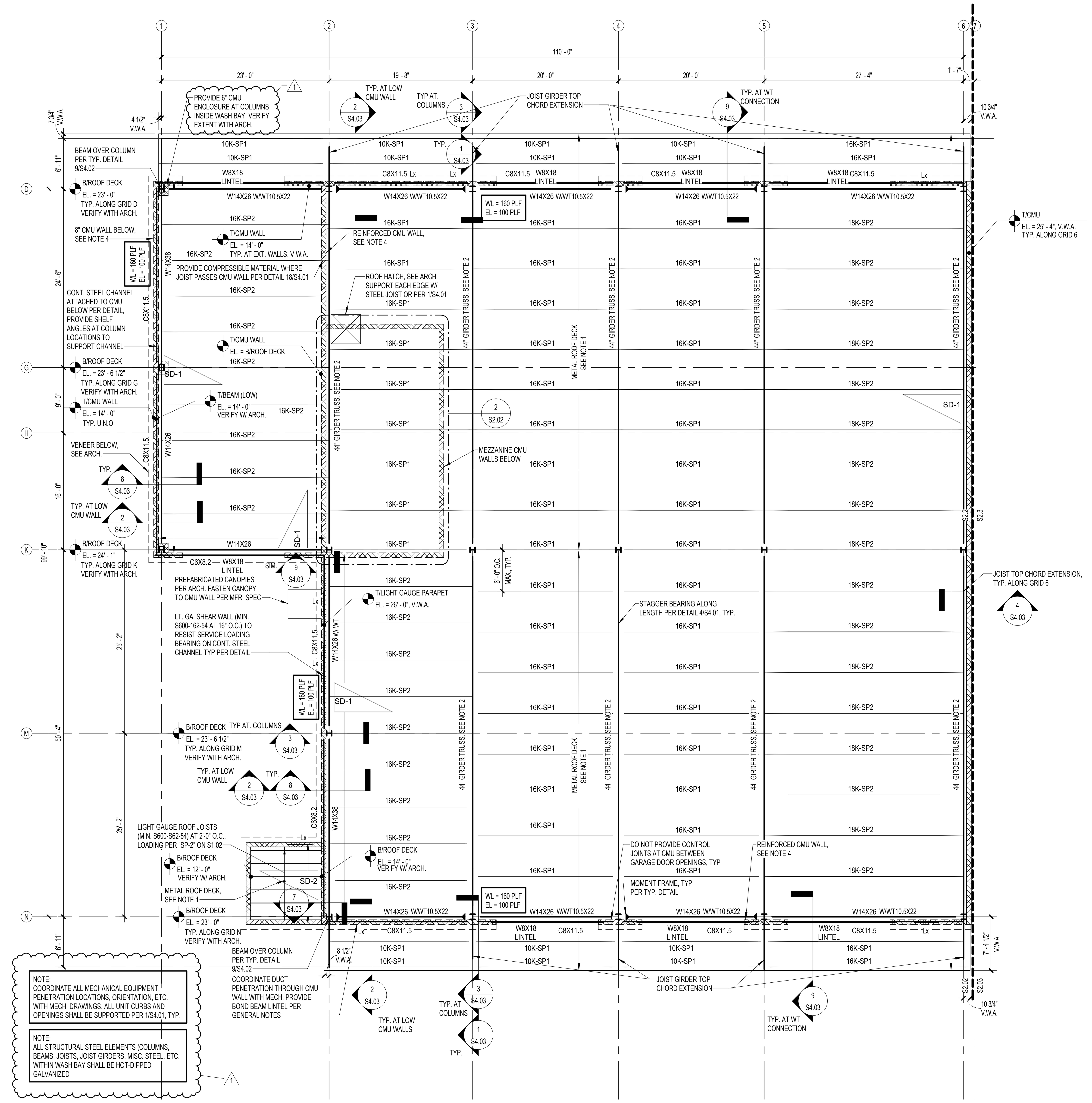


2 / S2.02 **SHOP - MEZZANINE FLOOR FRAMING PLAN**

1/8" = 1'-0"

NOTES:

1. 3"x20 GA. COMPOSITE METAL DECK WITH 2" LIGHWEIGHT CONCRETE (5" TOTAL THICKNESS) REINFORCED WITH 6x6-W1.4xW1.4 WWF. WELD DECK TO SUPPORTING MEMBERS IN 36/4 PATTERN 5/8" WELD WITH (3) WELDED SIDE LAP PER SPAN. DRAPE WWF PER DECK MANUFACTURER'S REQUIREMENT WHERE APPLICABLE
2. T/MEZZANINE FLOOR ELEV. = SEE PLAN
3. "SC=xx" DENOTES NUMBER OF SHEAR CONNECTORS
4. 8" CMU WALL WITH #5 VERTICALS AT 40" O.C. IN FULLY GROUTED CELLS.
5. WALLS SHOWN ON THESE PLANS ARE STRUCTURAL LOAD BEARING OR SHEAR WALLS. ALL OTHER NON-STRUCTURAL WALLS ARE NOT SHOWN FOR CLARITY. SEE ARCH. FOR LAYOUT OF ALL WALLS
6. "Lx" DENOTES STEEL LINTEL FOR OPENING BELOW, SEE GENERAL NOTES FOR SIZES AND REQUIREMENTS
7. MISC. STEEL, WOOD OR CONCRETE REQUIRED BY OTHER DISCIPLINES MAY NOT BE INDICATED ON STRUCTURAL DRAWINGS



1 / S2.02 **SHOP - ROOF FRAMING PLAN**

1/8" = 1'-0"

NOTES:

1. 1 1/2"x20 GA. GALVANIZED WIDE RIB METAL ROOF DECK ATTACHED TO SUPPORTING MEMBERS WITH 36/4 PATTERN 5/8" WELDS AND (4) #10 TEK SCREWS SIDE LAP, VERIFY WELDING REQUIREMENTS WITH DECK MANUFACTURER
2. 44" MINIMUM DEEP STEEL TRUSS GIRDER TO BE DESIGNED BY MANUFACTURER FOR LOADS AND REQUIREMENTS INDICATED ON GENERAL NOTES, SPLICE AS REQUIRED. DEFLECTION IS LIMITED TO 2 1/2" (DL + SL) OR 1 5/8" (SL). SEE GENERAL NOTES FOR DESIGN AND SUBMITTAL REQUIREMENTS
3. BOTTOM OF ROOF DECK ELEVATION = SEE PLAN, VERIFY WITH ARCH.
4. 8" CMU WALL WITH #5 VERTICALS AT 40" O.C. IN FULLY GROUTED CELLS.
5. "Lx" DENOTES CMU BOND BEAM AS PER GENERAL NOTES FOR OPENING BELOW. COORDINATE CMU OPENING LOCATIONS WITH ARCH.
6. MISC. STEEL OR CONCRETE REQUIRED BY OTHER DISCIPLINES MAY NOT BE INDICATED ON STRUCTURAL DRAWINGS

CORDOGAN CLARK
ARCHITECTURE • ENGINEERING • CONSTRUCTION

CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
AURORA, IL 60506
(630) 896-4678
MO. CERTIFICATE OF AUTHORITY NO. 2019017445

MECHANICAL ENGINEER:
FACILITY SOLUTIONS GROUP, INC.
901 HORAN DRIVE, SUITE 200
FENTON, MO 63026
(636) 537-0203
MO. CERTIFICATE OF AUTHORITY NO. 2013042669

ELEC. & PLUMB ENGINEER:
ECS CONSULTING ENGINEERS, INC.
9986 MANCHESTER ROAD, SUITE 202
ST. LOUIS, MO 63122
(314) 755-1920
MO. CERTIFICATE OF AUTHORITY NO. E-2018042187

OWNER CONSULTANTS:

CIVIL ENGINEER
BAX ENGINEERING CO., INC.
221 POINT WEST BLVD.
ST. CHARLES, MO 63301
(636) 928-5552
MISSOURI CERTIFICATE OF AUTHORITY NO. ENG. 000655
MISSOURI CERTIFICATE OF AUTHORITY NO. SURVEYING 000144

FORT ZUMWALT TRANSPORTATION CENTER

TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

SHOP ROOF PLAN

STATE OF MISSOURI — WAI CHIANG — NUMBER PE-2018038398 — PROFESSIONAL ENGINEER

WAI-HO CHIANG, SE
MO PROFESSIONAL ENGINEER REG NO. PE-2018038398

JOB NUMBER 224205

DATE 08/13/2024

08-29-2024

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REVISIONS:
1 Addendum 01

S2.02

GRILLES AND DIFFUSERS SCHEDULE

PLAN MARK	MANUFACTURER	MODEL NUMBER	DUCT SIZE	GRILLE SIZE	USAGE	NOTES
SA	TITUS	OMNI	6" DIA.	12" X 12"	SUPPLY	2,4
SB	TITUS	OMNI	6" DIA.	24" X 24"	SUPPLY	2,4
SC	TITUS	OMNI	8" DIA.	24" X 24"	SUPPLY	2,4
SD	TITUS	OMNI	10" DIA	24" X 24"	SUPPLY	2,4
SE	TITUS	300RL	8" X 8"	8" X 6"	SUPPLY	1,3,4
SG	TITUS	300RL	8" DIA.	8" X 8"	SUPPLY	1,3,4
SH	TITUS	300RL	8" DIA.	10" X 10"	SUPPLY	1,3,4
SI	TITUS	122RL	VARIES	30" X 18"	SUPPLY	1,3,4
RA	TITUS	350RL	-	24" X 24"	RETURN	2,4
EA	TITUS	350RL	6" DIA	8" X 8"	EXHAUST	2,3,4
EB	TITUS	350RL	8" DIA	10" X 10"	EXHAUST	2,3,4
EC	TITUS	350RL	8" DIA.	24" X 24"	EXHAUST	2,3,4
ED	TITUS	350RL	26" x 24"	30" X 18"	EXHAUST	2,3,4
EG	TITUS	350RL-SS	16" x 16"	24" X 12"	EXHAUST	2,3,5
TA	TITUS	350R-SS	24" x 24"	24" X 24"	TRANSFER	2,5

NOTES:
1. LOUVERED FACE
2. FIXED DEFLECTION
3. OPPOSED BLADE DAMPER
4. COORDINATE COLOR WITH ARCHITECT PRIOR TO ORDERING
5. MILL FINISH

EXHAUST FAN SCHEDULE

PLAN MARK	SERVING	MANUFACTURER	MODEL	CFM	ESP	HP	VOLT/PH	NOTES
EF-1	TOILETS 131/132 & CUSTODIAL 133	COOK	90 ACEL	225	0.25	0.05	115/1	1,2,3,4
EF-2	SERVICE BAY TOILETS 141/145 & LOCKER ROOMS 142/146	COOK	150 ACED	900	0.50	1/4	115/1	1,2,3,4
EF-3	WOMEN'S & MEN'S RESTROOMS 118 & 119	COOK	150 ACED	900	0.50	1/4	115/1	1,2,3,4
EF-4A	SERVICE BAYS 140	COOK	245 ACED	6,620	0.50	5	208/3	1,2,3,4
EF-4B	SERVICE BAYS 140	COOK	245 ACED	6,620	0.50	5	208/3	1,2,3,4
EF-5	WASH BAY 152	COOK	195 ACED	1,800	0.25	1/4	115/1	1,2,3,4
EF-6	SOURCE CAPTURE EXHAUST	MAHLE	EV-1 PART #: 435800100	270	0.25	3/4	115/1	5
EF-7	SOURCE CAPTURE EXHAUST	MAHLE	EV-1 PART #: 435800100	270	0.25	3/4	115/1	5
EF-8	SOURCE CAPTURE EXHAUST	MAHLE	EV-1 PART #: 435800100	270	0.25	3/4	115/1	5
EF-9	SOURCE CAPTURE EXHAUST	MAHLE	EV-1 PART #: 435800100	270	0.25	3/4	115/1	5
EF-10	SOURCE CAPTURE EXHAUST	MAHLE	EV-1 PART #: 435800100	270	0.25	3/4	115/1	5
EF-11	SOURCE CAPTURE EXHAUST	MAHLE	EV-1 PART #: 435800100	270	0.25	3/4	115/1	5

NOTES:
1. ROOF CURB, INSULATED, 14 INCH
2. INTEGRAL DISCONNECT SWITCH
3. BACKDRAFT DAMPER, BIRDSCREEN
4. EC MOTOR, W/ FACTORY MOUNTED SPEED CONTROL. CONTROLLED THROUGH BAS
5. PROVIDE EXHAUST FAN TO OWNER FOR BUS/VEHICLE EXHAUST

GAS-FIRED UNIT HEATER SCHEDULE

PLAN MARK	AREA SERVED	MFGR	MODEL NUMBER	TYPE	INPUT HEATING CAPACITY (MBH)	OUTPUT HEATING CAPACITY (MBH)	VOLT/PH	POWER (WATTS)	WEIGHT (LBS)	NOTES
UH-4	SERVICE BAYS	REZNOR	UDAS-300	CEILING SUSPENDED	300	249	115/1	1086	270	1,2,3
UH-5	SERVICE BAYS	REZNOR	UDAS-300	CEILING SUSPENDED	300	249	115/1	1086	270	1,2,3
UH-6	SERVICE BAYS	REZNOR	UDAS-300	CEILING SUSPENDED	300	249	115/1	1086	270	1,2,3
UH-7	WASH BAY	REZNOR	UDAS-200	CEILING SUSPENDED	200	166	115/1	491	188	1,2,4

NOTES:
1. WITH CEILING SUSPENSION KIT, , LBS-TO-INCHES GAS REGULATOR AS REQUIRED, THERMOSTAT, MANUAL SHUT-OFF VALVE, BUILT-IN DISCONNECT, VERTICAL COMBUSTION AIR/VENT KIT INCLUDING CONCENTRIC ADAPTER
2. DOWNTURN DISCHARGE NOZZLE KIT
3. OPEN FAN MOTOR WITH INTERNAL OVERLOAD PROTECTION
4. TOTALLY ENCLOSED FAN MOTOR (FOR WET ENVIRONMENT)

ELECTRIC UNIT HEATER SCHEDULE

PLAN MARK	AREA SERVED	MFGR	MODEL NUMBER	TYPE	HEATING CAPACITY (KW)	VOLT/ PH	AMPS	NOTES
UH-1	STAFF/VISITORS VESTIBULE 101	MARKEL	HF3386D-RP	CEILING	3	208/1	14.4	1,2,3
UH-2	DRIVERS ENTRANCE VESTIBULE 112	MARKEL	HF3386D-RP	CEILING	3	208/1	14.4	1,2,3
UH-3	DRIVERS VESTIBULE 120	MARKEL	HF3386D-RP	CEILING	3	208/1	14.4	1,2,3

NOTES:
1. INTEGRAL THERMOSTAT
2. INTEGRAL DISCONNECT SWITCH
3. SUMMER FAN SWITCH

INDUSTRIAL FAN SCHEDULE

PLAN MARK	SERVING	MANUFACTURER	MODEL	WEIGHT (LB.)	MAX POWER	MAX SPEED RPM	VOLT/PH	AMPS	NOTES
F-1	MAINTENANCE	BIG ASS FANS	PIVOT F-PV2-0601	114	460 W	300	110/1	7.8	1, 2
F-2	MAINTENANCE	BIG ASS FANS	PIVOT F-PV2-0601	114	460 W	300	110/1	7.8	1, 2
F-3	MAINTENANCE	BIG ASS FANS	PIVOT F-PV2-0601	114	460 W	300	110/1	7.8	1, 2
F-4	MAINTENANCE	BIG ASS FANS	PIVOT F-PV2-0601	114	460 W	300	110/1	7.8	1, 2

NOTES:
1. COORDINATE MOUNTING HEIGHT WITH OWNER/ARCHITECT
2. PROVIDE FAN CONTROLLER TO ELECTRICAL CONTRACTOR FOR INSTALL

FAN FEATURES:
A. 12 YEAR LIMITED WARRANTY

AIR COMPRESSOR SCHEDULE

PLAN MARK	SERVING	MANUFACTURER	MODEL	TANK SIZE (GAL.)	ACFM @ 125 PSIG	HP	VOLT/ PH	MCA	DIMENSIONS (INCHES)	WEIGHT (LBS)	NOTES
AC-1	SERVICE BAYS	INGERSOLL RAND	2545E7.5-P	120	27.1	7.5	230/3	22	74x31x56	835	1-5

NOTES:
1. PACKAGED UNIT WITH PREWIRED MOTOR STARTER AND PRESSURE CONTROL SWITCH(ES).
2. FILTERS (MEDIUM EFFICIENCY AND HIGH EFFICIENCY)
3. AUTODRAIN, AIR COOLED AFTERCOOLER, AND LOW OIL LEVEL SWITCH
4. DUAL CONTROL MODE OPTION
5. VIBRATION PADS

ROOFTOP UNIT SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	SPACE SERVED	SUPPLY FAN				GAS HEAT		COOLING DATA (NET)				ELECT.			WEIGHT (LBS)	NOTES
				CFM	OA CFM	ESP	HP	INPUT MBH	OUTPUT MBH	EAT (DB / WB)	AMB. TEMP	TOT MBH	SENS MBH	VOLT / PH	LOAD (MCA)	MOCP		
RTU-1	TRANE	YSJ300A3SAM	TRANSPORTATION OFFICE AREA	9,800	1,500	1.25	QTY 2 @ 4.6	320	259	80/67	95 / 76	266	203	208/3	129	175	2523	1-11

NOTES:
1. FACTORY INSTALLED AND WIRED NON-FUSED DISCONNECT AND 115V GFCI CONVENIENCE OUTLET
2. VAV OPERATION WITH FACTORY SUPPLY FAN VFD
3. FACTORY INSTALLED DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST FAN
4. FACTORY INSTALLED CONDENSER COIL HAIL GUARDS
5. ADVANCED CONTROLS WITH BACNET BAS (CO2 CONTROL, COORDINATE WITH CONTROLS CONTRACTOR)
6. SIDE DISCHARGE UNIT ORIENTATION
7. 4 STAGES OF COOLING MINIMUM
8. MODULATING GAS HEAT WITH STAINLESS STEEL HEAT EXCHANGER
9. 14" CURB FOR UNIT ON GRADE
10. LEAVING COIL TEMP., RA TEMP., DISCHARGE AIR TEMP., OSA TEMP., AND RA & OSA ENTHALPY SENSORS
11. MERV 8 FILTERS

SINGLE SPLIT AIR CONDITIONING SYSTEM

PLAN MARK	MATCHING HEAT PUMPS	ROOM SERVED	MFGR	MODEL NUMBER	SUPPLY AIRFLOW (CFM)	COOLING CAPACITY			ELECTRICAL DATA			WEIGHT (LBS, INDOOR UNIT)	WEIGHT (LBS, OUTDOOR UNIT)	NOTES
						TOTAL	ENT. AIR							
						BTU/H	DB	WB	VOLTS/PH	MCA	MOCP			
SS-138	HPU-138	DATA ROOM 138	MITSUBISHI	PKA-A12HA7/PUZ-A12NKA7	320	12000	80	67	208-230/1	12.0	30.0	29	93	1
SS-151	HPU-151	PARTS STORAGE 151	MITSUBISHI	PKA-A18HA7/PUZ-A18NKA7	320	18000	80	67	208-230/1	12.0	30.0	29	100	1

NOTES:
1. REFCO GOBI-II CONDENSATE PUMP; FIXED HARD WIRED WALL THERMOSTAT; ZONE TEMPERATURE SENSOR TIED INTO BAS; WIND BAFFLE; LOW AMBIENT CONTROLS; MOUNTING BRACKET; FACTORY SUPPLIED, FIELD INSTALLED HAIL GUARDS (HG-B4); STANDARD WARRANTY; AND 1/4" LIQUID PIPE AND 1/2" GAS PIPE

MAKEUP AIR UNIT SCHEDULE

PLAN MARK	SERVING	MANUFACTURER	MODEL	SUPPLY FAN				NAT. GAS HEAT	ELECTRIC		TOTAL WEIGHT (LBS)	NOTES
				CFM	OA CFM	ESP	HP	TOTAL MBH	VOLT / PH	LOAD (MCA)		
MAU-1	WASH & SERVICE BAYS, STORAGE, AIR COMPRESSOR ROOM	TRANE	DFOA 218	14,000	14,000	1.00"	10	1242	208/3	30.8	2,915	1-11

NOTES:
1. DIRECT FIRED NATURAL GAS HEATING
2. 1" LINED INSULATION CONSTRUCTION
3. PREMIUM EFFICIENT MOTORS (VFD READY) FOR SUPPLY AND RETURN FANS. CONTROL CONTRACTOR TO PROVIDE 0-10Vdc SIGNAL TO FANS, FUSED DISCONNECT PER FAN SECTION
4. STANDARD FACTORY CONTROLS WITH BACNET
5. TWO SPEED SUPPLY FAN MOTOR
6. INCLUDE ACCESS DOORS BEFORE AND AFTER FAN SECTIONS AND FILTER SECTIONS
7. INLET/OUTSIDE AIR HOODS WITH BIRDSCREEN
8. V-BANK FILTER SECTION WITH 2" PLEATED MERV 8 FILTERS WITH STARTUP CONSTRUCTION FILTER SET. PROVIDE SPARE SET FOR INSTALLATION AT PROJECT TURNOVER TO OWNER
9. SIDE DISCHARGE HORIZONTAL CONFIGURATION
10. 12" UNIT CURB FOR ON GRADE UNIT, HORIZONTAL DISCHARGE CONFIGURATION
11. SINGLE POINT POWER CONNECTION. UNIT SHALL INCLUDE A FACTORY INSTALLED AND WIRED GFCI RECEPTACLE

VAV BOX SCHEDULE

PLAN MARK	SERVING	MANUFACTURER / MODEL	INLET DIAMETER (INCHES)	PRIMARY AIR			HEATING COIL				VOLTAGE / PHASE	INLET PRESSURE " W.G.
				MAX CLG CFM	MAX HTG CFM	MIN CFM	KW	EAT	LAT	STEPS		
VAV-1.102	LOBBY/RECEPTION 102	TITUS / DESV	8	550	305	165	4	55	95	SCR	208 / 3	1.00
VAV-1.104	PAYROLL CLERK, DIRECTORS OFFICE, & ECC ROUTER 103/104/105	TITUS / DESV	8	530	295	160	4	55	95	SCR	208 / 3	1.00
VAV-1.108	ROUTER MANAGER & ROUTER OPEN OFFICE 106/108	TITUS / DESV	10	660	365	200	5	55	95	SCR	208 / 3	1.00
VAV-1.109	DISPATCH OPEN OFFICE & DISPATCH MANAGER 109/111	TITUS / DESV	10	660	365	200	5	55	95	SCR	208 / 3	1.00
VAV-1.113A	DRIVER BREAK ROOM NORTH 113	TITUS / DESV	14	1600	880	480	11.5	55	95	SCR	208 / 3	1.00
VAV-1.113B	DRIVER BREAK ROOM SOUTH 113	TITUS / DESV	14	1600	880	480	11.5	55	95	SCR	208 / 3	1.00
VAV-1.118	RESTROOMS & CHAIR STORAGE 118/119/115	TITUS / DESV	10	700	385	210	5	55	95	SCR	208 / 3	1.00
VAV-1.122	ELECTRICAL & MECHANICAL ROOM 122/121	TITUS / DESV	8	425	235	130	3	55	95	SCR	208 / 3	1.00
VAV-1.125	TRAINING ROOM, TRAINER OFFICE, VIDEO REPAIR, & STORAGE 124/125/123/126	TITUS / DESV	10	685	375	210	5	55	95	SCR	208 / 3	1.00
VAV-1.129	CORRIDOR 129	TITUS / DESV	8	375	210	115	2.5	55	95	SCR	208 / 3	1.00
VAV-1.130	MAINTENANCE SUPERVISOR OFFICE, LACTATION, & STORAGE 130/128/127	TITUS / DESV	6	225	125	70	1.5	55	95	SCR	208 / 3	1.00
VAV-1.131	RESTROOMS & CUSTODIAL 131/132/133	TITUS / DESV	6	150	110	45	1.5	55	95	SCR	208 / 3	1.00
VAV-1.135	STAFF BREAK ROOM & STORAGE 135/136	TITUS / DESV	8	580	320	175	4	55	95	SCR	208 / 3	1.00
VAV-1.139	STAFF CONFERENCE ROOM 139	TITUS / DESV	8	410	230	125	3	55	95	SCR	208 / 3	1.00
VAV-1.141	WOMENS RESTROOMS & LOCKER ROOMS 141	TITUS / DESV	8	300	165	90	2	55	95	SCR	208 / 3	1.00
VAV-1.145	MENS RESTROOMS & LOCKER ROOMS 145	TITUS / DESV	8	420	235	130	3	55	95	SCR	208 / 3	1.00
VAV-1.150	MECHANIC BREAK ROOM 150	TITUS / DESV	8	280	155	85	2	55	95	SCR	208 / 3	1.00

GENERAL NOTES:
1. INLET TO VAV BOX SHALL HAVE STRAIGHT DUCT LENGTH EQUAL TO A MINIMUM OF 1.5 TIMES DUCT DIAMETER
2. ALLOW 48" OF STRAIGHT DUCT DOWNSTREAM OF VAV BOX BEFORE FIRST RUNOUT. INSIDE OF DUCT SHALL BE EQUAL TO DISCHARGE SIZE. THERE SHALL BE NO REDUCTION
3. PROVIDE INTEGRAL DISCONNECT SWITCH FOR VAV BOXES
4. 120V / 24V CONTROL POWER TRANSFORMER TO BE PROVIDED BY CONTOLS CONTRACTOR WITH REQUIRED FUSING IN ELECTICAL ROOM

OUTDOOR AIR SCHEDULE

UNIT	ROOM NAME	OCCUPANCY CLASSIFICATION	OCCUPANT LOAD (PEOPLE)	PEOPLE OUTDOOR AIRFLOW RATE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE (CFM/FT^2)	TOTAL AREA (SQUARE FEET)	REQUIRED OUTDOOR VENTILATION AIR (CFM)	80% ZONE AIR DISTRIBUTION EFFECTIVENESS (CFM)
RTU-1	102 LOBBY/RECEPTION	RECEPTION	2	5	0.06	450	37	46
RTU-1	103 PAYROLL CLERK	OFFICE	1	5	0.06	115	12	15
RTU-1	104 DIRECTORS OFFICE	OFFICE	1	5	0.06	200	17	21
RTU-1	105 ECC ROUTER	OFFICE	1	5	0.06	115	12	15
RTU-1	106 ROUTER MANAGER	OFFICE	1	5	0.06	140	13	17
RTU-1	108 ROUTER OPEN OFFICE	OFFICE	4	5	0.06	405	44	55
RTU-1	109 DISPATCH OPEN OFFICE	OFFICE	4	5	0.06	400	44	55
RTU-1	111 DISPATCH MANAGER	OFFICE	1	5	0.06	135	13	16
RTU-1	113 DRIVER MEETING BREAK ROOM	MULTIUSE ASSEMBLY	64	7.5	0.06	1700	582	728
RTU-1	116 CORRIDOR	CORRIDOR	0	0	0.06	295	18	22
RTU-1	123 VIDEO PREP	OFFICE	1	5	0.06	120	12	15
RTU-1	124 TRAINING ROOM	CONFERENCE ROOM	17	5	0.06	530	117	146
RTU-1	125 TRAINER OFFICE	OFFICE	1	5	0.06	135	13	16
RTU-1	128 LACTATION ROOM	OFFICE	1	5	0.06	70	9	12
RTU-1	129 CORRIDOR	CORRIDOR	0	5	0.06	400	24	30
RTU-1	130 MAINTENANCE SUPERVISOR	OFFICE	1	5	0.06	140	13	17
RTU-1	135 STAFF BREAK ROOM	OFFICE	12	5	0.06	380	83	104
RTU-1	139 STAFF CONFERENCE ROOM	CONFERENCE ROOM	12	5	0.06	325	80	99
RTU-1	150 MECHANIC BREAK ROOM	OFFICE	8	5	0.06	225	54	67

AIR DRYER SCHEDULE

PLAN MARK	SERVING	MANUFACTURER	MODEL	FLOW RATE (SCFM)	IN/OUT AIR CONNECT SIZE	OPERATING KW	VOLT/ PH	DIMENSIONS (INCHES)	WEIGHT (LBS)	NOTES
AD-1	SERVICE BAYS	INGERSOLL RAND	D59EC	35	1/2" FPT	1	115/1	20x15x26	95	1-8

NOTES:
1. PERFORMANCE BASED ON ISO 7183, TABLE 2, OPTION A2 (100 PSIG INLET AIR PRESSURE, 100°F INLET AIR TEMPERATURE, 100°F AMBIENT AIR TEMPERATURE)
2. MULTI-LAYER HEAT EXCHANGER
3. DIGITAL CONTROLLER
4. FULLY HERMETIC REFRIGERATION COMPRESSOR
5. R134A REFRIGERANT
6. GLYCOL CIRCULATION PUMP
7. TIMED SOLENOID DRAIN
8. DRAIN ISOLATION VALVE

CORDOGAN CLARK
ARCHITECTURE + ENGINEERING + CONSTRUCTION

CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION
CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER:
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
AURORA, IL 60506
(630) 896-4979
MO. CERTIFICATE OF AUTHORITY NO. 2019017445

MECHANICAL ENGINEER:
FACILITY SOLUTIONS GROUP, INC.
901 HORAN DRIVE, SUITE 200
FENTON, MO 63026
(636) 537-0203
MO. CERTIFICATE OF AUTHORITY NO. 2013043569

ELEC. & PLUMB ENGINEER:
ECS CONSULTING ENGINEERS, INC.
9986 MANCHESTER ROAD, SUITE 202
ST. LOUIS, MO 63122
(314) 755-1920
MO. CERTIFICATE OF AUTHORITY NO. E-2018042187

OWNER CONSULTANTS:

CIVIL ENGINEER
BAX ENGINEERING CO., INC.
221 POINT WEST BLVD.
ST. CHARLES, MO 63301
(636) 928-5552
MISSOURI CERTIFICATE OF AUTHORITY NO. ENG. 000855
MISSOURI CERTIFICATE OF AUTHORITY NO. SURVEYING 000144

FORT ZUMWALT TRANSPORTATION CENTER
TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

MECHANICAL HVAC SCHEDULES

STATE OF MISSOURI
JACOB BROSS
NUMBER PE-2024005510
PROFESSIONAL ENGINEER
Jacob Bross
MO PE License No.E-2024005510
Expires: 12/31/24
08/13/24

JOB NUMBER 224205

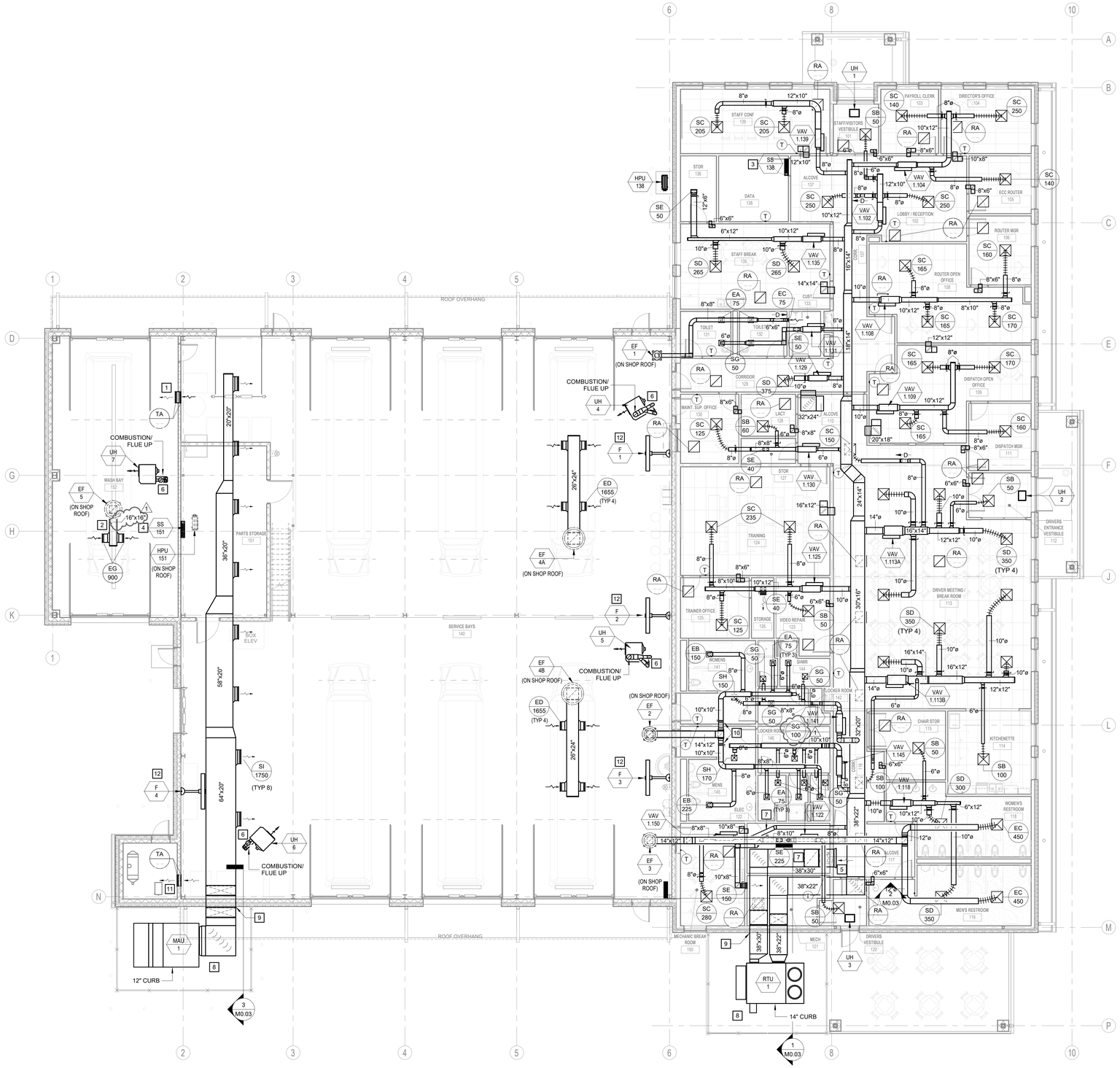
DATE 08/13/2024

09/26/24

ISSUED FOR BID & PERMIT

REVISIONS:
1. Addendum No. 1

M0.01



1 M2.01 FLOOR PLAN - LEVEL 01 - MECHANICAL HVAC
1/8" = 1'-0"

0' 2' 4'

GENERAL NOTES

1. INSTALL NEW VAV BOXES AND DAMPERS WITHIN FIVE (5) FEET OF FINISHED CEILING FOR MAINTENANCE. DO NOT INSTALL WHERE LIGHTS OR OTHER DEVICES MAY LIMIT SERVICE CLEARANCES. OFFSET VAV BOX HEIGHT FROM MAIN DUCTWORK WHERE NECESSARY TO ALLOW FOR SERVICING. CONTRACTOR RESPONSIBLE FOR DETERMINING LH OR RH CONTROL BOX FOR SERVICING.
2. ALL MOTORIZED DAMPERS SHALL BE NAILOR 1010 OR EQUAL, WITH 24V POWER. MOTORIZED DAMPERS TO BE PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR, WITH POWER BY CONTROLS CONTRACTOR.
3. PROVIDE DUCT SIZES TO VAV BOXES AS INDICATED AND TRANSITION DOWN TO VAV INLET SIZE AT BOX.

KEYED NOTES

1. MOUNT TRANSFER GRILLES WITH BOTTOM AT 6'-6" AFF. PROVIDE AND INSTALL 24 GAUGE STAINLESS STEEL SLEEVE THROUGH WALL OPENING WITH FLANGED ENDS. INSTALL TRANSFER GRILLES ON EACH SIDE OF OPENING.
2. ALL DUCTWORK IN THIS ROOM SHALL BE CONSTRUCTED OF STAINLESS STEEL.
3. INSTALL SINGLE SPLIT ON WALL ABOVE DOOR. SEE PIPING DRAWING M2.02 FOR REFRIGERANT AND CONDENSATE DRAIN PIPE ROUTING DETAILS.
4. INSTALL SINGLE SPLIT ON WALL IN PARTS STORAGE. SEE PIPING DRAWING M2.02 FOR REFRIGERANT AND CONDENSATE DRAIN PIPE ROUTING DETAILS. COORDINATE MOUNTING HEIGHT WITH ARCHITECT AND OWNER.
5. RETURN AIR DUCT ABOVE CEILING IN ALCOVE. SEE RETURN AIR DUCT OPENING DETAIL ON DRAWING M0.02.
6. PROVIDE AND INSTALL UNIT HEATER 18'-4" (BOTTOM OF UNIT) AFF WITH COMBUSTION AIR AND FLUES UP TO/FROM ROOF FOR UNIT HEATER. UNIT HEATERS TO INCLUDE CONCENTRIC ADAPTER. SEE EQUPMENT SCHEDULE ON DRAWING M0.01 AND DETAILS ON DRAWING M0.02.
7. RETURN AIR DUCT SHALL BE 14' A.F.F. TO ALLOW THE REQUIRED CLEARANCES ABOVE THE MAIN SWITCHBOARD AND ELECTRICAL PANELS. COORDINATE WITH ELECTRICAL CONTRACTOR. SEE SECTION VIEW ON DRAWING M0.03 FOR DETAILS.
8. ANCHOR CURB TO CONCRETE PAD (PROVIDED BY OTHERS) PER IOM.
9. PROVIDE WATER TIGHT FLASHING AROUND PERIMETER OF DUCTWORK AT WALL PENETRATION.
10. PROVIDE AND INSTALL BALANCE DAMPERS ON EXHAUST DUCT BRANCHES. COORDINATE ACCESS PANEL REQUIREMENTS WITH ARCHITECT.
11. MOUNT TRANSFER GRILLES WITH BOTTOM AT 6'-6" AFF. PROVIDE AND INSTALL 24 GAUGE STAINLESS STEEL SLEEVE THROUGH WALL OPENING WITH FLANGED ENDS. INSTALL TRANSFER GRILLES ON EACH SIDE OF OPENING.
12. PROVIDE AND INSTALL WALL MOUNTED FAN AT 15'-0" AFF FROM MOUNTING BRACKET. SEE EQUPMENT SCHEDULE ON DRAWING M0.01.

CORDOGAN CLARK
ARCHITECTURE + ENGINEERING + CONSTRUCTION

CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION
CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER:
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
AURORA, IL 60506
(630) 896-4979
MO. CERTIFICATE OF AUTHORITY NO. 2019017445

MECHANICAL ENGINEER:
FACILITY SOLUTIONS GROUP, INC.
901 HORAN DRIVE, SUITE 200
FENTON, MO 63026
(636) 537-0203
MO. CERTIFICATE OF AUTHORITY NO. 2013042069

ELEC. & PLUMB ENGINEER:
ECS CONSULTING ENGINEERS, INC.
9986 MANCHESTER ROAD, SUITE 202
ST. LOUIS, MO 63122
(314) 755-1920
MO. CERTIFICATE OF AUTHORITY NO. E-2018042187

OWNER CONSULTANTS:

CIVIL ENGINEER
BAX ENGINEERING CO., INC.
221 POINT WEST BLVD.
ST. CHARLES, MO 63301
(636) 928-5552
MISSOURI CERTIFICATE OF AUTHORITY NO. ENG. 000855
MISSOURI CERTIFICATE OF AUTHORITY NO. SURVEYING 2005144

FORT ZUMWALT
TRANSPORTATION CENTER
TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

FLOOR PLAN - MECHANICAL HVAC

JACOB BROSS NUMBER PE-2024005510
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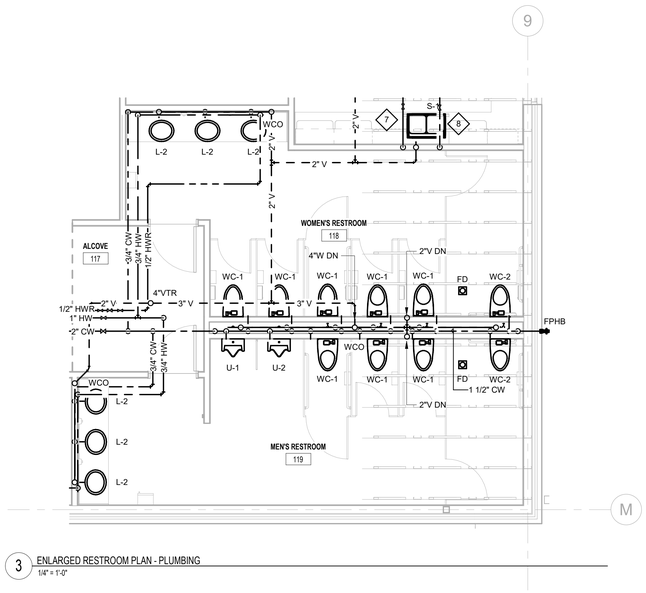
M2.01



3 ENLARGED RESTROOM PLAN - PLUMBING
1/4" = 1'-0"

GENERAL NOTES:

A. THESE PLANS ARE DIAGRAMMATIC IN NATURE AND REFLECT THE AVAILABLE INFORMATION OBTAINED FROM EXISTING DRAWINGS AND FIELD SURVEYS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT LOCATIONS AND DIMENSIONS OF PIPING, EQUIPMENT, & COMPONENTS. CONTRACTOR IS RESPONSIBLE FOR FINAL TIE-IN POINT BETWEEN NEW AND EXISTING SYSTEMS.

B. UNLESS NOTED, EXISTING SHOWN IN FADE-AWAY PEN. NEW, RELOCATED, OR DEMOLITION ITEMS SHOWN IN DARK HEAVY PEN.

C. ENTIRE BUILDING LIMITS SHALL BE FULLY SPRINKLED. ENTIRE FIRE PROTECTION SYSTEM SHALL MEET ALL STATE AND LOCAL CODES AND ORDINANCES.

D. REFER TO THE FIRE PROTECTION SPECIFICATION FOR ADDITIONAL INFORMATION REGARDING THE FIRE PROTECTION SYSTEM.

E. SIZING OF ALL FIRE SUPPRESSION PIPES AND ACCESSORIES SHALL BE THE RESPONSIBILITY OF THE FIRE PROTECTION CONTRACTOR.

F. FIRE SUPPRESSION CONTRACTOR IS FULLY RESPONSIBLE FOR THE DESIGN BUILD SCOPE OF WORK.

G. ALL PENETRATION THROUGH A FIRE RATED ASSEMBLY MUST BE SEALED WITH AN APPROVED RATED SEALANT.

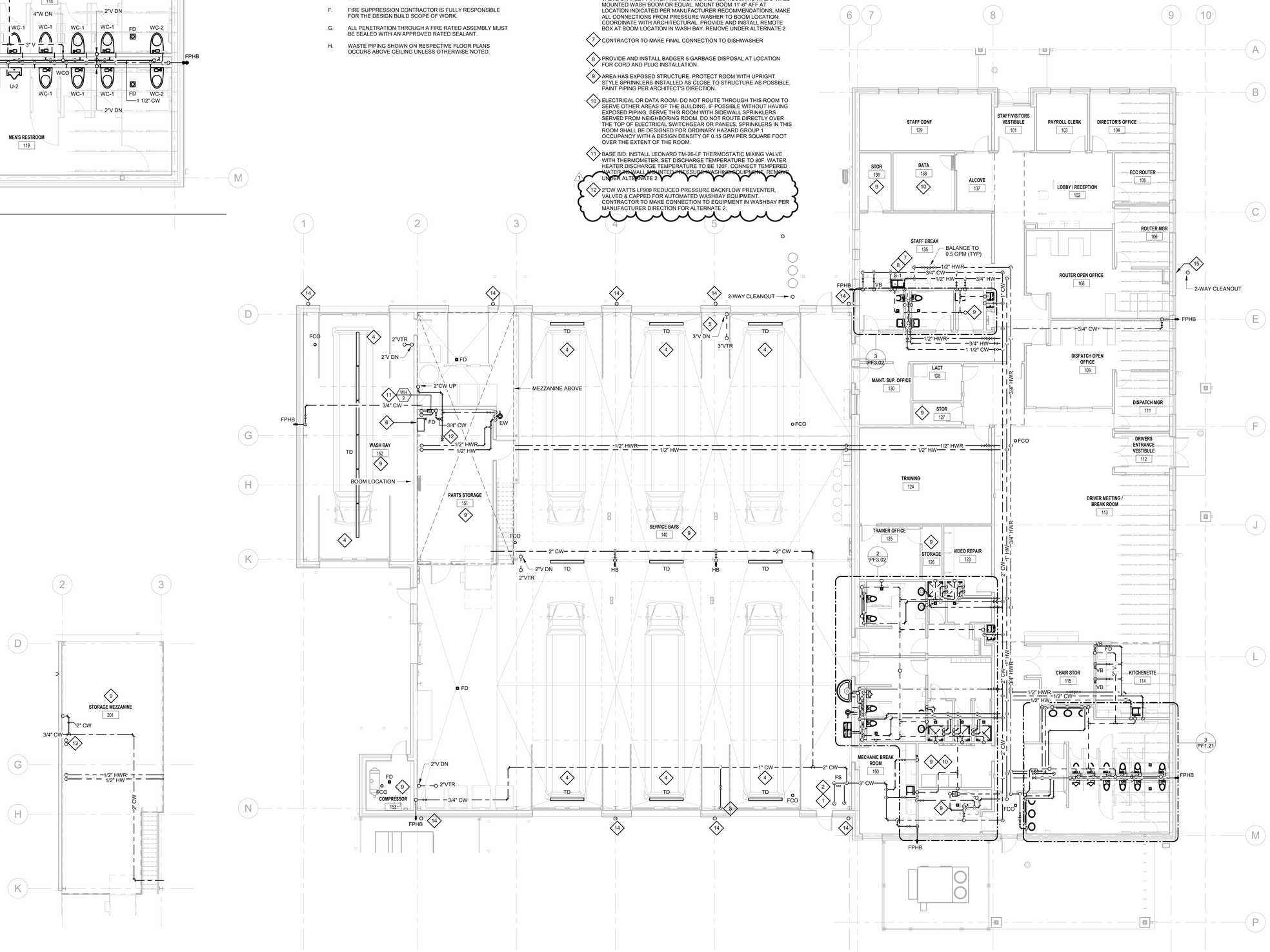
H. WASTE PIPING SHOWN ON RESPECTIVE FLOOR PLANS OCCURS ABOVE CEILING UNLESS OTHERWISE NOTED.

KEYED NOTES:

1. 6" SUPERVISED WATTS 757 DOUBLECHECK BACKFLOW FOR NEW WET-PIPE FIRE PROTECTION SYSTEM. INSTALL POST INDICATOR VALVE ON FIRE LINE AT LEAST AS FAR FROM THE BUILDING AS THE HEIGHT OF THE WALL FACING THE POST INDICATOR VALVE. PROVIDE (2) SEPERATE ZONE ASSEMBLIES FOR (1) SHOP AND (1) OFFICE PORTION OF BUILDING.
2. 3" CW, MAIN BUILDING SHUTOFF VALVE, WATTS LF909 REDUCED PRESSURE BACKFLOW PREVENTER, STRAINER, & PRV SET TO MAXIMUM PRESSURE OF 70 PSI
3. 3/4" CW DOWN BELOW FINISHED FLOOR TO YARD HYDRANT ON SITE. SEE CIVIL FOR CONTINUATION.
4. PROVIDE SPRINKLER HEAD UNDERNEATH OVERHEAD GARAGE DOOR AT LOCATION.
5. LOCATION OF OIL MONITORING CONTROL PANEL. COORDINATE WITH ELECTRICAL.
6. BASE BID: PRESSURE WASHING EQUIPMENT MI-T-M WALL-MOUNT CAW-2004-OME3 2000 PSI, 6 HP, 208V/3, 3.9 GPM OR EQUAL. CONNECT TEPID WATER PIPING TO EQUIPMENT AS REQUIRED. INSTALL SHUT OFF VALVE ON INLET PIPING. PROVIDE AND INSTALL MOSMATIC WAE 9' WALL MOUNTED WASH BOOM OR EQUAL. MOUNT BOOM 11'-6" AFF AT LOCATION INDICATED PER MANUFACTURER RECOMMENDATIONS, MAKE ALL CONNECTIONS FROM PRESSURE WASHER TO BOOM LOCATION. COORDINATE WITH ARCHITECTURAL. PROVIDE AND INSTALL REMOTE BOX AT BOOM LOCATION IN WASH BAY. REMOVE UNDER ALTERNATE 2
7. CONTRACTOR TO MAKE FINAL CONNECTION TO DISHWASHER
8. PROVIDE AND INSTALL BADGER 5 GARBAGE DISPOSAL AT LOCATION FOR CORD AND PLUG INSTALLATION.
9. AREA HAS EXPOSED STRUCTURE. PROTECT ROOM WITH UPRIGHT STYLE SPRINKLERS INSTALLED AS CLOSE TO STRUCTURE AS POSSIBLE. PAINT PIPING PER ARCHITECT'S DIRECTION.
10. ELECTRICAL OR DATA ROOM. DO NOT ROUTE THROUGH THIS ROOM TO SERVE OTHER AREAS OF THE BUILDING. IF POSSIBLE WITHOUT HAVING EXPOSED PIPING, SERVE THIS ROOM WITH SIDEWALL SPRINKLERS SERVED FROM NEIGHBORING ROOM. DO NOT ROUTE DIRECTLY OVER THE TOP OF ELECTRICAL SWITCHGEAR OR PANELS. SPRINKLERS IN THIS ROOM SHALL BE DESIGNED FOR ORDINARY HAZARD GROUP 1 OCCUPANCY WITH A DESIGN DENSITY OF 0.15 GPM PER SQUARE FOOT OVER THE EXTENT OF THE ROOM.
11. BASE BID: INSTALL LEONARD TM-26-LF THERMOSTATIC MIXING VALVE WITH THERMOMETER. SET DISCHARGE TEMPERATURE TO 80F. WATER HEATER DISCHARGE TEMPERATURE TO BE 120F. CONNECT TEMPERED WATER TO WALL MOUNTED PRESSURE WASHER EQUIPMENT. REMOVE UNDER ALTERNATE 2
12. 2"CW WATTS LF909 REDUCED PRESSURE BACKFLOW PREVENTER, VALVED & CAPPED FOR AUTOMATED WASHBAY EQUIPMENT. CONTRACTOR TO MAKE CONNECTION TO EQUIPMENT IN WASHBAY PER MANUFACTURER DIRECTION FOR ALTERNATE 2.

KEYED NOTES (CONT.):

13. PROVIDE MANUFACTURER RECOMMENDED SIZE CONCENTRIC VENT KIT AND ROUTE THROUGH ROOF.
14. CONNECT STORM PIPING TO DOWNSPOUT. REFER TO ARCHITECTURAL DETAILS.
15. FIRE DEPARTMENT CONNECTION AND FIRE ALARM BELL. SEE SPECIFICATIONS AND ELECTRICAL PLAN.



2 MEZZANINE FLOOR PLAN - PLUMBING & FIRE PROTECTION
1/8" = 1'-0"

1 FLOOR PLAN - PLUMBING & FIRE PROTECTION
1/8" = 1'-0"

CORDOGAN CLARK
ARCHITECTURE + ENGINEERING + CONSTRUCTION

CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION
CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER:
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
AURORA, IL 60506
(630) 896-4979
MO. CERTIFICATE OF AUTHORITY NO. 2019017445

MECHANICAL ENGINEER:
FACILITY SOLUTIONS GROUP, INC.
901 HORAN DRIVE, SUITE 200
FENTON, MO 63026
(636) 537-0203
MO. CERTIFICATE OF AUTHORITY NO. 2013042069

ELEC. & PLUMB ENGINEER:
ECS CONSULTING ENGINEERS, INC.
9986 MANCHESTER ROAD, SUITE 202
ST. LOUIS, MO 63122
(314) 755-1920
MO. CERTIFICATE OF AUTHORITY NO. E-2018042187

OWNER CONSULTANTS:

CIVIL ENGINEER
BAX ENGINEERING CO., INC.
221 POINT WEST BLVD.
ST. CHARLES, MO 63301
(636) 928-5552
MISSOURI CERTIFICATE OF AUTHORITY NO. ENG. 000855
MISSOURI CERTIFICATE OF AUTHORITY NO. SURVEYING 000144

FORT ZUMWALT
TRANSPORTATION CENTER
TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

FLOOR PLAN - PLUMBING & FIRE PROTECTION

STATE OF MISSOURI
CARTER SCHAEFER
NUMBER PE-2017419139
PROFESSIONAL ENGINEER
08/28/2024

JOB NUMBER 224205

DATE 08/13/2024

REVISIONS:	
1	Addendum No.1

08/28/2024

ISSUED FOR BID & PERMIT

PF1.21

GENERAL NOTES:

A. COMPLY WITH ALL GOVERNING CODES AND REGULATIONS AND PERFORM ALL WORK IN A WORKMANSHIP-LIKE MANNER.

B. OBTAIN REQUIRED PERMITS FROM AUTHORITIES HAVING JURISDICTION PRIOR TO COMMENCING WORK. CONTRACTOR TO INCLUDE ALL ASSOCIATED FEES IN BID.

C. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR LOCATION AND ORIENTATION OF DEVICES. WHERE LOCATIONS ARE NOT INDICATED ON ARCHITECTURAL DRAWINGS, COORDINATE LOCATION AND ORIENTATION OF DEVICES IN FIELD WITH ARCHITECT PRIOR TO ROUGH-IN.

D. ALL DEVICES SHOWN ARE NEW UNLESS NOTED OTHERWISE.

E. EXISTING DEVICES TO REMAIN ARE INDICATED WITH A THIN SOLID WEIGHT (AND SUBSCRIPT "EX").

F. EXISTING DEVICES TO BE REMOVED OR RELOCATED ARE DENOTED WITH A HEAVY DASHED LINE WEIGHT.

G. REMOVE ALL ELECTRICAL DEVICES INCLUDING BUT NOT LIMITED TO LIGHTING, POWER, FIRE ALARM AND AUXILIARY DEVICES FROM PARTITIONS AND CEILINGS INDICATED FOR DEMOLITION ON THE ARCHITECTURAL PLANS, UNLESS NOTED OTHERWISE.

H. FOR ANY DEVICES BEING REMOVED, REMOVE ASSOCIATED BOXES, CONDUITS AND WIRE BACK TO NEAREST DEVICE REMAINING OR TO SOURCE, UNLESS NOTED OTHERWISE.

I. REMOVE ALL ABANDONED CONDUITS, JUNCTION BOXES, SUPPORTS AND CABLES FROM ABOVE ACCESSIBLE CEILING INCLUDING, BUT NOT LIMITED TO FIRE ALARM, TELECOMMUNICATIONS, CONTROLS AND POWER WIRING.

J. MAINTAIN CONTINUITY OF CIRCUITS FEEDING DEVICES INDICATED TO REMAIN AND ANY CIRCUITS SERVICING DEVICES OUTSIDE THE PROJECT BOUNDARY.

K. VISIT SITE PRIOR TO BID SUBMITTALS TO DETERMINE SITE CONDITIONS EFFECTING THE EXECUTION OF WORK. FAILURE TO BE ACQUAINTED WITH EXISTING CONDITIONS WILL NOT BE JUSTIFICATION FOR ADDITIONAL SERVICES.

L. COORDINATE ANY INTERRUPTIONS IN UTILITY SERVICES WITH OWNER PRIOR TO SCHEDULING SHUT DOWN.

M. ANY INTERRUPTION IN UTILITY SERVICE WITHIN OR OUTSIDE PROJECT BOUNDARY SHALL BE PERFORMED OUTSIDE NORMAL BUSINESS HOURS. COORDINATE TIME AND DURATION WITH OWNER.

N. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS OF ALL EQUIPMENT BEING REMOVED. CONTRACTOR SHALL TURN OVER ALL ITEMS REQUESTED BY THE OWNER AND STORE SUCH ITEMS IN AN AREA DESIGNATED BY THE OWNER. CONTRACTOR SHALL DISPOSE OF ALL OTHER REMOVED OR SCRAP MATERIAL FROM THE SITE.

O. PROVIDE COVER PLATES WHERE MISSING ON EXISTING JUNCTION BOXES. CONTRACTOR TO VERIFY QUANTITY IN THE FIELD.

P. PROVIDE FACE PLATES ON ALL J-BOXES ABANDONED IN FINISHED FLOOR, WALL OR CEILINGS. COORDINATE COLOR AND FINISH WITH ARCHITECT. CONTRACTOR TO VERIFY QUANTITY IN THE FIELD.

Q. PROVIDE ALL CUTTING AND PATCHING AS NEEDED FOR EXECUTION OF DEMOLITION WORK AND INSTALLATION OF NEW WORK. PATCH TO MATCH FINISH AND CONSTRUCTION AS SPECIFIED BY ARCHITECT.

R. PAINT PATCHES TO MATCH EXISTING.

S. ALL NEW CONDUIT SHALL BE CONCEALED IN WALLS AND CEILING OR BELOW FLOORS UNLESS NOTED OTHERWISE.

T. WHERE EXPOSED CONDUIT IS NOTED, CONTRACTOR SHALL IDENTIFY ROUTING IN FIELD AND OBTAIN ARCHITECT'S APPROVAL OF ROUTING PRIOR TO ROUGH-IN. EXPOSED CONDUIT SHALL BE ROUTED TIGHT TO STRUCTURE.

U. BRANCH CIRCUITS AND HOME RUNS SHALL BE ROUTED IN EMT CONDUIT WITH STEEL FITTINGS UNLESS NOTED OTHERWISE OR REQUIRED OTHERWISE BY CODE OR APPLICATION.

V. MC TYPE CABLE MAY BE USED ONLY WHERE CONCEALED FROM VIEW IN WALLS OR CEILINGS FOR CONNECTION BETWEEN DEVICES. HOME RUNS AND PANELBOARD FEEDERS SHALL BE IN CONDUIT.

W. MINIMUM WIRE SIZE SHALL BE #12. MINIMUM CONDUIT SIZE SHALL BE 1/2"C. UNLESS NOTED OTHERWISE.

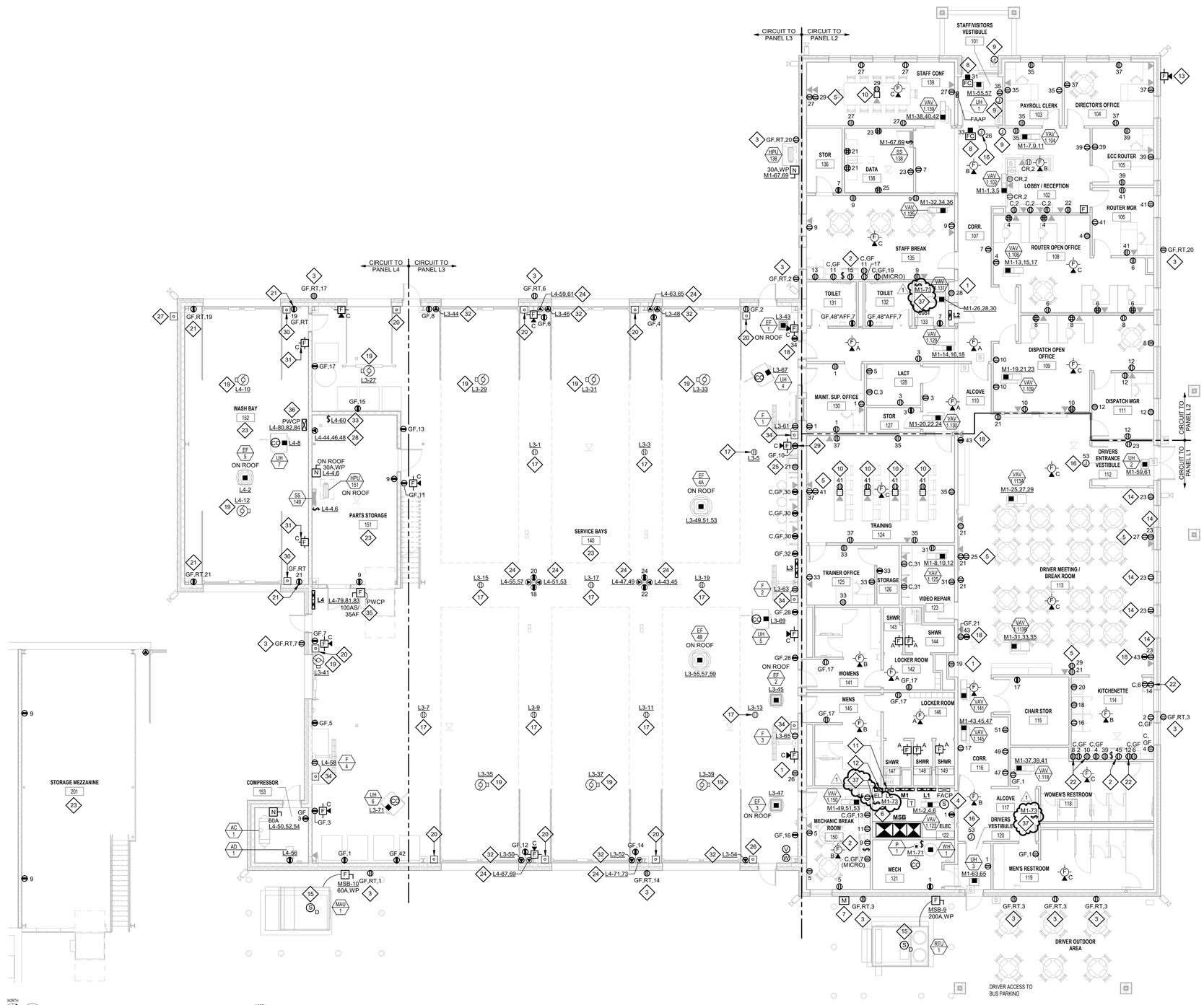
X. ALL SINGLE PHASE BRANCH CIRCUITS SHOWN WITH COMMON NEUTRAL SHALL HAVE INDIVIDUAL 20A-1P CIRCUIT BREAKER. CONTRACTOR TO PROVIDE HANDLE TIES TO MEET NEC SECTION 210.4 MULTI-WIRE BRANCH CIRCUIT REQUIREMENTS. REFER TO DRAWINGS FOR CIRCUITS WITH DEDICATED NEUTRALS.

Y. PROVIDE UPDATED PANEL BOARDS DIRECTORIES AND LABELS TO MATCH WORK PERFORMED.

Z. ALL NEW ELECTRICAL DEVICES (POWER AND DATA) SHALL BE GRAY WITH STAINLESS STEEL COVER PLATES IN SERVICE AREA, PARTS STORAGE, WASH BAY, LOCKER ROOMS, RESTROOMS AND MECHANICS BREAK ROOM AREA.

KEYED NOTES:

1. ELECTRIC WATER COOLER RECEPTACLE SHALL BE PROTECTED BY A 20A-1P GFCI TYPE CIRCUIT BREAKER AT THE PANEL AND INSTALLED PER WATER COOLER MANUFACTURER RECOMMENDATIONS.
2. PROVIDE RECEPTACLE UNDER CABINET FOR CORD AND PLUG CONNECTED DISPOSER. PROVIDE TOGGLE SWITCH FOR DISPOSER ON/OFF CONTROL LOCATED ABOVE COUNTER/BACKSPLASH.
3. PROVIDE EXTRA-DUTY DIE-CAST ALUMINUM IN-USE WEATHERPROOF COVER, SINGLE GANG, VERTICAL, COLOR BY ARCHITECT, AS MANUFACTURED BY INTERMATIC WP3110MXD. OR APPROVED EQUAL.
4. PROVIDE CEILING MOUNTED SMOKE DETECTOR WITHIN 5' OF FIRE ALARM CONTROL PANEL.
5. PROVIDE RECEPTACLE FOR WALL MOUNTED TV/DISPLAY AT APPROXIMATELY 54" AFF. COORDINATE EXACT LOCATION AND HEIGHT PRIOR TO COMMENCING WORK.
6. PROVIDE 4" CONCRETE HOUSEKEEPING PAD FOR EQUIPMENT.
7. ELECTRIC SERVICE METER LOCATION. COORDINATE WITH UTILITY COMPANY PRIOR TO COMMENCING WORK.
8. CONNECT ADA DOOR OPERATOR 120V POWER TO CIRCUIT INDICATED. PROVIDE CONCEALED CONTROL WIRING TO OPERATOR PUSHBUTTONS AS REPRESENTED BY J-BOXES. PROVIDE FIRE ALARM CONTROL MODULE WIRED TO FIRE ALARM CONTACT TERMINALS AT DOOR OPERATOR LOW VOLTAGE BOARD. CONNECT FIRE ALARM CONTROL MODULE TO BUILDING FIRE ALARM SYSTEM.
9. ADA DOOR OPERATOR PUSHBUTTON CONTROLS. COORDINATE LOCATIONS WITH ARCHITECTURAL DRAWINGS. COORDINATE BOX SIZE AND TYPE WITH MANUFACTURER PRIOR TO COMMENCING WORK.
10. PROVIDE 4-GANG RECESSED MULTI-SERVICE RECTANGULAR FLOOR BOX AS MANUFACTURED BY LEGRAND RFB4-OG WITH SURFACE STYLE COVER ASSEMBLY FPCTXX. FINAL FINISH SHALL BE SELECTED BY ARCHITECT DURING SUBMITTALS. COORDINATE EXACT LOCATION OF FLOOR BOX WITH ARCHITECT PRIOR TO COMMENCING WORK.
11. PROVIDE LIGHTING CONTACTOR PANEL AS MANUFACTURED BY WATTSTOPPPER FOR EXTERIOR LIGHTING CIRCUITS, CONTROLLED ON/OFF VIA PHOTOCELL.
12. PROVIDE 400 WATT, 120 VOLT, 1 PHASE, LED RATED, SINE WAVE LIFE SAFETY INVERTER WITH 90 MINUTE ILLUMINATION TIME FOR EXTERIOR EMERGENCY LIGHTING AS MANUFACTURED BY BODINE ELI-S-400 OR APPROVED EQUAL. WIRE SYSTEM TO ENSURE LIGHTS OPERATE VIA CONTROLS, BUT ENERGIZE UPON LOSS OF NORMAL POWER.
13. 120V OUTDOOR FIRE ALARM HORN/STROBE FURNISHED BY SPRINKLER CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR. CONNECT IN PARALLEL WITH EACH SECOND SET OF CONTACTS ON THE WATER FLOW SWITCHES. PROVIDE DEDICATED CIRCUIT FROM PANEL 1L3, LOCKABLE 20A-1P. VERIFY FINAL LOCATION WITH FIRE MARSHALL PRIOR TO COMMENCING WORK.
14. PROVIDE COMBINATION DECORATOR DUPLEX RECEPTACLE/USB CHARGERS, 15A, 125V, TAMPER-RESISTANCE RECEPTACLES, NEMA 5-15R, TWO 5 VOLT DC USB PORTS WITH A 3.1A CHARGING CAPABILITY AS MANUFACTURED BY LEGRAND MODEL NUMBER TM826USB OR APPROVED EQUAL BY HUBBELL OR COOPER.
15. PROVIDE DUCT SMOKE DETECTOR IN RETURN AIR DUCT INSIDE BUILDING PER MANUFACTURER RECOMMENDATIONS. ACTIVATION OF ANY DETECTORS SHALL SHUT DOWN ALL ROOFTOP AND NEUTRAL AIR UNITS. PROVIDE REMOTE INDICATOR AT BUILDING INTERIOR BELOW EACH UNIT. COORDINATE LOCATION WITH ARCHITECT PRIOR TO COMMENCING WORK.
16. PROVIDE CIRCUIT FOR ACCESS CONTROL SYSTEM CONTROLLER SERVING THIS AREA..
17. PROVIDE RECEPTACLE AT CEILING FOR CORD AND PLUG CONNECTED CORD REEL. PROVIDE 20 AMP, 250V, #12/3 SJO, HBL5369C CONNECTOR, ALUMINUM HOUSING, CEILING MOUNTED CORD REEL WITH 30' CORD, POSITIVE LATCH MECHANISM, MOUNTING BRACKET, BALL STOP, AS MANUFACTURED BY HUBBELL #HBL125123C20. PROVIDE SUPPORT AT CEILING FOR RIGID MOUNTING.
18. PROVIDE RECEPTACLE AT 48" A.F.F. FOR TIMECLOCK SYSTEM EQUIPMENT.
19. GARAGE DOOR OPENER WITH 1/2 HP, 120V, 1 PHASE MOTOR. CONTROL BY OPEN/CLOSE/STOP SWITCH.
20. PROVIDE OPEN/CLOSE/STOP PUSHBUTTON CONTROL STATION FOR MOTORIZED GARAGE DOOR AS MANUFACTURED BY SQUARE D #9001BG303.
21. PROVIDE NEMA 4X, HEAVY DUTY, ALUMINUM COVERS FOR 120V RECEPTACLES LOCATED ON THE WALLS OF THIS AREA, TYPICAL. HUBBELL HBL5221 FOR 120V. COORDINATE COVER AND DEVICE COMPATIBILITY.
22. PROVIDE RECEPTACLE FOR MICROWAVE IN CABINET ABOVE MICROWAVE FOR ACCESSIBILITY. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.
23. RECEPTACLES THIS AREA SHALL BE MOUNTED AT 48" A.F.F. UNLESS NOTED OTHERWISE.
24. PROVIDE 50 AMP, 208V, 1PH RECEPTACLE AT 48" A.F.F. THIS LOCATION FOR WELDER. COORDINATE NEMA TYPE WITH OWNER EQUIPMENT PRIOR TO COMMENCING WORK.
25. PROVIDE RECEPTACLE AT STANDARD HEIGHT FOR CHARGING CABINET. COORDINATE EXACT LOCATION.
26. PROVIDE OPEN/CLOSE/STOP PUSHBUTTON CONTROL STATION FOR MOTORIZED BUS LOT GATE AS MANUFACTURED BY SQUARE D #9001BG303.
27. PROVIDE CONDUIT AND BACKBOX FOR FUEL STATION EMERGENCY STOP BUTTON. EMERGENCY STOP BUTTON PROVIDED BY OTHERS. COORDINATE WITH FUEL STATION ELECTRICAL CONTRACTOR.
28. PROVIDE RECEPTACLE FOR CORD AND PLUG CONNECTED POWER WASHER EQUIPMENT, NEMA L15-20R.
29. PROVIDE RECEPTACLE AT 48"AFF FOR VEEDER ROOT SYSTEM PANEL WITH DEDICATED CIRCUIT AND GROUND.
30. PROVIDE NEMA 4X OPEN/CLOSE/STOP PUSHBUTTON CONTROL STATION FOR MOTORIZED GARAGE DOOR AS MANUFACTURED BY AMERICAN GARAGE DOOR SUPPLY INC. #3BXT.
31. PROVIDE NEMA 4X ENLCOSED BACKBOX FOR FIRE ALARM NOTIFICATION DEVICE THIS LOCATION AS MANUFACTURED BY STI #STI-1229-HAZ.
32. PROVIDE RECEPTACLE FOR PORTABLE BUS EXHAUST SYSTEM AT 48" A.F.F COORDINATE NEMA RECEPTACLE TYPE WITH CORD AND PLUG EQUIPMENT.
33. PROVIDE CIRCUIT AND MEANS OF DISCONNECT TO WH-2 THIS LOCATION.
34. CIRCULATION FAN CONTROL PROVIDED BY MECHANICAL CONTRACTOR INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE LOCATION WITH MECHANICAL.
35. PROVIDE POWER TO MANUFACTURER PROVIDED PRE-WIRED CONTROL PANEL FOR LIFT INCLUDING INTERCONNECTING WIRING FROM CONTROL PANEL TO HYDRAULIC POWER UNIT MOTOR, PRESSURE SWITCH, SOLENOID FOR THE OIL DUMP VALVE, (2) PUSHBUTTON STATIONS (1) AT EACH LEVEL, LIFT STATUS LIMIT SWITCHES (1) AT EACH LEVEL.
36. PROVIDE POWER TO MANUFACTURER PROVIDED PRE-WIRED CONTROL PANEL FOR WASH BAY EQUIPMENT AS INDICATED. FIELD VERIFY EXACT LOCATION OF CONTROL PANEL.



NORTH 2 E1.01 MEZZANINE PLAN - ELECTRICAL 1/8" = 1'-0"

NORTH 1 E1.01 FLOOR PLAN - ELECTRICAL 1/8" = 1'-0"

KEYED NOTES: (continued)

/1 37 PROVIDE MEANS OF DISCONNECT FOR PLUMBING PROVIDED 120V-24V TRANSFORMER FOR AUTO-FLUSH SENSORS. CONNECT UP TO 8 SENSORS PER TRANSFORMER MANUFACTURER RECOMMENDATIONS.

CORDOGAN CLARK
ARCHITECTURE + ENGINEERING + CONSTRUCTION

CORDOGAN CLARK & ASSOC., INC.
611 NORTH TENTH STREET
SUITE 200
ST. LOUIS, MO 63101
PHONE: (314) 421-3542
MISSOURI ARCHITECTURAL CORPORATION
CERTIFICATE OF AUTHORITY NO. 2019017440

CONSULTANTS:

STRUCTURAL ENGINEER:
CORDOGAN CLARK & ASSOC., INC.
960 RIDGEWAY AVENUE
AURORA, IL 60506
(630) 896-4979
MO. CERTIFICATE OF AUTHORITY NO. 2019017445

MECHANICAL ENGINEER:
FACILITY SOLUTIONS GROUP, INC.
901 HORAN DRIVE, SUITE 200
FENTON, MO 63026
(636) 537-0203
MO. CERTIFICATE OF AUTHORITY NO. 2013043069

ELEC. & PLUMB ENGINEER:
ECS CONSULTING ENGINEERS, INC.
9986 MANCHESTER ROAD, SUITE 202
ST. LOUIS, MO 63122
(314) 765-1920
MO. CERTIFICATE OF AUTHORITY NO. E-2018043187

OWNER CONSULTANTS:

CIVIL ENGINEER
BAX ENGINEERING CO., INC.
221 PONT WEST BLVD.
ST. CHARLES, MO 63301
(636) 928-5552
MISSOURI CERTIFICATE OF AUTHORITY NO. ENG. 000855
MISSOURI CERTIFICATE OF AUTHORITY NO. SURVEYING 000144

FORT ZUMWALT
TRANSPORTATION CENTER
TOWNSHIP 47 NORTH, RANGE 4 EAST
ST. PETERS, MO 63376

FLOOR PLAN - ELECTRICAL

CARTER SCHANEL
NUMBER PE-2017019939
PROFESSIONAL ENGINEER
08/28/2024

JOB NUMBER 224205

DATE 08/13/2024

ISSUED FOR BID & PERMIT

REVISIONS:
1 Addendum No.1
08/28/2024

E1.01