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**Bid #CA23-2526**  
**WEST VALLEY-MISSION COMMUNITY COLLEGE**  
**DISTRICT**  
**WV STEM CLASSROOM HVAC UPGRADES**

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**BID ADDENDUM NO. 1**

**PROJECT:** WEST VALLEY COLLEGE  
WV STEM CLASSROOM HVAC UPGRADES  
14000 Fruitvale Avenue  
Saratoga, CA95070

**OWNER:** WVMCCD  
14000 Fruitvale Avenue  
Saratoga, CA95070

**ARCHITECT:** P2S LP  
5000 E Spring Street, Ste 800  
Long Beach, CA 90815

**ADDENDUM DATE:** May 13<sup>th</sup>, 2026

**Notice is hereby given to all prospective bidders that plans and specifications on the subject project are modified as hereinafter set forth.** This Addendum shall be attached to and form a part of the plans and specifications. All bidders must acknowledge receipt of this addendum on the Bid Form. Failure to do so may result in a determination of bid non-responsiveness. In case of difference with previous addenda or communications, this addendum takes precedence. It is the responsibility of all bidders to notify all subcontractors from whom they request bids and from whom they accept bids of all changes contained in this addendum.

- A. CHANGES AND/OR CLARIFICATIONS TO THE PROJECT MANUAL
  - a. Updates to Special Conditions 00 73 00 Section 3.1 Contract Duration on Page 141.
  - b. Reference the attached page which supersedes the prior issued section of the page.
  
- B. CHANGES AND/OR CLARIFICATIONS TO THE PROJECT MANUAL
  - a. Updates to Special Conditions 00 73 00 Attachment B – Project Phasing Schedule on Pages 174 and 175.
  - b. Reference the attached page labelled “ATTACHMENT B - PROJECT PHASING SCHEDULE 4/30/2026” which supersedes the prior issued page.
  
- C. ADDITIONAL INFORMATION ADDED TO THE CONTRACT DOCUMENTS.
  - a. HazMat sampling results from EMSL Analytical, Inc (2 Pages) for the roof are included for reference.

- b. Reference to the attached page included for reference.
- D. ADDITIONAL INFORMATION ADDED TO THE CONTRACT DOCUMENTS.
- a. HazMat sampling results from EMSL Analytical, Inc (2 Pages) for the drywall within the plenum of the building are included for reference.
  - b. Reference to the attached page included for reference.
- A. CHANGES AND/OR CLARIFICATIONS TO THE DRAWINGS
- a. Reference revised sheets M001, M211, and M501 which supersede the original sheets.
  - b. Reference Pre-Bid RFI Answers.
- B. CHANGES AND/OR CLARIFICATIONS TO THE SPECIFICATIONS
- a. Reference "SECTION 23 0900 - INSTRUMENTATION AND CONTROL FOR HVAC Pages 23 900-4 and 23 900-5".
  - b. Reference Pre-Bid RFI Answers.

**END OF BID ADDENDUM ITEMS**

**SPECIAL CONDITIONS**

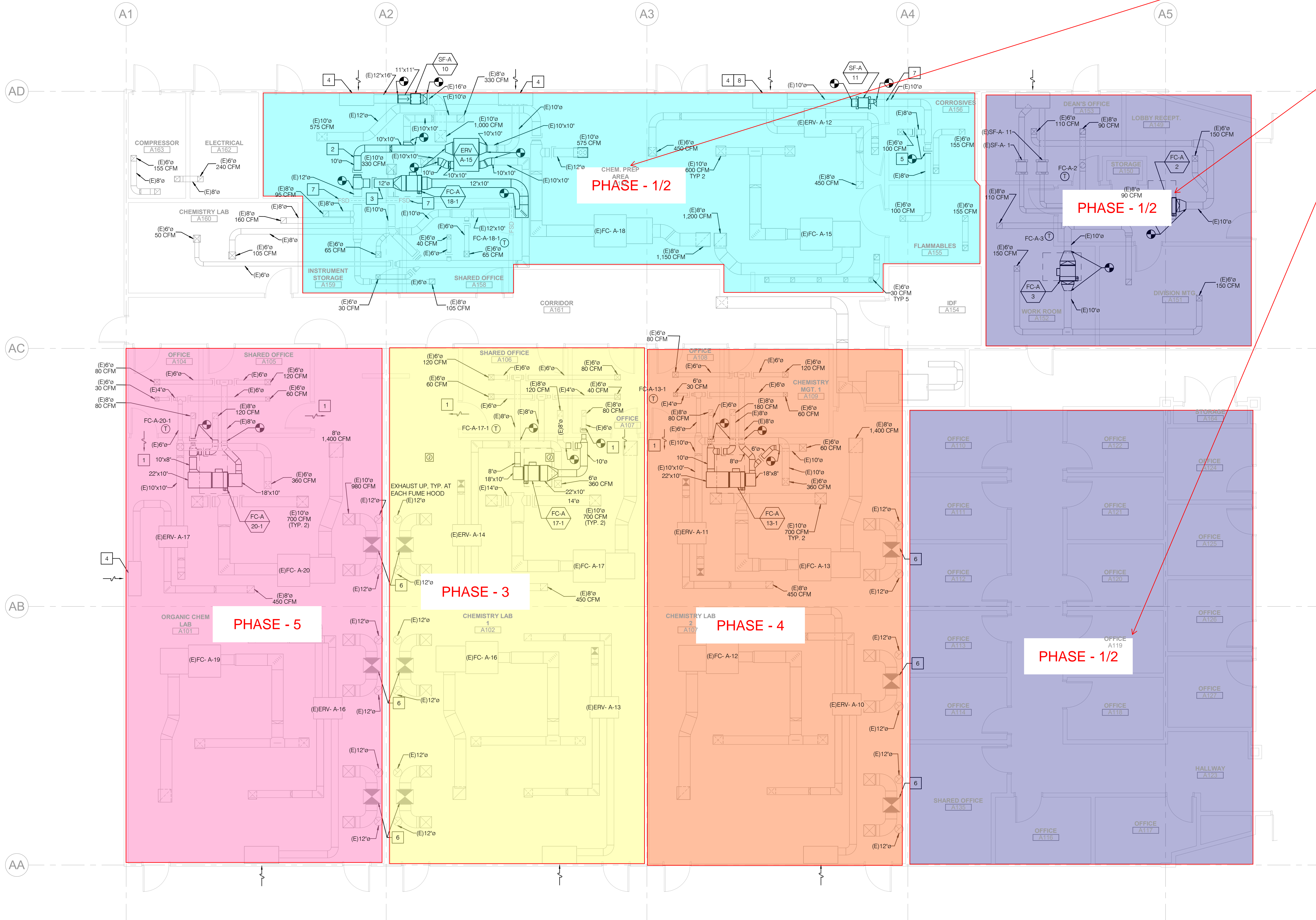
- 1. Application of Special Conditions.** These Special Conditions form a part of the Contract Documents for the Work generally described as: BID #CA23-2526, WV STEM Classroom HVAC Upgrades, West Valley College.
- 2. Copies of Agreement, Bonds and Contract Documents.**
  - 2.1 Contractor Return of Executed Agreement and Bonds.** The Contractor shall execute and return to the District one (1) executed counterpart copy(ies) of the Agreement and the Contractor shall return to the District one (1) executed counterpart copy(ies) of the Performance Bond, and the Payment Bond.
  - 2.2 District Contract Documents to Contractor.** Pursuant to Article 2.1.3 of the General Conditions, the District will, without charge or cost, provide one (1) set(s) of the Contract Documents to the Contractor. The Contractor may obtain additional sets of the Contract Documents at the cost of reproduction.
- 3. Notice To Proceed; Commencement of Contract Time.** The Contractor shall commence Work and the Contract Time shall be deemed to commence on the date stated in the Notice to Proceed issued by or on behalf of the District to the Contractor.
  - 3.1 Contract Duration.** The Contractor shall achieve Substantial Completion of the Work within the Contract Time which is **three-hundred (300)** calendar days after the date established in the Notice to Proceed issued by or on behalf of the District for commencement of the Work. Contractor will note that construction is phased as detailed in Attachment B of the Special Conditions.
- 4. Liquidated Damages.**
  - 4.1 Liquidated Damages for Delayed Substantial Completion.** If the Contractor does not achieve Substantial Completion of the Work as of expiration of the Contract Time, the Contractor shall be assessed Liquidated Damages in the amount of \_\_\_\_\_ One Thousand \_\_\_\_\_ Dollars (\$ 1,000.00 ) per calendar day after expiration of the Contract Time until Substantial Completion of the Work is achieved.
  - 4.2 Liquidated Damages for Delayed Completion of Punchlist Items.** If the Contractor does not complete Punchlist Items noted upon Substantial Completion within the time established pursuant to the Contract Documents, the Contractor shall be assessed Liquidated Damages in the amount of \_\_\_\_\_ One Thousand \_\_\_\_\_ Dollars (\$ 1,000.00 ) per Calendar day from the date established for completion of all Punchlist Items until all Punchlist Items are actually completed.
  - 4.3 Liquidated Damages for Delayed Submission of Submittals.** If the Contractor is required by the Contract Documents to establish dates in the Construction Schedule for the Contractor's submission of each Submittal required by the Contract Documents and the Contractor fails to submit Submittals in accordance with the Construction Schedule, the Contractor shall be assessed Liquidated Damages of \_\_\_\_\_ Five Hundred \_\_\_\_\_ Dollars (\$ 500.00 ) per Calendar day per Submittal from the date such Submittal was to be submitted until the date the Submittal is actually submitted.
  - 4.4 District Withhold of Liquidated Damages; Performance Bond Surety.** If the Contractor is subject to assessment of Liquidated Damages for delayed Submittals, delayed Milestone Completion, delayed Substantial Completion and/or delay completion of Punchlist Items, the District may withhold such assessments from the Contract Price then or thereafter due the Contractor. If the assessment of Liquidated Damages exceeds the then remaining balance of the Contract Price, the Contractor and the Surety issuing the Performance Bond shall be

# ATTACHMENT B - PROJECT PHASING SCHEDULE 4/30/2026

## GENERAL NOTES

- EXISTING DUCTWORK IS DIAGRAMMATIC AND MODELED FROM RECORD DRAWINGS. CONTRACTOR SHALL MEASURE EXISTING DUCTWORK TO BE DEMOLISHED AND INSTALL DUCTWORK WITH EQUIVALENT DIMENSIONS.
- SUPPLY DIFFUSERS AND RETURN REGISTERS ARE EXISTING UNLESS OTHERWISE NOTED. BALANCE AIR FLOW AT AIR DISTRIBUTION FOR THE CFM SHOWN.
- CONTRACTOR SHALL PROVIDE SYSTEM LEVEL PRE AND POST CONSTRUCTION TAB REPORT FOR THE ENTIRE SYSTEM MODIFIED IN THIS PROJECT. THE READINGS SHALL BE DONE AT FULL FAN SPEED OF THE FUME HOOD. FUME HOOD MAKE UP SUPPLY, FAN COILS, ERVs, AND INLINE SUPPLY FANS, AND INCLUDE STATIC PRESSURE AT ALL FANS AND AIRFLOW READINGS AT ALL AIR DISTRIBUTION DEVICES. THE READINGS SHALL BE DONE FOR FAN COIL SUPPLY/RETURN, ERV SUPPLY/EXHAUST, FUME HOOD EXHAUST, FUME HOOD MAKE UP SUPPLY IN THE SCOPE OF WORK.
- SEE DETAIL 1M602 FOR DUCT SUPPORT. SEE DETAIL 2M601 FOR SUSPENDED EQUIPMENT SUPPORT.
- CONTRACTOR SHALL INSULATE SUPPLY DUCTWORK TO BE INSTALLED. REPAIR ANY DAMAGED EXISTING DUCTWORK AND DUCTWORK INSULATION WITHIN THE SCOPE OF WORK AREA.
- REMOVE AND REPLACE IN KIND ALL AIR FILTERS AT EXISTING OUTSIDE AIR LOUVERS AND EXISTING FAN COILS.

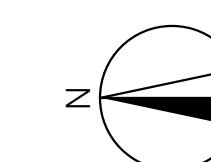
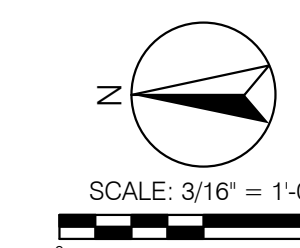
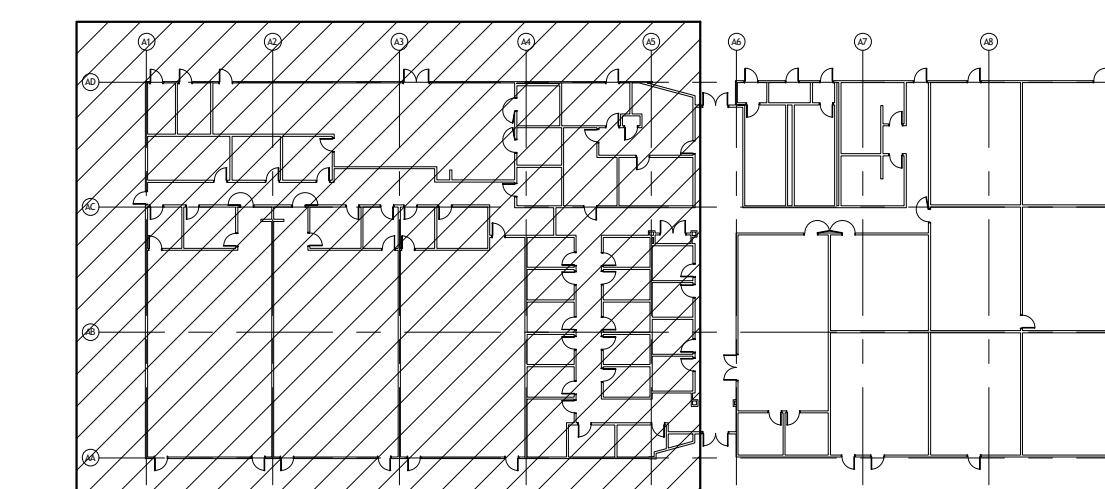
THESE AREAS SHOULD BE SCHEDULED TO BE STARTED AND COMPLETED WITHIN THE WINTER BREAK PERIOD. WVMCCD WINTER BREAK IS SCHEDULED FROM 12/19/26 - 1/28/27



## NOTES

- SEE ARCHITECTURAL DRAWINGS FOR DOOR UNDERCUT.
- BALANCE RETURN AIR TO ERV UNIT TO 450 CFM.
- BALANCE RETURN AIR TO FAN COIL UNIT TO 235 CFM.
- THE EXISTING 48" X 12" LOUVER TO REMAIN. REPLACE THE 1" PLEATED DISPOSABLE FILTER WITH 2" MERV 13 FILTER.
- PROVIDE MANUAL BALANCING DAMPERS IN EXISTING DUCTWORK.
- CONNECT FUME HOOD AND SUPPLY FAN TO NEAREST BUILDING AUTOMATION SYSTEM CONTROLLER. PROVIDE ADDITIONAL CONTROLLER IF NECESSARY. INTERCONNECT OPERATION OF ROOF-MOUNTED SUPPLY FAN TO CORRESPONDING FUME HOOD OPERATION. ROOF-MOUNTED SUPPLY FAN TO PROVIDE CORRESPONDING AIR FLOW EXHAUSTED BY FUME HOODS.
- CONTRACTOR SHALL CHECK POSITION OF FIRE SMOKE DAMPER AND OPEN DAMPER IF FOUND CLOSED.
- PROVIDE SHEET METAL DIVIDER PLATE WITHIN PLENUM AT MINIMUM 18" DISTANCE FROM SOUTH END OF PLENUM TO CREATE SEPARATE PLENUM FOR INLINE SUPPLY FAN. PROVIDE AIR TIGHT SEAL TO THE DIVIDER.

## KEY PLAN



DSA Stamp

Consultant



Long Beach // Irvine // Los Angeles  
San Diego // San Jose // Seattle

p2sinc.com

Project Title  
**SCIENCE AND MATH - HVAC RENOVATIONS**

West Valley Mission College



**West Valley-Mission**  
Community College District

14000 Fruitvale Ave.

Saratoga, CA 95070



DSA APPLICATION NO: 01-122588

Revisions	Number	Description	Date
Designed			AK
Drawn			AT
Checked			TZ
Approved			AK

Date SEPTEMBER 30, 2025

Submittal DSA SUBMITTAL

Scale 3/16" = 1'-0"

Sheet Title  
**Ductwork Floor Plans**

Sheet Number

**M201**

C:\Users\Alan\OneDrive\Documents\Bentley\Local Files\2025\05-0608\_ME\_B24-Central\_Library\asas3P025.rvt 5/20/25 3:48:52 AM





# EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577  
Tel/Fax: (510) 895-3675 / (510) 895-3680  
<http://www.EMSL.com> / [sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order: 092512690  
Customer ID: NOMO22  
Customer PO: 999999  
Project ID:

**Attention:** William Larkin  
Ninyo & Moore  
2020 Challenger Drive  
Suite 103  
Alameda, CA 94501  
**Project:** 999999 - WEST VALLEY COLLEGE PLANETARIUM

**Phone:** (510) 343-3000  
**Fax:** (510) 633-5646  
**Received Date:** 10/23/2025 1:30 PM  
**Analysis Date:** 10/24/2025  
**Collected Date:**

## Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
ASB-01P-Roofing <small>092512690-0001</small> <i>Result includes a small amount of inseparable attached material</i>	CENTRAL ROOF - ROOF ASSEMBLY	White Non-Fibrous Homogeneous	10% Cellulose	70% Matrix 20% Non-fibrous (Other)	None Detected
ASB-01P-Felt 1 <small>092512690-0001A</small>	CENTRAL ROOF - ROOF ASSEMBLY	Gray Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
ASB-01P-Felt 2 <small>092512690-0001B</small>	CENTRAL ROOF - ROOF ASSEMBLY	White Fibrous Homogeneous	80% Glass	20% Non-fibrous (Other)	None Detected
ASB-01P-Gypsum <small>092512690-0001C</small>	CENTRAL ROOF - ROOF ASSEMBLY	White Non-Fibrous Homogeneous		80% Gypsum 20% Non-fibrous (Other)	None Detected
ASB-01P-Foam <small>092512690-0001D</small>	CENTRAL ROOF - ROOF ASSEMBLY	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)  
Brayant Rodriguez (5)

Jonathan Nomura, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and meet method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 10/24/2025 16:27:50

California Customers

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

#092512690

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information and Billing Information section containing fields for Customer ID, Company Name, Contact Name, Street Address, City, State, Zip, Country, Billing ID, Billing Contact, and Email(s) for Report/Invoice.

Project Information section containing fields for Project Name/No., EMSL LIMS Project ID, US State where samples collected, State of Connecticut (CT) project location, Sampled By Name, and Sampled By Signature.

Turn-Around-Time (TAT) section with checkboxes for 3 Hour, 4-4.5 Hour, 6 Hour, 24 Hour, 32 Hour, 48 Hour, 72 Hour, 96 Hour, 1 Week, and 2 Week.

Test Selection section with checkboxes for PCM Air, TEM - Air, TEM - Bulk, TEM - Settled Dust, and Soil - Rock - Vermiculite (reporting limit).

Filter Pore Size (Air Samples) section with checkboxes for 0.8um and 0.45um.

Table with 4 columns: Sample Number, Sample Location / Description, Volume, Area or Homogeneous Area, and Date / Time Sampled (Air Monitoring Only). Includes handwritten entry for ASB-01P at Central Roof.

Special Instructions and/or Regulatory Requirements section for sample specifications, processing methods, and limits of detection.

Method of Shipment and Sample Condition Upon Receipt section with fields for Relinquished by, Date/Time, and Received by.

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety.



# EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

<http://www.EMSL.com> / [sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order: 092604890

Customer ID: NOMO22

Customer PO:

Project ID:

**Attention:** William Larkin  
Ninyo & Moore  
2020 Challenger Drive  
Suite 103  
Alameda, CA 94501

**Phone:** (510) 343-3000

**Fax:** (510) 633-5646

**Received Date:** 05/06/2026 12:30 PM

**Analysis Date:** 05/07/2026

**Collected Date:**

**Project:** WVC 999999 HARDTOP CEILING

## Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
ASB-01-Wallboard <i>092604890-0001</i>	SCIENCE ROOM PLENUM CEILING HARD TAP - GYPSUM WALLBOARD	White Non-Fibrous Homogeneous		80% Gypsum 20% Non-fibrous (Other)	None Detected
ASB-01-Joint Compound <i>092604890-0001A</i>	SCIENCE ROOM PLENUM CEILING HARD TAP - GYPSUM WALLBOARD	White Non-Fibrous Homogeneous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
ASB-02-Wallboard <i>092604890-0002</i>	SCIENCE ROOM PLENUM CEILING HARD TAP - GYPSUM WALLBOARD	White Non-Fibrous Homogeneous		80% Gypsum 20% Non-fibrous (Other)	None Detected
ASB-02-Joint Compound <i>092604890-0002A</i>	SCIENCE ROOM PLENUM CEILING HARD TAP - GYPSUM WALLBOARD	White Non-Fibrous Homogeneous		80% Ca Carbonate 20% Non-fibrous (Other)	None Detected
ASB-03 <i>092604890-0003</i>	SCIENCE ROOM HVAC DUCT - GRAY DUCT MASTIC	Gray Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected
ASB-04 <i>092604890-0004</i>	SCIENCE ROOM HVAC DUCT - GRAY DUCT MASTIC	Gray Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (Other)	None Detected

Analyst(s)

Damaris Pineda Ayala (6)

Jonathan Nomura, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 05/07/2026 14:27:41



California Customers

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.  
200 Route 130 North  
Cinnaminson, NJ 08077

EMSL ANALYTICAL, INC.  
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#092604890

PHONE: (800) 220-3675  
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information	Customer ID:	Billing ID:
	Company Name: <i>Ninjo &amp; Moore</i>	Company Name:
	Contact Name: <i>William Larkin</i>	Billing Contact:
	Street Address:	Street Address:
	City, State, Zip: <i>Alameda</i> Country:	City, State, Zip: Country:
	Phone:	Phone:
Email(s) for Report: <i>B. H. Larkin @ socotec.us</i>	Email(s) for Invoice:	

**Project Information**

Project Name/No: *WVC 999999 Hardtop ceiling* Purchase Order:

EMSL LIMS Project ID: (If applicable, EMSL will provide) US state where samples collected: State of Connecticut (CT) must select project location:  Commercial (Taxable)  Residential (Non-Taxable)

Sampled By Name: *NJE* Sampled By Signature: No. of Samples In Shipment:

**Turn-Around-Time (TAT)**

3 Hour  4.5 Hour  6 Hour  24 Hour  32 Hour  48 Hour  72 Hour  96 Hour  1 Week  2 Week

TEMAir 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

**Test Selection**

**PCM Air**

NIOSH 7400  NIOSH 7400 w/ 8hr. TWA

**PLM - Bulk (reporting limit)**

PLM EPA 600/R-93/116 (<1%)  PLM EPA NOB (<1%)  POINT COUNT

400 (<0.25%)  1,000 (<0.1%)  1,200 (<0.08%)

**POINT COUNT w/ GRAVIMETRIC**

400 (<0.25%)  1,000 (<0.1%)  1,200 (<0.08%)

**TEM - Air**

AHERA 40 CFR, Part 763  CARB Modified AHERA  NIOSH 7402  EPA Level II  ISO 10312\*

**TEM - Bulk**

TEM EPA NOB  TEM EPA 600/R-93/116 w Milling Prep (0.1%)

**TEM - Settled Dust**

Microvac - ASTM D5755  Wipe - ASTM D6480  Qualitative via Filtration Prep  Qualitative via Drop Mount Prep

**Soil - Rock - Vermiculite (reporting limit)\***

PLM CARB 435 - Level A (<0.25%)  PLM CARB 435 - Level B (<0.1%)  TEM CARB 435 - Level B (<0.1%)  TEM CARB 435 - Level C (<0.01%)  CARB Guidance Compliance Prep  PLM EPA 600/R-93/116 with milling prep (<0.25%)  PLM EPA 600/R-93/116 with milling prep (<0.1%)  TEM EPA 600/R-93/116 with milling prep (<0.1%)

**Other**

\*Please call with your project-specific requirements.

Positive Stop - Clearly Identified Homogeneous Areas (HA) Filter Pore Size (Air Samples)  0.8um  0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
ASB-01	Science Room Plenum Ceiling <i>Hardtop</i>	Gypsum wall board	
ASB-02	1	1	
ASB-03	Science Room HVAC Duct	Gray Dust Mast. C	
ASB-04	1	1	

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment: Sample Condition Upon Receipt:

Relinquished by: *Matthew Bulcumb* Date/Time: *5/8/26* Received by: *William* *WI* Date/Time: *5.6.26 12:30*

Relinquished by: Date/Time: Received by: Date/Time:

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

## GENERAL LEGEND

SYMBOL	DESCRIPTION
	NOTE CALLOUT
	DETAIL CALLOUT - NUMBER ON TOP DENOTES DETAIL NUMBER - NUMBER ON BOTTOM DENOTES SHEET DETAIL IS SHOWN
	MECHANICAL EQUIPMENT CALLOUT. SEE MECHANICAL PLANS FOR EXACT LOCATION AND REQUIREMENTS
	SECTION CALLOUT
	POINT OF CONNECTION
	POINT OF DISCONNECTION
	NEW LINework
	EXISTING LINework
	DEMOLITION LINework
	DIRECTION OF FLOW
	DIFFUSER LABEL - NECK SIZE AND DIFFUSER TYPE - CUBIC FEET PER MINUTE

## DUCTWORK LEGEND

SYMBOL	DESCRIPTION
	SHEET METAL DUCT
	HIDDEN SHEET METAL DUCT
	INTERNALLY INSULATED SHEET METAL DUCT CLEAR INSIDE DIMENSION SHOWN, LINER THICKNESS IN PARENTHESES
	STANDARD BRANCH FOR SUPPLY AND RETURN
	ROUND ELBOW DOWN
	ROUND ELBOW UP
	RECTANGULAR TO ROUND TRANSITION
	FLEXIBLE DUCT
	FLEX CONNECTION
	BACK DRAFT DAMPER
	FIRE DAMPER
	COMBINATION FIRE AND SMOKE DAMPER
	MOTORIZED DAMPER
	BALANCING DAMPER
	SUPPLY DIFFUSER: 1-WAY/2-WAY/3-WAY/4-WAY
	GRILLE: RETURN/EXHAUST
	SUPPLY AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST AIR DUCT SECTION
	UNDERCUT DOOR
	TRANSFER GRILLE OR LOUVER
	DOOR GRILLE OR LOUVER
	SINGLE DUCT VAV BOX WITH REHEAT COIL
	SINGLE DUCT VAV BOX WITHOUT REHEAT COIL
	FILTER
	HUMIDIFIER DISPERSION GRID
	LOUVER
	ACCESS DOOR OR ACCESS PANEL (AP) IN DUCTWORK
	STATIC PRESSURE CHANGE TAG
	TURNING VANES (RECTANGULAR)

## PIPING LEGEND

SYMBOL	DESCRIPTION
	NEW PIPING (SIZE-SERVICE)
	EXISTING PIPING (SIZE-SERVICE)
	ELBOW FACING AWAY FROM VIEWER
	ELBOW FACING TOWARD VIEWER
	TEE FACING AWAY FROM VIEWER
	TEE FACING TOWARD VIEWER
	PIPE CAP
	TRANSITION, ASYMMETRIC
	TRANSITION, SYMMETRIC
	EXPANSION JOINT (COMPENSATOR)
	PIPE GUIDE
	PIPE ANCHOR
	UNION, SCREWED
	DRAIN, FUNNEL
	PUMP
	BALL VALVE
	BALL VALVE W/ ACTUATOR
	BUTTERFLY VALVE
	BUTTERFLY VALVE W/ ACTUATOR
	GATE VALVE
	GATE VALVE W/ ACTUATOR
	GLOBE VALVE
	GLOBE VALVE W/ ACTUATOR
	THREE-WAY VALVE
	THREE-WAY VALVE W/ ACTUATOR
	PRESSURE REDUCING VALVE
	CHECK VALVE, SWING
	CHECK VALVE, SPRING LOADED
	MULTI-PURPOSE VALVE
	FLOW MEASURING AND BALANCING VALVE
	HOSE BIBB VALVE
	LOCK SHIELD MANUAL VALVE
	PLUG VALVE
	PRESSURE REGULATOR
	STRAINER, Y-TYPE
	STRAINER WITH HOSE CONNECTION
	PRESSURE GAUGE WITH SHUTOFF COCK
	PRESSURE GAUGE WITH SNUBBER AND SHUTOFF COCK
	SELF-SEALING PRESSURE AND TEMPERATURE TAP
	THERMOMETER
	THERMOWELL
	FLOW METER
	FLOW REGULATOR AND FLOW LIMITING VALVE
	PUMP SUCTION DIFFUSER
	VACUUM BREAKER
	AIR VENT, AUTOMATIC
	FLEXIBLE CONNECTION
	COMBINATION FLEX-VANE STRAIGHTENER
	SAFETY OR RELIEF VALVE
	STEAM TRAP
	AIR SEPARATOR

## CONTROL LEGEND

SYMBOLS	DESCRIPTION
	DDC PHYSICAL POINT
	SENSOR
	SWITCH
	COMMUNICATION GATEWAY CONNECTION TO DDC
	ELECTRONICALLY COMMUTATED MOTOR
	VARIABLE FREQUENCY DRIVE
	ELECTRONIC 3-WAY VALVE
	ELECTRONIC 2-WAY VALVE
	ELECTRONIC BUTTERFLY VALVE
	DAMPER WITH ACTUATOR, OPPOSED BLADE
	DAMPER WITH ACTUATOR, PARALLEL BLADE
	COOLING COIL
	HEATING COIL
	AIR FILTER BANK
	AVERAGING AIR TEMPERATURE SENSOR
	FIELD CONTROL WIRING
	FIELD POWER WIRING

## ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
(E)	EXISTING	HZ	HERTZ
AAV	AUTOMATIC AIR VENT	ID	INSIDE DIAMETER
AFF	ABOVE FINISHED FLOOR	IN	INCHES
AHU	AIR HANDLING UNIT	KW	KILOWATTS
AP	ACCESS PANEL	LAT	LEAVING AIR TEMPERATURE
APD	AIR PRESSURE DROP	LBS	POUNDS
BD	BLOWDOWN	LF	LINEAR FEET
BDD	BACK DRAFT DAMPER	LQ	LIQUID
BFC	BELOW FINISHED CEILING	LWT	LEAVING WATER TEMPERATURE
BFP	BACK FLOW PREVENTER	MAX	MAXIMUM
BHP	BREAK HORSEPOWER	MBH	THOUSAND BTU PER HOUR
BLOG	BUILDING	MC	MECHANICAL CONTRACTOR
BOB	BOTTOM OF BEAM	MCA	MINIMUM CIRCUIT AMPS
BOP	BOTTOM OF PIPE	MH	MANHOLE
BTU	BRITISH THERMAL UNIT	MIN	MINIMUM
CFM	CUBIC FEET PER MINUTE	MOC	MAXIMUM OVERLOAD CIRCUIT PROTECTION
CHWR	CHILLED WATER RETURN	NFA	NET FREE AREA
CHWS	CHILLED WATER SUPPLY	NIC	NOT IN CONTRACT
CI	CAST IRON	NPSHR	NET POSITIVE SUCTION HEAD REQUIRED
CL	CENTER LINE	OAT	OUTSIDE AIR TEMPERATURE
CP	CONDENSATE PUMP	OBD	OPPOSED BLADE DAMPER
CT	COOLING TOWER	OC	ON CENTER
CU	CONDENSING UNIT	OD	OUTSIDE DIAMETER
CV	CONSTANT VOLUME BOX	PD	PRESSURE DROP
CWFR	CONDENSER WATER FILTER RETURN	PERF	PERFORATED
CWFS	CONDENSER WATER FILTER SUPPLY	PH	PHASE
CWR	CONDENSER WATER RETURN	POD	POINT OF DISCONNECT
CWS	CONDENSER WATER SUPPLY	PRV	PRESSURE REDUCING VALVE
DB	DRY BULB	PSID	POUNDS PER SQUARE INCH DIFFERENTIAL
DEG	DEGREES	PSIG	POUNDS PER SQUARE INCH GAUGE
DIA	DIAMETER	PVC	POLYVINYL CHLORIDE
DL	DOOR LOUVER	RA	RETURN AIR
DN	DOWN	RF	RETURN FAN
DX	DIRECT EXPANSION	RLA	RATED LOAD AMPS
EA	EACH	RPM	REVOLUTIONS PER MINUTE
EAT	ENTERING AIR TEMPERATURE	SA	SUPPLY AIR
EC	ELECTRICAL CONTRACTOR	SF	SPECIFICATION
EFF	EFFICIENCY	SS	STAINLESS STEEL
EL	ELEVATION	STD	STANDARD
ESP	EXTERNAL STATIC PRESSURE	TAD	TRANSFER AIR DUCT
EWT	ENTERING WATER TEMPERATURE	TDH	TOTAL DYNAMIC HEAD
FD	FIRE DAMPER	TEFC	TOTALLY ENCLOSED FAN COOLED
FG	FILTER GRILLE	TSP	TOTAL STATIC PRESSURE
FLA	FULL LOAD AMPS	TYP	TYPICAL
FLR	FLOOR	UC	UNDERCUT
FOB	FLAT ON BOTTOM	V	VOLTS
FOT	FLAT ON TOP	VAP	VAPOR
FF	FANS PER INCH	VAV	VARIABLE AIR VOLUME
FFM	FEET PER MINUTE	VD	VOLUME DAMPER
FSD	FIRE SMOKE DAMPER	VFD	VARIABLE FREQUENCY DRIVE
FT	FEET OR FOOT	VTR	VENT THRU ROOF
FX	FLEXIBLE CONNECTION	W	WITH
GA	GAUGE	W/O	WITHOUT
GALV	GALVANIZED	WB	WET BULB
GC	GENERAL CONTRACTOR	WC	WATER COLUMN
GPH	GALLONS PER HOUR	WG	WATER GAUGE
GPM	GALLONS PER MINUTE	WPD	WATER PRESSURE DROP
HB	HOSE BIBB	WT	WEIGHT
HD	HEAD	°F	DEGREES FAHRENHEIT
HHWR	HEATING HOT WATER RETURN		
HHWS	HEATING HOT WATER SUPPLY		
HP	HORSEPOWER		
HT	HEIGHT		

IN THE EVENT ABBREVIATIONS NOT MENTIONED HEREIN ARE USED, REFERENCE WILL BE MADE TO ANSI Y1.1, MILITARY STANDARD ABBREVIATIONS AND OTHER STANDARD INDUSTRY CONVENTIONS.

## CONTROL ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A	ALARM	PS	PRESSURE SWITCH
AFMS	AIRFLOW MONITORING STATIONS	PT	PRESSURE TRANSDUCER
AI	ANALOG INPUT	RH	RELATIVE HUMIDITY
AO	ANALOG OUTPUT	S	STATUS
CS	CURRENT SWITCH	SC	SPEED CONTROL
DI	DIGITAL INPUT	SI	SPEED INDICATOR
DO	DIGITAL OUTPUT	SP	SETPOINT
DP	DIFFERENTIAL PRESSURE	SS	START/STOP
FM	FLOW METER	T	TEMPERATURE
FS	FLOW SWITCH	TI	TEMPERATURE INDICATOR
HOA	HANDS-OFF-AUTO	VA	DAMPEN/VALVE ACTUATOR
KW	KILOWATTS	VP	VELOCITY PRESSURE
LA	LEVEL ALARM	VSH	VIBRATION SWITCH
MCD	MOTOR OPERATED DAMPER	ZC	CLOSED END SWITCH
NC	NORMALLY CLOSED	ZI	POSITION INDICATOR
NO	NORMALLY OPEN	ZO	OPEN END SWITCH

IN THE EVENT ABBREVIATIONS NOT MENTIONED HEREIN ARE USED, REFERENCE WILL BE MADE TO ANSI Y1.1, MILITARY STANDARD ABBREVIATIONS AND OTHER STANDARD INDUSTRY CONVENTIONS.

## SHEET INDEX

SHEET	DESCRIPTION
M001	GENERAL NOTES, LEGEND, ABBREVIATIONS AND SHEET INDEX
M002	SCHEDULES
M201	DUCTWORK FLOOR PLANS
M203	ROOF PLAN
M211	HVAC PIPING FLOOR PLANS
M501	CONTROL DIAGRAMS
M601	DETAILS
M602	DETAILS
M701	TITLE 24 COMPLIANCE FORMS
M702	TITLE 24 COMPLIANCE FORMS
MD201	DUCTWORK DEMO FLOOR PLANS
MD203	ROOF DEMO PLAN

## GENERAL NOTES

- ALL WORK SHALL COMPLY WITH THE 2022 EDITIONS OF THE CALIFORNIA BUILDING, MECHANICAL, PLUMBING, AND OTHER APPLICABLE FEDERAL, STATE, OR LOCAL CODES AS ADOPTED AND ENFORCED BY THE LOCAL JURISDICTION. IN CASE THE PLANS SHOW MORE STRINGENT REQUIREMENTS, THE PLANS SHALL GOVERN THE DESIGN. YET NOTHING ON THE DESIGN DOCUMENTS SHALL BE INTERPRETED AS AUTHORITY TO VIOLATE CODES OR REGULATIONS.
- SUBMISSION OF BID IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE UNDER THE SUPERVISION OF THE ENGINEER AND IS OBLIGATED TO OPERATE UNDER THIS CONTRACT NO EXTRA CHARGE WILL BE ALLOWED FOR FAILURE OF ANY BIDDER TO EXAMINE THE SITE PRIOR TO BID.
- WHERE USED, THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
- IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON DRAWINGS AND SPECIFICATIONS WITH CODE REQUIREMENTS, THE MORE STRINGENT STANDARD SHALL PREVAIL.
- CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION. ISOLATE WORK AREAS TO KEEP DUST AND DIRT WITHIN THE CONSTRUCTION AREA.
- NO PIPING, EQUIPMENT, ETC. SHALL BE REMOVED, DISCONNECTED OR SHUT DOWN WITHOUT PRIOR REVIEW WITH THE OWNER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION WILL NOT BE AFFECTED. IF ANY AREAS NOT WITHIN THE SCOPE OF WORK ARE AFFECTED BY ANY SHUTDOWN, REMOVAL OR DISCONNECTION, SUFFICIENT ADVANCE NOTICE MUST BE GIVEN TO THE OWNER INDICATING WHICH AREAS WILL BE AFFECTED, WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD OF TIME.
- THE ARRANGEMENT OF EQUIPMENT AND PIPING SHOWN ON THE DRAWINGS IS BASED UPON INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF DESIGN AND IS NOT INTENDED TO SHOW EXACT DIMENSIONS. THIS CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT THE SITE MAKING FIELD MEASUREMENTS AND SHOP DRAWINGS NECESSARY FOR FABRICATION OR ERECTION OF HVAC SYSTEMS. MAKE ALLOWANCE FOR BEAMS, PIPES AND OTHER OBSTRUCTIONS IN BUILDING CONSTRUCTION. CHECK DRAWINGS SHOWING WORK OF OTHER TRADES AND CONSULT WITH THE OWNER'S REPRESENTATIVE IN THE EVENT OF POTENTIAL INTERFERENCE. SHOP DRAWINGS SHALL BE MINIMUM 1/4" = 1'-0" SCALE, INDICATING FITTINGS, SIZES, WELDS AND CONFIGURATIONS AND SUBMITTED TO ENGINEER FOR REVIEW.
- THIS CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES PRIOR TO FABRICATION, PURCHASE AND/OR INSTALLATION OF ALL WORK.
- EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED IN NEW SYSTEMS, EXCEPT WHERE INDICATED AS BEING RELOCATED.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. FINE TUNING SHALL BE PERFORMED TO MEET DESIGN REQUIREMENTS.
- THIS CONTRACTOR SHALL NOT BORE, NOTCH, CUT, OR PENETRATE INTO A STRUCTURAL MEMBER WITHOUT WRITTEN APPROVAL FROM A DESIGNATED STRUCTURAL ENGINEER AND THE OWNER.
- ALL PIPE ELBOWS SHALL BE LONG RADIUS UNLESS OTHERWISE SPECIFICALLY NOTED ON THE DRAWINGS.
- INSTALL MANUAL VOLUME DAMPERS WITHIN DUCT BRANCHES TO BALANCE AIRFLOW CFM. ON INSULATED DUCTS, MOUNT DAMPER REGULATOR ON 2" STAND-OFF BRACKET TO CLEAR INSULATION.
- MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 AND A SMOKE-DEVELOPED INDEX NOT TO EXCEED 50. WHERE TESTED AS A COMPOSITE PRODUCT IN ACCORDANCE WITH ASTM E84 OR UL 723. PLASTIC PIPING INSTALLED IN PLENUMS SHALL BE TESTED IN ACCORDANCE WITH ALL REQUIREMENTS OF ASTM E84 OR UL 723. MOUNTING METHODS, SUPPORTS AND SAMPLE SIZES OF MATERIALS FOR TESTING THAT ARE NOT SPECIFIED IN ASTM E84 OR UL 723 SHALL BE PROHIBITED. COMPLY WITH CMC-602.2.
- COORDINATE ACCESS TO EQUIPMENT WITH WORK OF OTHER TRADES. PROVIDE DUCT ACCESS DOORS AND CEILING ACCESS DOORS TO ALLOW ACCESS FOR FILTER CHANGEOUT, CONTROL ACCESS AND ACCESS TO SERVICE/REMOVE COMPONENTS INCLUDING, BUT NOT LIMITED TO, FANS, PULLEYS, SHEAVES, BELTS, ETC.
- CONTRACTOR SHALL FOLLOW MANUFACTURER RECOMMENDATIONS TO FIELD TEST FUMEHOODS. ANSII/ASHRAE ACCEPTABLE STANDARD TESTING IS REQUIRED AND THE TEST RESULTS SHALL BE PROVIDED TO THE COMMISSIONING AGENT FOR REVIEW.
- CONTRACTOR SHALL PROVIDE 3 ADDITIONAL SPACE THERMOSTATS FOR THE CAMPUS MAINTENANCE STOCK.
- CONTRACTOR SHALL PROVIDE SAFETY MONITOR FOR FUMEHOODS AND SHALL BE CONNECTED TO THE FLS SYSTEM PER MANUFACTURER RECOMMENDATIONS.

## DSA NOTES

- COMPLY WITH TITLE 24, CCR, PARTS 1-6 AND 9.
- TITLE 24, CCR, PARTS 1-5 MUST BE KEPT ON SITE DURING CONSTRUCTION.
- ALL ADDENDA MUST BE SIGNED BY ARCHITECT AND APPROVED BY DSA. (SECTION 4-338(c), PART 1)
- ALL SUBSTITUTIONS AFFECTING DSA REGULATED ITEMS SHALL BE CONSIDERED AS A CHANGE ORDER OF ADDENDA, AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION. (IR A-B)(SECTION 4-338(c), PART 1) SUBSTITUTION SHALL BE FOR ANY MATERIAL, SYSTEM OR PRODUCT THAT WOULD OTHERWISE BE REGULATED BY DSA.
- ALL CHANGE ORDERS AND FIELD CHANGE DOCUMENTS (PRELIMINARY CHANGE ORDERS)(SECTION 4-338(c)(ii), PART 1) MUST BE SIGNED BY ALL THE FOLLOWING:
  - A.E. OF RECORD.
  - OWNER (CHANGE ORDERS ONLY).
  - STRUCTURAL ENGINEER (WHEN APPLICABLE).
  - DELEGATED PROFESSIONAL ENGINEER (WHEN APPLICABLE).
  - AND SHALL BE SUBMITTED TO AND APPROVED BY DSA.
- A PROJECT INSPECTOR AND TESTING LAB SHALL BE PROVIDED AND APPROVED BY ALL OF THE FOLLOWING WHERE APPLICABLE:
  - A.E. OF RECORD.
  - STRUCTURAL ENGINEER.
  - DSA.
- ANY ALTERATIONS, REHABILITATION, OR RECONSTRUCTION AS STATED IN TITLE 24, PART 1 SECTION 4-317(c) OR SIMILAR MEANING: THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION, OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE DSA APPROVED DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODES OF REGULATIONS, A CHANGE ORDER, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK.
- APPLICABLE CODE: 2022 CBC PER IR 16-13.
 

MEP DISTRIBUTION SYSTEM BRACING NOTE FOR PIPING, DUCTWORK, AND ELECTRICAL CONDUIT

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2022 CBC SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEMS ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP MD PP E OPTION 1: PROJECT-SPECIFIC DESIGN.

MP MD PP E OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL.

MP MD PP E OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL.

- MEP COMPONENT ANCHORAGE NOTE
- ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:
- ALL PERMANENT EQUIPMENT AND COMPONENTS.
  - TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
  - PERMANENTLY ATTACHED SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
  - TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.
- THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.
- COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
  - COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.
- THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

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Project Title  
**SCIENCE AND MATH - HVAC  
RENOVATIONS**

West Valley Mission College



**West Valley-Mission**  
Community College District  
14000 Fruitvale Ave.

Saratoga, CA 95070

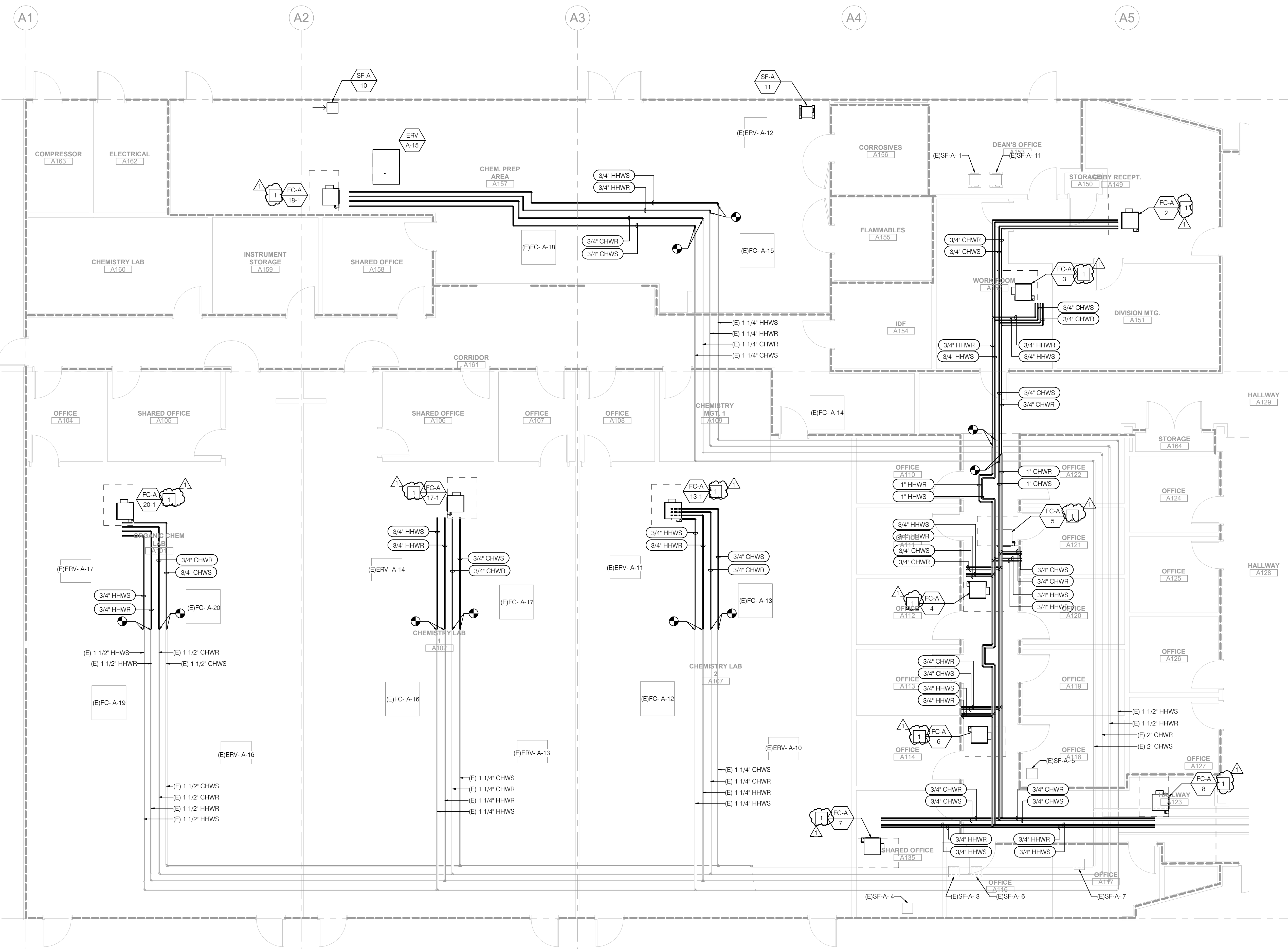


DSA APPLICATION NO: 01-122588

Revisions	Description	Date
Number		
1	BID ADDENDUM	05/12/2026

Designed	AK
Drawn	AT
Checked	TZ
Approved	AK

Date FEBRUARY 13,



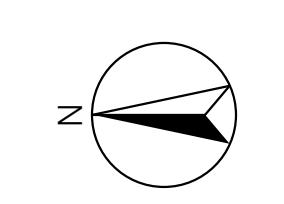
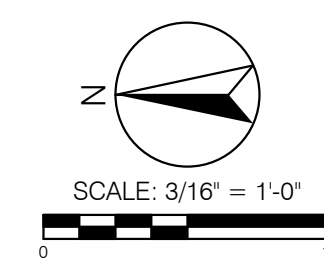
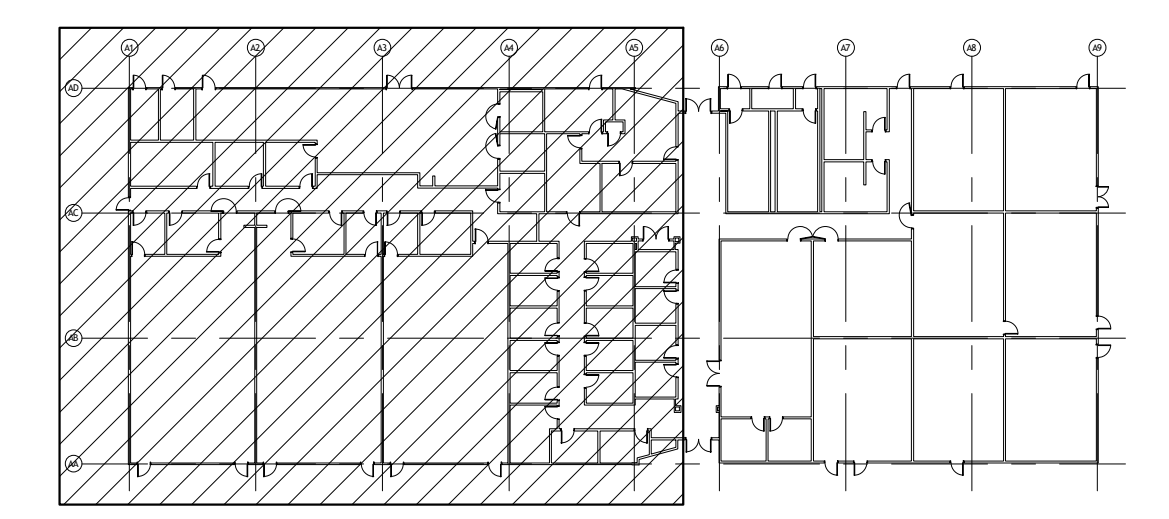
**GENERAL NOTES**

- EXISTING PIPING IS DIAGRAMMATIC AND MODELED FROM RECORD DRAWINGS. CONTRACTOR SHALL MEASURE EXISTING PIPING TO BE DEMOLISHED AND INSTALL PIPING WITH EQUIVALENT DIMENSIONS.
- SEE DETAIL 1/M601 FOR COIL CONNECTION.
- CONTRACTOR SHALL CONNECT PROPOSED FAN COIL CONDENSATE PIPING TO NEAREST EXISTING CONDENSATE PIPE. PROVIDE TRAP DRAIN LINE ACCORDING TO LOCAL CODE.
- SEE DETAIL 4/M601 AND 5/M601 FOR SUSPENDED PIPING SUPPORT.
- CONTRACTOR SHALL INSULATE ALL CHILLED WATER, HEATING HOT WATER, AND CONDENSATE PIPING BEING INSTALLED. REPAIR ANY DAMAGED PIPING AND PIPING INSULATION WITHIN THE SCOPE OF WORK AREA.
- CONTRACTOR SHALL VERIFY AND PROVIDE CONDENSATE LINE OF EXISTING FAN COIL IF NECESSARY. PROPOSED FAN COILS SHALL BE CONNECTED TO NEAREST CONDENSATE LINE.
- PROVIDE AUTOMATIC AIR VENTS AT HIGH POINTS IN THE HEATING HOT WATER AND CHILLED WATER SYSTEM. AIR VENTS SHALL BE CONNECTED TO NEAREST SINK DRAIN LINE.

**NOTES**

- PROVIDE CONDENSATE LINE FOR FAN COIL. ROUTE TO NEAREST EXISTING CONDENSATE DRAIN LINE.

**KEY PLAN**



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**SCIENCE AND MATH - HVAC RENOVATIONS**

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**West Valley-Mission**  
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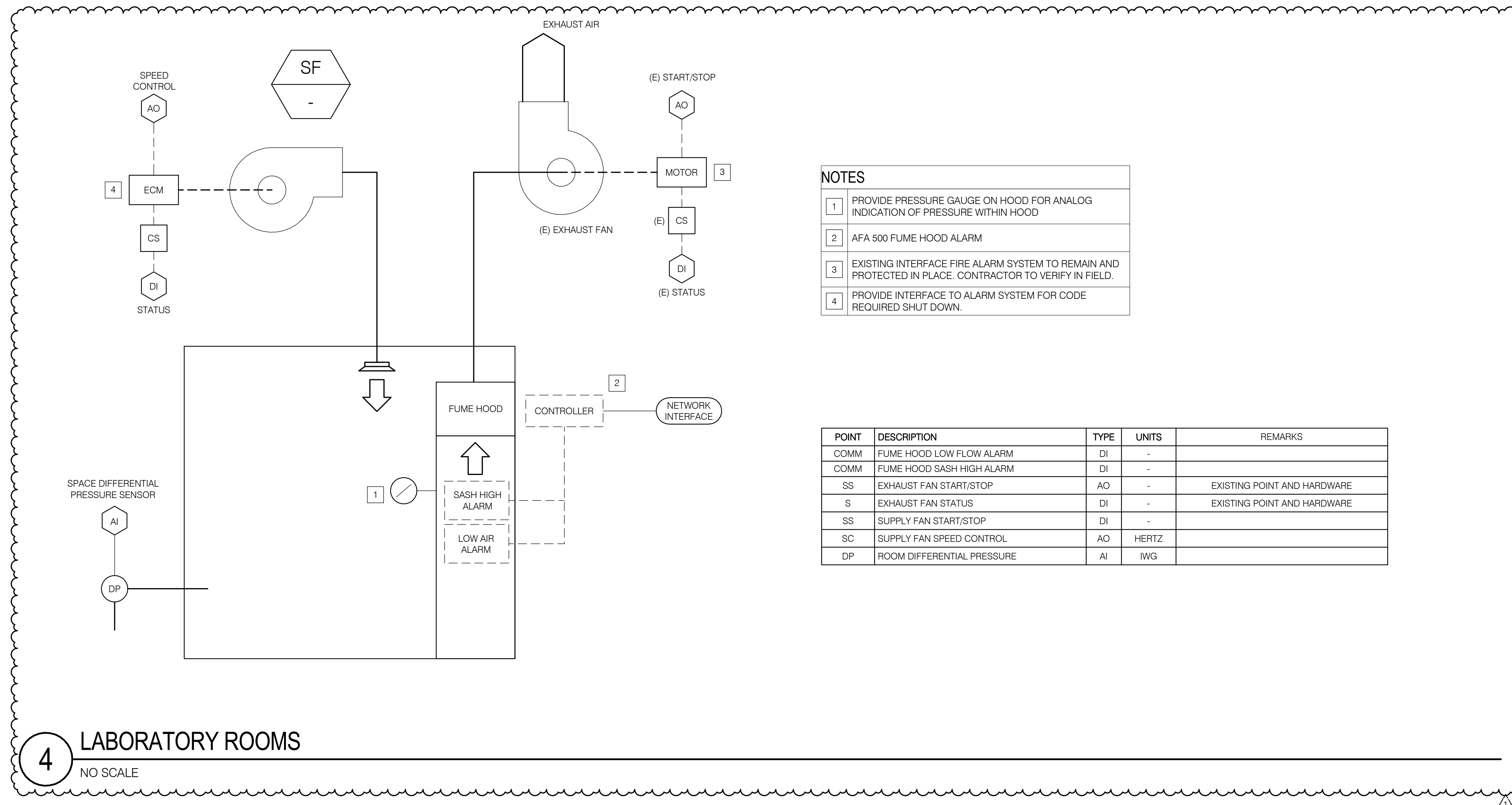
Submittal DSA BACKCHECK

Scale 3/16" = 1'-0"

Sheet Title  
**HVAC PIPING FLOOR PLANS**

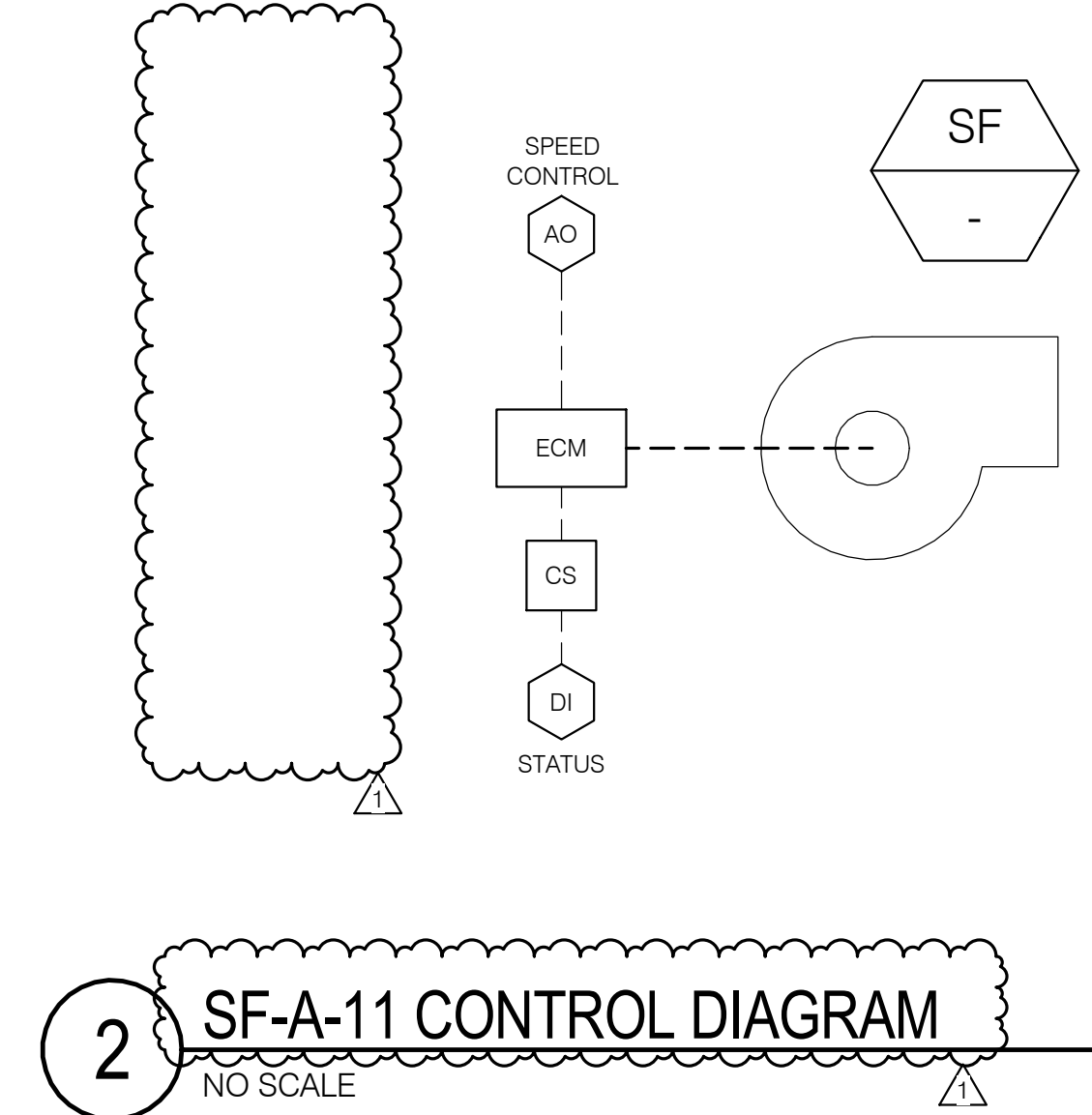
Sheet Number

**M211**



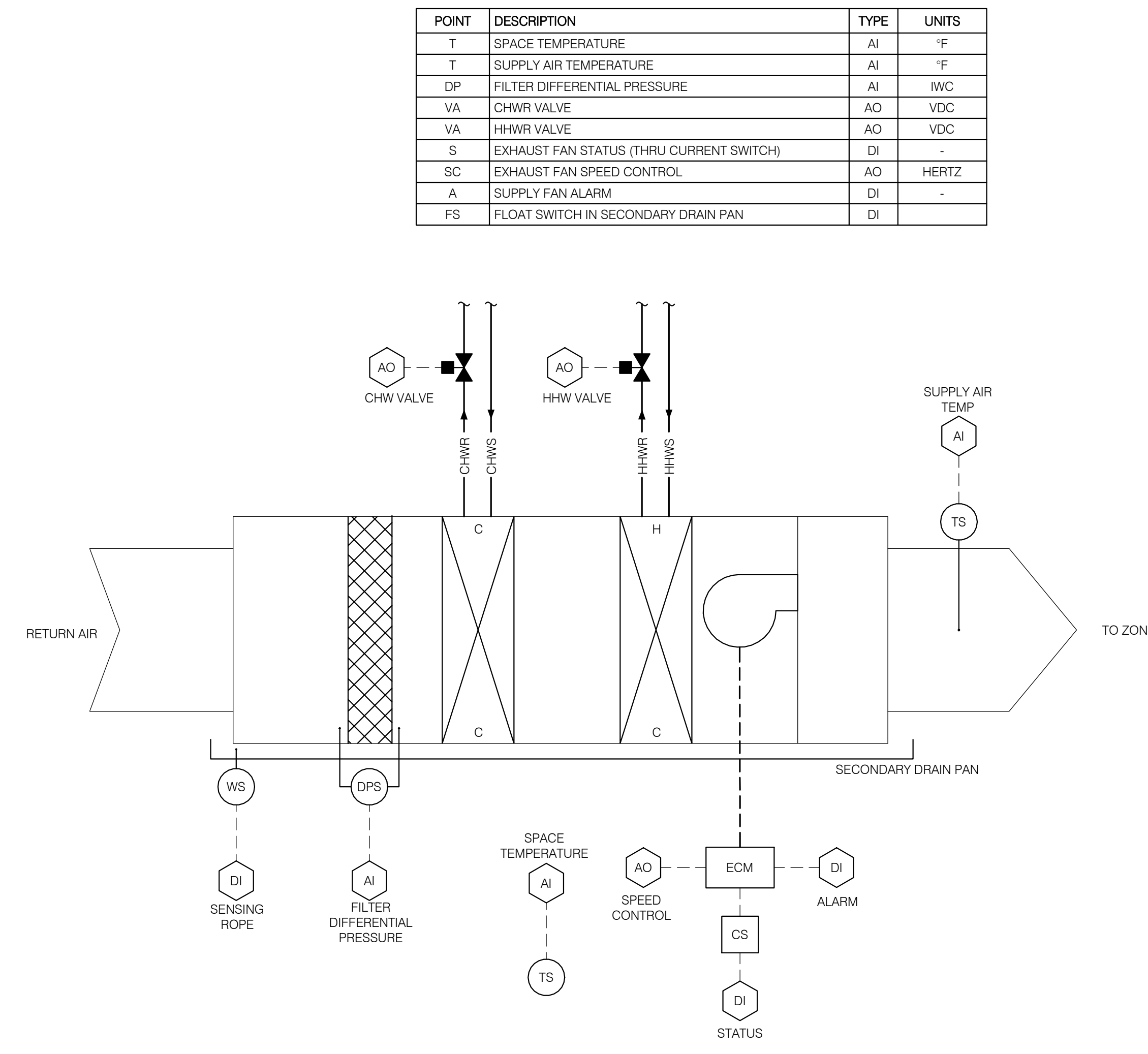
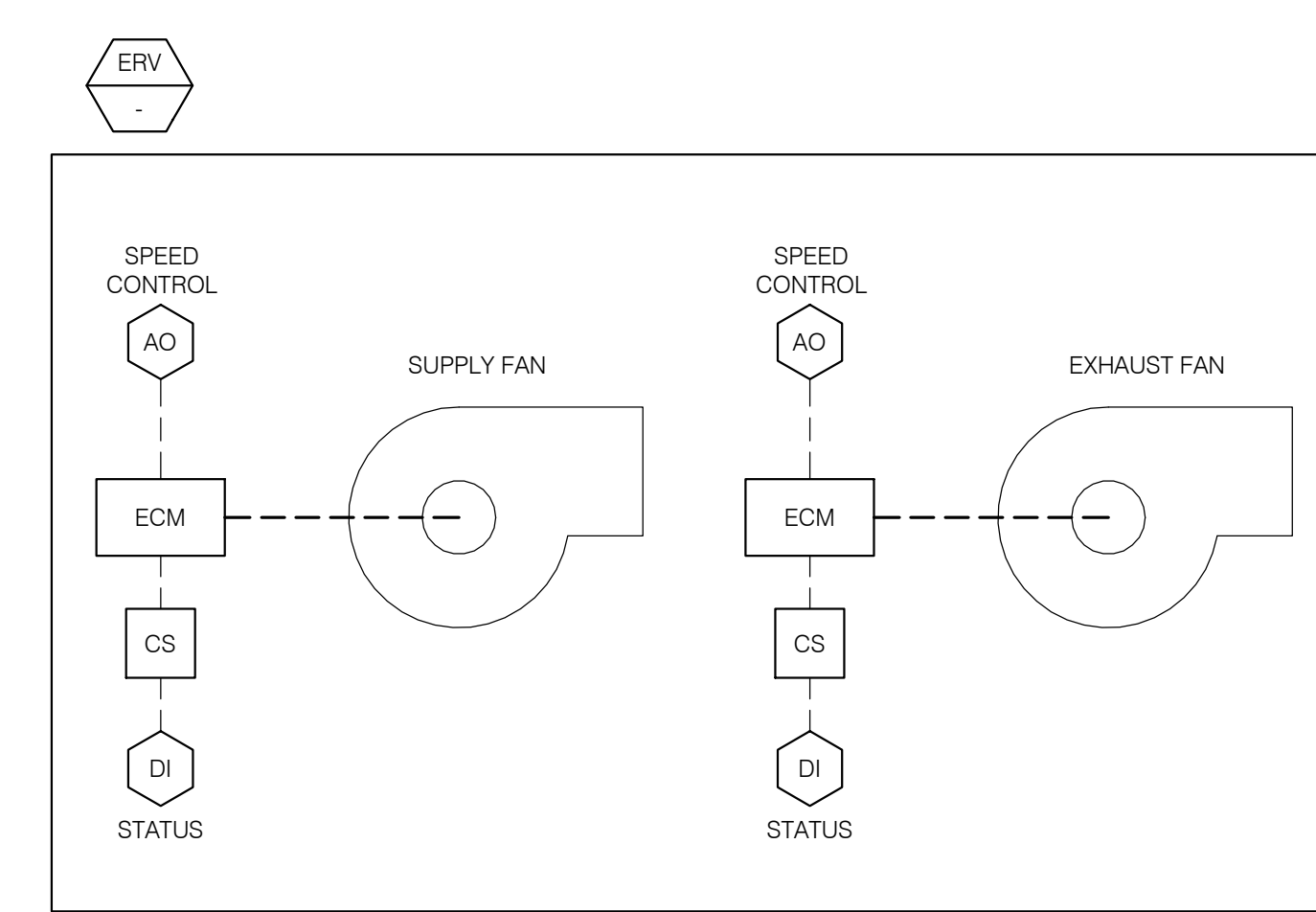
- NOTES**
- 1 PROVIDE PRESSURE GAUGE ON HOOD FOR ANALOG INDICATION OF PRESSURE WITHIN HOOD.
  - 2 AFA 800 FUME HOOD ALARM
  - 3 EXISTING INTERFACE FIRE ALARM SYSTEM TO REMAIN AND PROTECTED IN PLACE. CONTRACTOR TO VERIFY IN FIELD.
  - 4 PROVIDE INTERFACE TO ALARM SYSTEM FOR CODE REQUIRED SHUT DOWN.

POINT	DESCRIPTION	TYPE	UNITS	REMARKS
COMM	FUME HOOD LOW FLOW ALARM	DI	-	
COMM	FUME HOOD SASH HIGH ALARM	DI	-	
S	EXHAUST FAN START/STOP	AO	-	EXISTING POINT AND HARDWARE
S	EXHAUST FAN STATUS	DI	-	EXISTING POINT AND HARDWARE
SS	SUPPLY FAN START/STOP	DI	-	
SC	SUPPLY FAN SPEED CONTROL	AO	HERTZ	
DP	ROOM DIFFERENTIAL PRESSURE	AI	IWG	



POINT	DESCRIPTION	TYPE	UNITS
SS	SUPPLY FAN START/STOP	DI	-
SC	SUPPLY FAN SPEED CONTROL	AO	HERTZ

POINT	DESCRIPTION	TYPE	UNITS
S	FAN STATUS (THRU CURRENT SWITCH)	DI	-
SF SC	SUPPLY FAN SPEED CONTROL	AO	0-10 V
EF SC	EXHAUST FAN SPEED CONTROL	AO	0-10 V



POINT	DESCRIPTION	TYPE	UNITS
T	SPACE TEMPERATURE	AI	°F
T	SUPPLY AIR TEMPERATURE	AI	°F
DP	FILTER DIFFERENTIAL PRESSURE	AI	IWC
VA	CHWR VALVE	AO	VDC
VA	HHWR VALVE	AO	VDC
S	EXHAUST FAN STATUS (THRU CURRENT SWITCH)	DI	-
SC	EXHAUST FAN SPEED CONTROL	AO	HERTZ
A	SUPPLY FAN ALARM	DI	-
FS	FLOAT SWITCH IN SECONDARY DRAIN PAN	DI	-

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West Valley Mission College  
  
**West Valley-Mission**  
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Submittal DSA BACKCHECK

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Sheet Title  
**CONTROL DIAGRAMS**

Sheet Number

**M501**

**West Valley College  
Science and Math – HVAC Renovations**

- 3. ASC Application Specific Controller
- 4. BAS Building Automation System
- 5. BC Building Controllers
- 6. CAC Custom Application Controller
- 7. DDC Direct Digital Controller
- 8. DRF Device Resource File
- 9. FAS Facility Automation System
- 10. FPM Feet per minute
- 11. GPM Gallons per minute
- 12. GUI Graphical User Interface
- 13. I/O Input/Output
- 14. NFPA National Fire Protection Association
- 15. OS Operating System
- 16. OWS Operating Work Station
- 17. PE Pneumatic-electric
- 18. PID Proportional Integral Derivative
- 19. PRV Pressure Reducing Valve
- 20. PSI(g) Pounds per square inch (gauge)
- 21. RAM Random Access Memory
- 22. SA Smart Actuators
- 23. SS Smart Sensors
- 24. TCS Temperature Control System
- 25. TCC Temperature Control Contractor
- 26. UL Underwriters' Laboratory
- 27. VCS Voice Communication System
- 28. WC Water Column
- 29. XIF External Interface File

**1.3 SYSTEM PERFORMANCE**

**A. Comply with the following performance requirements:**

- 1. Graphic Display: Display graphic with minimum 20 dynamic points with current data within 10 seconds.
- 2. Graphic Refresh: Update graphic with minimum 20 dynamic points with current data within 8 seconds.
- 3. Object Command: Reaction time of less than two seconds between operator command of a binary object and device reaction.
- 4. Object Scan: Transmit change of state and change of analog values to control units or workstation within six seconds.
- 5. Alarm Response Time: Annunciate alarm at workstation within 45 seconds. Multiple workstations must receive alarms within five seconds of each other.
- 6. Program Execution Frequency: Run capability of applications as often as five seconds, but selected consistent with mechanical process under control.
- 7. Performance: Programmable controllers shall execute DDC PID control loops, and scan and update process values and outputs at least once per second.

**1.4 QUALITY ASSURANCE**

**A. The Facility Automation System (FAS) shall be furnished, engineered and installed by a certified Honeywell controls system supplier and approved by the College Representative.**

- 1. Preferred Vendors
  - a. Sunbelt
  - b. ABA

**West Valley College  
Science and Math – HVAC Renovations**

~~c. Alternative vendor must be approved by campus in writing prior to acceptance of bid.~~

- B. System Integrator shall:
1. Be in good standing with the Manufacturer.
  2. Have on staff, trained Honeywell Integrators.
  3. Have at least four (4) fully trained staff members at all times.
  4. Provide training class certifications of staff members if requested.
  5. Have direct line of technical support from suppliers.
  6. Employ technicians who have completed factory-authorized training.
  7. Employ technicians to provide instruction, routine maintenance, and emergency service within 24 hours upon receipt of request.
- C. The installing Contractor must be regularly engaged in the service and installation of Honeywell based systems as specified herein.
- D. The installing Contractor shall have an office within 200 miles that is staffed with designers trained in integrating interoperable systems and technicians fully capable of providing instruction and routine emergency maintenance service on all system components.
- E. The installing Contractor shall have in house capabilities to provide control strategies for whole building control. This includes HVAC, lighting, access, and security applications etc.
- F. The installing Contractor shall have a service facility, staffed with qualified service personnel, capable of providing instructions and routine emergency maintenance service for networked control systems.

**1.5 CTION SUBMITTALS**

- A. The manufacturer, contractor or supplier shall include a written statement that the submitted equipment, hardware or accessory complies with the requirement of this particular specification section.
1. The manufacturer shall resubmit this specification section showing compliance with each respective paragraphs and specified items and features.
  2. All exceptions shall be clearly identified by referencing respective paragraph and other requirements along with proposed alternative.
  3. Individual or partial submittals are not acceptable and will be returned without review.
- B. The installing Contractor shall provide project list stating completion of no less than three (3) Chilled Water Central Plants projects of similar size or larger within the past five (5) years, which have BacNET based FAS as specified herein installed by the Contractor. These projects must be on-line and functional such that the system can be observed in full operation.
- C. Product Data: Include manufacturer's technical literature for each control device. Indicate dimensions, capacities, performance characteristics, electrical characteristics, finishes for materials, and installation and startup instructions for each type of product indicated.
1. DDC System Hardware: Bill of materials of equipment indicating quantity, manufacturer, and model number. Include technical data for operator workstation equipment, interface equipment, control units, transducers/transmitters, sensors, actuators, valves, relays/switches, control panels, and operator interface equipment.
  2. Control System Software: Include technical data for operating system software, operator interface, color graphics, and other third-party applications.
  3. Controlled Systems: Instrumentation list with element name, type of device,

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**PRE BID RFI's**

RFI #	Vendor/Company	Submit Date	Question	Answer
1	Mesa Energy Systems, Inc.	5/6/26 10:38 AM	Can the plans indicate which equipment is owner provided. ie: Fume Hoods, Fire Rated Counter.	Contractor shall provide all equipment.
2	ACCO Engineered Systems, Inc.	5/6/26 3:44 PM	Is the controls contractor responsible for any scope regarding the fume hoods.? If so, what exact control points and or devices should the contractor expect the fume hood manufacturer to provide?	Yes, the controls contractor is responsible for the controls for the fume hoods, exhaust fans, supply fans, and room pressurization. Responsibility also includes TAB support to balance the airflows through the setpoints. The control points will be provided in an addendum to the bid documents.
3	ACCO Engineered Systems, Inc.	5/6/26 3:44 PM	Are the existing HEFs that feed the fume hoods currently tied into the campus Building Automation System? What controls scope is expected to be needed on the existing HEFs?	The existing HEFs are currently tied to the campus BAS. Existing controls for the HEF to remain and protected in place.
4	ACCO Engineered Systems, Inc.	5/6/26 3:44 PM	Is this a BACnet IP or MSTP installation?	BACnet MSTP unless otherwise noted on the drawings or specifications.
5	ACCO Engineered Systems, Inc.	5/6/26 3:44 PM	Are the fume hoods to be furnish by School or by GC	Fume hoods are furnished and installed by the GC.
6	ACCO Engineered Systems, Inc.	5/6/26 3:44 PM	Provide location for condensate drain lines	Contractor shall field verify the condensate lines and connect the fan coils to the existing line. General note added to plans.
7	ACCO Engineered Systems, Inc.	5/6/26 3:44 PM	Accessibility of crane is limited. Can equipment be rolled across the roof	This is means and method and contractor to verify in field.
8	ACCO Engineered Systems, Inc.	5/6/26 3:44 PM	Are there any utilities connect to the fume hood, external and internal	Contractor shall reconnect all existing utilities to the fumehood. The replacement fumehood is similar to the proposed replacement. Contractor to verify all utility connections in the field.