ADDENDUM #2

To:	All Bidders
Project Name:	Renovations to: GVSD District Administration Office 100 Lindenwood Drive, Malvern, PA 19355
Prepared for:	Great Valley School District 301 Lindenwood Drive Malvern, PA 19355
Date:	January 11, 2023

Notice to all Contractors bidding the Renovations to the GVSD District Administration Office. This Addendum is to amend or clarify the Contract documents as follows:

GENERAL:

A. This Addendum constitutes part of the Project Manual and Contract. Should conflict occur between the Project Manual and items in this Addendum or between Drawings and this Addendum, the Addendum shall govern.

B. Work described in this Addendum shall be in accordance with Specifications for like items in remainder of building and complete with all labor and materials required.

C. Bidders are requested to attach a copy of this Addendum to the Project Manual in their possession.

D. Work affected by items in this Addendum shall be appropriately adjusted to accommodate these changes.

E. Acknowledge receipt of this Addendum by inserting its number and date in the space provided in the Bid Form. Failure to do so may subject Bidder to disqualification.

F. Bids shall only be based on the products specified. No pre-bid substitutions shall be considered. Products that meet or exceed the product specifications will be considered for use during the Shop Drawing Submittal Phase.

G. STANDARD OF QUALITY: The various materials and products specified in the specifications by name or description are given to establish a standard of quality and of cost for bid purposes. **In general**, it is not the intent to limit the bidder, the bid or the evaluation of the bid to any one material or product specified but rather to describe the minimum standard, **except where listed without the following clause**. When proprietary names are used, they shall generally be followed by the words "or alternatives of the quality necessary to meet the specifications". Where proprietary names are used and are not followed by a clause similar to that listed above, the contractor is limited to providing that specified product to keep a standard product already established by the School District. A bid containing an alternative which does not meet the specifications may not be accepted, but, if an award is made to the bidder, the bidder will be required to replace any alternatives which do not meet the specifications at no additional cost. The intent of the bid documents is based on this STANDARD OF QUALITY and not to be proprietary in nature in any way.

SPECIFICATIONS

1.01 Specification Section 084113 – Aluminum-Framed Entrances & Storefronts; REVISED as follows:

2.11 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker. **For Interior Framing System.**

B. **Custom Color Finish to match existing exterior window system. For All Exterior Window applications.**

1.02 Specification Section 102226 – Operable Panel Partitions; **REVISED** as follows:

Where product is identified as Acousti-Seal #932, the product should now read Acousti-Seal Encore. Reference 2.1,B,1; 2.2, A; and 2.2,B,1.

DELETE Section 2.7 OPTIONS

~~2.7 OPTIONS~~

~~A. Single Pass Doors:~~

~~1. Matching pass door same thickness and appearance as the panels. ADA compliant pass door to be trimless and equipped with friction latch and flush pulls for panic operation. No threshold will be permitted.~~

1.03 Specification Section 230719: **ADD** section in its entirety to clarify requirements for insulation of refrigerant and condensate piping.

1.04 Specification Section 230993; **REVISE** section 2.5-D-1 to read "The room combination temperature/humidity sensor shall have a set-point adjustment knob with a software definable adjustable range (e.g. +1/2 deg F.). Combination sensors shall be located where indicated on plans. Where multiple spaces are served by a single VAV terminal, additional temperature only sensors shall be provided for each additional space. The BAS system shall utilize the averaging function between these spaces to demand control of the VAV terminal and reheat coil.

1.05 Specification Section 230993; **ADD** section 2.6-D-2. Section shall read "The room combination temperature/humidity sensor shall have a set-point adjustment knob with a software definable adjustable range (e.g. +1/2 deg F.). Combination sensors shall be located where indicated on plans. Where multiple spaces are served by a single FPV terminal, additional temperature only sensors shall be provided for each additional space. The BAS system shall utilize the averaging function between these spaces to demand control of the FPV terminal and reheat coil.

1.06 Specification Section 230993; **ADD** section 2.4-J. Section shall read "Carbon Dioxide: 1. Carbon dioxide sensors shall be provide in main return duct of the existing rooftop units for monitoring purposes only. Sensors shall alarm the BAS when levels are in excess of 1000 PPM. 2. Wall mounted carbon dioxide sensors shall be provided in each occupied space associated with RTU-1 (refer to drawing M100). When levels in excess of 1000 PPM are sensed the associated FPV's primary air damper shall modulate open to increase ventilation to the space. If the level continues to exceed 10000 PPM after a 15 minute time period an alarm shall be sent to the BAS. When levels are below 800 PPM are sensed the associated FPV's primary air damper shall modulate closed to decrease ventilation to the space. The primary air damper shall not be allowed to close below 30% of the boxes design air flow while in occupied mode.

DRAWINGS

Architectural:

2.01 Drawing A101: **DELETE** reference 1/A551 in Kitchen A138.

2.02 Drawing A121: **ADD** Ceiling type 3A at 7'-0" AFF in Kitchen A138 above Vending Machine, Refrigerators and Freezer.

2.03 Drawing A810: **DELETE** NIC designation for dishwasher in note on 4/A810, "ADA HT DISH WASHER, NIC". Provide Samsung model DW60R2014US, Front Control Built-In Dishwasher with stainless steel tub, integrated digital touch controls, 52dBA.

2.04 Drawing A806: **MODIFY** open casework shown on elevation 8/A806 to be closed casework with doors as shown on sketch AD2-A02.

2.05 Drawing A810: **PROVID**E Art Rail as noted in item 2.07 on east elevation of Lobby as shown in sketch 1/AD2-A01 and **PROVIDE** blocking as required in west elevation wall as shown in 2/AD2-A01.

2.06 Drawing A900: Finish Specifications, **CHANGE** LVT-1 color to A00212 CEDAR.

2.07 Drawing A900: Finish Specifications Table, under CEILING, **MODIFY** item line ACT-2A, SIZE, to read 24"x48"x3/4".

2.08 Drawing A900: Finish Specifications Table, MISC. Category, **ADD** new line item
TAG: HDW-4;
MATERIAL: HARDWARE-ART HANGING DISPLAY SYSTEM;
MANUFACTURER: AS HANGING DISPLAY SYSTEMS;
PRODUCT: CLICK RAIL SYSTEM;
COLOR: ANODIZED SILVER;
COMMENTS: PROVIDE ALL NECESSARY CABLES/CABLE FITTINGS AND HANGING COMPONENTS FOR (QTY:20) PIECES OF ARTWORK.

Electrical:

2.09 Drawing E101: **REVISE** lighting fixture schedule. See attached. **ADD** track lighting in main lobby. Circuit as separate zone with local lighting controls.

2.10 Drawing E201: **REVISE** electrical device locations in kitchen to match Architectural plans.

2.11 Drawing E202: **ADD** electrical connection for exhaust fan EF-3. Circuit to NLA-63.

Plumbing:

2.12 Drawing P101: **CLARIFICATION** Existing Sanitary piping below slab is cast iron. **ADD** drawing note 1 as follows: "Contractor shall provide *approved* fitting for connection of new PVC piping to existing cast iron piping. Verify size and location in field"

2.13 Drawing P301: **MODIFY** location of Sink-1 In Kitchen A138 and Sink-3 in Mothers Room T05. Adjust associated supply, drain, and vent piping to new locations. Final connection of dishwasher in Kitchen A138 to supply and drain piping of Sink-1 and all required fittings shall be by P.C.

Mechanical

2.13 Drawing M100; **ADDED** exhaust fan EF-3 and associated ductwork. Refer to revised drawing.

2.14 Drawing M100: **REVISED** duct type in several exposed instances to double-wall. Refer to revised drawing.

2.15 Drawing M100: **REVISED** location of several GRD in Kitchen A138 and Mother's Room T05 to coordinate with ceiling grid orientation. Refer to revised drawing.

2.16 Drawing M100: **REVISED** location of FPV-1.1, 1.2, 1.3 to conceal units above ceiling clouds. Refer to revised drawing.

2.17 Drawing M100: **ADDED** duct tag for first diffuser downstream of FPV-2.6. Tag shall be #5 at 50 CFM. Refer to revised drawing.

2.18 Drawing M100: **REVISED** transfer air grille and duct associated with Table/Chair Storage A144.1. Refer to revised drawing.

2.19 Drawing M100: **ADDED** Carbon Dioxide sensors (adjacent to thermostats) in Conference/Training A145, Board Room A144, Board Room A143, and Executive Conference Room A142.

2.20 Drawing M600: **ADD** Note #8 referencing DSS-1 and DSS-2 on the Ductless Split System Air Conditioning Unit Schedule. Note shall read: Condensate piping shall be Copper Tube ASTM B88 Type L with solder joints or PVC ASTM D1785 SCH 40 with solvent welds. PVC condensate piping shall not require insulation.

BIDDERS QUESTIONS

3.01 **Question:** Spec 084113 calls for clear anodized aluminum. At the meeting yesterday, you said you had to match the existing finish- which is not clear anodized.
Response: *Provide new aluminum window finish to match existing finish. See revised specification language in item 1.01.*

3.02 **Question:** How will window (and other long leads) lead times be handled in regards to liquidated damages?
Response: *As long as the documentation (proof of timeliness for submittals, drawings, ordering, scheduling, etc.) can support that the delay is of no fault of the contractor, then liquidated damages will be waived. Each situation or claim will be evaluated individually.*

3.03 **Question:** Do you have header details for the glass openings?
Response: *A typical head detail for interior glass openings will be provided in Addendum 3, to be issued on Friday, 1/13/23.*

3.04 **Question:** A900 Room Finish schedule says ACT-2A is 2'x2' Tile, A121 RCP says 2A is 2x4 Acoustical Tile and plans are drawn as 2'x4'

Response: *A121 FIRST FLOOR REFLECTED CEILING PLAN is correct. All ACT to be 2'x4'.*

3.05 **Question:** Multiple contract summary of work states the Electrical Contractor provides and pays for all power usage, but the usage fees usually fall under GC scope can this be changed to GC scope?
Response: *This reference is under the specification section 015100 - Temporary Utilities and Facilities, not the Multiple Contract Summary. This is typical for the projects we have conducted with the Great Valley School District, as well as other similar projects.*

3.06 **Question:** Can we add zone stats to each room where multiple zones are attached to 1 VAV system and then average the multiple zones temp?
Response: *Temperature sensors will be added to each room with multiple zones in addition to each room and the sequence of operations will be revised to accommodate the averaging function.*

3.07 **Question:** Is JCI to supply temp and humidity stats to each zone?
Response: *The thermostats indicated on the plans are combination temperature and humidity sensors per the symbols and abbreviations schedule on drawing M001.*

3.08 **Question:** Is JCI to supply temp, humidity, and CO2 stats to the board room?
Response: *CO2 devices will be added to the plans via addendum for spaces associated with the new RTU (Board Room).*

3.09 **Question:** Cloud trim: The callout on the RCP calls for them in the T and L suite A111 its detail 2 on page A502 but I also see that detail 19 on A501 the wall detail, calls for cloud trim as well in the detail but isn't clear whether they go in those offices as well since there is no 2/A502 callout. Is the cloud trim going in multiple offices or just the T and L suite? Thanks for your help.
Response: *Provide cloud trim around all suspended ACT cloud ceilings. This applies to clouds in T&L Suite A111, Business Suite A121, Open Workspace A120 (two clouds), Open Workspace A11A (two clouds), and Board Rooms A143, A144, and A145.*

3.010 **Question:** Specified Product name is Acousti-Seal 932 Partition. The 932 Partition cannot achieve 56 STC and several other specified characteristics. Spec matched product specifics for Acousti-Seal Encore Panels. Should we price the Encore Partition in lieu of 932 Partition?
Response: *Price Encore Partition in lieu of the 932 Partition. See revised specification language in item 1.02 above.*

3.011 **Question:** 10-2226 – Subsection 2.7 Options – A Calls out Pass Doors in Operable Partitions. No pass doors shown in operable partition drawings/elevations. Should Pass doors be included in pricing?

Response: *Subsection 2.7 can be deleted. See revised specification language in item 1.02 above.*

3.012 **Question:** I do not find a piping or an insulation specification in div 23 for the HVAC Condensate piping. Is Condensate piping and insulation to be provided by the Plumbing Contract?
Response: *Condensate piping is shown on the HVAC plans and will be part of the HVAC Contract. Piping materials and insulation are clarified within this addendum.*

3.013 **Question:** Please see the attached drawing and Identify the Duct Insulation required in the (8) eight highlighted areas in question. (Drawing attached as part of Addendum).
Response: *See revised M100, attached as part of this addendum.*

3.014 **Question:** Sheet A900 notes numerous Rms which call for a ssm sill, some of the Rms don't seem to show a sill. Advise for Rms:

- Rm A108 has an "L" shaped window run, the plan (A110) doesn't really allow for sills here, but A900 calls for ssm sills. I assume we are to provide?
- Angled windows @ (4) corners of Bldg in Rms A110, A123, A141, & A145 also don't appear to show a sill, is one required here?
- Rm A107, window next to entry door, again, angled window doesn't appear to show a sill, is one required here?
- Rms A101 & A145 angled windows near Vest V01 again don't appear to allow for a ssm sill, advise if required?

Response: *19/A501 - Typ Wall Section. Existing Gypsum Wall Board is to be removed from exterior walls to provide new Gypsum Wall Board finish on all exterior walls. As part of this work, a new solid surface sill is to be provided at all window locations (with the exception of the full height window locations). See responses below to each bullet point:*

- *The windows in Room A108 are full height. No sills required.*
- *Angled windows at corners are full height. No sills required.*
- *The window in Room A108 is full height. No sill required.*
- *Angled windows in Room A101 and A145 are full height. No sill required.*

3.015 **Question:** Also regarding ssm sills, I assume most sills would be referenced to detail 19/A501 (dtl 17/A501 would only apply to sill in Rm A142), advise otherwise?

Response: *Correct.*

3.016 **Question:** Alternate #5 for wood partition wall @ Rm A111A shown on 7-9/A806. I assume only the wood partition is the Alternate>. The base units/ssm top and low wall would be in the Base Bid. Advise otherwise?
Response: *Base units/SSM top and low wall are part of Base Bid.*

3.017 **Question:** Can you confirm there is no work by the gc for generator alternate and the public announcement system alternate?
Response: *Correct, everything is by E.C.*

3.018 **Question:** Is a job trailer required per the specs?
Response: *A Job meeting trailer is required per the Multiple Contract Summary.*

3.019 **Question:** Does all the structural steel go in the base bid? Or does the steel pertaining to the operable partition alternates go with the alternates?
Response: *The structural steel associated with operable partitions OP1 and OP3 is under base bid. The structural steel associated with operable partition OP2 is under Alternate 3.*

3.020 **Question:** None of the Specified RTU Manufacturers are able to deliver the units within the time frame of the project schedule. This is a very precarious time, and the industry is suffering severe supply chain issues which are not in control of Construction Contractors. I would suggest that the Owner provide the specified RTU for installation by the contractor or extend the schedule indefinitely as none of specified manufacturers will commit to a delivery date. Please advise.
Response: *The entire space should be fit-out by the end of this summer and the existing RTU can remain in-place until the new unit has arrived on site. The existing unit does not need to remain operational and all of the ductwork associated with it can be removed during the construction period. The new fan-powered VAV boxes can be utilized to maintain heat in the space until the new unit arrives because they can function without a central unit. Once the new unit does arrive, it would replace the existing unit, and there would need to be some TAB work done; but the disturbance to the finished space would be minimized.*

3.021 **Question:** Can the contract time be extended? Most electrical panels have a 20 week plus lead time, generators are about 48 weeks, light fixtures are 12 plus weeks, electronics are 30 plus weeks.
Response: *We understand the challenge of timing with the electrical panels and will extend Contract time by 3 weeks to July 5, 2023. The timeline is still tight, but as noted in response 3.02, the District will work with Contractors where delays are unavoidable. Temporary lighting can be provided and the A/V systems are not critical for occupancy and both of these systems can be installed once available. Front end documents that relate to this change will be issued on Friday, 1/13/23 in Addendum 3.*

3.022 **Question:** We have had multiple trade partners ask for an extension for the due date. Is it possible to push the bid due date by a few days or even a week?
Response: *Given the already tight schedule and long lead times, extending the bid due date is not possible if we are to achieve the targeted Substantial Completion date.*

3.023 **Question:** What type of floor finish is being demolished? What is the quantity/percentage of that type of floor?

Response: *Flooring to be demolished consists of approximately 13,800 SF of carpeting and 2,170 SF of linoleum/vct tile.*

3.024 **Question:** On drawing AD101 at column C & B, which prime is to provide the excavation for the electrical trenching?
Response: *Refer to Specification Section 011200 – Multiple Contract Summary, Section 2.04, C, 18. Provide all cutting, patching, excavation, and backfill, including work for new incoming service, etc. as necessary to install the work of this Contract.*

3.025 **Question:** Toilet T01, T02, T03, T04, T06, T07, T08, and T09 show WC-1 in the finish schedule, but doesn't show on the enlarged prints A801. Where will this be installed?
Response: *The reference for this finish is actually identified as VWC-1, not WC-1. See schedule. VWC-1 is to be provided on all 3 walls without CT-2.*

3.026 **Question:** Room A114, A115 and A142 show Scuffmaster, solid metal, metallic accent paint, on finish schedule, but can't find this anywhere else. Please advise which walls this will go on.
Response: *See 11/A808, 12/A808, and 13/A809, Base bid paint color identified as PNT-4. This paint is the base bid paint color between the back-painted glass MB in these conference rooms in lieu of the wood accent walls identified in Alternates 4 and 5.*

3.027 **Question:** Does the GC own the kitchen cabinetry? I noticed on A101 Floor Plan Key Notes P3 "New Millwork Designed, Built and installed by owner's vendor" Or will the owner work directly with one of the following as noted on specs vol. 2 pg 293?

Cal-Dak Cabinets.
CampbellRhea.
R. C. Smith Company.
Sidney Millwork Company.
Techline USA, LLC.
TMI Systems Design Corporation

Response: *I am not seeing the key note P3 referenced in the question above, All millwork falls under the GC's scope. The GC is to procure and install millwork per the contract documents. The above listed manufacturers represent acceptable manufacturers, but other manufacturers are acceptable provided that they comply with the requirements of the specifications.*

3.028 **Question:** I noticed addendum 1 called for the erection of structural steel members on pages 103-110, but I couldn't find any in the plans. Can you confirm whether there are structural members and if so, where to find them?
Response: *Structural Steel is required for the support of the Operable Partitions. See sketch AD1-A01 and drawing S101 issued under Addendum 1.*

ATTACHMENTS

General:

Pre-bid Meeting Sign-in Sheet

Specifications:

230719	HVAC Piping Insulation

Drawings:

E101	First Floor Plan – Lighting
E201	First Floor Plan – Power
E202	Roof Plan – Power
M100	First Floor Plan – Mechanical
P101	First Floor Plan – Drainage & Vent – Plumbing
P301	Enlarged Plans - Plumbing

Sketches:

AD1-A01	Modifications to Lobby Elevations
AD1-A02	Modification to Casework in Open Workspace A111A

END OF ADDENDUM

SCHRADERGROUP

SIGN-IN SHEET

PROJECT: GREAT VALLEY SCHOOL DISTRICT (GVSD) DISTRICT ADMINISTRATION OFFICE

MEETING: PRE-BID MEETING (On-Site)

DATE: 1.5.2023

NAME	AFFILIATION	PHONE/EMAIL
David Leonard	Donald E Reisinger	610-696-6921 david@donaldereisinger.com
PAUL McKEON	LJ PAOLELLA	610 499 8950 bids@LJPinc.net
Justin McConnell	AJM Electric	610-494-5735 Justin@ajmelectric.net
Mike Turriziani	JCI	610-247-6062 Mike.Turriziani@JCI.com
Steve Warnek	Balton Construction	484-336-4666 steve@baltonconstruction.com
TODD CAMERON	UHRIG CONSTRUCTION	610 373 1612 TCAMERON@UHRIG.COM

SCHRADERGROUP

SIGN-IN SHEET

PROJECT: GREAT VALLEY SCHOOL DISTRICT (GVSD) DISTRICT ADMINISTRATION OFFICE

MEETING: PRE-BID MEETING (On-Site)

DATE: 1.5.2023

NAME	AFFILIATION	PHONE/EMAIL
Mike McCarthy	MCI GC	610-476-5052 Mike@McCarthyConstructionInc.com
Jeff Mamik	SHA (MEP)	610.295.8606 jmechik@snyderhatfran.com
Tom Thompson	NorthBay Mechanical	Tom.t@northbaymech.com 610.376.6634
Steve Sostak	ERSTOEBNER	ssostak@erscon.com

SCHRADERGROUP

SIGN-IN SHEET

PROJECT: GREAT VALLEY SCHOOL DISTRICT (GVSD) DISTRICT ADMINISTRATION OFFICE

MEETING: PRE-BID MEETING (On-Site)

DATE: 1.5.2023

NAME	AFFILIATION	PHONE/EMAIL
Justin Davidson	Tri-County Mechanical	dkiefer@tcntymech.com
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Nathan Harder	Patriot Construction	215-859-1603 nharder@patriotconstruction.com

SECTION 230719 – HVAC PIPING INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Piping insulation.

B. Jackets and accessories.

1.2 RELATED SECTIONS

A. Section 07 8400 - Firestopping.

B. Section 23 2300 - Refrigerant Piping: Placement of inserts.

D. Refer to the requirements of Division 1 and coordinate the division of responsibility of the work with Section 01 1000 – Summary of the Project.

1.3 REFERENCES

A. ASTM C 177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot Plate Apparatus; 2004.

B. ASTM C 195 - Standard Specification for Mineral Fiber Thermal Insulating Cement; 2000.

C. ASTM C 449/C 449M - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement; 2000.

D. ASTM C 518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2004.

E. ASTM C 533 - Standard Specification for Calcium Silicate Block and Pipe Thermal Insulation; 2004.

F. ASTM C 534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form; 2005.

G. ASTM C 547 - Standard Specification for Mineral Fiber Pipe Insulation; 2006.

H. ASTM C 552 - Standard Specification for Cellular Glass Thermal Insulation; 2003.

I. ASTM C 578 - Standard Specification for Rigid, Cellular Polystyrene Thermal

Insulation; 2005a.

J. ASTM C 585 - Standard Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System); 1990 (Reapproved 2004).

K. ASTM C 591 - Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation; 2005.

L. ASTM C 610 - Standard Specification for Molded Expanded Perlite Block and Pipe Thermal Insulation; 2005.

M. ASTM C 795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel; 2003.

N. ASTM D 1056 - Standard Specification for Flexible Cellular Materials--Sponge or Expanded Rubber; 2000.

O. ASTM D 2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics; 2001.

P. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2005.

Q. ASTM E 96/E 96M - Standard Test Methods for Water Vapor Transmission of Materials; 2005.

R. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials; National Fire Protection Association; 2006.

S. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Underwriters Laboratories Inc.; 2003.

T. IECC 2015 - International Energy Conservation Code.

1.4 SUBMITTALS

A. See Division 1 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

C. Manufacturer's Instructions: Indicate installation procedures that ensure acceptable workmanship and installation standards will be achieved.

D. Adhesives: Provide data for each intended application from the manufacturer of adhesives indicating the volatile organic compound (VOC) content, as measured in grams/liter.

E. Sealants: Provide data for each intended application from the manufacturer of sealants indicating the volatile organic compound (VOC) content, as measured in grams/liter.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years of documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum 5 years of experience.

1.6 DELIVERY, STORAGE, AND PROTECTION

A. Accept materials on site, labeled with manufacturer's identification, product density, and thickness.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Maintain ambient conditions required by manufacturers of each product.

B. Maintain temperature before, during, and after installation for minimum of 24 hours.

C. Adhesives: Conform to the volatile organic compounds (VOC) limits set forth in the current edition of the South Coast Air Quality Management District Rule Number 1168 and as follows:

1. Adhesive Primer for Plastic: Adhesives shall not have VOC content in excess of 650 grams/liter.
2. All Other Interior Applications: Adhesives shall not have VOC content in excess of 250 grams/liter.

D. Sealants: Conform to the requirements of the January 1998 edition of the Bay Area Quality Management District Regulation 8, Rule 51 and as follows:

1. Interior Sealants: Interior sealants shall not have VOC content in excess of 250 grams/liter.
2. Sealant Primers:
   a. Nonporous interior sealant primers shall not have VOC content in excess of 250 grams/liter.
   b. Porous interior sealant primers shall not have VOC content in excess of 775 grams/liter.

PART 2 PRODUCTS

2.1 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION

A. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E 84, NFPA 255, or UL 723.

2.2 GLASS FIBER

A. Manufacturers:

1. Knauf Fiber Glass: www.knauffiberglass.com.
2. Johns Manville Corporation: www.jm.com.
3. Owens Corning Corp: www.owenscorning.com.
4. CertainTeed Corporation: www.certainteed.com.

B. Insulation: ASTM C 547 and ASTM C 795; rigid molded, noncombustible.

1. 'K' ('Ksi') value: ASTM C 177, 0.24 at 75 degrees F (0.035 at 24 degrees C).
2. Maximum service temperature: 850 degrees F (454 degrees C).
3. Maximum moisture absorption: 0.2 percent by volume.

C. Insulation: ASTM C 547 and ASTM C 795; semi-rigid, noncombustible, end grain adhered to jacket.

1. 'K' ('Ksi') value: ASTM C 177, 0.24 at 75 degrees F (0.035 at 24 degrees C).
2. Maximum service temperature: 650 degrees F (343 degrees C).
3. Maximum moisture absorption: 0.2 percent by volume.

D. Vapor Barrier Jacket: White kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E 96/E 96M of 0.02 perm-inches (0.029 ng/Pa s m).

2.3 CELLULAR GLASS

A. Manufacturers:

1. Pittsburgh Corning Corporation: www.pittsburghcorning.com.

B. Insulation: ASTM C 552, Grade 1.

1. 'K' ('Ksi') value: 0.37 at 100 degrees F (0.053 at 38 degrees C).
2. Service Temperature: Up to 900 degrees F (482 degrees C).
3. Water Vapor Permeability: 0.005 perm inch (0.007 ng/Pa s m).
4. Water Absorption: 0.2 percent by volume, maximum.

2.4 EXPANDED POLYSTYRENE

A. Insulation: ASTM C 578; rigid closed cell.

1. 'K' ('Ksi') value: 0.23 at 75 degrees F (0.033 at 24 degrees C).
2. Maximum service temperature: 165 degrees F (74 degrees C).
3. Maximum water vapor permeance: 5.0 perms (287 ng/Pa s sq m)

2.5 EXPANDED PERLITE

A. Manufacturers:

1. Schundler Company: www.schundler.com.

B. Insulation: ASTM C 610, molded.

1. Maximum service temperature: 1200 degrees F (649 degrees C).
2. Maximum water vapor transmission: 0.1 perm.

2.6 POLYISOCYANURATE CELLULAR PLASTIC

A. Insulation Material: ASTM C 591, rigid molded modified polyisocyanurate cellular plastic.

1. Dimension: Comply with requirements of ASTM C 585.
2. 'K' ('Ksi') value: 0.18 at 75 degrees F (0.026 at 24 degrees C), when tested in accordance with ASTM C 518.
3. Minimum Service Temperature: -70 degrees F (-51 degrees C).
4. Maximum Service Temperature: 300 degrees F (150 degrees C).
5. Water Absorption: 0.5 percent by volume, maximum, when tested in accordance with ASTM D 2842..
6. Moisture Vapor Transmission: 4.0 perm in (5.8 ng/(Pa s m)).
7. Connection: Waterproof vapor barrier adhesive.

2.7 POLYETHYLENE

A. Manufacturers:

1. Armacell International: www.armacell.com.

B. Insulation: Flexible closed-cell polyethylene tubing, slit lengthwise for installation, complying with applicable requirements of ASTM D 1056.

1. 'K' ('Ksi') value: ASTM C 177; 0.25 at 75 degrees F (0.036 at 24 degrees C).
2. Maximum Service Temperature: 200 degrees F (93 degrees C).
3. Density: 2 lb/cu ft (32 kg/cu m).

4. Maximum Moisture Absorption: 1.0 percent by volume.
5. Moisture Vapor Permeability: 0.05 perm inch (0.073 ng/Pa s m), when tested in accordance with ASTM E 96/E 96M.
6. Connection: Contact adhesive.

2.8 FLEXIBLE ELASTOMERIC CELLULAR INSULATION

A. Manufacturer:

1. Armacell International: www.armacell.com.

B. Insulation: Preformed flexible elastomeric cellular rubber insulation complying with ASTM C 534 Grade 3; use molded tubular material wherever possible.

1. Minimum Service Temperature: -40 degrees F (-40 degrees C).
2. Maximum Service Temperature: 220 degrees F (104 degrees C).
3. Connection: Waterproof vapor barrier adhesive.

2.9 JACKETS

A. PVC Plastic.

1. Manufacturers:
   a. Johns Manville Corporation: www.jm.com.
2. Jacket: One piece molded type fitting covers and sheet material, off-white color.
   a. Minimum Service Temperature: 0 degrees F (-18 degrees C).
   b. Maximum Service Temperature: 150 degrees F (66 degrees C).
   c. Moisture Vapor Permeability: 0.002 perm inch (0.0029 ng/Pa s m), maximum, when tested in accordance with ASTM E 96/E 96M.
   d. Thickness: 10 mil (0.25 mm).
   e. Connections: Brush on welding adhesive.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that piping has been tested before applying insulation materials.

B. Verify that surfaces are clean and dry, with foreign material removed.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Exposed Piping: Locate insulation and cover seams in least visible locations.

C. Insulated pipes conveying fluids below ambient temperature: Insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections, pump bodies, and expansion joints.

D. Glass fiber insulated pipes conveying fluids below ambient temperature:

1. Provide vapor barrier jackets, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples and vapor barrier mastic.
2. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor barrier adhesive or PVC fitting covers.

E. Inserts and Shields:

1. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
2. Insert location: Between support shield and piping and under the finish jacket.
3. Insert configuration: Minimum 6 inches (150 mm) long, of same thickness and contour as adjoining insulation; may be factory fabricated.
4. Insert material: Hydrous calcium silicate insulation or other heavy density insulating material suitable for the planned temperature range.

F. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions. At fire separations, refer to Section 07 8400.

G. Exterior Applications: Provide vapor barrier jacket. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe, and finish with glass mesh reinforced vapor barrier cement. Cover with aluminum jacket with seams located on bottom side of horizontal piping.

H. General: Install insulation products in accordance with the manufacturer's written instructions, and in accordance with the recognized industry practices to ensure that the installation serves its intended purpose.

I. Install insulation materials with smooth and even surfaces. Insulate each continuous run of piping with full length units of insulation, with a single cut piece to complete the run. Do not cut pieces of scraps abutting each other.

J. Clean and dry pipe surfaces prior to insulating. Butt insulation joints firmly together to ensure a complete and tight fit over surfaces to be covered.

K. Maintain integrity of vapor barrier jackets on pipe insulation and protect to prevent puncture or other damage.

L. Cover valves, fittings and similar items in each piping system with equivalent thickness and composition of insulation as applied to adjoining pipe run. Install factory molded,

precut or job fabricated units (at installer's option) except where a specific form or type is indicated. Valves in chilled water systems shall be insulated with removable factory pre-molded insulators. Any condensation problems shall be corrected by the Contractor. Damage to finishes caused by condensation shall be corrected by this Contractor.

M. Extend piping insulation without interruption through walls, floors and similar piping penetrations, except where otherwise indicated.

N. Install protective metal shields and insulated inserts wherever needed to prevent compression of insulation.

O. Pipe Hanger Insulation Inserts: Butt pipe insulation against pipe hanger insulation inserts. For hot pipes, apply 3 inch wide vapor barrier stage or band over the butt joints. For cold piping apply wet coat of vapor barrier lap cement on butt joints and seal joints with 3 inch wide vapor barrier tape or band.

P. Protection: Insulation Installer shall advise the Contractor of required protection for the insulation work during the remainder of the construction period to avoid damage and deterioration.

3.3 SCHEDULE

A. HVAC Systems:

1. HVAC PIPING SYSTEM INSULATION:
   a. Sub-Freezing Piping (0 to 39 Deg. F.) (-18 to 4 Deg. C.):

      1) Application Requirements: Insulate the following sub-freezing HVAC piping systems:
         a) Refrigerant suction and liquid lines between evaporators and condensing units.
      2) Insulate each piping system specified above with one of the following types and thickness of insulation:
         a) Insulation: Flexible unicellular 3/4" thick. Cover outdoor insulation with 22 gauge corrugated aluminum.
   b. Cold Piping (40 Deg. F. (4.4 Deg. C. to ambient):
      1) Application Requirements: Insulate the following cold HVAC piping systems:
         a) Air conditioning condensate piping.
      2) Insulate each piping system specified above with one of the following types and thicknesses of insulation:
         a) Insulation: Flexible Unicellular; 3/4" thick for pipe sizes up to 3". 1” thick for pipe sizes over 3”.

END OF SECTION 230719

GENERAL LIGHTING NOTES:

1. REFER TO E001 FOR LEGEND AND GENERAL NOTES.
2. CIRCUIT ALL EXIT SIGNS TO NEAREST AVAILABLE UNSWITCHED LIGHTING CIRCUIT.
3. NOT ALL WIRING SHOWN. CONTRACTOR SHALL PROVIDE ALL REQUIRED LOW-VOLTAGE WIRING, CONTROL WIRING, AND APPURTENANCES FOR A FULLY FUNCTIONING SYSTEM.
4. PROVIDE SURGE PROTECTION FOR ALL EXTERIOR DATA DROPS. PERLE CAT6OT-LAN-S OR EQUAL
5. PROVIDE (2) #8 IN 3/4" CONDUIT FOR ALL REMOTE HEADS.
6. ALL NEW PA SPEAKERS SHALL BE GRANDSTREAM CAT6GSC3505. PROVIDE SPEAKER, DATA CABLING, BACKBOXES AND CONDUIT. INCLUDE RECOMMENDED MOUNTING HARDWARE FROM MANUFACTURER. SPEAKER PROGRAMMING SHALL BE BY DISTRICT PHONE VENDOR. PA SPEAKERS SHALL BE INCLUDED AS PART OF ALTERNATE BID.

CODED LIGHTING NOTES:

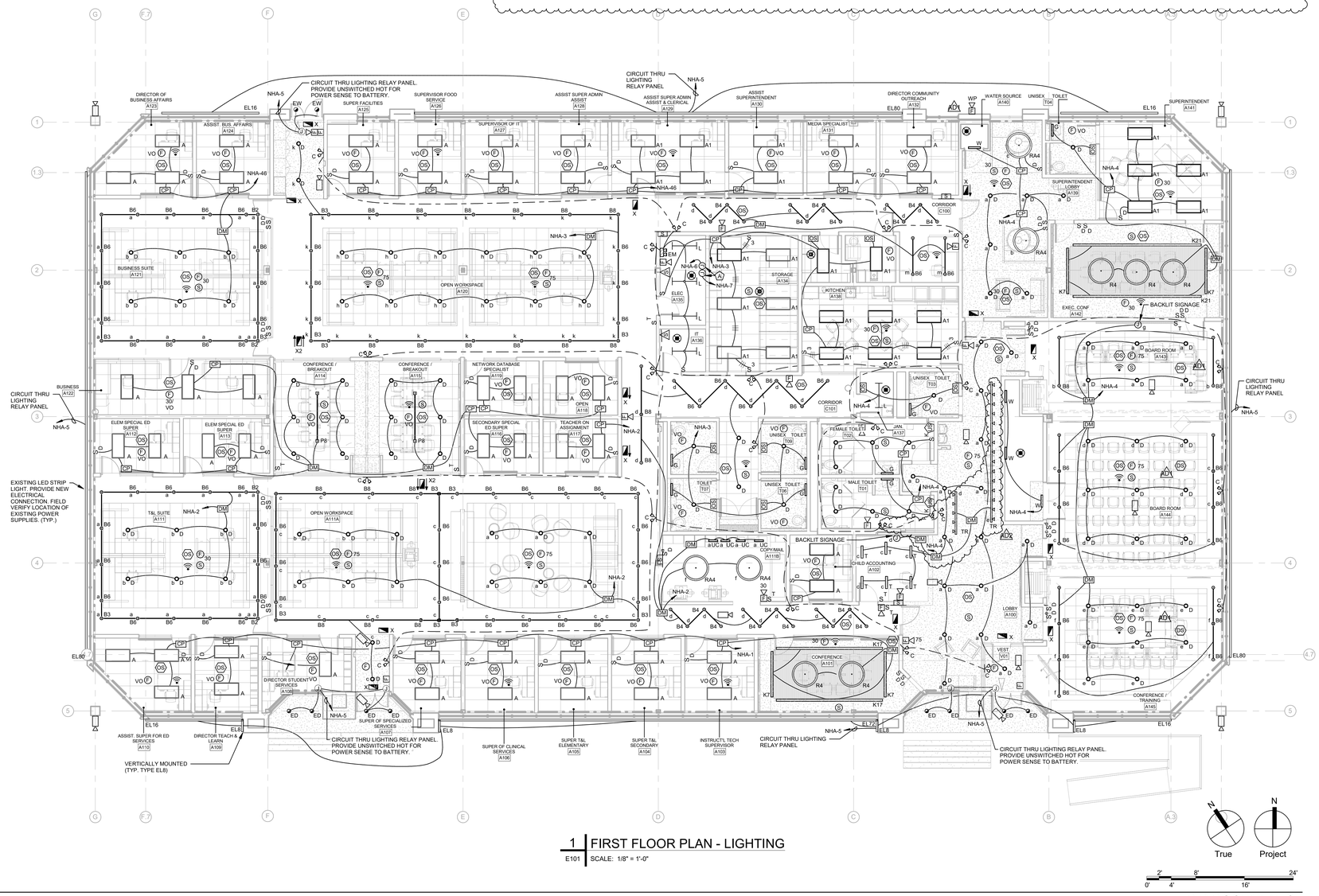
(A) INTERCEPT AND EXTEND EXISTING SITE LIGHTING CIRCUITS. CIRCUIT THRU NEW LIGHTING RELAY PANEL. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF CIRCUITS AND EXTEND AS REQUIRED.

Lighting Fixture Schedule

Type	Apparent Load	Manufacturer	Catalog Number	Mounting	Total Depth	No. of Lamps	Lamp Type	Voltage	Additional Remarks	Approved Equals
A	53 VA	ELITE	24-FPL1-LED-3000/4000/5000-DIM10-MVOLT-35K-85	RECESSED	2"	LED	4800LU LED 3500K	UNV	2'x4' FLAT PANEL WITH 0-10V DIMMING. FIELD SELECT LUMENS AS NOTED.	LITHONIA CPX, COLUMBIA CFP
A1	53 VA	ELITE	24-FPL1-LED-3000/4000/5000-DIM10-MVOLT-T-35K-85	RECESSED	2"	LED	3800LU LED 3500K	UNV	2'x4' FLAT PANEL WITH 0-10V DIMMING. FIELD SELECT LUMENS AS NOTED.	LITHONIA CPX, COLUMBIA CFP
B2	11 VA	LEDALITE	MF-CSTM-S-L-835-25-Q-N-02-D-E-1-N-NN-(NOTE 1)-M1-48"	SUSPENDED	N/A	LED	2500LU/4FT 3500K		LINEAR LED FIXTURE WITH 1% 0-10V DIMMING. COORDINATE W/ MANUFACTURER FOR ALL REQUIRED CONNECTORS FOR A FULLY FUNCTIONING SYSTEM. MOUNT BOTTOM OF FIXTURE FLUSH WITH SUSPENDED CEILING.	CAMMAN INFINILITE
B3	16 VA	LEDALITE	MF-CSTM-S-L-835-25-Q-N-03-D-E-1-N-NN-(NOTE 1)-M1-48"	SUSPENDED	N/A	LED	2500LU/4FT 3500K	UNV	LINEAR LED FIXTURE WITH 1% 0-10V DIMMING. COORDINATE W/ MANUFACTURER FOR ALL REQUIRED CONNECTORS FOR A FULLY FUNCTIONING SYSTEM. MOUNT BOTTOM OF FIXTURE FLUSH WITH SUSPENDED CEILING.	CAMMAN INFINILITE
B4	20 VA	LEDALITE	MF-CSTM-S-L-835-25-Q-N-04-D-E-1-N-NN-(NOTE 1)-M1-48"	SUSPENDED	N/A	LED	2500LU/4FT 3500K	UNV	LINEAR LED FIXTURE WITH 1% 0-10V DIMMING. COORDINATE W/ MANUFACTURER FOR ALL REQUIRED CONNECTORS FOR A FULLY FUNCTIONING SYSTEM. MOUNT BOTTOM OF FIXTURE FLUSH WITH SUSPENDED CEILING.	CAMMAN INFINILITE
B6	29 VA	LEDALITE	MF-CSTM-S-L-835-25-Q-N-06-D-E-1-N-NN-(NOTE 1)-M1-48"	SUSPENDED	N/A	LED	2500LU/4FT 3500K	UNV	1/2" LINEAR LED FIXTURE WITH 1% 0-10V DIMMING. COORDINATE W/ MANUFACTURER FOR ALL REQUIRED CONNECTORS FOR A FULLY FUNCTIONING SYSTEM. MOUNT BOTTOM OF FIXTURE FLUSH WITH SUSPENDED CEILING.	CAMMAN INFINILITE
B8	38 VA	LEDALITE	MF-CSTM-S-L-835-25-Q-N-08-D-E-1-N-NN-(NOTE 1)-M1-48"	SUSPENDED	N/A	LED	2500LU/4FT 3500K	UNV	LINEAR LED FIXTURE WITH 1% 0-10V DIMMING. COORDINATE W/ MANUFACTURER FOR ALL REQUIRED CONNECTORS FOR A FULLY FUNCTIONING SYSTEM. MOUNT BOTTOM OF FIXTURE FLUSH WITH SUSPENDED CEILING.	CAMMAN INFINILITE
C	6 VA	EVENLITE	TSLED-2-MV-W	WALL	N/A	(2)	12VDC LED	12VDC	LED DOUBLE REMOTE HEAD	BARRON MIST SERIES
D	21 VA	LIGHTOLIER	4RN-P4RDL20835WHZ10U	RECESSED	4-3/8"	LED	2000LU LED 3500K	UNV	4" LED DOWNLIGHT WITH 0-10V DIMMING.	LITHONIA LDN4; PRESCOLITE LITEISTRY
ED	11 VA	ZANEEN	L12R0002-3000K-32POLAR	RECESSED	3-1/16"	LED	850LU LED 3000K	277	EXISTING EXTERIOR DOWNLIGHT. INFORMATION INDICATED IS FROM EXISTING DRAWINGS. CONTRACTOR SHALL FIELD VERIFY.	
EL8	24 VA	ACOLYTE	NLS-3.0B-E	SURFACE	N/A	LED	LED	277	EXISTING LED STRIP LIGHT. INFORMATION LISTED IS FROM EXISTING DRAWINGS, CONTRACTOR SHALL FIELD VERIFY.	
EL16	48 VA	ACOLYTE	NLS-3.0B-E	SURFACE	N/A	LED	LED	277	EXISTING LED STRIP LIGHT. INFORMATION LISTED IS FROM EXISTING DRAWINGS, CONTRACTOR SHALL FIELD VERIFY.	
EL72	216 VA	ACOLYTE	NLS-3.0B-E	SURFACE	N/A	LED	LED	277	EXISTING LED STRIP LIGHT. INFORMATION LISTED IS FROM EXISTING DRAWINGS, CONTRACTOR SHALL FIELD VERIFY.	
EL80	240 VA	ACOLYTE	NLS-3.0B-E	SURFACE	N/A	LED	LED	277	EXISTING LED STRIP LIGHT. INFORMATION LISTED IS FROM EXISTING DRAWINGS, CONTRACTOR SHALL FIELD VERIFY.	
EM	100 VA	EVENLITE	P4E100-W129	WALL	N/A	(2) 12VDC	12VDC	UNV	EMERGENCY BATTERY PACK WITH (2) HEADS.	BARRON RSL SERIES
EW	9 VA	ZANEEN	L10W0074	WALL	N/A	LED	518LU LED 3000K	277	EXISTING EXTERIOR WALL MOUNT LIGHT. INFORMATION INDICATED IS FROM EXISTING DRAWINGS. CONTRACTOR SHALL FIELD VERIFY.	
G	14 VA	VISA	CB1972-L35K(H)-MVOLT-(NOTE 1)-(NOTE 1)-OCC	WALL	N/A	LED	950LU LED 3000K	UNV	LED VANITY LIGHT WITH REMOTE POWER SUPPLY. MOUNT POWER SUPPLY ABOVE NEAREST ACCESSIBLE CEILING.	SCOTT ARCH LTG S3845
K7	30 VA	VODE	707-Z9-SL-7FT8IN-48-EL-0-IP-AT-2-0-Z-LO-35-C1-0-AL-0	COVE	2"	LED	3200LU LED 3500K	UNV	LED CEILING COVE. PROVIDE 0-10V DIMMING TO 0.1%. CONTRACTOR SHALL FIELD VERIFY EXACT FIXTURE LENGTH PRIOR TO ORDERING.	
K17	68 VA	VODE	707-Z9-SL-17FT8IN-72-EL-0-IP-AT-2-0-Z-LO-35-C1-0-AL-0	COVE	2"	LED	7616LU LED 3500K	UNV	LED CEILING COVE. PROVIDE 0-10V DIMMING TO 0.1%. CONTRACTOR SHALL FIELD VERIFY EXACT FIXTURE LENGTH PRIOR TO ORDERING.	
K21	82 VA	VODE	707-Z9-SL-21FT8IN-72-EL-0-IP-AT-2-0-Z-LO-35-C1-0-AL-0	COVE	2"	LED	9339LU LED 3500K	UNV	LED CEILING COVE. PROVIDE 0-10V DIMMING TO 0.1%. CONTRACTOR SHALL FIELD VERIFY EXACT FIXTURE LENGTH PRIOR TO ORDERING.	
L	30 VA	ELITE	4-OEC-LED-4000L-D8M1G-MVOLT-35K-85-O CGSS	SUSPENDED	N/A	LED	4000LU LED 3500K	UNV	4FT LED STRIP LIGHT. PROVIDE CHAIN HANGERS.	LITHONIA CLX, COLUMBIA MPS
P8	58 VA	FLUXWERX	VU1-(NOTE 1)-B-C-35-(NOTE 1)-08-G-E1-M-O3	SUSPENDED	N/A	LED	5700LU LED 3500K	UNV	LED ARCHITECTURAL SUSPENDED FIXTURE WITH 0-10V DIMMING.	
R4	64 VA	OCL	RV1-P1EU-36-MW-(NOTE 1)-LED2-35K-UNV-48-DM-	SUSPENDED	N/A	LED	3584LU LED 3500K	UNV	LED RING PENDANT WITH 0-10V DIMMING AND REMOTE DRIVER. MOUNT DRIVER ABOVE NEAREST ACCESSIBLE CEILING.	LUMENWERX RIM
RA4	64 VA	G LIGHTING	GL-2792-4RLED35LO-(NOTE 1)-(NOTE 1)-1	SUSPENDED	N/A	LED	6058LU LED 3500K	UNV	LED ACOUSTICAL RING PENDANT WITH 0-10V DIMMING AND REMOTE DRIVER. MOUNT DRIVER ABOVE NEAREST ACCESSIBLE CEILING.	LUMENWERX RIM ACOUSTIC
T	11 VA	FLUXWERX	LN1-P-1-S-03-(NOTE 1)-(NOTE 1)-W1-8-35-E-E1-M	RECESSED	N/A	LED	1425LU LED 3500K	UNV	1/2" LINEAR LED FIXTURE WITH 1% 0-10V DIMMING. MOUNT BOTTOM OF FIXTURE FLUSH WITH SUSPENDED CEILING.	
TR	150 VA	TARGETTI	OZ-11A-RAL4-L1-FL-35-1T7032-1T7039-1T7043-1T7041-PS05-1DD	RECESSED	2.3"	QTY PER DWGS	152LU LED 3500K	UNV	LED 48V TRACK LIGHTING WITH ADJUSTABLE HEADS AND 0-10V DIMMING. MOUNT POWER SUPPLY ABOVE NEAREST ACCESSIBLE CEILING. PROVIDE LENGTH AND QUANTITY OF HEADS AS SHOWN ON FLOOR PLANS	
UC	7 VA	VODE	707-Z1-SL-18IN-18"-C-0-RP10-AE-2-0-Z-LO-35-A2-0-AL-	SURFACE	N/A	LED	627LU LED 3500K	UNV	LED UNDERCABINET LIGHT W/ REMOTE DRIVER AND 1% DIMMING.	
W	22 VA	MERCURY	LC14-2-2700-35K-HTA-1%-UNI-O3	CORNER	N/A	LED	2700LU LED 3500K	UNV	LED CORNER MOUNT FIXTURE WITH INTEGRAL OCCUPANCY SENSOR.	
X	3 VA	EVENLITE	TLX-EM-RU-W	UNIVERSAL	N/A	LED	LED	UNV	SINGLE FACE LED EXIT SIGN WITH EMERGENCY BATTERY BACKUP. PROVIDE CHEVRONS AS INDICATED.	BARRON ILLUMINEX
X2	3 VA	EVENLITE	TLX-EM-RU-W	UNIVERSAL	N/A	LED	LED	UNV	DOUBLE FACE LED EXIT SIGN WITH EMERGENCY BATTERY BACKUP. PROVIDE CHEVRONS AS INDICATED.	BARRON ILLUMINEX

NOTES:

1. FINISHES AS SELECTED BY ARCHITECT AT TIME OF SHOP DRAWINGS. ASSUME PREMIUM FINISH.
2. LISTED APPROVED EQUALS SHALL MEET ALL REQUIREMENTS OF BASIS OF DESIGN FIXTURE. ARCHITECT/ENGINEER RESERVE RIGHT TO NOT ACCEPT ANY PRODUCT NOT MEETING BASIS OF DESIGN.



1 FIRST FLOOR PLAN - LIGHTING
E101 SCALE: 1/8" = 1'-0"

BID DOCUMENTS

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Structural Engineer
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161 Leverington Ave, Suite 105
Philadelphia, PA 19127
215.482.7440

Professional Seal:

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER JEFFREY RYAN MACHIK PE083135

Owner:
GREAT VALLEY SCHOOL DISTRICT
301 LINDENWOOD DRIVE SUITE 210
MALVERN, PA 19355

Renovations to:
GVSD - DISTRICT ADMINISTRATION OFFICE
100 LINDENWOOD DRIVE
MALVERN, PA 19355

ISSUED FOR:

NO.	DESCRIPTION	DATE
AD1	ADDENDUM #1	01.04.23
AD2	ADDENDUM #2	01.12.23

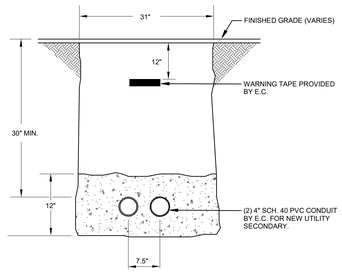
DATE: 12/21/2022

SG PROJECT NUMBER: 22-025

Key Plan:

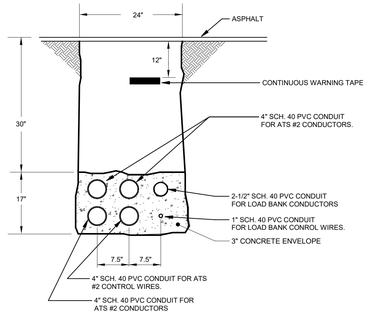
Drawing Title:
FIRST FLOOR PLAN - LIGHTING

Drawing Number:
E101



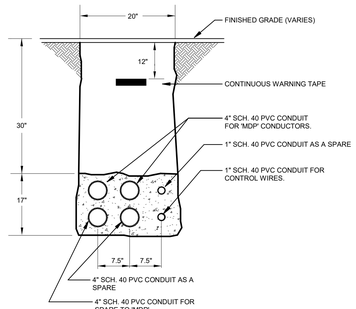
NOTE: TRENCHING, CONCRETE & BACKFILLING BY E.C.

B | SECTION B
E201 | SCALE: NTS



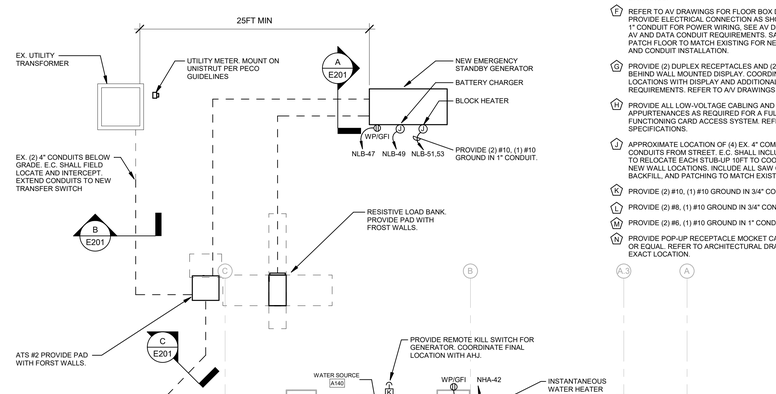
NOTE: UNLESS OTHERWISE NOTED, ALL WORK, INCLUDING TRENCHING, CONCRETE & BACKFILLING, IS BY E.C.

A | SECTION A
E201 | SCALE: NTS

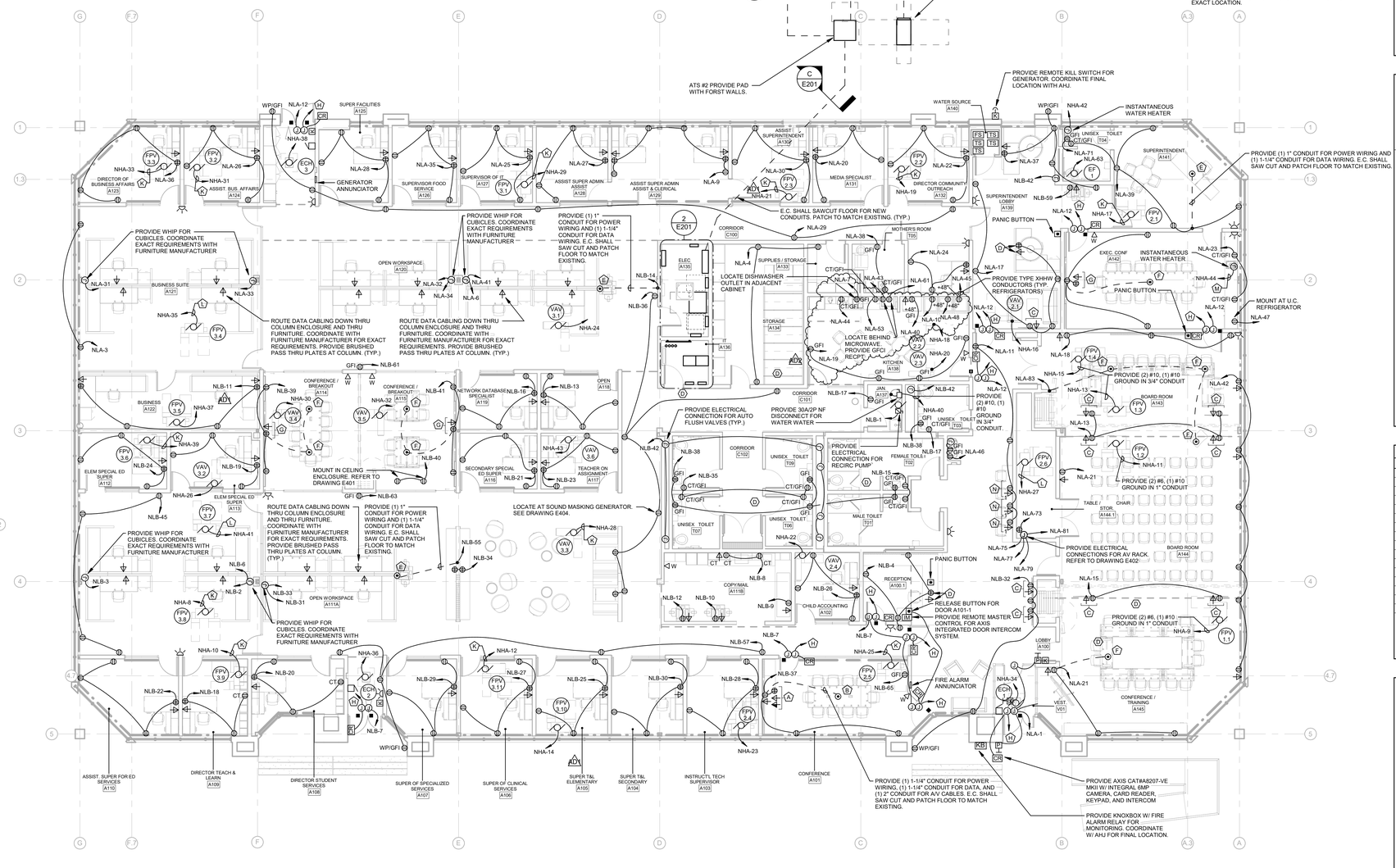


NOTE: UNLESS OTHERWISE NOTED, ALL WORK, INCLUDING TRENCHING, CONCRETE & BACKFILLING, IS BY E.C.

C | SECTION C
E201 | SCALE: NTS



2 | ENLARGED ELECTRICAL ROOM - POWER
E201 | SCALE: 1/4" = 1'-0"



1 | FIRST FLOOR PLAN - POWER
E201 | SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

1. REFER TO E001 FOR LEGEND AND GENERAL NOTES.
2. CONTRACTOR SHALL PROVIDE A PA ONE-CALL PRIOR TO CONDUCTING ANY SITE WORK.
3. CONTRACTOR SHALL UTILIZE FIELD LOCATING SERVICES TO IDENTIFY ALL EXISTING UTILITIES, STORM LINES, SANITARY LINES, ETC. LOCATED IN THE IMMEDIATE AREA OF WORK. WHERE CONFLICTS OCCUR, CONTRACTOR SHALL RELOCATE NEW FACILITIES AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM WITHOUT DISRUPTING EXISTING FACILITIES.
4. WHERE NEW UNDERGROUND DUCT BANKS ARE PROVIDED, CONTRACTOR SHALL RESTORE AREA TO MATCH EXISTING. PROVIDE NEW GRASS SEED AND RIVER ROCK ALONG PERIMETER OF BUILDING TO MATCH EXISTING.
5. E.C. SHALL REFER TO ARCH INTERIOR AND EXTERIOR ELEVATIONS TO COORDINATE ELECTRICAL DEVICE LOCATIONS. WHERE CONFLICTS OCCUR, CONTACT THE ARCHITECT FOR A MOUNTING HEIGHT AND LOCATION PRIOR TO ROUGHING IN.
6. APPROXIMATE DUCT DETECTOR LOCATIONS SHOWN. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS.

CODED POWER NOTES:

- (A) PROVIDE (2) DUPLEX RECEPTACLES, (2) DATA OUTLETS, (1) USB 'A' OUTPUT, AND (1) HDMI OUTPUT BEHIND WALL MOUNTED DISPLAY. USB AND HDMI SHALL BE FED THRU BRUSHED WALL PLATE. PROVIDE 3FT OF LOOPED USB AND HDMI CABLE FOR FINAL CONNECTION TO DISPLAY. PROVIDE KRAMER CAT# CP-HMHMETH HDMI CABLE AND KRAMER CAT# CPA-UAM/UAF USB CABLE.
- (B) PROVIDE WIREMOLD EVOLUTION EFB6S FLOOR BOX WITH FLUSH COVER. PROVIDE (2) DUPLEX RECEPTACLES, (2) DATA OUTLETS, AND A/V INPUTS. COORDINATE COVER WITH FLOOR TYPE. FINISH AS SELECTED BY ARCHITECT AT TIME OF SHOP DRAWINGS.
- (C) PROVIDE DUPLEX RECEPTACLE AND (2) DATA DROPS BEHIND WALL MOUNTED DISPLAY. COORDINATE MOUNTING ELEVATION WITH ARCHITECTURAL DRAWINGS.
- (D) MOUNT IN CASEWORK. COORDINATE CUTTING WITH G.C.
- (E) PROVIDE WIREMOLD EVOLUTION EFB6S FLOOR BOX WITH FLUSH COVER. PROVIDE (2) DUPLEX RECEPTACLES AND (2) DATA OUTLETS. COORDINATE COVER WITH FLOOR TYPE. FINISH AS SELECTED BY ARCHITECT AT TIME OF SHOP DRAWINGS.
- (F) REFER TO AV DRAWINGS FOR FLOOR BOX DETAILS. PROVIDE ELECTRICAL CONNECTION AS SHOWN. PROVIDE 1" CONDUIT FOR POWER WIRING. SEE AV DRAWINGS FOR AV AND DATA CONDUIT REQUIREMENTS. SAWCUT AND PATCH FLOOR TO MATCH EXISTING FOR NEW FLOOR BOX AND CONDUIT INSTALLATION.
- (G) PROVIDE (2) DUPLEX RECEPTACLES AND (2) DATA DROPS BEHIND WALL MOUNTED DISPLAY. COORDINATE OUTLET LOCATIONS WITH DISPLAY AND ADDITIONAL A/V REQUIREMENTS. REFER TO A/V DRAWINGS AND DETAILS.
- (H) PROVIDE ALL LOW-VOLTAGE CABLING AND APPURTENANCES AS REQUIRED FOR A FULLY FUNCTIONING CARD ACCESS SYSTEM. REFER TO SPECIFICATIONS.
- (J) APPROXIMATE LOCATION OF (4) EX. 4" COMMUNICATIONS CONDUITS FROM STREET. E.C. SHALL INCLUDE IN THEIR BID TO RELOCATE EACH STUB-UP 10FT TO COORDINATE W/ NEW WALL LOCATIONS. INCLUDE ALL SAW CUTTING, BACKFILL, AND PATCHING TO MATCH EXISTING SLAB.
- (K) PROVIDE (2) #10, (1) #10 GROUND IN 3/4" CONDUIT.
- (L) PROVIDE (2) #8, (1) #10 GROUND IN 3/4" CONDUIT.
- (M) PROVIDE (2) #6, (1) #10 GROUND IN 1" CONDUIT.
- (N) PROVIDE POP-UP RECEPTACLE MOCKET CAT#PCS36B/U1-94 OR EQUAL. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.

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Professional Seal:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY RYAN MACHIK
ENGINEER
PE083135

Owner:
GREAT VALLEY SCHOOL DISTRICT
301 LINDENWOOD DRIVE SUITE 210
MALVERN, PA 19355

Renovations to:
GVSD - DISTRICT ADMINISTRATION OFFICE
100 LINDENWOOD DRIVE
MALVERN, PA 19355

ISSUED FOR:

NO.	DESCRIPTION	DATE
AD1	ADDENDUM #1	01.04.23
AD2	ADDENDUM #2	01.12.23

DATE: 12/21/2022

SG PROJECT NUMBER: 22-025

Key Plan:

Drawing Title:
FIRST FLOOR PLAN - POWER

Drawing Number:
E201

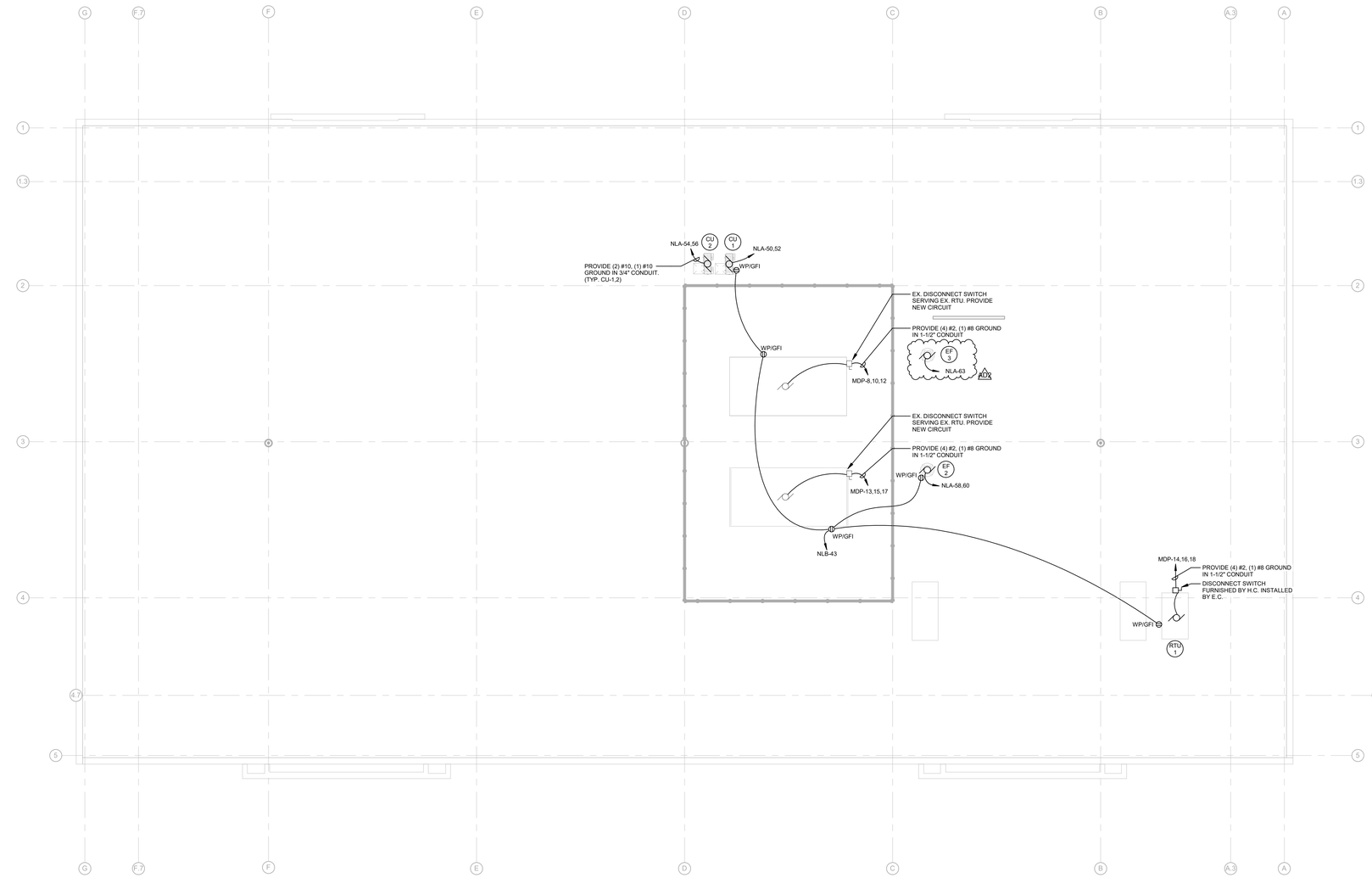
N — True — Project

0' 4' 8' 16' 24'

BID DOCUMENTS

GENERAL POWER NOTES:

1. REFER TO E001 FOR LEGEND AND GENERAL NOTES.
2. CONTRACTOR SHALL PROVIDE A PA ONE-CALL PRIOR TO CONDUCTING ANY SITE WORK.
3. CONTRACTOR SHALL UTILIZE FIELD LOCATING SERVICES TO IDENTIFY ALL EXISTING UTILITIES, STORM LINES, SANITARY LINES, ETC. LOCATED IN THE IMMEDIATE AREA OF WORK. WHERE CONFLICTS OCCUR, CONTRACTOR SHALL RELOCATE NEW FACILITIES AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM WITHOUT DISRUPTING EXISTING FACILITIES.
4. WHERE NEW UNDERGROUND DUCT BANKS ARE PROVIDED, CONTRACTOR SHALL RESTORE AREA TO MATCH EXISTING. PROVIDE NEW GRASS SEED AND RIVER ROCK ALONG PERIMETER OF BUILDING TO MATCH EXISTING.
5. E.C. SHALL REFER TO ARCH INTERIOR AND EXTERIOR ELEVATIONS TO COORDINATE ELECTRICAL DEVICE LOCATIONS. WHERE CONFLICTS OCCUR, CONTACT THE ARCHITECT FOR A MOUNTING HEIGHT AND LOCATION PRIOR TO ROUGHING IN.
6. APPROXIMATE DUCT DETECTOR LOCATIONS SHOWN. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS.



1 ROOF PLAN - POWER
E202 SCALE: 1/8" = 1'-0"

True N Project

0' 2' 4' 8' 16' 24'

BID DOCUMENTS

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Consultants:

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Professional Seal:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JEFFREY RYAN MACHIK
ENGINEER
PE083135

Owner:
GREAT VALLEY SCHOOL DISTRICT
301 LINDENWOOD DRIVE SUITE 210
MALVERN, PA 19355

Renovations to:
GVSD - DISTRICT ADMINISTRATION OFFICE
100 LINDENWOOD DRIVE
MALVERN, PA 19355

ISSUED FOR:

NO.	DESCRIPTION	DATE
AD2	ADDENDUM #2	01.12.23

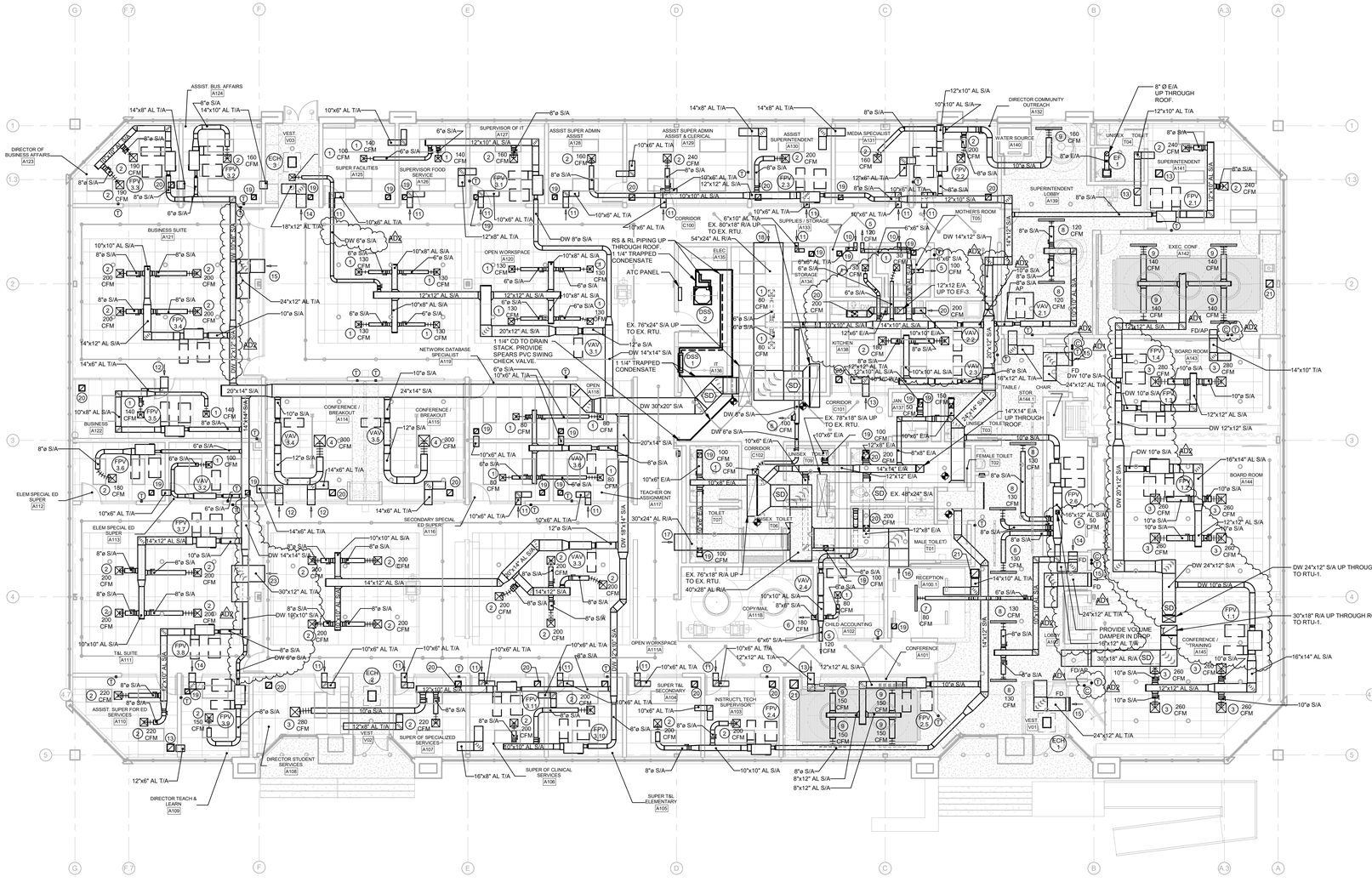
DATE: 12/21/2022

SG PROJECT NUMBER: 22-025

Key Plan:

Drawing Title:
ROOF PLAN - POWER

Drawing Number:
E202



1 FIRST FLOOR PLAN - MECHANICAL
M100 SCALE: 1/8" = 1'-0"

EF # = EXHAUST FAN # = MARK	KF # = KITCHEN EXHAUST FAN # = MARK	FAN SCHEDULE											
TAG	AREA(S) SERVED	MFR	MODEL	CFM	ESP"	RPM	DRIVE	SONES	MOTOR HP/W	V/P/Hz	CONTROL	DAMPER	WEIGHT LBS	NOTES
EF-3	A138 KITCHEN	GREENHECK	G-90-D	400	.45	1550	DIRECT	7.5	60	115/1/60	ATC	BDD	43	1

NOTES:
1. PROVIDE DISCONNECT SWITCH.

True N Project

0' 2' 4' 8' 16' 24'

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Renovations to:
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MALVERN, PA 19355

ISSUED FOR:

NO.	DESCRIPTION	DATE
AD1	ADDENDUM #1	01.04.23
AD2	ADDENDUM #2	01.11.23

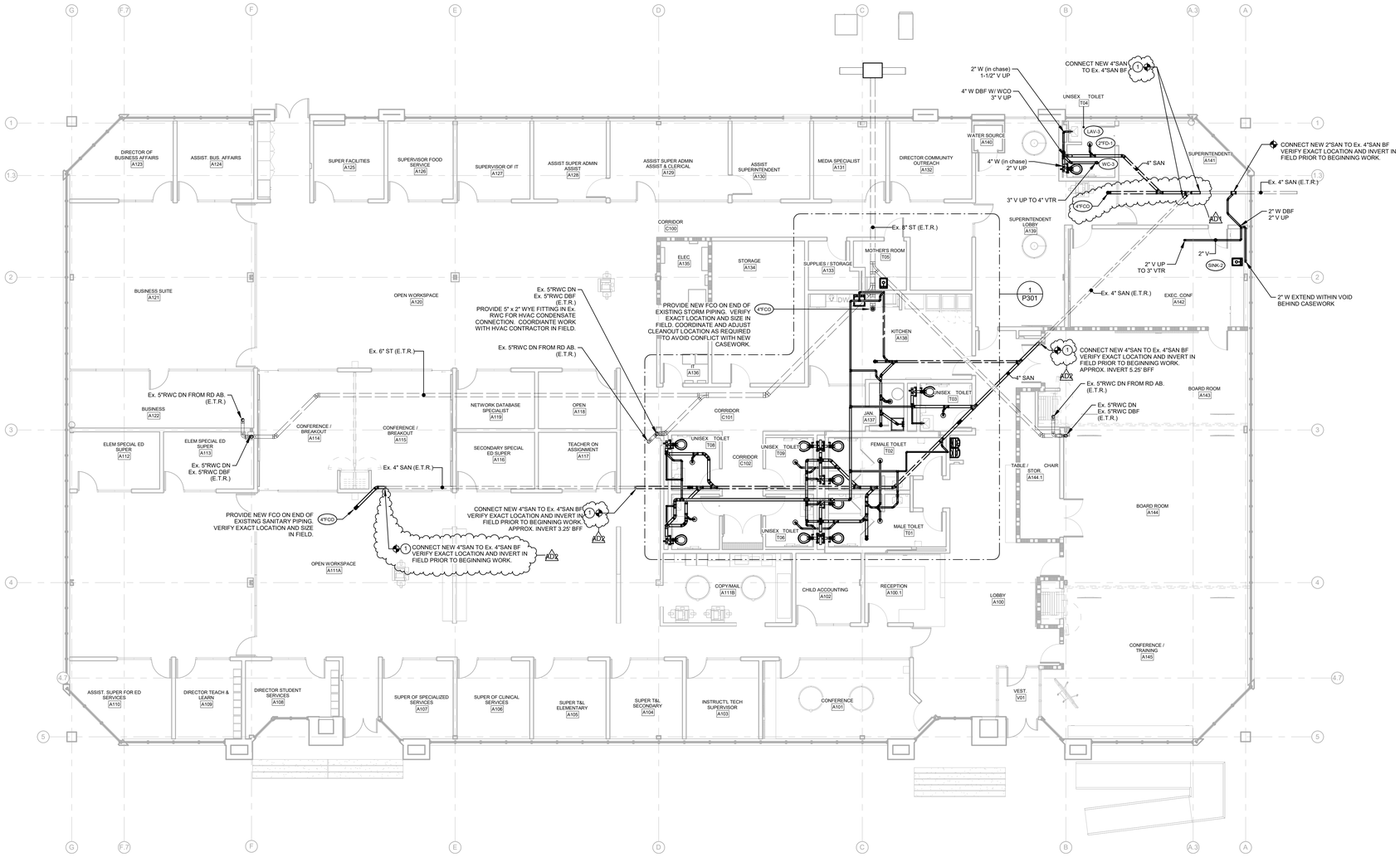
DATE: 12/21/2022

SG PROJECT NUMBER: 22-025

Key Plan:

Drawing Title:
FIRST FLOOR PLAN - MECHANICAL

Drawing Number:
M100



1 FIRST FLOOR PLAN - DRAINAGE & VENT
P101 SCALE: 1/8" = 1'-0"

PLUMBING DRAWING NOTE LEGEND	
1	CONTRACTOR SHALL PROVIDE *APPROVED* FITTING FOR CONNECTION OF NEW PVC PIPING TO EXISTING CAST IRON PIPING BELOW SLAB. VERIFY SIZE AND LOCATION IN FIELD.

AD1

True Project

0' 2' 4' 8' 16' 24'

BID DOCUMENTS

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AD1	ADDENDUM #1	01.04.23
AD2	ADDENDUM #2	01.12.23

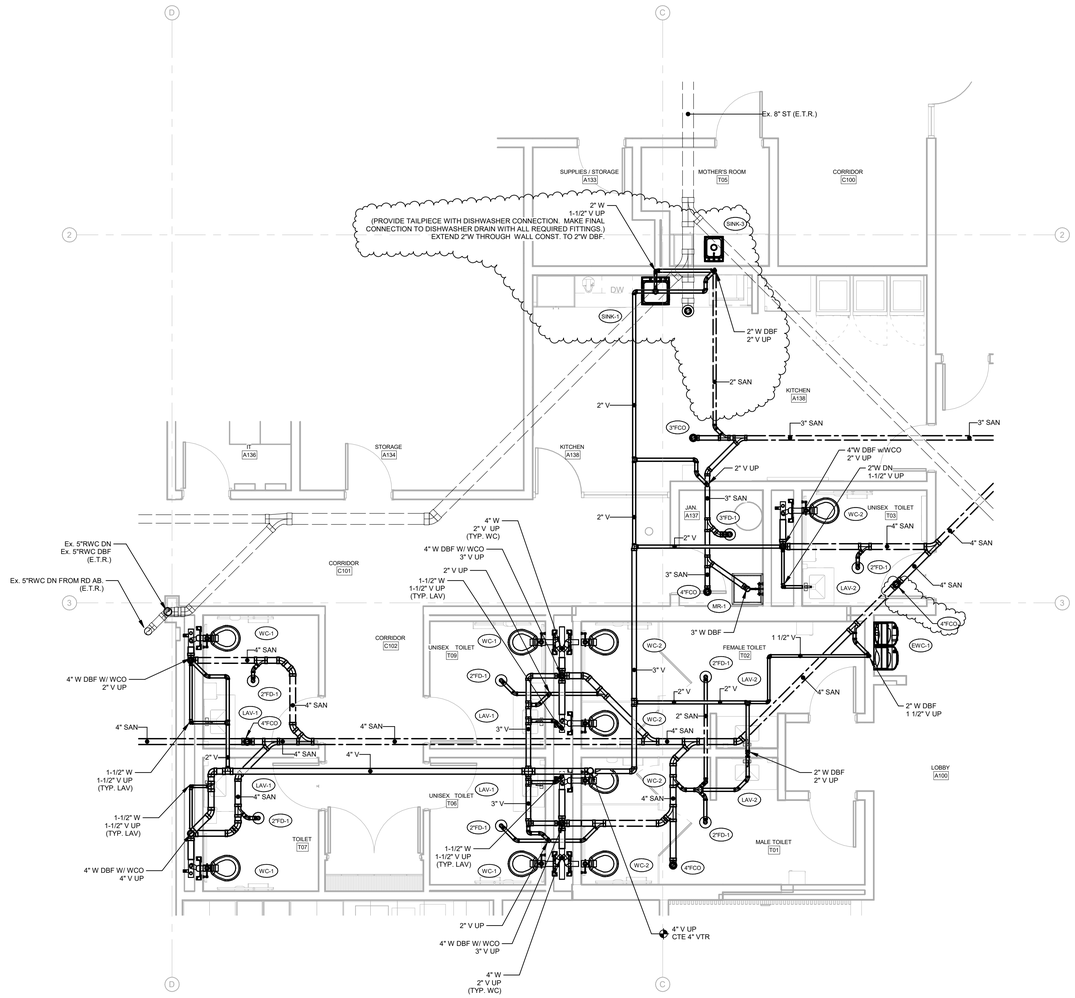
DATE: 12/21/2022

SG PROJECT NUMBER: 22-025

Key Plan:

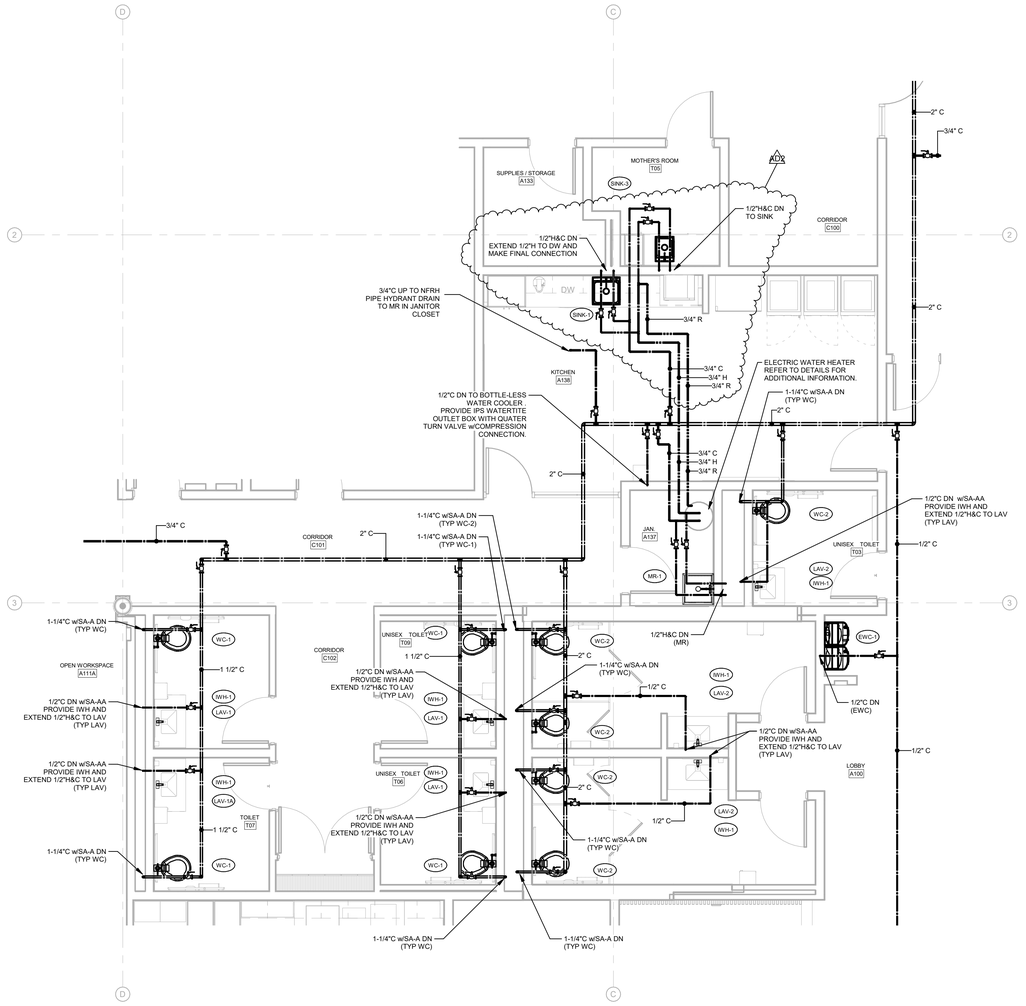
Drawing Title:
FIRST FLOOR PLAN - DRAINAGE & VENT - PLUMBING

Drawing Number:
P101



1 ENLARGED PLAN - DRAINAGE & VENT

P301 SCALE: 1/4" = 1'-0"



2 ENLARGED PLAN - SUPPLY

P301 SCALE: 1/4" = 1'-0"

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Renovations to:
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ISSUED FOR:

NO.	DESCRIPTION	DATE
AD1	ADDENDUM #1	01.04.23
AD2	ADDENDUM #2	01.12.23

DATE: 12/21/2022

SG PROJECT NUMBER: 22-025

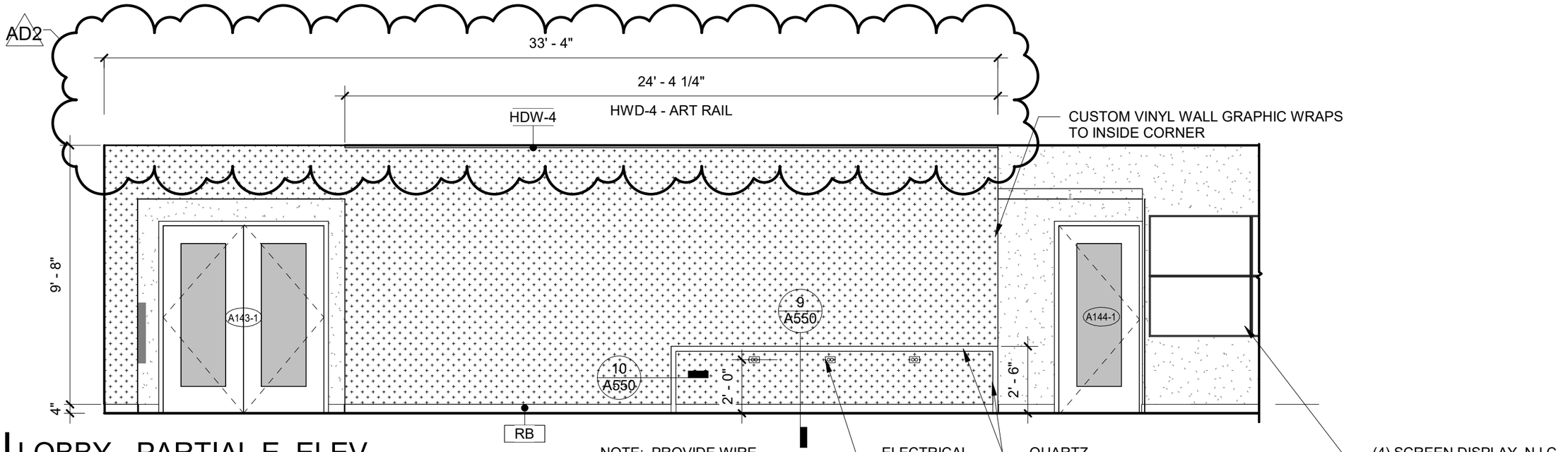
Key Plan:

Drawing Title:
ENLARGED PLANS - PLUMBING

Drawing Number:
P301

N
True
Project
0' 2' 4' 8' 12'

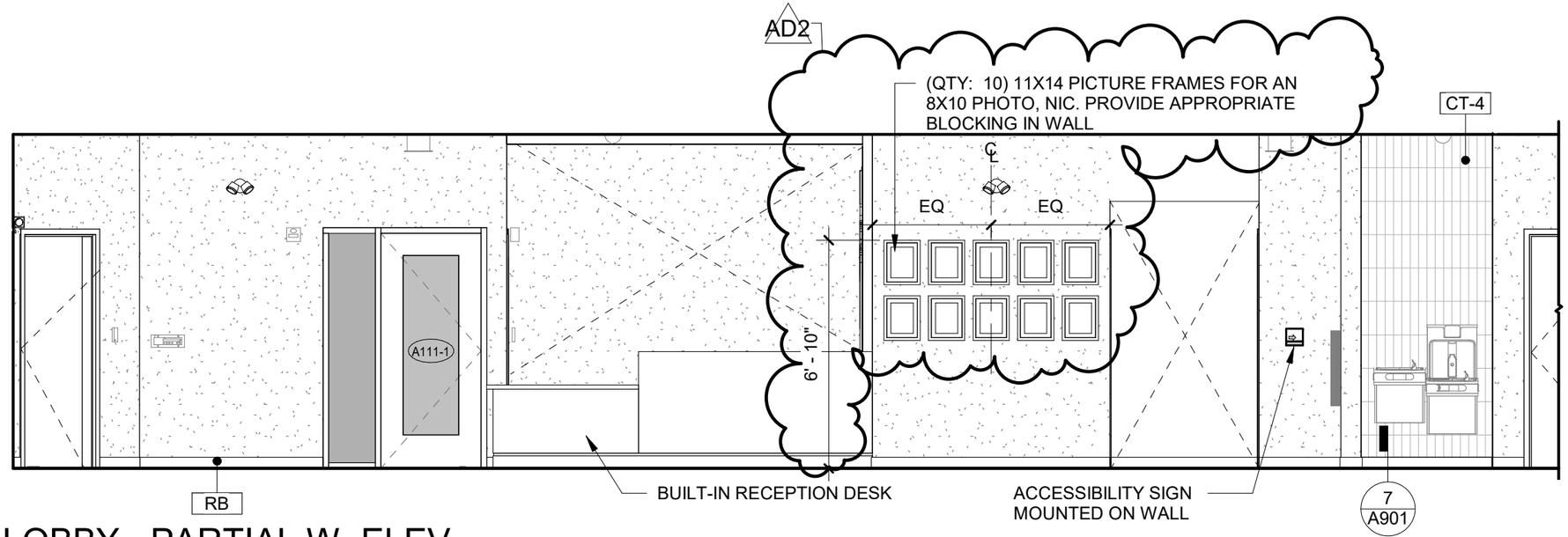
BID DOCUMENTS



1 LOBBY - PARTIAL E. ELEV

AD2
A01

SCALE: 1/4" = 1'-0" REF. 7/A810



2 LOBBY - PARTIAL W. ELEV

AD2
A01

SCALE: 1/4" = 1'-0" REF. 8/A810

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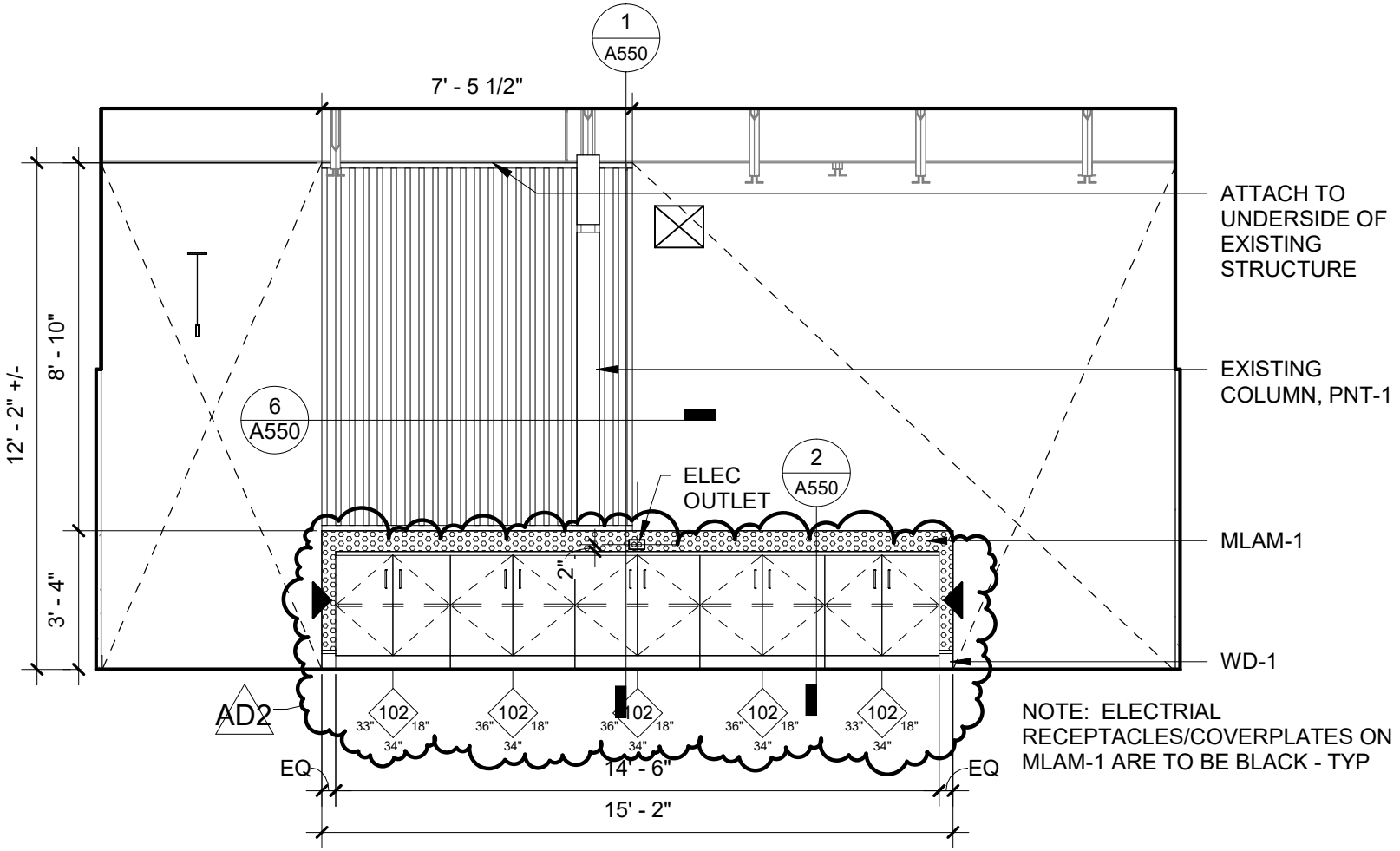
New Construction of:
GVSD - DISTRICT ADMINISTRATION
OFFICE
100 LINDENWOOD DRIVE
MALVERN, PA 19355

Drawing Title:
MODIFICATIONS TO LOBBY
ELEVATIONS

Date: 01/11/23

Scale: 1/4" = 1'-0"

Drawing Number:
AD2
A01



1 OPEN WORKSPACE - W. ELEV

AD2
A02

SCALE: 1/4" = 1'-0"

REF 8/A806

AD2
A02
Drawing Number:

Drawing Title:
MODIFICATION TO CASEWORK IN OPEN WORKSPACE A111A

Date: 01/11/23

Scale: 1/4" = 1'-0"

New Construction of:
GVSD - DISTRICT ADMINISTRATION OFFICE

100 LINDENWOOD DRIVE
MALVERN, PA 19355

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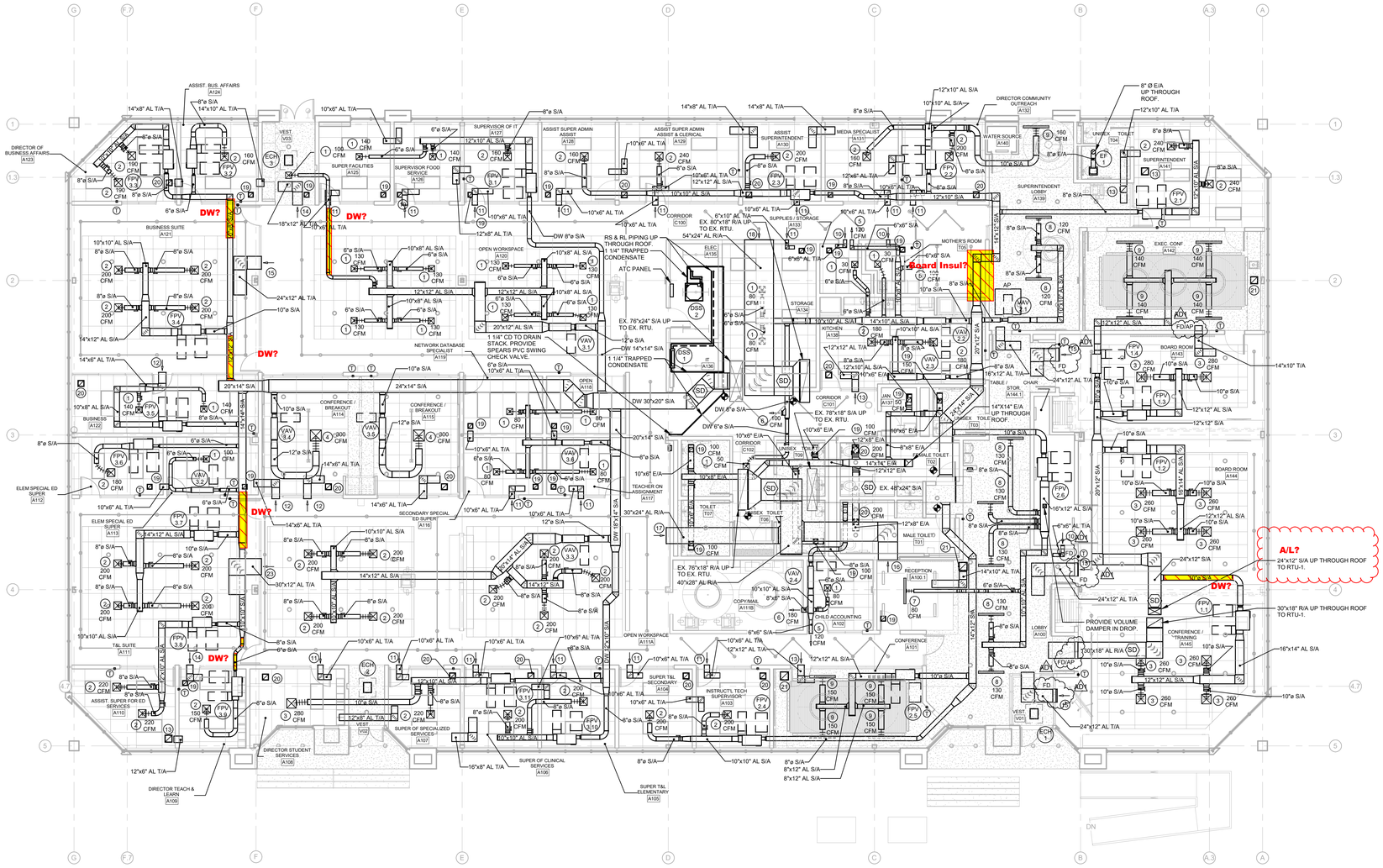

1 FIRST FLOOR PLAN - MECHANICAL
M100 SCALE: 1/8" = 1'-0"

QUESTION 3.013

NOT FOR CONSTRUCTION - ISSUED FOR BID FROM BIDDER

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DATE: 12/21/2022

SG PROJECT NUMBER: 22-025

Key Plan:

Drawing Title:
FIRST FLOOR PLAN - MECHANICAL

Drawing Number:
M100

True Project

0' 2' 4' 8' 16' 24'