STUDIOS
ARCHITECTURE
MASTER PLANNING

410.344.1460

10839 Philadelphia Road
White Marsh, Maryland 21162

ADDENDUM NO.2

PROJECT:	**Cumru Fire Department**	**MWS PROJECT NO:**	18-036
ADDRESS:	1775 Welsh Road Mohnton, PA 19540	**DATE:**	1/5/2024

The following changes shall be incorporated into the work in accordance with all general requirements as if incorporated in the original documents.

INFORMATION:

1) Last day for bid RFI's shall be January 22nd, 2024 by 12 noon EST.
2) See attachment for pre-bid sign-in sheet.

CHANGES TO DRAWINGS:

1) Replace the following drawing M201 FIRST FLOOR PLAN – HVAC PIPING with revised drawing **M201 FIRST FLOOR PLAN – HVAC PIPING, dated 01/05/2024 Addendum #2**.
2) Replace the following drawing M301 PART FLOOR PLANS HVAC with revised drawing **M301 PART FLOOR PLANS HVAC, dated 01/05/2024 Addendum #2**.
3) Replace the following drawing M402 MECHANICAL SECTIONS with revised drawing **M402 MECHANICAL SECTIONS, dated 01/05/2024 Addendum #2**.
4) Replace the following drawing M501 MECHANICAL DETAILS with revised drawing **M501 MECHANICAL DETAILS, dated 01/05/2024 Addendum #2**.
5) Replace the following drawing M502 MECHANICAL DETAILS with revised drawing **M502 MECHANICAL DETAILS, dated 01/05/2024 Addendum #2**.
6) Replace the following drawing M701 MECHANICAL SCHEDULES with revised drawing **M701 MECHANICAL SCHEDULES, dated 01/05/2024 Addendum #2**.
7) Replace the following drawing E101 FIRST FLOOR PLAN POWER with revised drawing **E101 FIRST FLOOR PLAN POWER, dated 01/05/2024 Addendum #2**.
8) Replace the following drawing E201 FIRST FLOOR PLAN LIGHTING with revised drawing **E201 FIRST FLOOR PLAN LIGHTING, dated 01/05/2024 Addendum #2**.
9) Replace the following drawing E301 PART FLOOR PLANS - ELECTRICAL with revised drawing **E301 PART FLOOR PLANS - ELECTRICAL, dated 01/05/2024 Addendum #2**.
10) Replace the following drawing E501 ELECTRICAL ONE-LINE DIAGRAM with revised drawing **E501 ELECTRICAL ONE-LINE DIAGRAM, dated 01/05/2024 Addendum #2**.
11) Replace the following drawing E602 PANEL SCHEDULE with revised drawing **E602 PANEL SCHEDULE, dated 01/05/2024 Addendum #2**.

12) Replace the following drawing E603 PANEL SCHEDULE with revised drawing **E603 PANEL SCHEDULE, dated 01/05/2024 Addendum #2**.

CHANGES TO SPECIFICATIONS:

1) Replace the following specification section 01 2200 Unit Prices with revised specification section **01 2200 Unit Prices, dated 01/05/2024 Addendum #2**.
2) **Delete the following specification section in its entirety: 00 4393 Bid Submittal Checklist.**
3) Add the following specification section in its entirety: **00 4400 - Information Furnished by Bidder, dated 01/05/2024 Addendum #2.**

BIDDER QUESTIONS & RESPONSES:

1.) QUESTION: On mechanical bid set drawing M-201 references heating piping schematic 1 on M-302. M-302 is not in the bid set. Can you get this out in an addendum?

RESPONSE: The note on M-201 will be revised to reference heating water piping schematic detail 4 on M-502. Refer to addendum #2 drawings for additional information.

2.) QUESTION: Subject 'Fire Meter Pit'; Appendix D, Letter J read as the Plumbing Contractor is responsible for all water and structures. Please clarify.

RESPONSE: Remove 'Fire Meter Pit' scope from Appendix D. 1A Prime is responsible for installation of water meter pit.

3.) QUESTION: Will there be detailed Fire Protection drawings issued? We only see some of it on the plumbing drawings.

RESPONSE: Fire protection drawings shall be provided by the sprinkler contractor as delegated design. Fire protection system shall be in accordance with P001 and P403.

4.) QUESTION: Please provide the wages for this project. They are not in the specifications. Thank You

RESPONSE: See specification section 00 4400a Cumru Fire Station Prevailing Wage Rates.

5.) QUESTION: Please confirm that there is NO FIRE PROTECTION on this project. Thank You.

RESPONSE: Fire protection is required. Provide fire protection as shown on P001 and P403.

6.) QUESTION: Please specify which documents are to be submitted with the Bid Form. There is a conflict between what is listed on the Bidders Checklist (sec 004400) vs. Bid Submittal Checklist (sec 004393).

RESPONSE: Delete section 00 4393 Bid Submittal Checklist. Bidders to use section Bidder's Check list 00 4400.

7.) **QUESTION:** 23 8300-2.1-A states one of the listed manufacturers must furnish, install, commission and warrant the radiant floor heating system. Is this correct as the manufacturer normally does not install the system?

RESPONSE: Contractor shall coordinate the entire radiant system installation with the system equipment provider per specification section 238300 3.1 A.

8.) **QUESTION:** The owner pays for the General (non-trade) Building permit. Will this include the HVAC permit and inspection fees?

RESPONSE: Trade permits and inspection fees, (such as inclusive of the HVAC permit and inspection fees) are paid by the contractor(s) whose work requires such permitting and inspections.

9.) **QUESTION:** Who provides temporary heat and fuel usage charges when the building is fully enclosed but prior to the operation of the permanent heating systems?

RESPONSE: The prime whose work that requires a heated space is responsible for the temporary heating of that space in the event the permanent mechanical system is not yet operational.

10.) **QUESTION:** Are there any domestic material requirements for this project?

RESPONSE: See project specification manual.

11.) **QUESTION:** Will the mandatory pre-bid sign in sheets be provided?

RESPONSE: See pre-bid signing sheet included within this addendum.

12.) **QUESTION:** The bid documents have the MC priming and painting boiler room and mechanical room floors. This should be under the GC scope of work. If by the MC do the following areas require painting the floor: Mechanical Rooms 115.1 & 122, Utility Room 156, East & West Mezzanines? Dose this apply to any other areas?

RESPONSE: The above mentioned rooms and spaces shall have a sealed concrete floor per Finish Plan A105. 1A General Contractor shall be responsible for coordination and installation of sealed concrete in all rooms listed in the above question.

13.) **QUESTION:** May manufacturers equipment other than those listed be submitted for approval as an equal after the bid is awarded?

RESPONSE: Equipment other than those listed within the specifications must be approved via the substitution process, per specification section 01 2500 – Substitutions.

14.) **QUESTION:** Is under slab insulation required for the radiant floor heating and if so who provides and what type?

RESPONSE: See drawings A103, A104, A300's, A405 and specification section 07 2100 Thermal Insulation.

15.) **QUESTION:** Mechanical General Note 22 on M001 states that exposed piping in finished areas is to get a 16 ga. steel, primed and painted cover. Are the areas under the Mezzanines and on the Mezzanines where there are no ceilings to be considered as finished areas and applicable to this Note?

RESPONSE: Correct, the mezzanines and spaces under the mezzanines are considered finished areas. Piping shall be provided per note 22 on M001 in these locations

16.) **QUESTION:** Is Valent the only acceptable manufacturer for the DOAS unit?.

RESPONSE: Refer to the addendum drawings for additional information on DOAS unit manufacturer. Refer to previous question response for equipment substitutions.

17.) **QUESTION:** The Breeching specifications list flue venting and combustion air intake for condensing and non-condensing equipment. The boiler specs list additional types of venting, the water heater specs list none. Which spec applies? What sizes are the boiler and water heater venting? Do the boiler and water heater get combustion air piping and if so what sizes? Also the DOAS has no reference to venting. What size venting and what type?

RESPONSE: Provide boilers with manufacturer's concentric venting kit boiler schedule note on M702. Provide and configure venting for water heater per manufacturer's recommendations. Refer to addendum drawings for additional information on DOAS venting.

18.) **QUESTION:** What material is the dryer venting to be?

RESPONSE: Install and configure decon dryer venting per manufacturer's recommendations. Residential style dryer venting shall be rigid sheet metal duct.

19.) **QUESTION:** Who provides the VFD's for PHWP-1&2 and SHWP-1&2?

RESPONSE: VFDs shall be provided by the 16A Electrical Prime Contractor.

20.) **QUESTION:** Which trade provides the mechanical louvers.

RESPONSE: 15A Mechanical prime, per section 01320.4 – Appendix C – Contract Package for 15A Mechanical.

21.) **QUESTION:** Does the round ductwork within 25' of the ACU's and concealed get wrapped externally or is it to be double wall with liner?

RESPONSE: Omit insulation on ductwork where internal insulation or sound lining has been specified per specification section 230700 3.6 B.

22.) **QUESTION:** Is the double wall round duct to have a perforated inside wall or solid wall?

RESPONSE: Double wall round ductwork shall have solid inside wall.

23.) **QUESTION:** There is not a light fixture type shown in room 129.1.

RESPONSE: Type B1 light fixture to be provided as shown on Addendum 2.

24.) **QUESTION:** There is not a light switch shown in room 129.

RESPONSE: Light switch to be provided as shown on Addendum 2.

25.) **QUESTION:** There is an 800 amp fused safety switch shown on the exterior wall on drawing E002 that shows a note 5 next to it. There is also an 800 amp fused safety switch shown on drawing E301 that shows a note 11 next to it in the electrical room. Is this a duplicate?

RESPONSE: Yes, duplicate safety switch shown on drawing E301 to be removed.

26.) **QUESTION:** There doesn't appear to be any power on the electrical drawings for the garage doors.

RESPONSE: Power for garage doors shall be provided as shown in Addendum 2.

27.) **QUESTION:** Drawing E501 shows the utility transformer secondary conductors by Met-Ed. This is not typical with Met-Ed. Please advise if this is correct.

RESPONSE: Secondary conductors shall be by 16A Electrical Prime Contractor. Refer to revised drawing E501 in Addendum 2

28.) **QUESTION:** There are spec sections for unit prices and alternates, but they are not shown on any bid forms. Do these only apply to contract 1A?

RESPONSE: All bidding contractors shall fill out applicable Unit Price Form 00 4322, and Alternate Form 00 4323 as supplement form submitted with bid package.

29.) **QUESTION:** Detail 1 on drawing E402 shows a concrete apron around hand holes. What size hand holes is this typical for? Does this apply to smaller 12" x 12" x 12" hand holes that we use for site lighting fixtures?

RESPONSE: Not applicable to 12”x12”x12” handholes. Concrete apron applies to larger power distribution handholes noted on E002.

30.) **QUESTION:** Appendix E - 01 1320E item EEE states that all costs associated with the utility company be paid by contract 16A. Since these costs are not known at this time, can you add an allowance to the bid documents to cover this cost?

RESPONSE: Utility company cost shall be billed against 16A allowance listed within the Allowances section 01 2100.

31.) **QUESTION:** Is concrete encasement required for the primary and secondary electrical duct banks?

RESPONSE: Concrete encasement required for the primary electrical duct bank.

32.) **QUESTION:** I'm writing to request that Advanced Enviromation Inc. of Fleetwood, PA be considered as an acceptable bidder for division 230900 of the Cumru Fire Department project using an open protocol BMS system by Honeywell. The system offered will utilize Tridium's Niagara N4 operating system which is market leader for open-protocol BMS systems. Advanced Enviromation Inc. is a local firm in close proximity to the project site and they we the experience and capability to meet

the requirements of this project. We have been in business over 10 years and our combined experience with Honeywell BMS products exceeds 50 years. For further information you may visit their website at https://advenviromation.com

RESPONSE: Submit substitution request per substitution requirements per section 01 2500 Substitutions.

33.) **QUESTION:** Specification 0021413 1.1 B tells us the owner is paying for the general building permit. Does the permit cost include (or will the owner pay for) any third party testing required as part of the permit? If not, please provide the inspections required by the permit so we can price accordingly.

RESPONSE: Contractor responsible for the cost of all inspections required as part of the permit, minus the cost of inspections to be covered by Owner's third party testing agency as listed within the contract packages specification section and further clarified in this addendum.

34.) **QUESTION:** The unit costs spec section 012200 lists UPs 1 to 6. The unit prices from 004322 has two additional unit costs. Please add and provide descriptions for the two additional unit prices to the unit price spec.

RESPONSE: See revised specification section 01 2200 Unit Prices, included within this addendum.

35.) **QUESTION:** Will the owner be providing the Builder's risk / All risk? If no do each of the primes need to provide this insurance?

RESPONSE: The Township to be responsible for the builder's risk policy. All contractors should be responsible for their liability insurances, as outlined within the project specifications.

36.) **QUESTION:** Spec 011320A, 1.5 says the testing for soil compaction, structural steel, and concrete are under contract 1A. Spec 011320A 1.66.E says all earthwork, excavations, trenching, and backfilling shall be tested by an owner provided geotechnical engineer/testing agency. Is soil compaction not part of the earthwork testing? Please clarify what testing the general contractor should include and what testing the owner will provide.

RESPONSE: Owner provided geotechnical testing shall include all earthwork, excavations, trenching, backfilling, and compaction.

37.) **QUESTION:** Spec section 011320A 1,1 says the owner will provide land surveyor, control points, column lines, and site improvement layout. Spec 011320B 1.1.F.1 says the GC must provide a third party surveyor to provide all site and building surveys. This seems to contradict. Are both the owner and the GC to provide and pay for a surveyor? Please clarify.

RESPONSE: Prime contractors to provide all surveying work not provided by Owner third party surveyor.

38.) **QUESTION:** Spec section 011320B item HH.3 requires the GC to protect 50% of the floors with Masonite & craft paper. Can a floor protection board with taped seems, such as RAM Board, be used in lieu of the two part Masonite/Kraft paper method?

RESPONSE: Alternate protection methods can be implemented, as long as the floor surface in question is adequately protected from all construction activities.

39.) **QUESTION:** Spec 011320C page 6 ZZ says the HVAC prime is to provide temp heat utilizing the permanent system after the building is enclosed. Please confirm building enclosure includes temp window closings. Also please confirm if the HVAC contractor does not have the permanent system ready for temp heat they would need to provide temporary units as to not hold up the other primes.

RESPONSE: Building enclosure is defined by the use of temporary window and door closings. In the event that the mechanical system is not in place to be turned on to supply heat temporary heat and ventilation the contractor who requires heating and or ventilation will be responsible for providing their own heating and or ventilation to preform and protect their work appropriately.

40.) **QUESTION:** Please confirm the owner will pay any utility company costs for new service. These are typically billed to the customer directly.

RESPONSE: Utility cost billed directly to customer will be covered by the Township. Utility company cost attributed to work relating to the coordination and efforts of the contractor that are not billed directly to the Township will be covered by that of the contractor, and drawn upon from the indicated contractor allowances.

41.) **QUESTION:** Spec 081416, 1.5, A requires FSC-accredited certification. Is this required on this project? Please confirm there are not any LEED certification requirements with the bid.

RESPONSE: FSC accreditation required per specification requirements. This project is not a LEED project and therefore not LEED certification requirements.

42.) **QUESTION:** Addendum 1 Q&A 7 lists "subs and FEIN numbers" and the response says "this shall be submitted with the bid". What is this specifically referring to? I did not see a sub list required to be submitted.

RESPONSE: A list of expected subcontractors is on the Information to be Furnished by Bidder (IFB) form in the owner's documents section and included within this addendum. Each bidding prime contractor to attach this form with bid submission.

43.) **QUESTION:** What is the anticipated NTP or start date? I only see the project duration listed in the specs.

RESPONSE: NTP will be determined after the apparent low bidder has been identified. NTP is anticipated to be released 60-90 days after bid award.

44.) **QUESTION:** I see the site is unclassified and we have unit costs for rock and soils. Please confirm we own to design depths and anything beyond design depths will be paid by unit costs. Otherwise the excavation is left open ended with no depth to base the bid on.

RESPONSE: Base bid of excavation is design depth. Excavation that exceeds design depth shall be priced based on established unit prices, and billed against allocated allowances for each prime contractor.

45.) **QUESTION:** Page 1 of the prevailing wages lists the project classification as "Building/Highway". Typically we see on or the other and not both. The same work classifications are listed under both building and highway with different wage rates. for example carpenter for 2024 under building is a total of 54.28 but under the highway section carpenter for 2024 is a total of $55.81. Our payroll accountant is not sure which to use since both classifications are listed on page 1. Is the highway rate to only be used on work on or in the public road right a way? Please clarify which wages are to be used where.

RESPONSE: The PA Wage Rate website lists the following descriptions for the project classifications: Depending on the public works project, Labor & Industry issues these rates:

- **Building-Construction of sheltered enclosure with a walk-in access for housing people, equipment or supplies and includes utility installation, equipment and incidental grading and paving. The structure does not have to be habitable.**
- **Highway-Includes the construction, alteration or repair of roads, streets, highways, taxiways, alleys, trails, paths, parking areas and other projects which are not incidental to building or highway construction.**
- **Heavy-Projects that may not be classified as building, highway or residential. Examples include: Antenna towers, Bridges, Dams, Demolition that is not necessary for building construction, Pipeline installation, Subways, Sewage installation not necessary for building.**
- **Residential-Includes detached single-family home, single unit in condominium, unit in duplex, and a single townhouse.**

Based on this information, the contractors should be using the "Building" rate schedule.

46.) **QUESTION:** Drawing E501 shows that the conductors from the transformer to the CT cabinet are by Met ED. I believe that Met-Ed will require that we provide the secondary conductors. Can you

confirm that these conductors are by Met-ED, and if not Can you provide conductor sizes for the secondary service?

RESPONSE: Provide (2) sets of 4#600kCMIL and 1#3/0 ground.

47.) QUESTION: Drawing E501 shows that the conductors from the transformer to the Fire pump breaker to be #8 wire connected to a 150-amp breaker. The NEC will not permit #8 wire to be fused at 150 amp. Should the 150 amp disconnect be smaller, should the wire be rated for 150 amp?

RESPONSE: Provide #1/0 wiring per Addendum 2.

48.) QUESTION: Please consider extending the RFI deadline to 1 week prior to the bid date with the last addendum a few days prior to the bid date. Subcontractors and suppliers typically get into a project much closer to the bid date and this will leave everyone guessing at things that are not clear if we are unable to submit questions the last two weeks of the bid period.

RESPONSE: Last day for bid RFI's shall be updated to January 22, 2024, by 12 noon.

49.) QUESTION: Please conside4r moving the bid date away form a Monday morning at 10AM. This will not allow much time to finalize a bid because subs and suppliers will wait until the bid day to submit pricing making more room for error if primes are rushed to put together their packages. An afternoon bid, not on a Monday, will result in better pricing for the owner.

RESPONSE: Bid submission date will remain the same.

50.) QUESTION: We have several questions concerning the items to be submitted with the bid including concerns form our bonding company. There are 2 checklists (00 4393-1 and 00 4400 BCL20-1). Both appear to required we submit a lot of information that is usually not required with a bid. For example they are asking we submit the P&P Bond, Maintenance Bond, & Stipulation Against Liens and these are all documents that are only issued upon award of a project. In addition they are asking for our bonding company to provide their financial statement which is not common practice. Another requirement is that we are to provide names and EIN's for all of our Subs that are going to work on the project. We will not know these until we are awarded the job and do final scope reviews with the low bids. Being a public bid the subcontractor list should not be required with the proposal. In addition, I don't understand what they mean by item 3 "information to be furnished by the Bidder". Is this a typo? I'm also not sure what item 7 is. They state a AIA Bid Bond is required but also say that the Bid Bond is to be their "special form" and included that in the specs. Which version are we to use?

RESPONSE: Delete section 00 4393 Bid Submittal Checklist and use section 00 4400a Bidder's Checklist section. Provide expected subcontractors information per section 00 4400 - Information Furnished by Bidder, included within this addendum. Item #7 to be filled out if bidding prime

contractor will be conducting site work activities. Bidders may submit Bid Bond on either AIA generated material or via form included within specifications.

51.) QUESTION: Please confirm the following windows are not to receive shades: Room 143 Engineer - window SF8, Room 109 Watch Office - exterior window SF-5 and interior window W3, SF-7 windows above the corridor and the apparatus bays, interior storefronts, toilet rooms noting E7 shades (none are shown).

RESPONSE: Window shades are to be provided per drawing A108.

52.) QUESTION: Can you please describe the substitution process? Per the specs we are to fill out the substitution request form and submit product data but there is no way to upload these documents to PennBid.

53.) **RESPONSE: Bidders should fill out the substitution request form as per the instructions in the specifications. PennBid project portal offers an area to upload documents under the "Requested Information" section. Under Supporting Documents there is a space for "Required Documents," which should be used for the owners documents from the Bidder's Checklist, and there is a space for "Supporting Documents," which should be used for any additional forms. Both spaces accept any file extension type and/or multiple files. If there are a large number of files, we can accept compressed archives, although not preferable.**

54.) QUESTION: On A600 door elevations for Storefront show G3, which shows a 8" Mis Rail, but there is no mention of this in the specification. How should I Bid? Also it drawn as a wide stile door, but specs call door Medium stile

RESPONSE: Provide G3 door type per elevation drawing on A600.

55.) QUESTION: Pertaining to Specification Section 064116 – Plastic-Laminate-Faced Architectural Cabinets_2.2 Wood Materials_B.1. Medium-Density Fiberboard: Can Case Systems Industrial Grade 45lb. Density Particleboard Core Material be used in lieu of MDF?

RESPONSE: No.

56.) QUESTION: may sch. 40 PVC be used for the above ground Sanitary and venting in lieu of the specified no hub Cast Iron

RESPONSE: No exception to the use of PVC piping as long as it not located in a return plenum and approved by the owner. Cast iron shall be used in return air plenums.

57.) QUESTION: may sch. 40 PVC be used for the underground Sanitary in lieu of the specified Hub and Spigot Cast Iron?

RESPONSE: No.

58.) **QUESTION:** I am confused by notes 5 and 6. which contract is responsible for the pipe that is shown to 5' off the building? and which contract is responsible to provide the downspout boots? Please clarify.

RESPONSE: 1A Prime responsible for downspout, downspout boot piping, and stormwater piping from boot.

59.) **QUESTION:** P301 / detail 8 for the downspout, shows the storm pipe to be SDR 35 piping, where spec section 22 1413 calls for the UG storm to be Hub and Spigot Cast Iron. please clarify which material is to be used, along with which contractor is responsible for the boot and pipe as from the earlier question.

RESPONSE: Downspout boot shall be hub and spigot cast iron and stormwater piping shall be PVC.

60.) **QUESTION:** Who owns the vinyl fence around the generator pad, GC or EC? Can a spec be provided for this product?

RESPONSE: 1A Prime Contractor owns fence. See A113 for fence basis of design.

61.) **QUESTION:** Clarification is needed on what is desired for detail 4/A114, is this internally like detail 3?

RESPONSE: 4/A114 is not internally lit like 3/A114. No lighting element for "east gable" dragon sign.

62.) **QUESTION:** At the prebid it was mentioned that the community building where the prebid was help would be used by all prime contractors in lieu of job trailers. Spec section 011320G, 1.1, C. 3, says that the GC owns a job trailer large enough for meetings. Please clarify if this trailer is required or if we can utilize the adjacent building per the prebid discussion. Additionally, it was also mentioned that the bathrooms in this building could be used in lieu or portable toilets. Please clarify.

RESPONSE: Community building can be used by all prime contractors in lieu of job trailers. Contractors will also have use of the community building bathrooms.

63.) **QUESTION:** In the insurance section of the General Conditions, it states that Professional Liability & Pollution Liability are required. Could you please confirm whether these requirements pertain to all scopes of work for this project.

RESPONSE: These requirements pertain to all scopes of work for this project.

64.) **QUESTION:**

1. Details A&B/S402 call for exposed steel to be powder coated. Are you able to provide information on the extent, specification, color, etc.?

2. Detail 13 & similar/S404 call for AES "Architecturally Exposed Structural Steel". Are you able to provide information on the extent, category, specification, color, etc.? From what I can tell, the (19) HSS Trusses and HSS6x6x1/4 (East-West) beams require AESS. Please Advise.

3. Do the Columns need to be AESS? If so, to what extent?

4. Does any of the lower framing at or between Line-B or Line-D require AESS?

5. Details 1&2/S404. Do the awning angle brackets require galvanizing or any other coating above regular primer?

RESPONSE:

1. Extent of powder coating is that of the steel shown is for the HSS 8x3 columns, 24”x28” steel plates, and associated anchor bolts. Color will be selected during construction.

2. Correct. Columns and trusses within Corridor 131 to AESS Category 1 (AESS C/1). Steel to be pained in field, color to be selected during construction.

3. Clarify location of “columns” or see above comment.

4. Lower framing members HSS 6x6x1/4, W10x22, HSS 4x4x1/4, and W10x22 within Corridor 131 at B/D line to received AESS Category 1 (AESS C/1).

5. Regular primer only.

65.) QUESTION: Please confirm each prime is responsible to provide their own lintels (not clearly shown on the structural drawings) for the GC's mason to install. Each prime to provide locations and layout prior to wall construction.

RESPONSE: Each prime is responsible to provide lintels under the following circumstances: As the lintels pertain to their own work and if said lintel is not illustrated within the structural drawings. Each prime to reference lintel opening and spanning criteria to determine if openings caused by their scope of work will require lintels. Each prime to provide coordinated drawings and layouts prior to wall construction. 1A General Prime to manage the collection and final coordination of all prime coordination drawings prior to wall construction.

66.) QUESTION: Spec section 011320D, HHH. clarifies that downspout boots, interior and exterior are by the PC. The details on page A900 indicate that these are by the GC. Please clarify

RESPONSE: Cast iron downspout boots per spec section 22 1413 and details on A900 are by 1A General Prime Contractor.

ATTACHMENTS:

1.) Addendum No.2 – Drawings

2.) Addendum No.2 – Specifications

END OF ADDENDUM

Copy 1/3

PREBID MEETING SIGN-IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
A.H. Cornell and Son Inc.	1A	
A.N. Lynch Co., Inc	16A	
A.T.O. Excavating, Inc.	1A	
Aaaju	15B	
Airmanagement Technologies, Inc	15A	
AIS dba Heisey Mechanical	15A	
AJM Electric, Inc.	16A	
ARMOUR & SONS ELECTRIC, INC.	1A	
Balton Construction	1A	Jefcoac Moraele
Bancroft Construction Company	1A	
Barker & Barker Paving	1A	
Berg Construction, LLC	1A	
Bracy Construction	1A GC.	Michael S. Sorpa.
C.B. Structures Inc.	1A	
C.M. High, Inc.	1A	
Cambridge LTD	1A, 15A, 15B, 16A	
Carp Excavating Inc.	1A	
CB Construction Services, Inc.	1A	
CMG of Easton, Inc.	1A	
Consolidated Engineers	15A	
Construct Connect	1A, 15A, 15B, 16A	
Construction Masters Services, LLC	1A	
D&M Construction Unlimited Inc.	1A	
Degler- Whiting, Inc	1A	
Delaware Environmental Construction Services	1A	
DESCCO Design & Construction, Inc.	1A	
Designblendz, LLP	1A	
Dodge Data & Analytics	1A, 15A, 15B, 16A	
Dual Temp Company, Inc.	15B	
Dutchland LLC	1A	
Dvorak, LLC	16A	
DW Security	16A	

PREBID MEETING SIGN-IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
Dynatech Controls, Inc	15A	
E R Stuebner Inc	1A	
Ebersole Brothers Construction	1A	
eciConstruction LLC	1A	
Ecotone,LLC	1A	
EFCO Concrete Forming Systems	1A	
Fox Tapping, Inc.	1A	
Fronm Electric	16A	
Garden Spot Mechanical	15A, 15B	
Green Building Engineers	15A	
H&K Group, Inc.	1A	
H&P Construction, Inc	1A	
Harnden Construction Services	1A	
HBFrazer Company	16A	Gary Henue HBFrazer
Hirneisen Electric, Inc.	16A	KEVIN SNYDER HEI
I.B. Abel, Inc.	16A	
IPS Contracting Services	1A	
Irish Creek Enterprises, Inc.	1A	Patricia Jomarron + Dave Phillips
JOSEPH F. O'HORA & SONS, INC.	15A	
Kalkreuth Roofing and Sheet Metal	1A	
Kinsley Construction, Building PA	1A	
Kinsley Construction, Sitework PA	1A	
LA Building Contractors	1A	
Lauer Construction Services	1A	
LRC Construction - Consultants, Inc.	1A	
M&M Facility Services LLC	~~1A~~, 15A	MATT BOBB
M3T Corporation	1A	
Martins Construction LLC	1A	
McClure Company	15A	
Michael Symbula Electrical Contractor	16A	
Mid Atlantic Pump & Equipment	1A	
MidState Mechanical & Electrical, LLC	16A 15B 15A	Josh Shepps

PREBID MEETING SIGN IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
MNC PENN	15B	
NCI Construction, Ltd	1A	
NESL	1A	
North America Procurement Council Inc., PBC	15B, 16A	
Nutemp Mechanical Systems Ltd.	1A	
PBX	1A, 15A, 15B, 16A	
Pennergy Solutions	1A, 15A	Brandon Kilgore
Pharmaceutical Procurement & Logistics	15A, 15B	
Precision Building Specialties	1A	
Purcell Construction	1A	
PWXPress	16A	
R&S Fence Co	1A	
R. Brooks Mechanical	15A	
randy ohler architect	1A	
RC Construction Associates, Inc	1A	
Redtail Solar, LLC.	16A	
Reel Geotechnical Engineering and Construction	1A	
Resteel gbarron@resteel.com	1A	
Revolt 85 Holding LLC	16A	
S & S Electrical Services / S&S Building Group	16A	Brandi Baker
S.B. Conrad Inc	1A	
Schipsi Electric LLC	16A	
Schlouch Incorporated	1A	
Shannon A. Smith, Inc.	16A	
Shoemaker Trucking & Excavating Inc	1A	
SLC Excavating, LLC	1A	
SMJ Contracting	1A	
SPOTTS BROTHERS INC.	16A	
ssdfdf	15B	
The Kaiser-Martin Group, Inc.	1A	
THE WARKO GROUP	15A, 15B	BOB GARMAN bobg@THEWARKOGROUP.COM
Triangle Fire Protection, Inc.	15B	

PREBID MEETING SIGN-IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
Trinity Subsurface, LLC	15A	
Turnberry Construction Group	1A, 15A, 15B, 16A	
Twining Construction	1A	Bill GRABER Bill@TwiningConstruction.com
Uhrig Construction	1A	
US Solutions	16A	
Verne Reimer Architecture	1A	
Vision Mechanical	15B	Tyler Thompson
Wagman Construction, Inc.	1A	
Wickersham Construction	1A	Norman Chan
Wm. Orr & Sons, Inc.	1A	
YESCO, LLC	1A	
York Roofing Inc.	1A	
Leibold INC.	15A - 15B	Chad Heffner 610.781-1916 chad.heffner@Leiboldhvac.com
CHUCK HERN	717-665-6276	CHERN@GARRETSONMECHANICAL.C
Hystar	28	Derek Bonfessuto DBonfessuto@Hystar.US

COPY
2/3

PREBID MEETING SIGN-IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
A.H. Cornell and Son Inc.	1A	
A.N. Lynch Co., Inc	16A EC	Gary Moore
A.T.O. Excavating, Inc.	1A	
Aaaju	15B	
Airmanagement Technologies, Inc	15A Mech	Bradley Houtz
AIS dba Heisey Mechanical	15A	
AJM Electric, Inc.	16A	
ARMOUR & SONS ELECTRIC, INC.	1A	
Balton Construction	1A	
Bancroft Construction Company	1A	
Barker & Barker Paving	1A	
Berg Construction, LLC	1A	
Bracy Construction	1A GC	Liam Dillon
C.B. Structures Inc.	1A	
C.M. High, Inc.	1A	
Cambridge LTD	1A, 15A, 15B, 16A	
Carp Excavating Inc.	1A	
CB Construction Services, Inc.	1A	
CMG of Easton, Inc.	1A GC	Fred Swiss
Consolidated Engineers	15A	
Construct Connect	1A, 15A, 15B, 16A	
Construction Masters Services, LLC	1A GC	Julia Braun
D&M Construction Unlimited Inc.	1A	
Degler- Whiting, Inc	1A	
Delaware Environmental Construction Services	1A	
DESCCO Design & Construction, Inc.	1A GC	Mike Sacco
Designblendz, LLP	1A	
Dodge Data & Analytics	1A, 15A, 15B, 16A	
Dual Temp Company, Inc.	15B	
Dutchland LLC	1A	
Dvorak, LLC	16A	
DW Security	16A	

BIDDERS/BIDDING GENERAL CONTRACTORS - 1A GENERAL, 15A MECHANICAL, 15B PLUMBING, 16A ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACTOR(S)	REPRESENTATIVE
Dynatech Controls, Inc	15A	
E R Stuebner Inc	1A GC	Steve Sostak
Ebersole Brothers Construction	1A	
eciConstruction LLC	1A	
Ecotone,LLC	1A	
EFCO Concrete Forming Systems	1A	
Fox Tapping, Inc.	1A	
Fromm Electric	16A	
Garden Spot Mechanical	15A, 15B	
Green Building Engineers	15A	
H&K Group, Inc.	1A	
H&P Construction, Inc	1A	
Harnden Construction Services	1A	
HBFrazer Company	16A	
Hirneisen Electric, Inc.	16A	
I.B. Abel, Inc.	16A	KEN MYERS
IPS Contracting Services	1A	
Irish Creek Enterprises, Inc.	1A	
JOSEPH F. O'HORA & SONS, INC.	15A	
Kalkreuth Roofing and Sheet Metal	1A	
Kinsley Construction, Building PA	1A	
Kinsley Construction, Sitework PA	1A	
LA Building Contractors	1A	
Lauer Construction Services	1A	
LRC Construction - Consultants, Inc.	1A	
M&M Facility Services LLC	1A, 15A	
M3T Corporation	1A	
Martins Construction LLC	1A	
McClure Company	15A	
Michael Symbula Electrical Contractor	16A	
Mid Atlantic Pump & Equipment	1A	
MidState Mechanical & Electrical, LLC	16A	

PREBID MEETING SIGN-IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
MNC PENN	15B	
NCI Construction, Ltd	1A	
NESL	1A	
North America Procurement Council Inc., PBC	15B, 16A	
Nutemp Mechanical Systems Ltd.	1A	
PBX	1A, 15A, 15B, 16A	
Pennergy Solutions	1A, 15A	
Pharmaceutical Procurement & Logistics	15A, 15B	
Precision Building Specialties	1A	
Purcell Construction	1A	
PWXPress	16A	
R&S Fence Co	1A	
R. Brooks Mechanical	15A	
randy ohler architect	1A	
RC Construction Associates, Inc	1A	
Redtail Solar, LLC.	16A	
Reel Geotechnical Engineering and Construction	1A	
Resteel gbarron@resteel.com	1A	
Revolt 85 Holding LLC	16A	
S & S Electrical Services / S&S Building Group	16A	
S.B. Conrad Inc	1A	
Schipsi Electric LLC	16A	
Schlouch Incorporated	1A	
Shannon A. Smith, Inc.	16A Mechanical Elect.	
Shoemaker Trucking & Excavating Inc	1A	
SLC Excavating, LLC	1A	
SMJ Contracting	1A	
SPOTTS BROTHERS INC.	16A	
ssdfdf	15B	
The Kaiser-Martin Group, Inc.	1A	
THE WARKO GROUP	15A, 15B	
Triangle Fire Protection, Inc.	15B	

PREBID MEETING SIGN-IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
Trinity Subsurface, LLC	15A	
Turnberry Construction Group	1A, 15A, 15B, 16A	
Twining Construction	1A	
Uhrig Construction	1A	RICHARD SHOMAN
US Solutions	16A	
Verne Reimer Architecture	1A	
Vision Mechanical	15B	
Wagman Construction, Inc.	1A	
Wickersham Construction	1A	
Wm. Orr & Sons, Inc.	1A	
YESCO, LLC	1A	
York Roofing Inc.	1A	
Matthews Painting	1A	Doug Pryer
Five Star Inc	15A 15B	Mike McGrew

COPY
3/3

PREQUALIFICATION CONTRACTS - 1A GENERAL, 15A MECHANICAL, 15B PLUMBING, 16A ELECTRICAL		
CONTRACTOR	PREQUALIFICATION(S)	EXPIRATION DATE
A.H. Cornell and Son Inc.	1A	
A.N. Lynch Co., Inc	16A	
A.T.O. Excavating, Inc.	1A	
Aaaju	15B	
Airmanagement Technologies, Inc	15A	
AIS dba Heisey Mechanical	15A	
AJM Electric, Inc.	16A	
ARMOUR & SONS ELECTRIC, INC.	1A	
Balton Construction	1A	
Bancroft Construction Company	1A	
Barker & Barker Paving	1A	
Berg Construction, LLC	1A	
Bracy Construction	1A	
C.B. Structures Inc.	1A	
C.M. High, Inc.	1A	
Cambridge LTD	1A, 15A, 15B, 16A	
Carp Excavating Inc.	1A	
CB Construction Services, Inc.	1A	
CMG of Easton, Inc.	1A	
Consolidated Engineers	15A	
Construct Connect	1A, 15A, 15B, 16A	
Construction Masters Services, LLC	1A	
D&M Construction Unlimited Inc.	1A	
Degler- Whiting, Inc	1A	
Delaware Environmental Construction Services	1A	
DESCCO Design & Construction, Inc.	1A	
Designblendz, LLP	1A	
Dodge Data & Analytics	1A, 15A, 15B, 16A	
Dual Temp Company, Inc.	15B	
Dutchland LLC	1A	
Dvorak, LLC	16A	
DW Security	16A	

PREBID MEETING SIGN-IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
Dynatech Controls, Inc	15A	
E R Stuebner Inc	1A	
Ebersole Brothers Construction	1A	
eciConstruction LLC	1A	Nathan Goodyear
Ecotone,LLC	1A	
EFCO Concrete Forming Systems	1A	
Fox Tapping, Inc.	1A	
Fromm Electric	16A	
Garden Spot Mechanical	15A, 15B	
Green Building Engineers	15A	
H&K Group, Inc.	1A	
H&P Construction, Inc	1A	
Harnden Construction Services	1A	
HBFrazer Company	16A	
Hirneisen Electric, Inc.	16A	
I.B. Abel, Inc.	16A	
IPS Contracting Services	1A	
Irish Creek Enterprises, Inc.	1A	
JOSEPH F. O'HORA & SONS, INC.	15A	
Kalkreuth Roofing and Sheet Metal	1A	
Kinsley Construction, Building PA	1A	
Kinsley Construction, Sitework PA	1A	
LA Building Contractors	1A	
Lauer Construction Services	1A	
LRC Construction - Consultants, Inc.	1A	
M&M Facility Services LLC	1A, 15A	
M3T Corporation	1A	
Martins Construction LLC	1A	
McClure Company	15A	
Michael Symbula Electrical Contractor	16A	
Mid Atlantic Pump & Equipment	1A	
MidState Mechanical & Electrical, LLC	16A	

PREBID MEETING SIGN-IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
MNC PENN	15B	
NCI Construction, Ltd	1A GC	Mike Vottero
NESL	1A	
North America Procurement Council Inc., PBC	15B, 16A	
Nutemp Mechanical Systems Ltd.	1A	
PBX	1A, 15A, 15B, 16A	
Pennergy Solutions	1A, 15A	
Pharmaceutical Procurement & Logistics	15A, 15B	Denis Fitzgerald
Precision Building Specialties	1A	
Purcell Construction	1A	Todd Cameron
PWXPress	16A	
R&S Fence Co	1A	
R. Brooks Mechanical	15A	
randy ohler architect	1A	
RC Construction Associates, Inc	1A	
Redtail Solar, LLC.	16A	
Reel Geotechnical Engineering and Construction	1A	
Resteel gbarron@resteel.com	1A	
Revolt 85 Holding LLC	16A	
S & S Electrical Services / S&S Building Group	16A	
S.B. Conrad Inc	1A	
Schipsi Electric LLC	16A	
Schlouch Incorporated	1A	
Shannon A. Smith, Inc.	16A	
Shoemaker Trucking & Excavating Inc	1A	
SLC Excavating, LLC	1A	
SMJ Contracting	1A	Elliot Fowler
SPOTTS BROTHERS INC.	16A	
ssdfdf	15B	
The Kaiser-Martin Group, Inc.	1A	
THE WARKO GROUP	15A, 15B	
Triangle Fire Protection, Inc.	15B	

PREBID MEETING SIGN-IN: CONTRACTS 1A - GENERAL, 15A - MECHANICAL, 15B - PLUMBING, 16A - ELECTRICAL		
CONTRACTOR	INTERESTED CONTRACT(S)	REPRESENTATIVE
Trinity Subsurface, LLC	15A	
Turnberry Construction Group	1A, 15A, 15B, 16A	
Twining Construction	1A	
Uhrig Construction	1A	
US Solutions	16A	Rick Mandagello
Verne Reimer Architecture	1A	
Vision Mechanical	15B	
Wagman Construction, Inc.	1A	
Wickersham Construction	1A	
Wm. Orr & Sons, Inc.	1A	
YESCO, LLC	1A	
York Roofing Inc.	1A	
Larson Lightning Protection	16A sub	Carly Zimmerman carly@larsonlightning.com
~~Construction~~ Ainsworth Inc.	15A 15B	Jordan Rhen jordan.rhen@ainsworth.com
Sheet Metal Workers	15A	Steve Loch

Information to be Furnished by Bidder

(NOTICE: This Form must be executed in ink or by typed entries)

_____
(Bidder's Name)

For Prime Contract No. _____
(1A,15A,15B,16A)

Job Title: Cumru Fire Department

To: Township of Cumru
1775 Welsh Road
Mohnton PA 19540

GENERAL

A. This Section is to be submitted with the Bidding Documents.

PART 1 - LIST OF INTENDED SUBCONTRACTORS

1. The Owner will review the undersigned list of intended Subcontractor(s).

2. The Contractor will not be permitted to substitute Subcontractors not listed on this form without written approval of the Owner.

Subcontractor (Name and Address)	Work To Be Performed

Note: If the work noted above is to be performed by the bidder, so note “Bidder”.

PART B - LIST OF INTENDED MANUFACTURERS

1. The undersigned proposes to furnish the following equipment contingent upon its conformity to the Specifications and its review by the Engineer. The Manufacturer's name must be stated. Use of the words "as specified" or similar wording will not be acceptable in lieu of the manufacturer's name.

2. Only one manufacturer's name shall be listed. If the Bidder in contravention of this instruction names more than one, the Owner will consider only the name of the first manufacturer listed. The Owner also reserves the right to reject all manufacturers named by the Bidder whose products do not meet the requirements of the Specifications.

UNIT	MANUFACTURER

Note:

1. If listed material is by manufacturers not specified, the Owner in no way implies acceptance of such listed equipment by acceptance of the Bids.

2. The Contractor shall not be permitted to substitute manufacturer's names not listed on this form without written approval of the Owner.

(We) (I), the undersigned agree that the Subcontractors and/or manufacturers listed above will perform the noted work or furnish the listed material subject to acceptance by the Owner.

Date _____ (Sign) _____

(Type)_____

Title _____

A preliminary approved Equipment Manufacturer's list will be incorporated as part of the Contract Documents and will be subject to detailed review by the Engineers after submittal of the Shop Drawings. The components, if accepted, are to be purchased by the Contractor under the original bid price at no additional cost to the Owner.

SECTION 01 2200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Section 01 2600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
2. Section 01 4000 "Quality Requirements" for general testing and inspecting requirements.

1.2 DEFINITIONS

A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit-Price No. 1: Removal of Unsatisfactory Soil

1. Description: Unsatisfactory soil excavation and disposal off site, as required, according to Section 31 2000 "Earth Moving".
2. Unit of Measurement: One Cubic Yard of soil excavated, based on survey of volume removed.

    a. Measurement or quantification of soil by truck load or volume of expanded soil will not be acceptable.

B. Unit-Price No. 2: Rock Removal

1. Description: Classified rock excavation and disposal off site, as required according to Section 31 2000 "Earth Moving".
2. Unit of Measurement: One Cubic Yard of rock excavated, based upon survey of volume removed.

    a. Measurement or quantification of soil by truck load or volume of expanded soil will not be acceptable.

C. Unit-Price No. 3: Soil Moisture Reduction - Quicklime.

1. Description: Remove excessive moisture from suitable soil subgrade through the application and mixing of quicklime into subgrade lifts (agricultural lime is an unacceptable substitute.)

    a. Engage a Geotechnical Engineer to determine appropriate quantity of quicklime to apply per square yard of wetted subgrade to a depth of 12 inches, based upon moisture content and type of subgrade, to ensure that all applied quicklime will chemically react with present soil moisture, and no unreacted quicklime will remain dormant in subgrade at the conclusion of soil drying process.
    b. Furnish and apply granular quicklime in a uniform broadcast to each in situ subgrade lift with above-optimum moisture content.
    c. Uniformly mix and distribute quicklime through subgrade to a depth of 12 inches. Use specialized lime spreading equipment for large-scale application and mixing, or agricultural or earthmoving equipment for small-scale application and mixing.
    d. Allow quicklime to react with soil moisture for 24 to 48 hours, then re-mix until no visible lime particles remain.
    e. If visible lime particles remain, repeat reaction period and re-mixing process until no lime particles are present.

f. Develop and provide adequate dust-control measures to prevent blowing or spreading of alkaline dust outside of the confines of the direct application area, and determine and provide appropriate personal protective equipment to personnel.

2. Unit of Measurement: One percent of quicklime by dry weight of soil, applied per square yard and mixed to one foot depth (1% Dry Wt. / Sq. Yd at 1 ft. depth).
3. Quantity applied shall be substantiated by on-site third party geotechnical engineer.

D. Unit-Price No. 4: PennDOT 2A Fill

1. Description: Upon completion of unsatisfactory soil removal and new subgrade compaction, provide and install, in 8 inch lifts, PennDOT 2A fill with maximum aggregate size of 1.5 inches and no more than 2% passing #200 sieve, as required, according to Section 31 2000 "Earth Moving"
2. Unit of Measurement: One cubic yard.
3. Quantity shall be determined by professional surveyor of quantity of in-place unsatisfactory soil to be replaced.

E. Unit-Price No. 5: #57 Stone Fill

1. Description: Upon completion of unsatisfactory soil removal and new subgrade compaction, provide and install #57 (AASHTO #57) stone fill, as required, according to Section 31 2000 "Earth Moving."
2. Unit of Measurement: One cubic yard.
3. Quantity shall be determined by professional surveyor of in-place unsatisfactory soil to be replaced.

F. Unit-Price No. 6: Granular natural soil fill.

1. Description: Upon completion of unsatisfactory soil removal and new subgrade compaction, provide and install natural granular fill soil, as necessary, according to Section 31 2000 "Earth Moving."
2. Unit of Measurement: One Cubic Yard.
3. Quantity shall be determined by professional surveyor of in place unsatisfactory soil to be replaced.

G. Unit-Price No. 6: Concrete Curbing.

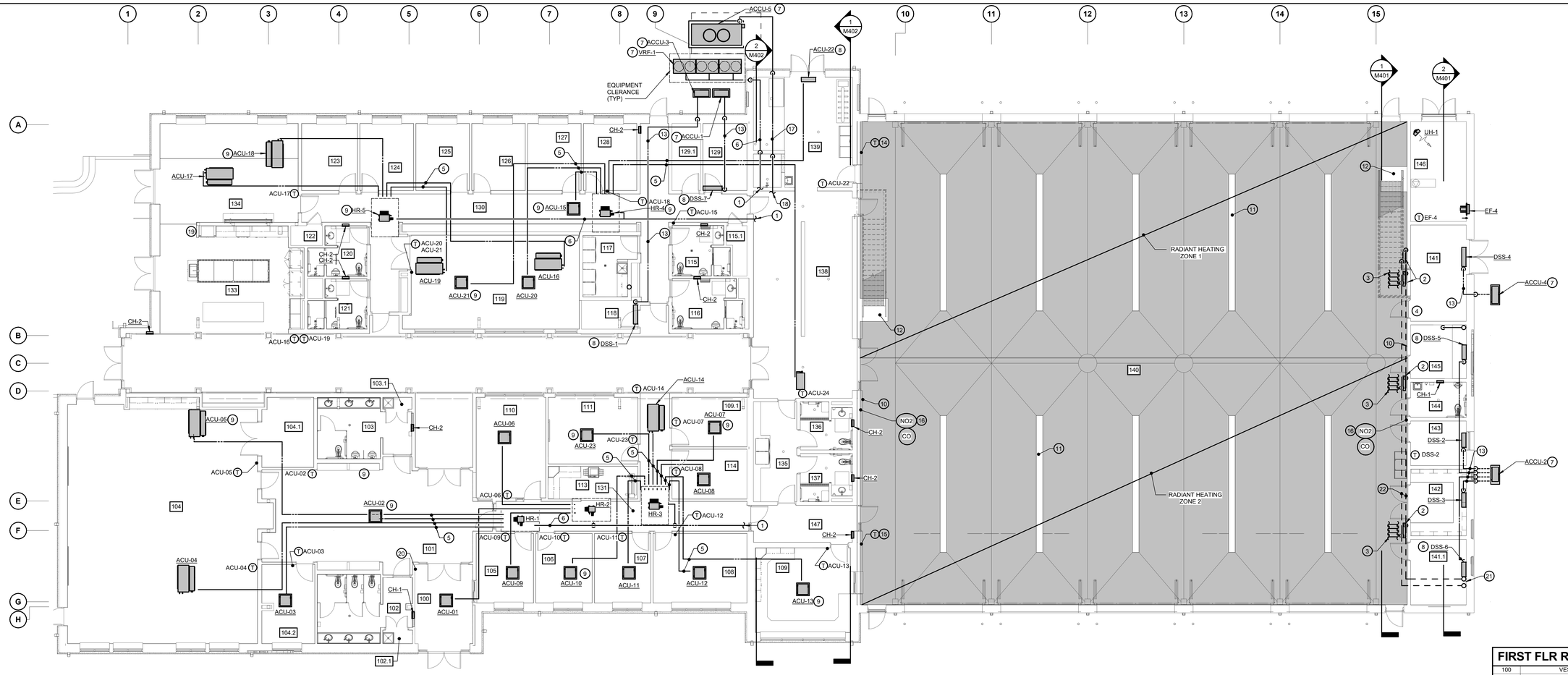
1. Description: Provide cost of concrete curbing per concrete curbing detail 1/14.81 on Civil drawing Site Details and Profile 148.1.

2. Unit of Measurement: Linear Foot

H. Unit-Price No. 7: Concrete Sidewalk.

1. Description: Provide cost of concrete sidewalk per concrete side walk detail 9/148.1 on Civil drawing Site Details and Profile 148.1.
2. Unit of Measurement: 1 Unit = 5 SF, or 1 linear foot of 5 foot wide side walk.

END OF SECTION 01 2200



1 FIRST FLOOR PLAN - HVAC PIPING

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO M001 FOR MECHANICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. THE HATCHED AREAS INDICATE ZONES TO BE HEATED BY IN-FLOOR RADIANT HEATING SYSTEM.
3. SIZE AND CONFIGURE REFRIGERANT PIPING AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE HANGERS/SUPPORTS AND EXPANSION COMPENSATION DEVICES IN ACCORDANCE WITH SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.

DRAWING NOTES:

1. VRF-1 REFRIGERANT PIPING TO MEZZANINE LEVEL. REFER TO M301 FOR CONTINUATION.
2. IN-SLAB RADIANT HEATING MANIFOLD PANEL.
3. HEATING WATER TUBING TO UNDERFLOOR RADIANT HEAT SYSTEM. INSTALL TUBING TIGHT TO TOP SIDE OF REBAR. PROVIDE SLEEVES WHEN TUBING PENETRATES FLOOR SLAB AND AT EXPANSION JOINTS. INSTALL IN ACCORDANCE WITH MANUFACTURERS'S RECOMMENDATIONS. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.
4. REFER TO HEATING PIPING SCHEMATIC 4 / M-502.
5. 2-PIPE VRF PIPING CONTAIN REFRIGERANT SUCTION AND LIQUID.
6. 3-PIPE VRF PIPING CONTAIN REFRIGERANT SUCTION, LIQUID, AND GAS.
7. ACCU MOUNTED AT GRADE ON EQUIPMENT PAD.
8. A/C UNIT MOUNTED ON WALL (TYP).
9. A/C UNIT SUSPENDED FROM STRUCTURE WITH VIBRATION ISOLATION (TYP).
10. PROVIDE FREEZE PROTECTION T-STAT TO SIGNAL AN ALARM TO THE BAS IF THE SPACE TEMPERATURE FALLS BELOW 40 DEGREES F (ADJUSTABLE). INTALL T-STAT AT SAME ELVATION AS SPRIKNLER PIPING.
11. TRENCH DRAIN (TYP). RADIANT FLOOR TUBING SHALL AVOID THIS AREA.
12. BOLT DOWN ZONE FOR STAIRS. RADIANT FLOOR TUBING SHALL AVOID THIS AREA.
13. RS AND RL PIPING. SIZE PER MANUFACTURER'S RECOMMENDATIONS.
14. RADIANT FLOOR ZONE 1 THERMOSTAT.
15. RADIANT FLOOR ZONE 2 THERMOSTAT.
16. PROVIDE CO AND NO2 SENESORS. MOUNT CO SENSOR ON WALL AT 5 FEET ABOVE FINISHED FLOOR. MOUNT NO2 SENSOR ON WALL AT 1 FOOT ABOVE FINISHED FLOOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
17. DOAS-1 REFRIGERANT PIPING.
18. DOAS-1 REFRIGERANT PIPING TO MEZZANINE LEVEL. REFER TO M301 FOR CONTINUATION.
19. PROVIDE ACU-19 REMOTE TEMPERATURE SENSOR.
20. PROVIDE ACU-01 REMOTE TEMPERATURE SENSOR.
21. HEATING WATER SUPPLY AND RETURN PIPING UP TO MEZZANINE 202. REFER TO M301 FOR CONTINUATION.
22. HEATING WATER SUPPLY AND RETURN PIPING. REFER TO SCHEMATIC ON M502 FOR MORE INFORMATION.

FIRST FLR ROOM LIST

100	VESTIBULE
101	LOBBY
102	WOMEN
102.1	JAN
103	MEN
103.1	JAN
104	MEETING
104.1	STOR
104.2	OFFICE
105	OFFICE
106	OFFICE
107	OFFICE
108	OFFICE
109	WATCH OFFICE
109.1	OFFICE
110	CHIEF'S OFFICE
111	CONFERENCE
113	COPY
114	OFFICE
115	SHOWER
115.1	MECH
116	SHOWER
117	LAUNDRY
118	ELEC.
119	FITNESS
120	SHOWER
121	SHOWER
122	MECH
123	BUNK
124	BUNK
125	BUNK
126	BUNK
127	BUNK
128	BUNK
129	IT
129.1	ST.
130	CORRIDOR
131	CORRIDOR
133	KITCHEN
134	DAY ROOM
135	CLEAN ROOM
136	SHOWER
137	SHOWER
138	TURNOUT GEAR
139	DECON
140	APPARATUS BAY
141	ELEC.
141.1	STORAGE
142	WORKSHOP
143	ENGINEER
144	TOILET
145	SCBA
146	UTILITY
147	VESTIBULE

N

0 2 4 8 16 24

SCALE: 1/8" = 1'-0"

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL

CONSULTANT:

bkm
Burdette, Koehler, Murphy & Associates, Inc.
6300 Blair Hill Lane, Suite 400 | Baltimore, Maryland 21209
P: 410.321.0000 | www.bkma.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

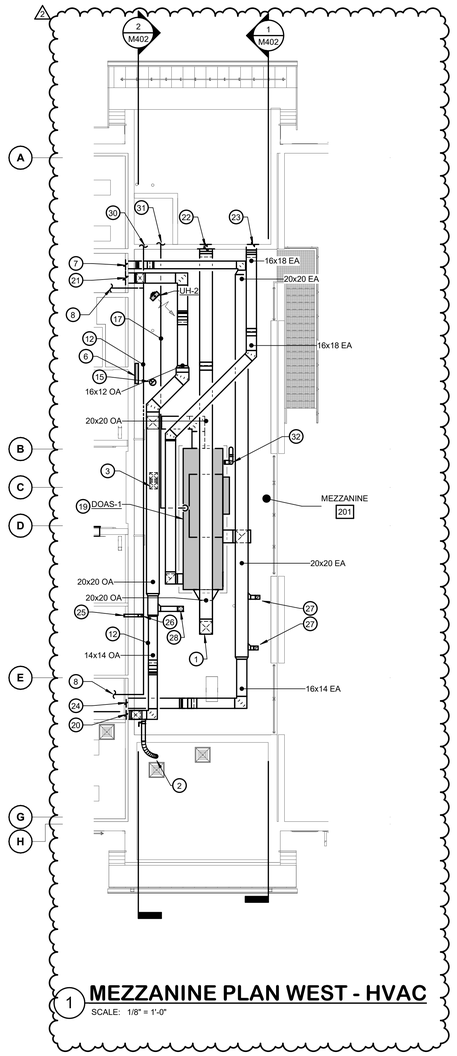
NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT 18-036
PROJECT BID SET
DATE 11/30/2023

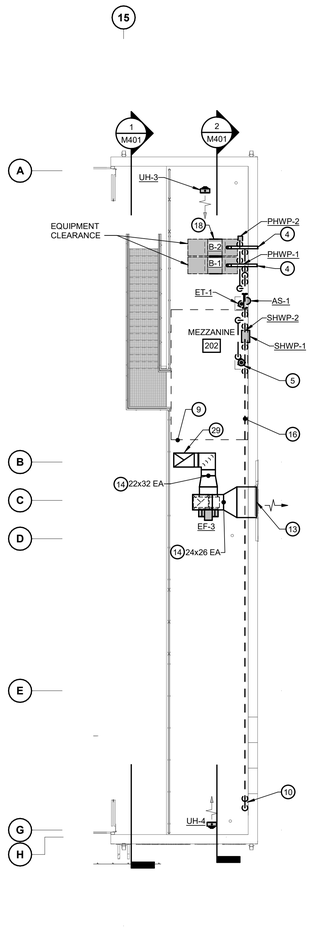
DRAWING FIRST FLOOR PLAN - HVAC PIPING
SHEET **M201**

1/5/2024 7:52:25 AM

BKM# 19020.01



1 **MEZZANINE PLAN WEST - HVAC**
SCALE: 1/8" = 1'-0"



2 **MEZZANINE PLAN EAST - HVAC**
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO M001 FOR MECHANICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SIZE AND CONFIGURE REFRIGERANT PIPING AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. REFER TO M502 FOR HEATING WATER PIPE SIZES AND CONFIGURATION.

DRAWING NOTES:

1. 20x20 OUTDOOR AIR DUCT DOWN TO DOAS-1.
2. 6" OUTDOOR AIR DUCT DOWN TO DEVICE SERVING 109 - WATCH OFFICE. REFER TO M101 FOR CONTINUATION.
3. 10x12 OUTSIDE AIR DUCT DOWN TO 138 TURNOUT GEAR. REFER TO M101 FOR CONTINUATION.
4. CONCENTRIC BOILER VENT KIT.
5. CHEMICAL BYPASS FEEDER.
6. DOAS-1 DDC PANEL MOUNTED ON WALL.
7. 12x12 EXHAUST AIR DUCT TO ADMINISTRATION AREA OF BUILDING. REFER TO M101 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
8. VRF-1 REFRIGERANT PIPING TO ADMINISTRATION AREA OF BUILDING. REFER TO M201 FOR CONTINUATION.
9. DASHED LINE RERESENTS ELECTRICAL ROOM LOCATED BELOW MEZZANINE. NO MECHANICAL WORK SHALL PENETRATE MEZZANINE WITHIN THE DASHED LINE.
10. 2 1/2" HEATING WATER SUPPLY/RETURN DOWN TO FIRST FLOOR. REFER TO M201 FOR CONTINUATION
11. REFRIGERANT SUCTION AND LQUID PIPING. SIZE PER MANUFACTURER'S RECOMMENDATIONS.
12. REFRIGERANT SUCTION, LIQUID, AND GAS PIPING. SIZE PER MANUFACTURER'S RECOMMENDATIONS.
13. EXHAUST LOUVER. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
14. PROVIDE DUCTWORK WITH SOUND LINING.
15. DOMESTIC WATER HEATER FLUE UP THROUGH ROOF. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
16. HEATING WATER SUPPLY AND RETURN PIPING RACKED ON WALL. REFER TO M401 AND M502 FOR MORE INFORMATION.
17. DOAS-1 REFRIGERANT PIPING.
18. MOUNT BOILERS ON SINGLE EQUIPMENT PAD.
19. DOAS-1 SHALL BE MOUNTED ON EQUIPMENT PAD.
20. 14x14 OUTSIDE AIR DUCT TO ADMINISTRATION AREA OF BUILDING. REFER TO M101 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
21. 16x12 OUTSIDE AIR DUCT TO ADMINISTRATION AREA OF BUILDING. REFER TO M101 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
22. 20x20 OUTSIDE AIR DUCT TO SPACE 139 DECON. REFER TO M101 FOR CONTINUATION.
23. 16x18 EXHAUST AIR DUCT TO SPACE 139 DECON. REFER TO M101 FOR CONTINUATION.
24. 16x14 EXHAUST AIR DUCT TO SPACE 139 DECON. REFER TO M101 FOR CONTINUATION. PROVIDE SMOKE DAMPER AT PARTITION.
25. 4" RIGID DRYER EXHAUST TO ADMINISTRATION SIDE OF BUILDING. REFER TO M301 FOR CONTINUATION.
26. 4" RIGID DRYER EXHAUST DUCTWORK DOWN TO 135 CLEAN ROOM. REFER TO M101 FOR CONTINUATION.
27. 6x6 EXHAUST DUCT DOWN TO TOILET ROOM AIR DEVICE. REFER TO M101 FOR CONTINUATION.
28. 8x8 OUTSIDE AIR DUCT DOWN TO 135 CLEAN ROOM. REFER TO M101 FOR CONTINUATION.
29. 32x22 EXHAUST AIR DUCT DOWN TO 145 SCBA. REFER TO M101 FOR CONTINUATION.
30. VRF-1 REFRIGERANT PIPING TO 139 DECON. REFER TO M201 FOR CONTINUATION.
31. DOAS-1 REFRIGERANT PIPING TO 139 DECON. REFER TO M201 FOR MORE INFORMATION.
32. DOAS-1 6" SCHEDULE 40 PVC FLUE PIPE UP THROUGH ROOF. TERMINATE WITH GOOSENECK AND BIRD SCREEN. SIZE, CONFIGURE, AND TERMINATE PER MANUFACTURER;S RECOMMENDATIONS. REFER TO MECHANICAL DETAILS FOR ADDITIONAL INFORMATION.

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL

CONSULTANT:
bkm
Burdette, Koehler, Murphy & Associates, Inc.
6300 Blair Hill Lane, Suite 400 | Baltimore, Maryland 21209
P: 410.321.0000 | www.bkm.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

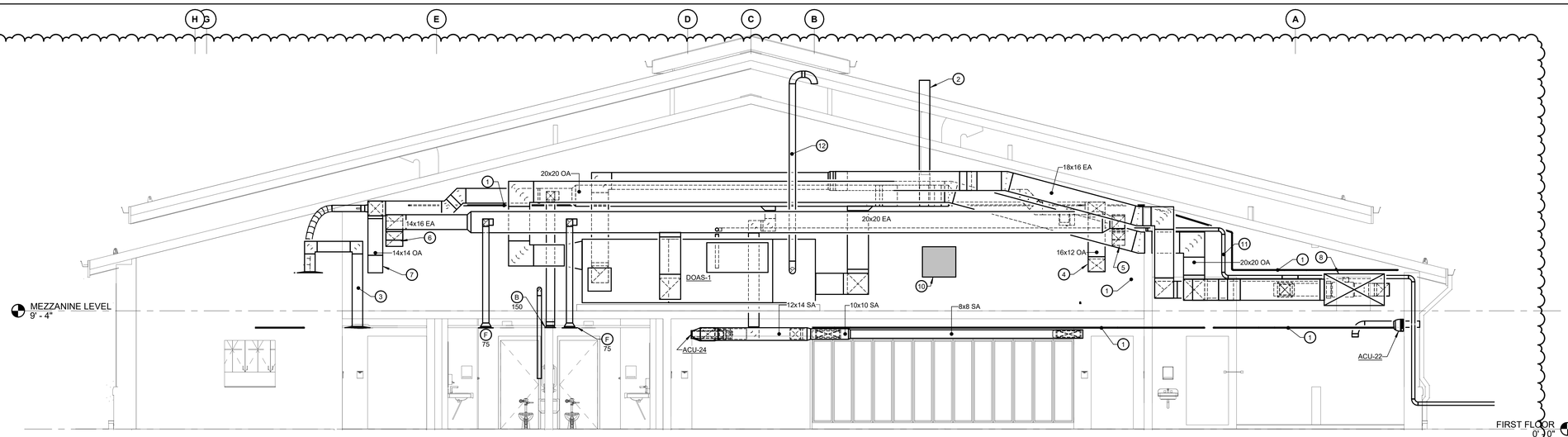
PROJECT
18-036
PROJECT
BID SET
DATE
11/30/2023

DRAWING
PART FLOOR PLANS
HVAC

SHEET
M301

1/5/2024 9:28:16 AM

BKM# 19020.01



1 MEZZANINE PLAN WEST SECTION 1

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

2 MEZZANINE PLAN WEST SECTION 2

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

3 MEZZANINE PLAN WEST - 3D

SCALE:

GENERAL NOTES:

1. REFER TO M001 FOR MECHANICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. SIZE AND CONFIGURE REFRIGERANT PIPING AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

DRAWING NOTES:

1. VRF-1 REFRIGERANT PIPING. SIZE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. WATER HEATER FLUE. INSTALL AND TERMINATE PER MANUFACTURER'S RECOMMENDATIONS.
3. 10x10 TRANSFER DUCT. AIR DEVICES SHALL BE TYPE E.
4. 12x16 OUTSIDE AIR DUCTWORK TO ADMINSTRATION/OFFICES. REFER TO M101 FOR CONTINUATION.
5. 12x12 EXHAUST AIR DUCTWORK TO ADMINISTRATION/OFFICES. REFER TO M101 FOR CONTINUATION.
6. 14x16 EXHAUST AIR DUCTWORK TO ADMINSTRATION/OFFICES. REFER TO M101 FOR CONTINUATION.
7. 14x14 OUTSIDE AIR DUCTWORK TO ADMINSTRATION/OFFICES. REFER TO M101 FOR CONTINUATION.
8. 58x30 OUTSIDE AIR INTAKE LOUVER. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
9. 32x32 EXHAUST AIR LOUVER. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
10. DOAS-1 DDC PANEL MOUNTED ON WALL.
11. DOAS-1 REFRIGERANT PIPING.
12. DOAS-1 6" SCHEDULE 40 PVC FLUE PIPE UP THROUGH ROOF. TERMINATE WITH GOOSENECK AND BIRD SCREEN. SIZE, CONFIGURE, AND TERMINATE PER MANUFACTURER;S RECOMMENDATIONS. REFER TO MECHANICAL DETAILS FOR ADDITIONAL INFORMATION.

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL

CONSULTANT:

bkm
Burdette, Koehler, Murphy & Associates, Inc.
6300 Blair Hill Lane, Suite 400 | Baltimore, Maryland 21209
P: 410.321.0000 | www.bkm.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

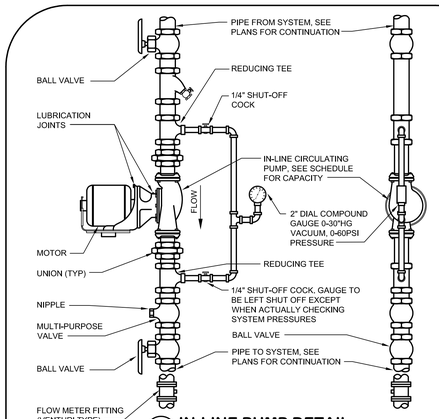
NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT
18-036
PROJECT
BID SET
DATE
11/30/2023

DRAWING
MECHANICAL SECTIONS
SHEET
M402

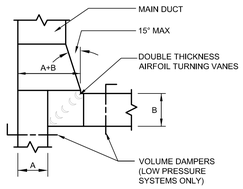
1/5/2024 9:31:48 AM

BKM# 19020.01



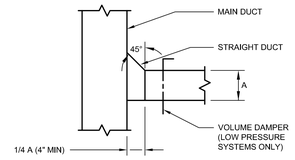
1 IN-LINE PUMP DETAIL
NO SCALE

NOTES:
1. PROVIDE MINIMUM LENGTH OF STRAIGHT PIPING UPSTREAM OF FLOW METER FITTING AS RECOMMENDED BY THE MANUFACTURER .
2. WHERE TWO PUMPS ARE PIPED TO A COMMON MANIFOLD AND OPERATE AS A PRIMARY AND STAND-BY (LEAD-LAG ARRANGEMENT) ONE FLOW METER FITTING MAY BE UTILIZED IN THE COMMON MANIFOLD PIPE.
3. THE MULTI-PURPOSE VALVE SHALL BE USED FOR THROTTLING AND THE FLOW METER FITTING SHALL BE USED FOR FLOW MEASUREMENT.

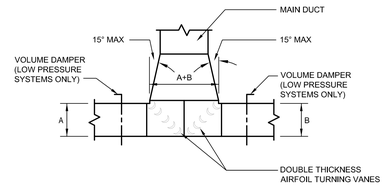


2 MAJOR DUCT BRANCH DETAIL
NO SCALE

NOTE: MAJOR DUCT IS ANY SIDE 25" OR GREATER RECTANGULAR ELBOWS ONLY WHERE SHOWN.

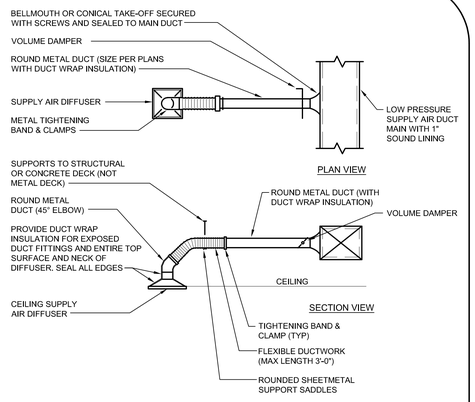


MINOR DUCT BRANCH DETAIL
NO SCALE

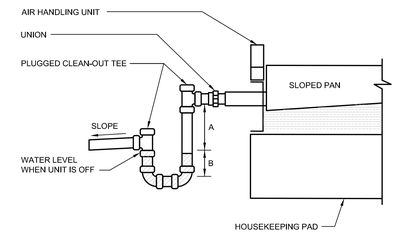


3 RECTANGULAR ELBOW DUCT TEE DETAIL
NO SCALE

NOTE: THIS DETAIL APPLIES TO BOTH ELBOWS & TEES IN VERTICAL AND HORIZONTAL APPLICATIONS.



4 ROUND NECK DIFFUSER DETAIL
NO SCALE

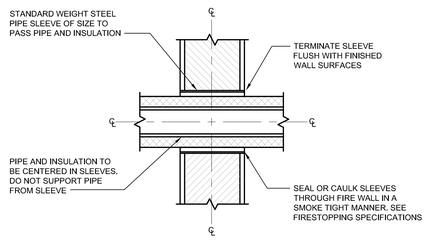


A = (TSP - ESP) x 1.0" + 1.0"

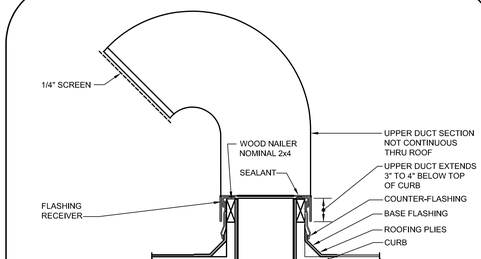
B = A x 0.5"

5 CONDENSATE DRAIN PIPING WITH DRAW THROUGH TRAP DETAIL
NO SCALE

NOTE: HOUSEKEEPING PAD SHALL BE A MINIMUM OF 4" IN HEIGHT AS REQUIRED TO ACCOMMODATE THE CONDENSATE TRAP INSTALLATION ABOVE THE FLOOR.

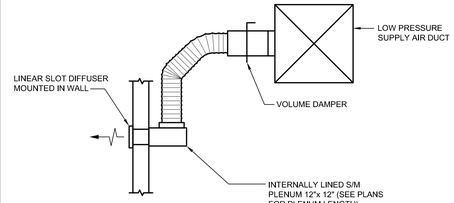


6 PIPE SLEEVE DETAIL
NO SCALE

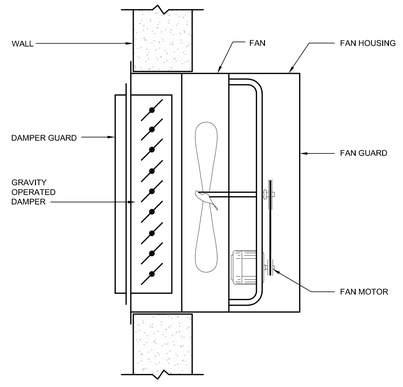


7 GOOSENECK DUCT DETAIL
NO SCALE

NOTES:
1. FLUE STACKS SHALL EXTEND AT LEAST 3 FEET ABOVE HIGHEST POINT WHERE IT PASSES THROUGH THE ROOF AND 2 FEET HIGHER THAN ANY RIDGE WITHIN 10 FEET.
2. INTAKE STACKS SHALL EXTEND AT LEAST 3 FEET ABOVE HIGHEST POINT WHERE IT PASSES THROUGH THE ROOF.
3. REFER TO ARCHITECTURAL CONSTRUCTION DOCUMENTS FOR ROOF CONSTRUCTION AND DETAILS OF ALL REQUIRED ROOF WORK INCLUDING BUT NOT LIMITED TO FLASHING AND COUNTER FLASHING OD CURBS, PENETRATIONS, ETC.

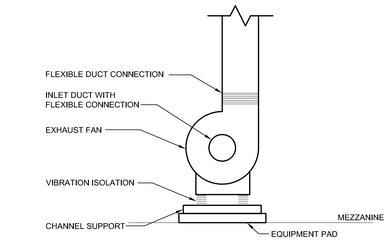


8 LINEAR SLOT DIFFUSER CONNECTION DETAIL
NO SCALE



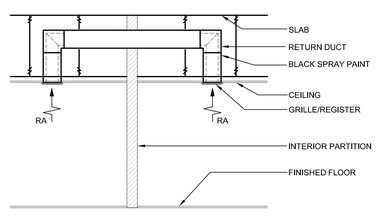
9 WALL MOUNTED PROPELLER FAN DETAIL
NO SCALE

NOTE: REFER TO ARCHITECTURAL CONSTRUCTION DOCUMENTS FOR ROOF CONSTRUCTION AND DETAILS OF ALL REQUIRED ROOF WORK INCLUDING BUT NOT LIMITED TO FLASHING AND COUNTER FLASHING OF CURBS, PENETRATIONS, ETC.

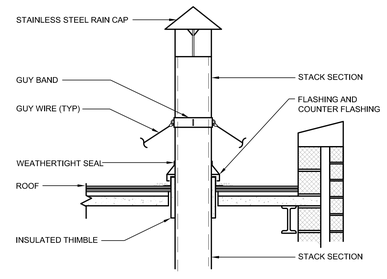


10 TYPICAL EXHAUST FAN W/ VERTICAL STACK DETAIL
NO SCALE

NOTES: 1. PROVIDE A MINIMUM OF THREE (3) DUCT DIAMETERS OF STRAIGHT DUCT AT INLET OF EACH EXHAUST FAN.



11 TRANSFER DUCT DETAIL
NO SCALE



12 WATER HEATER STACK DETAIL
NO SCALE

NOTES:
1. STACK SHALL EXTEND AT LEAST 3 FEET ABOVE HIGHEST POINT WHERE IT PASSES THROUGH THE ROOF AND 2 FEET HIGHER THAN ANY RIDGE WITHIN 10 FEET.
2. REFER TO ARCHITECTURAL CONSTRUCTION DOCUMENTS FOR ROOF CONSTRUCTION AND DETAILS OF ALL REQUIRED ROOF WORK INCLUDING BUT NOT LIMITED TO FLASHING AND COUNTER FLASHING OF CURBS, PENETRATIONS, ETC.

STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL:

CONSULTANT:
bkm
Burdette, Koehler, Murphy & Associates, Inc.
8300 Blair Hill Lane, Suite 400 | Baltimore, Maryland 21209
P: 410.321.8000 | www.bkmeng.com

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1775 WELSH ROAD
MOHNTON, PA 19540

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT NUMBER: 18-036
PROJECT SET: BID SET
DATE ISSUED: 11/30/2023
DRAWING TITLE: MECHANICAL DETAILS
SHEET NUMBER: M501
BKM# 19020.01

Plotted By: Ian Sweeney | 1/5/2024 8:48 AM
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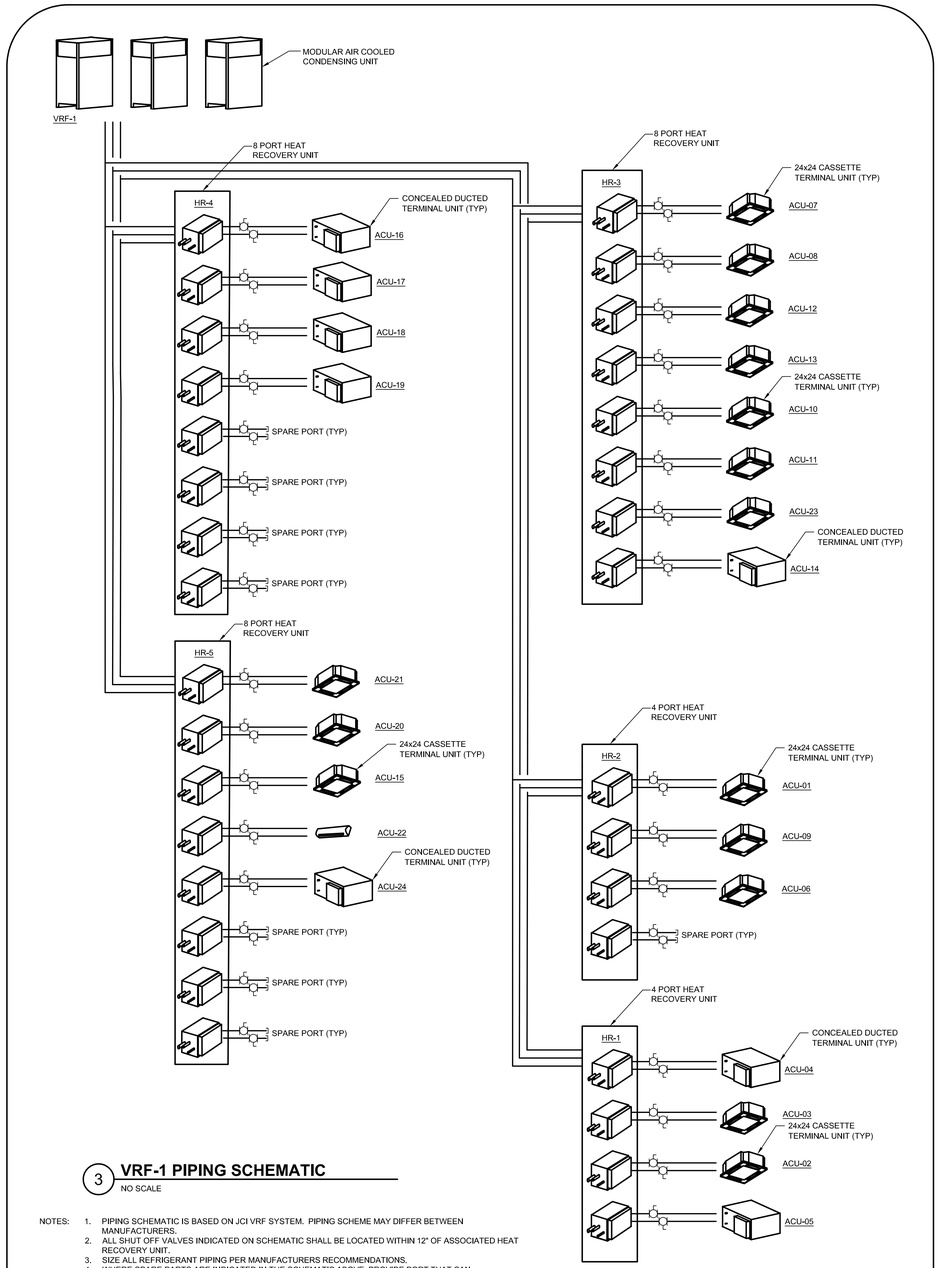
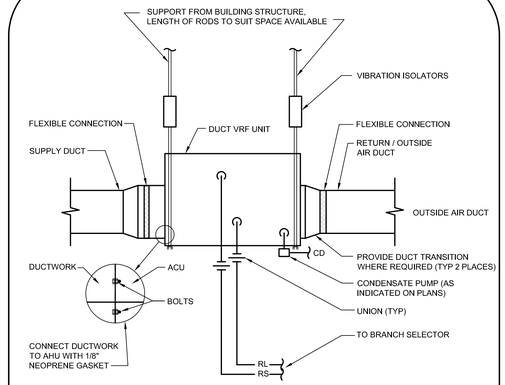
4/3/2019 8:48:38 AM

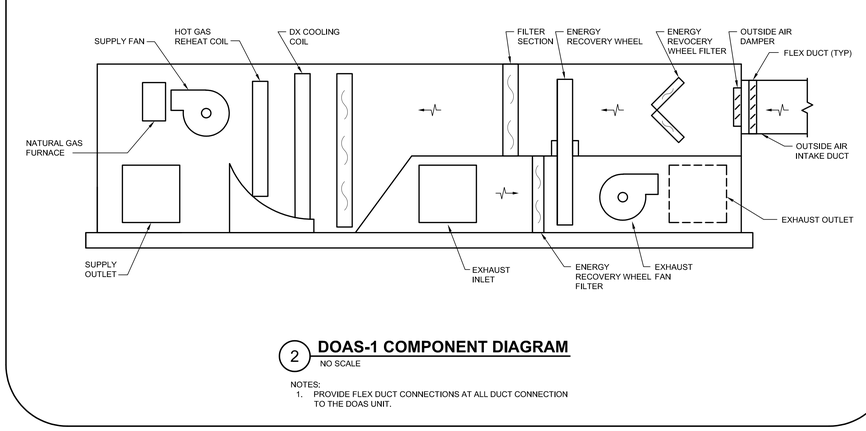


3 VRF-1 PIPING SCHEMATIC
NO SCALE

NOTES:
1. PIPING SCHEMATIC IS BASED ON JCI VRF SYSTEM. PIPING SCHEME MAY DIFFER BETWEEN MANUFACTURERS.
2. ALL SHUT OFF VALVES INDICATED ON SCHEMATIC SHALL BE LOCATED WITHIN 12" OF ASSOCIATED HEAT RECOVERY UNIT.
3. SIZE ALL REFRIGERANT PIPING PER MANUFACTURERS RECOMMENDATIONS.
4. WHERE SPARE PARTS ARE INDICATED IN THE SCHEMATIC ABOVE, PROVIDE PORT THAT CAN ACCOMMODATE AN ADDITIONAL 7.5 NOMINAL MBH TERMINAL UNIT.

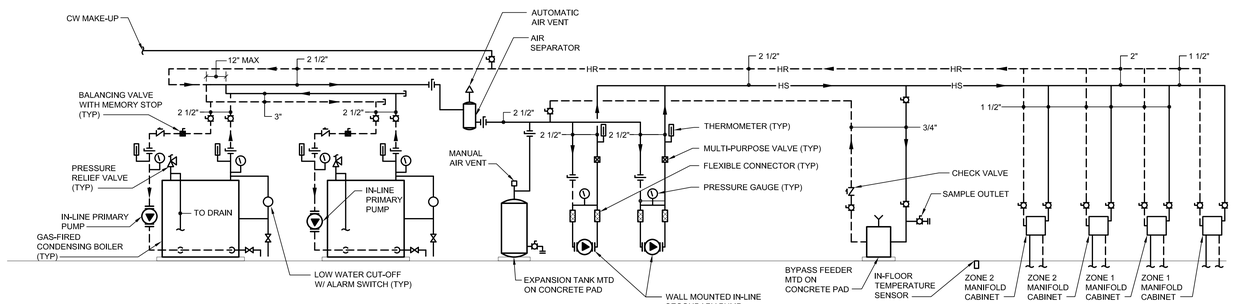


1 HORIZONTAL AHU CONENCTION DETAIL
NO SCALE



2 DOAS-1 COMPONENT DIAGRAM
NO SCALE

NOTES:
1. PROVIDE FLEX DUCT CONNECTIONS AT ALL DUCT CONNECTION TO THE DOAS UNIT.



4 HEATING WATER SCHEMATIC
NO SCALE

NOTES:
1. PROVIDE EACH BOILER WITH CONDENSATE NEUTRALIZER.

STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

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Burdette, Koehler, Murphy & Associates, Inc.
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1775 WELSH ROAD
MOHNTON, PA 19540

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT NUMBER: 18-036
PROJECT SET: BID SET
DATE ISSUED: 11/30/2023
DRAWING TITLE: MECHANICAL DETAILS
SHEET NUMBER: M502
BKM# 19020.01

Plotted By: Ian Sweeney | 1/4/2024 6:02 PM
ARL: G:\19020.01\Drawings\Acad\MM502 MECHANICAL DETAILS
4/3/2019 8:48:38 AM

DEDICATED OUTDOOR AIR SYSTEM SCHEDULE

DESIG	AREA SERVED	VENTILATION FAN DATA					EXHAUST FAN					COOLING DATA				HEATING DATA					ENERGY RECOVERY WHEEL							ELECTRICAL				OPER WT (LBS)	BASIS OF DESIGN		NOTES
																					AIRFLOWS	SUMMER CONDITIONS			WINTER CONDITIONS											
		CFM	ESP (IN)	TSP (IN)	HP	FAN RPM	CFM	ESP (IN)	TSP (IN)	HP	FAN RPM	TYPE	TOTAL MBH	SENS MBH	EAT DB/WB (DEG F)	LAT DB/WB (DEG F)	TYPE	EAT	LAT	INPUT MBH	OUTPUT MBH	OA CFM	EXHAUST CFM	OUTSIDE AIR DB/WB (DEG F)	RETURN AIR DB/ %RH	WHEEL LEAVING DB/WB (DEG F)	OUTSIDE AIR DB (DEG F)	RETURN AIR DB (DEG F)	WHEEL LEAVING DB (DEG F)	VOLTS	PHASE	MCA	MOCP		MANUFACTURER	
DOAS-1	ADMINISTRATION SPACES	3015	1.00	5.00	5	3175	2130	1.10	2.65	2	2396	DX	194.4	121.5	85.1 / 69.8	49.9 / 49.6	NATURAL GAS	0	83.3	350.0	384.0	3015	2130	95 / 78	75 / 50%	85.1 / 69.8	0.0	70.0	34.6	460	3	49.6	60.0	5600	INNOVENT	1,2,3,4,5,6,7,8

NOTES:
1. AIR CAPACITIES BASED ON A MAXIMUM DIRTY FILTER PRESSURE DROP AS INDICATED.
2. PROVIDE UNIT WITH HOT-GAS REHEAT FOR HUMIDITY CONTROL.
3. COOLING COIL ENTERING AIR CONDITIONS BASED ON ENERGY RECOVERY WHEEL LEAVING AIR CONDITION.
4. PROVIDE FACTORY WIRED DISCONNECT SWITCH.
5. GAS FURNACE SHALL BE SIZED SHUCH THAT THE ENERGY RECOVERY WHEEL IS NONOPERATIONAL.
6. RELIEF FAN TOTAL STATIC PRESSURE SHALL INCLUDE 0.25 IN WG DIRTY FILTER ALLOWANCE.
7. SUPPLY FAN TOTAL STATIC PRESSURE SHALL INCLUDE 0.25 IN WG DIRTY FILTER ALLOWANCE.
8. PROVIDE WITH INTEGRAL VFDs FOR SUPPLY AND EXHAUST FANS.

AIR DEVICE SCHEDULE

DESIG	DUTY	SIZE (IN)	MOUNTING	CFM RANGE	INLET / NECK SIZE (IN)	MAX SP	MAX NC	DESCRIPTION	BASIS OF DESIGN	
									MANUFACTURER	MODEL
A	SUPPLY / OUTDOOR AIR	24 x 24 MODULE	LAY-IN	0-120	6.00	0.10"	20	18 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
A	SUPPLY / OUTDOOR AIR	24 x 24 MODULE	LAY-IN	121 - 210	8.00	0.10"	20	19 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
A	SUPPLY / OUTDOOR AIR	24 x 24 MODULE	LAY-IN	211-325	10.00	0.10"	25	20 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
A	SUPPLY / OUTDOOR AIR	25 x 24 MODULE	LAY-IN	326-470	12.00	0.10"	25	21 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
A	SUPPLY / OUTDOOR AIR	26 x 24 MODULE	LAY-IN	471-640	14.00	0.10"	25	22 x 18 NECK WITH FACTORY MOUNTED SQUARE - ROUND TRANSITION	TITUS	TDC
B	SUPPLY / OUTDOOR AIR	8 x 8	SURFACE	0-135	6 x 6	0.10"	20	SINGLE DEFELCTION FIXED LOUVER, LONG FRONT BLADES, 45° DEFLECTION 3/4" SPACING	TITUS	271 RL
B	SUPPLY / OUTDOOR AIR	10 x 10	SURFACE	136-219	8 x 8	0.10"	20	SINGLE DEFELCTION FIXED LOUVER, LONG FRONT BLADES, 45° DEFLECTION 3/4" SPACING	TITUS	271 RL
B	SUPPLY / OUTDOOR AIR	12 x 8	SURFACE	220-254	10 x 6	0.10"	20	SINGLE DEFELCTION FIXED LOUVER, LONG FRONT BLADES, 45° DEFLECTION 3/4" SPACING	TITUS	271 RL
B	SUPPLY / OUTDOOR AIR	14 x 8	SURFACE	255	12 x 6	0.10"	20	SINGLE DEFELCTION FIXED LOUVER, LONG FRONT BLADES, 45° DEFLECTION 3/4" SPACING	TITUS	271 RL
C	EXHAUST	42 x 24	SURFACE	0-5985	42 x 24	0.20"	45	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FS
D	SUPPLY / OUTDOOR	4 FT LONG	SURFACE	0-240	12.00	0.10"	30	LINEAR SLOT, 3/4" SLOT (2 SLOTS)	TITUS	ML-38 W/ MPI-38 INSULATED PLENUM
E	RETURN / EXHAUST	24 x 24	LAY-IN	0-125	6 x 6	0.10"	20	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
E	RETURN / EXHAUST	24 x 24	LAY-IN	126-220	8 x 8	0.10"	20	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
E	RETURN / EXHAUST	24 x 24	LAY-IN	221-340	10 x 10	0.10"	20	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
E	RETURN / EXHAUST	24 x 24	LAY-IN	341-500	12 x 12	0.10"	20	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
E	RETURN / EXHAUST	24 x 24	LAY-IN	501-1300	22 x 22	0.10"	25	PERFORATED FACE - REGISTER (FLUSH)	TITUS	PAR
F	RETURN / EXHAUST	6 x 6	SURFACE	0-100	6 x 6	0.06"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
F	RETURN / EXHAUST	8 x 8	SURFACE	101-185	8 x 8	0.06"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
F	RETURN / EXHAUST	10 x 10	SURFACE	186-340	10 x 10	0.06"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
F	RETURN / EXHAUST	50 x 50	SURFACE	3060	48 x 48	0.10"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - SUPPLY	TITUS	350 FL
G	RETURN / EXHAUST	4 FT LONG	SURFACE	0-155	8 x 6	0.10"	30	LINEAR SLOT, 3/4" SLOT (2 SLOTS)	TITUS	MLR-38
G	RETURN / EXHAUST	4 FT LONG	SURFACE	156-300	10 x 8	0.10"	30	LINEAR SLOT, 3/4" SLOT (2 SLOTS)	TITUS	MLR-38

NOTES:
1. PROVIDE ALL AIR DEVICES WITH OPPOSED BLADE VOLUME DAMPER.
2. CONTRACTOR MAY PROVIDE ALUMINUM OR STEEL AIR DEVICES UNLESS OTHERWISE INDICATED. ALL AIR DEVICES IN HIGH HUMIDITY AREAS (ie. TOILET ROOMS, ETC) MUST BE ALUMINUM.

DESIGN CONDITIONS SCHEDULE

ROOM DESCRIPTION	OCCUPIED HOURS				UNOCCUPIED HOURS			
	SUMMER		WINTER		SUMMER		WINTER	
	DB (DEG F)	% RH	DB (DEG F)	% RH	DB (DEG F)	% RH	DB (DEG F)	% RH
GENERAL OFFICE, DORM, CONFERENCE ROOMS, EOC, FITNESS ROOM	75	60	70	-	80	60	65	-
IT SPACE	72	55	72	-	72	55	72	55
UTILITY ROOMS	85 (MAX)	-	40 (MIN)	-	85 (MAX)	-	40 (MIN)	-
TOILET ROOMS, SHOWERS, UNOCCUPIED STORAGE	AIR TRANSFER	-	70	-	AIR TRANSFER	-	70	-
APPARATUS BAY, LOCKER ROOMS	AMBIENT	-	65	-	AMBIENT	-	60	-

VRF HEAT RECOVERY (BRANCH SELECTOR) BOX SCHEDULE

UNIT ID	LOCATION	NUMBER OF CONNECTED UNITS	ELECTRICAL			BASIS OF DESIGN	
			VOLTS/PH	MCA	MOCP	MANUFACTURER	MODEL
HR-1	101 - LOBBY	4	208/1	0.2	15	JCI	COB
HR-2	101 - LOBBY	3	208/1	0.2	15	JCI	COB
HR-3	131 - CORRIDOR	8	208/1	0.4	15	JCI	COB
HR-4	130 - CORRIDOR	5	208/1	0.4	15	JCI	COB
HR-5	130 - CORRIDOR	4	208/1	0.2	15	JCI	COB

DUCT CONSTRUCTION SCHEDULE

SYSTEM	DUCT PRESSURE CLASS (IN WC)	DUCT SEAL CLASS	TEST PRESSURE (IN WC)	MAX ALLOWABLE LEAKAGE	NOTES
LOW PRESSURE OUTDOOR AIR OR SUPPLY AIR	2"	A	2"	1%	1, 2 & 3
LOW PRESSURE RETURN AIR	2"	A	2"	1%	1, 2 & 3
LOW PRESSURE EXHAUST	2"	A	2"	1%	1, 2 & 3

NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL DUCTWORK REQUIREMENTS AS WELL AS DETAILED PRODUCT AND INSTALLATION REQUIREMENTS. WHERE DRAWINGS AND SPECIFICATIONS CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
2. SUCCESSFUL COMPLETION OF DUCT PRESSURE TESTING SHALL OCCUR PRIOR TO THE INSTALLATION OF INSULATION. VERIFICATION OF SUCCESSFUL PRESSURE TEST RESULTS SHALL BE SUBMITTED TO THE A/E AND INCLUDED IN THE PROJECT O & M MANUALS.
3. TEST PRESSURE SHALL BE 125% OF SYSTEM OPERATING PRESSURE, BUT NOT LESS THAN THE PRESSURE INDICATED.

VRF AIR CONDITIONING UNIT SCHEDLUE

INDOOR UNIT	UNIT ID		AREA SERVED	TYPE	NAMEPLATE		COOLING COIL DATA				HEATING COIL		NOTES	BASIS OF DESIGN
	ASSOCIATED OUTDOOR UNIT(S)	HEAT RECOVERY UNIT			SUPPLY AIR CFM	VOLTS/PH	TOTAL MBH	SENS MBH	EAT DB (DEG F)	EAT WB (DEG F)	MBH	EAT (DEG F)		
ACU-01	VRF-1	HR-2	100 - VESTIBULE	CASSETTE	424	208/1	4.0	3.5	75.1	61.0	4.0	70.0	1	JCI YICM
ACU-02	VRF-1	HR-1	101 - LOBBY	CASSETTE	424	208/1	4.3	4.3	75.1	57.0	3.9	70.0		JCI YICM
ACU-03	VRF-1	HR-1	104.2 - EOC OFFICE	CASSETTE	424	208/1	7.2	6.2	75.1	61.3	3.9	70.0		JCI YICM
ACU-04	VRF-1	HR-1	104 - MEETING	DUCTED	1059	208/1	28.5	21.8	75.1	62.6	16.3	70.0		JCI YIDM
ACU-05	VRF-1	HR-1	104 - MEETING	DUCTED	424	208/1	28.5	21.8	75.1	62.6	16.3	70.0		JCI YICM
ACU-06	VRF-1	HR-2	110 - CHIEFS OFFICE	CASSETTE	424	208/1	2.7	2.5	75.1	60.5	1.3	70.0		JCI YICM
ACU-07	VRF-1	HR-3	109.1 OFFICE	CASSETTE	424	208/1	2.1	1.9	75.1	61.0	0.7	70.0		JCI YICM
ACU-08	VRF-1	HR-3	114 - OFFICE	CASSETTE	424	208/1	2.1	1.9	75.1	61.0	0.7	70.0		JCI YICM
ACU-09	VRF-1	HR-2	105 - OFFICE	CASSETTE	424	208/1	7.3	6.3	75.1	61.3	3.9	70.0		JCI YICM
ACU-10	VRF-1	HR-3	106 - OFFICE	CASSETTE	424	208/1	7.3	6.3	75.1	61.3	3.9	70.0		JCI YICM
ACU-11	VRF-1	HR-3	107 - OFFICE	CASSETTE	424	208/1	7.3	6.3	75.1	61.3	3.9	70.0		JCI YICM
ACU-12	VRF-1	HR-3	108 - OFFICE	CASSETTE	953	208/1	17.9	16.3	75.1	60.5	7.7	70.0		JCI YIC4
ACU-13	VRF-1	HR-3	109 - WATCH OFFICE	CASSETTE	953	208/1	19.0	16.5	75.1	61.2	9.5	70.0		JCI YIC4
ACU-14	VRF-1	HR-3	131 - CORRIDOR	DUCTED	1183	208/1	29.2	26.8	75.1	60.0	21.7	70.0		JCI YIDM
ACU-15	VRF-1	HR-5	130 - CORRIDOR	CASSETTE	424	208/1	5.8	5.4	75.1	60.2	5.8	70.0		JCI YICM
ACU-16	VRF-1	HR-6	133 - KITCHEN	DUCTED	1271	208/1	36.2	33.7	75.1	60.2	12.2	70.0		JCI YIDM
ACU-17	VRF-1	HR-6	134 - DAY ROOM	DUCTED	1059	208/1	27.7	22.3	75.1	61.2	16.0	70.0		JCI YIDM
ACU-18	VRF-1	HR-6	123-128 - DORM	DUCTED	1271	208/1	42.4	36.5	75.1	61.4	21.7	70.0		JCI YIDM
ACU-19	VRF-1	HR-6	133 - KITCHEN	DUCTED	1271	208/1	36.2	33.7	75.1	60.2	12.2	70.0	1	JCI YIDM
ACU-20	VRF-1	HR-5	119 - FITNESS	CASSETTE	424	208/1	6.8	7.6	75.1	65.9	1.5	70.0		JCI YICM
ACU-21	VRF-1	HR-5	119 - FITNESS	CASSETTE	424	208/1	6.8	5.6	75.1	65.9	1.5	70.0		JCI YICM
ACU-22	VRF-1	HR-5	139 - DECON	WALL MOUNTED	494	208/1	8.5	5.8	75.1	60.2	10.1	70.0		JCI TWVM
ACU-23	VRF-1	HR-3	111 - CONFERENCE	CASSETTE	424	208/1	5.3	4.1	75.1	62.6	1.1	70.0		JCI YICM
ACU-24	VRF-1	HR-5	138 - TURNOUT GEAR	DUCTED	318	208/1	5.1	4.8	75.1	60.2	3.8	70.0		JCI YIDS

GENERAL NOTES (NOTES APPLY TO ALL ACUs):
A. PROVIDE REFRIGERANT PIPING (INCLUDING DOUBLE SUCTION RISERS WITH TRAPS IF REQUIRED) AS RECOMMENDED BY MANUFACTURER. PIPE LENGTHS AND SIZING SHALL BE AS RECOMMENDED BY MANUFACTURER.
B. FULLY COORDINATED REFRIGERANT PIPING DRAWINGS SHALL BE INCLUDED WITH THE EQUIPMENT SUBMITTAL.
C. SHOULD A MANUFACTURER OTHER THAN THE BASIS OF DESIGN BE PROVIDED, CONTRACTOR SHALL COORDINATE ELECTRICAL REVISIONS REQUIRED AT NO COST TO THE OWNER.
D. COOLING CAPACITIES INDICATED SHALL BE AT 75 DEG. F / 50% RH RETURN AIR.
E. PROVIDE WALL MOUNTED THERMOSTATS CAPABLE OF LOCAL TEMPERATURE SETPOINT ADJUSTMENT OR THROUGH SIGNAL FROM EMCS.
F. PROVIDE CONDENSATE LEAK DETECTION IN ACCORDANCE WITH UL 508 AN ALL APPLICABLE CODES FOR ALL VRF TERMINAL UNITS. LEAK DETECTION SHALL ALARM AT THE BUILDING EMCS AND SHALL DE-ENERGIZE THE
G. PROVIDE REFRIGERANT LEAK DETECTION AND ALARM AT VRF CONTROL PANEL AND EMCS.
H. CAPACITIES INDICATED ARE NET CAPACITIES AFTER PIPE LENGTHE DE-RATINGS HAVE BEEN ACCOUNTED FOR.
I. PROVIDE CONDENSATE DRAINS FROM HEAT RECOVERY UNITS AS REQUIRED BY MANUFACTURER. EXTEND CONDENSATE PIPING AND CONNECT NEAREST STORM WATER PIPING OR DRAIN.
J. ALL DUCTED UNITS SHALL HAVE AN EXTERNAL STATIC PRESSURE OF 0.6" WG.
K. PROVIDE SELECTIONS FOR VRF SYSTEM BASED ON PROJECT SPECIFIC PIPING LENGTHS AND CONFIGURATION.
L. PROVIDE UNITS WITH CONDENSATE PUMP.
NOTES (APPLY TO SPECIFIC ACUs):
1. PROVIDE UNIT WITH REMOTE TEMPERATURE SENSOR.

FAN SCHEDULE

DESIG	LOCATION	AREA SERVED	CFM	ESP (IN)	MOTOR					RPM	MIN FAN DIA	WHEEL TYPE	CLASS	DRIVE TYPE	METHOD OF CONTROL	MANUFACTURER	MODEL	NOTES
					HP	MAX BHP	VOLTS	PHASE	VFD									
EF-1	139 - DECON	139 - DECON	675	0.5	1/4	0.2	115	1	N	1542	15	BI	I	DIRECT	ATC	GREENHECK	SQ	1
EF-2	141.1 - STORAGE	140 - APPARATUS BAY	430	0.6	1/4	0.18	115	1	N	1578	15	BI	I	DIRECT	ATC	GREENHECK	SQ	1
EF-3	202 - MEZZANINE	140 - APPARATUS BAY	5985	1.0	3	2.5	460	3	N	1091	40	BI	I	BELT	ATC	GREENHECK	USF	1
EF-4	146 - UTILITY	146 - UTILITY	990	0.5	1/4	0.18	115	1	N	1349	26	AF	I	DIRECT	ATC	GREENHECK	AER	1
VF-1	143 - WORKSHOP	143 - WORKSHOP/ 142 ENGINEER	70	0.5	1/4	0.05	115	1	N	1212	15	BI	I	DIRECT	ATC	GREENHECK	SQ	1

NOTES:
1. PROVIDE WITH FACTORY WIRED DISCONNECT SWITCH.

DUCTLESS SPLIT SYSTEM SCHEDULE

AREA SERVED	DESIGNATION		CFM	UNIT TYPE	ELECTRICAL CHARACTERISTICS									BASIS OF DESIGN		REMARKS
	INDOOR UNIT	OUTDOOR UNIT			COOLING		HEATING	INDOOR UNIT			OUTDOOR UNIT				MANUFACTURER	MODEL	
					TOTAL MBH	SENS MBH	TOTAL MBH	FAN FLA	VOLTS	PHASE	MCA	VOLTS	PHASE	MOCP			
118 - ELEC	DSS-1	ACCU-1	400	WALL MOUNT	6.1	5.2	-	0.1	208	1	15.0	208	1	25	YORK	DHX/DHX	1,2,3,4,5,6
143 -ENGINEER	DSS-2	ACCU-2	350	WALL MOUNT	4.9	3.2	1.5	0.1	208	1	26.0	208	1	30	YORK	DHP/DHM	1,2,3,4,6
142 - WORK SHOP	DSS-3	ACCU-2	350	WALL MOUNT	4.0	2.4	1.4	0.1	208	1	26.0	208	1	30	YORK	DHP/DHM	1,2,3,4,6
141 - ELEC	DSS-4	ACCU-4	580	WALL MOUNT	20.2	16.8	-	0.1	208	1	18.1	208	1	30	YORK	DHX/DHX	1,2,3,4,5,6
145 - SCBA	DSS-5	ACCU-2	350	WALL MOUNT	3.0	1.8	1.1	0.1	208	1	26.0	208	1	30	YORK	DHP/DHM	1,2,3,4,6
141.1 - STORAGE	DSS-6	ACCU-2	350	WALL MOUNT	4.1	2.7	2.0	0.1	208	1	26.0	208	1	30	YORK	DHP/DHM	1,2,3,4,6
129 - IT	DSS-7	ACCU-3	430	WALL MOUNT	17.0	14.4	-	0.1	208	1	12.7	208	1	20	YORK	DHX/DHX	1,2,3,4,5,6

NOTES:
1. PROVIDE DOUBLE SUCTION REFRIGERANT PIPING RISERS AND TRAPS AS RECOMMENDED BY MANUFACTURER.
2. COOLING CAPACITIES INDICATED SHALL BE AT 75°F / 50% RH RETURN AIR AND 95°F OUTSIDE AIR.
3. REFRIGERANT SYSTEM ACCESSORIES AND PIPE SIZES SHALL BE AS RECOMMEND BY MANUFACTURER.
4. PROVIDE UNITS WITH CONDENSATE PUMP.
5. UNIT MUST BE CAPABLE OF LOW AMBIENT COOLING DOWN TO 0 DEGREES F.
6. CONTRACTOR SHALL VERIFY LINE LENGTHS AND INCLUDE ANY ASSOCIATED DE-RATING.

AIR COOLED CONDENSING UNIT SCHEDULE

DESIG	LOCATION	REFRIGERANT	COOLING		HEATING		ELECTRICAL			NOTES	BASIS OF DESIGN	
			OA TEMP	TOTAL MBH	OA TEMP	TOTAL MBH	VOLTS/PH	MCA	MOCP		MANUFACTURER	MODEL
VRF-1	GRADE	R-410A	95	437.0	0	486.0	208/3	60.3	70	1,2	JCI	YVAHR
ACCU-5	GRADE	R-410A	95	194.4			460/3	4.6	6		INNOVENT	RAC

NOTES:
1. CAPACITIES FOR REFERENCE ONLY. UNIT SHALL BE ABLE TO SERVE INDOOR UNITS WITH ALL DE-RATES ACCOUNTED FOR.
2. PROVIDE SELECTIONS FOR VRF SYSTEM BASED ON PROJECT SPECIFIC PIPING LENGTHS.

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL:

CONSULTANT:
bkm
Burdette, Koehler, Murphy & Associates, Inc.
8300 Boone Blvd., Suite 400 | Baltimore, Maryland 21224
P: 410.821.8000 | www.bkm.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT NUMBER: 18-036
PROJECT SET: BID SET
DATE ISSUED: 11/30/2023
DRAWING TITLE: MECHANICAL SCHEDULES
SHEET NUMBER: M701
BKM# 19020.01

Plotted By: Ian Sweeney | 1/4/2024 6:02 PM
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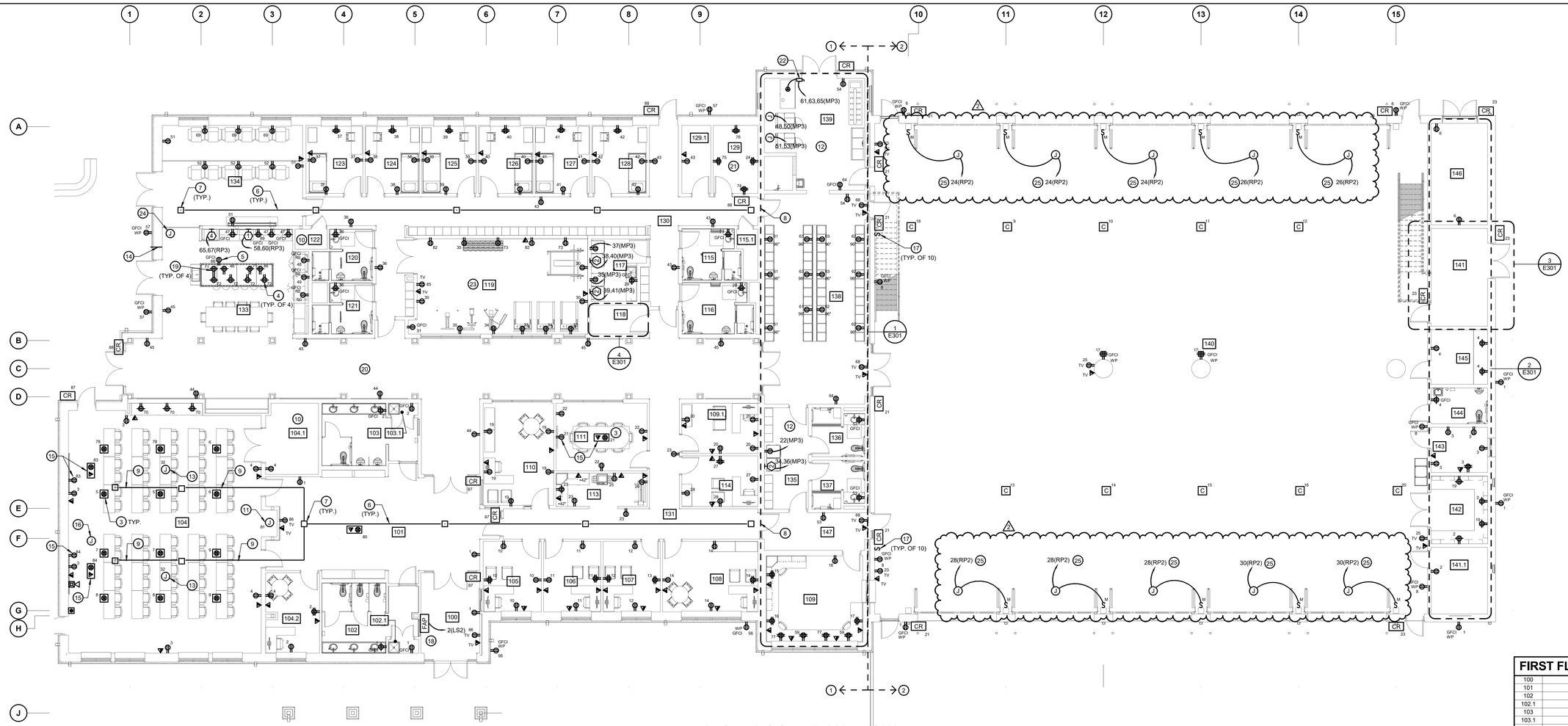
4/3/2019 8:48:38 AM



1 FIRST FLOOR PLAN - POWER

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO E001 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.

DRAWING NOTES:

1. UNLESS OTHERWISE NOTED, ALL RECEPTACLES ON THIS SIDE OF THE MATCH LINE SHALL BE CONNECTED TO PANEL RP3.
2. UNLESS OTHER WISE NOTED ALL RECEPTACLES ON THIS SIDE OF THE MATCH LINE SHALL BE CONNECTED TO PANEL RP2.
3. PROVIDE LEGRAND EVOLUTION 4 GANG FLOOR BOX FOR POWER AND TELECOM/AV CONNECTIONS. TWO (2) DUPLEX RECEPTACLES, ONE (1) DATA JACK, AND ONE (1) AV.
4. PROVIDE COUNTERTOP GFCI RECEPTACLE WITH USB PORT MOUNTED AT 24" AFF. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
5. PROVIDE GFCI RECEPTACLE FOR DISH WASHER.
6. PROVIDE (4) 4" SPARE CONDUITS ABOVE CEILING FOR FUTURE USE.
7. PROVIDE MINIMUM 28"x28"x28" PULLBOX ABOVE CEILING FOR FUTURE USE.
8. PROVIDE (4) 4" CONDUIT SLEEVES THROUGH WALL FOR FUTURE USE. INSTALL AT 18'-0" AFF.
9. PROVIDE (2) 4" SPARE CONDUITS ABOVE CEILING FOR FUTURE USE.
10. PROVIDE (3) 4" SPARE CONDUITS UNDER SLAB FROM ROOM 104.1 TO ROOM 122 FOR FUTURE ELECTRICAL WORK. FIELD COORDINATE STUB UP LOCATIONS.
11. PROVIDE POWER FOR FUTURE OPERABLE PARTITION. PROVIDE CONNECTION TO BLANK RECESSED WALL BOX FOR FUTURE CONTROLS.
12. ALL RECEPTACLES IN THIS ROOM SHALL BE PROVIDED IN WATERPROOF ENCLOSURE.
13. PROVIDE CEILING MOUNTED RECEPTACLE AND DATA OUTLET FOR FUTURE PROJECTOR.
14. PROVIDE SPARE 3" CONDUIT FOR FUTURE OUTDOOR POWER SUPPLY. CONDUIT SHALL RUN FROM HANDHOLE AT BASE OF PATIO RETAINING WALL, UNDER PATIO, UP INTERIOR WALL, AND TERMINATE IN JUNCTION BOX ABOVE FINISHED CEILING.
15. PROVIDE MINIMUM 6-GANG FLOORBOX WITH (1) QUAD RECEPTACLE, (4) DATA JACKS, AND (4) HDMI PORTS. BASIS OF DESIGN EVOLUTION SERIES BY LEGRAND OR APPROVED EQUAL. CONNECT FLOORBOX TO MEDIA BOX LOCATED 72" AFF ON ADJACENT WALL USING (3) 2" CONDUIT. WALL MEDIA BOX TO INCLUDE (1) DUPLEX OUTLET, (4) DATA JACKS, AND (4) HDMI PORTS.

DRAWING NOTES (CONTINUED):

16. PROVIDE SPARE 6-GANG AV FLOORBOX WITH (3) 2" CONDUIT FROM FLOOR BOX, UP WALL, AND TERMINATING IN JUNCTION BOX ABOVE FINISHED CEILING. BASIS OF DESIGN EVOLUTION SERIES BY LEGRAND OR APPROVED EQUAL.
17. PROVIDE TWO-WAY SWITCH FOR CONTROL OF APPARTUS BAY GARAGE DOORS. SWITCHES SHALL BE GANGED TOGETHER. PROVIDE CONDUIT AND WIRE FROM SWITCHES TO DOOR OPERATOR PER MANUFACTURER REQUIREMENTS.
18. PANEL SHALL BE RECESSED MOUNTED.
19. PROVIDE COUNTERTOP GFCI RECEPTACLE WITH USB PORT MOUNTED WITHIN BACK SPLASH. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
20. MAIN CORRIDOR WALLS AND CEILING SHALL BE FREE OF ALL EXPOSED CONDUIT AND WIRE.
21. STUB UP (4) 4" CONDUITS IN THIS ROOM FOR TELECOM SERVICE. REFER TO SITE PLAN FOR ADDITIONAL INFORMATION. FIELD COORDINATE EXACT LOCATION.
22. PROVIDE 208V, 3P, 30A FSS IN NEMA 3R ENCLOSURE FOR CONNECTION TO OWNER PROVIDED GEAR DRYER. FUSE PER MANUFACTURER'S RECOMMENDATIONS. THE CIRCUIT FROM THE DISCONNECT TO THE UNIT AND THE HOMERUN SHALL SHALL BE A MINIMUM OF (3)#10 + (1)#10 GND IN 3/4" CONDUIT. PROVIDE ALL REQUIRED MOUNTING HARDWARE. ENSURE ALL NEC CLEARANCES ARE MET. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.
23. COORDINATE OUTLET LOCATIONS IN THIS ROOM WITH ARCHITECTURAL DRAWINGS.
24. PROVIDE 120V CONNECTION TO SOLENOID VALVE. COORDINATE INSTALLATION WITH PLUMBING INSTALLER.
25. PROVIDE CONNECTION TO DOOR CONTROL PANEL. PROVIDE CONDUITS FOR LOW VOLTAGE CONNECTIONS PER MANUFACTURER REQUIREMENTS.

FIRST FLR ROOM LIST

100	VESTIBULE
101	LOBBY
102	WOMEN
102.1	JAN
103	MEN
103.1	JAN
104	MEETING
104.1	STOR
104.2	OFFICE
105	OFFICE
106	OFFICE
107	OFFICE
108	OFFICE
109	WATCH OFFICE
109.1	OFFICE
110	CHIEF'S OFFICE
111	CONFERENCE
113	COPY
114	OFFICE
115	SHOWER
115.1	MECH
116	SHOWER
117	LAUNDRY
118	ELEC.
119	FITNESS
120	SHOWER
121	SHOWER
122	MECH
123	BUNK
124	BUNK
125	BUNK
126	BUNK
127	BUNK
128	BUNK
129	IT
129.1	ST.
130	CORRIDOR
131	CORRIDOR
133	KITCHEN
134	DAY ROOM
135	CLEAN ROOM
136	SHOWER
137	SHOWER
138	TURNOUT GEAR
139	DECON
140	APPARATUS BAY
141	ELEC.
141.1	STORAGE
142	WORKSHOP
143	ENGINEER
144	TOILET
145	SCBA
146	UTILITY
147	VESTIBULE

N

0 2 4 8 16 24

SCALE: 1/8" = 1'-0"

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL

RICHARD ADAM MILLER
ENGINEER
PE-0509005E

CONSULTANT:

bkm
Burdette, Koehler, Murphy & Associates, Inc.
6200 Baltimore Ave, Suite 400 | Baltimore, Maryland 21209
P: 410.337.0000 | www.bkma.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

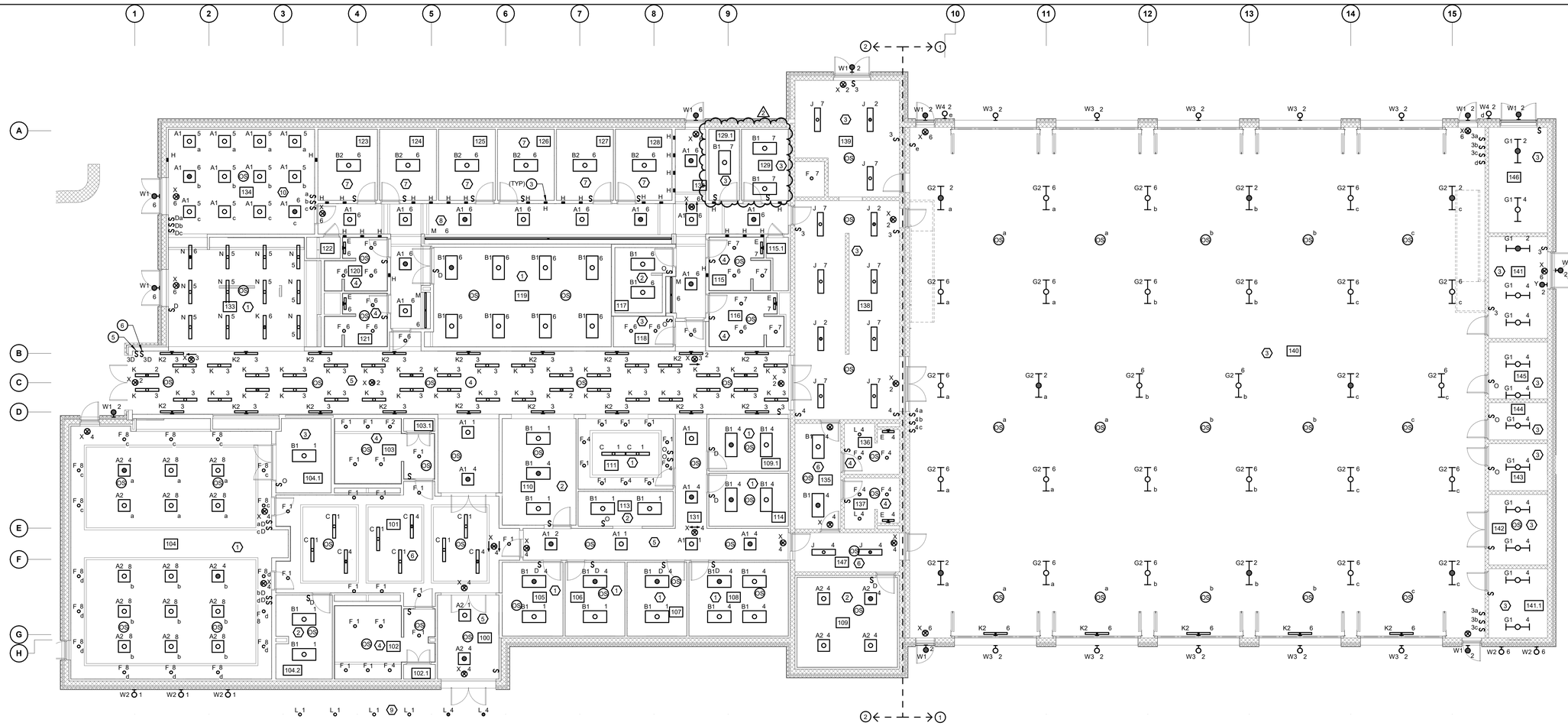
NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT
18-036
PROJECT
BID SET
DATE
11/30/2023

DRAWING
FIRST FLOOR PLAN
POWER
SHEET
E101

1/4/2024 1:21:11 PM

BKM# 19020.01



1 FIRST FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO E001 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. ALL EMERGENCY LIGHT FIXTURES SHALL BE CONNECTED TO LIFE SAFETY PANEL LS1.

DRAWING NOTES:

1. UNLESS OTHERWISE NOTED, ALL LIGHT FIXTURES ON THIS SIDE OF THE MATCH LINE SHALL BE CONNECTED TO PANEL LP1.
2. UNLESS OTHERWISE NOTED, ALL LIGHT FIXTURES ON THIS SIDE OF THE MATCH LINE SHALL BE CONNECTED TO PANEL LP2.
3. WALL RECESSED STEP LIGHT MOUNTED AT 18" AFF.
4. MAIN CORRIDOR WALLS AND CEILING SHALL BE FREE OF ALL EXPOSED CONDUIT AND WIRE.
5. SWITCH SHALL CONTROL TYPE "K" FIXTURES IN MAIN CORRIDOR.
6. SWITCH SHALL CONTROL TYPE "K3" FIXTURES IN MAIN CORRIDOR.
7. PROVIDE LED TAPE LIGHT UNDER LOCKERS. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAIL. PROVIDE LOW VOLTAGE TRANSFORMER PER TAPE LIGHT MANUFACTURER RECOMMENDATION.

FIRST FLR ROOM LIST

100	VESTIBULE
101	LOBBY
102	WOMEN
102.1	JAN
103	MEN
103.1	JAN
104	MEETING
104.1	STOR
104.2	OFFICE
105	OFFICE
106	OFFICE
107	OFFICE
108	OFFICE
109	WATCH OFFICE
109.1	OFFICE
110	CHIEF'S OFFICE
111	CONFERENCE
113	COPY
114	OFFICE
115	SHOWER
115.1	MECH
116	SHOWER
117	LAUNDRY
118	ELEC.
119	FITNESS
120	SHOWER
121	SHOWER
122	MECH
123	BUNK
124	BUNK
125	BUNK
126	BUNK
127	BUNK
128	BUNK
129	IT
129.1	ST.
130	CORRIDOR
131	CORRIDOR
133	KITCHEN
134	DAY ROOM
135	CLEAN ROOM
136	SHOWER
137	SHOWER
138	TURNOUT GEAR
139	DECON
140	APPARATUS BAY
141	ELEC.
141.1	STORAGE
142	WORKSHOP
143	ENGINEER
144	TOILET
145	SCBA
146	UTILITY
147	VESTIBULE

N

0 2 4 8 16 24

SCALE: 1/8" = 1'-0"

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
RICHARD ADAM MILLER
ENGINEER
PE-035060E

CONSULTANT:

bkm
Burdette, Koehler, Murphy & Associates, Inc.
6200 Blair Hill Lane, Suite 400 | Baltimore, Maryland 21209
P: 410.321.0000 | www.bkm.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

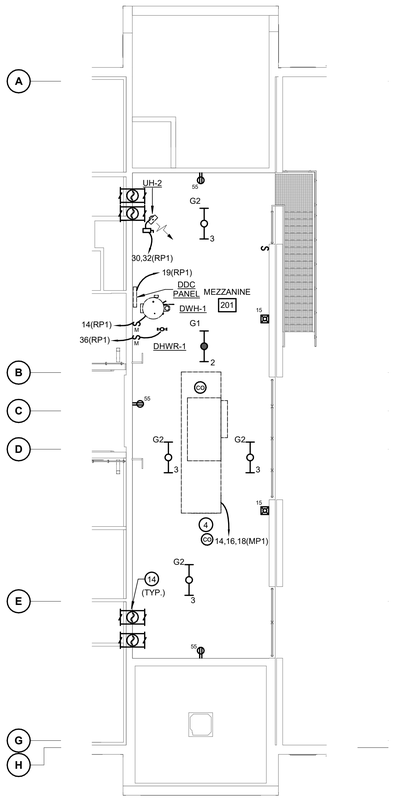
NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT 18-036
PROJECT BID SET
DATE 11/30/2023

DRAWING FIRST FLOOR PLAN LIGHTING
SHEET E201

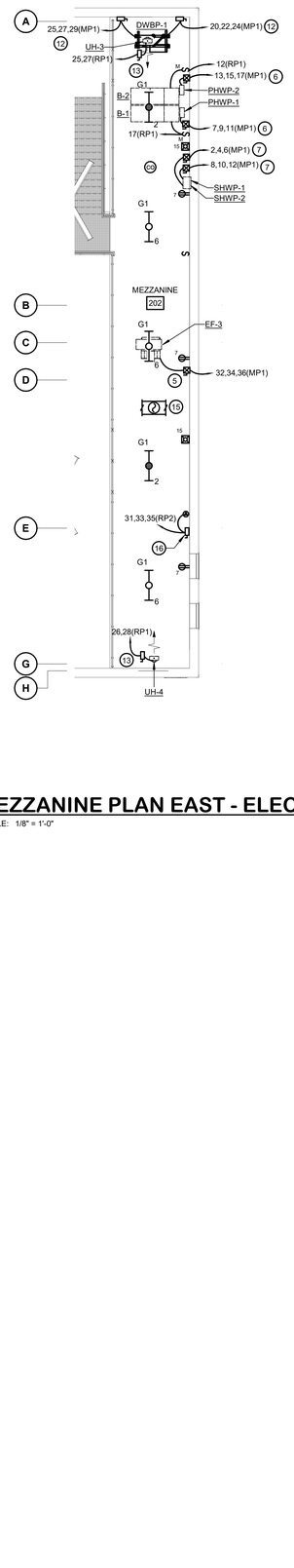
1/4/2024 1:21:13 PM

BKM# 19020.01



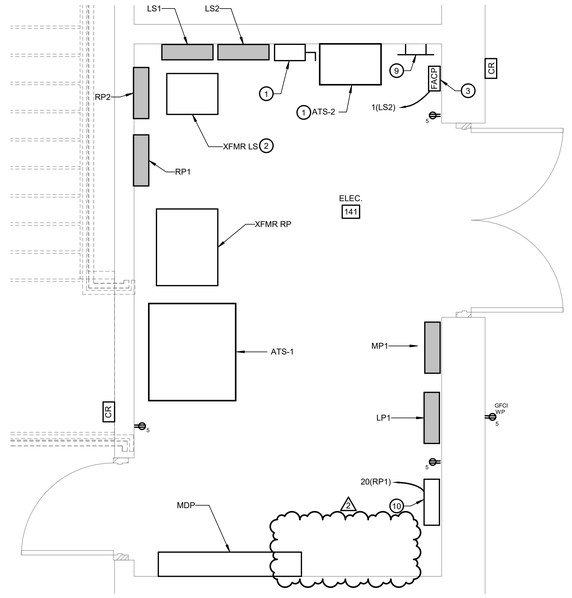
1 MEZZANINE PLAN WEST - ELECTRICAL

SCALE: 1/8" = 1'-0"



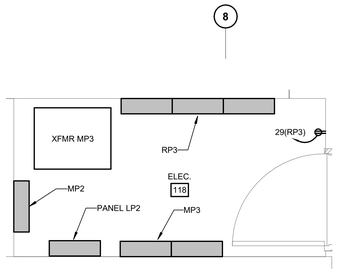
2 MEZZANINE PLAN EAST - ELECTRICAL

SCALE: 1/8" = 1'-0"



3 PART PLAN - FIRST FLOOR PLAN ROOM 141 - POWER

SCALE: 1/2" = 1'-0"



4 PART PLAN - FIRST FLOOR PLAN ROOM 118 - POWER

SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. REFER TO E001 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. ALL EMERGENCY LIGHT FIXTURES SHALL BE CONNECTED TO PANEL LS1.
3. UNLESS OTHERWISE NOTED, ALL LIGHT FIXTURES IN MEZZANINE WEST SHALL BE CONNECTED TO PANEL LP2 AND ALL RECEPTACLES SHALL BE CONNECTED TO RP3.
4. UNLESS OTHERWISE NOTED, ALL LIGHT FIXTURES IN MEZZANINE EAST SHALL BE CONNECTED TO PANEL LP1 AND ALL RECEPTACLES SHALL BE CONNECTED TO RP2.

○ DRAWING NOTES:

1. PROVIDE 480V, 3P, 60A FSS WITH 60A CURRENT LIMITING FUSES IN NEMA 1 ENCLOSURE FOR CONNECTION TO LIFE SAFETY ATS.
2. TRANSFORMER SHALL BE SUSPENDED. PROVIDE ALL MOUNTING HARDWARE AS NECESSARY.
3. PROVIDE COMBINATION FIRE ALARM AND CARBON MONOXIDE DETECTION CONTROL PANEL. CARBON MONOXIDE DETECTION TO BE PROVIDED THROUGHOUT THE ENTIRE BUILDING.
4. PROVIDE POWER TO DOAS-1 AS SHOWN. DISCONNECT SWITCH PROVIDED BY MECHANICAL. PROVIDE POWER CONNECTIONS BETWEEN THE DISCONNECT SWITCH AND UNIT PER MANUFACTURER RECOMMENDATIONS. THE CIRCUIT SHALL BE A MINIMUM OF (3)#4 + (1)#10 GND IN 1-1/4" CONDUIT. PROVIDE ALL REQUIRED MOUNTING HARDWARE. ENSURE ALL NEC CLEARANCES ARE MET.
5. PROVIDE 480V, 3-PHASE, FULL VOLTAGE, NON-REVERSING NEMA SIZE 0 MOTOR STARTER IN NEMA 1 ENCLOSURE FOR CONNECTION TO EF. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. FIELD COORDINATE EXACT LOCATION.
6. PROVIDE 480V, 0.5 HP, 6-PULSE VFD WITH A 5% LINE REACTOR AND MAINTENANCE BYPASS FOR CONNECTION TO PUMP AS INDICATED. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. FIELD COORDINATE EXACT LOCATION.
7. PROVIDE 480V, 1.5 HP, 6-PULSE VFD WITH A 5% LINE REACTOR AND MAINTENANCE BYPASS FOR CONNECTION TO PUMP AS INDICATED. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. FIELD COORDINATE EXACT LOCATION.
8. PROVIDE 480V, 3-PHASE, FULL VOLTAGE, NON-REVERSING NEMA SIZE 0 MOTOR STARTER IN NEMA 1 ENCLOSURE FOR CONNECTION TO VEF. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED. FIELD COORDINATE EXACT LOCATION.
9. PROVIDE MINIMUM 1/4" THICK, 2" TALL GROUND BUS BAR. SIZE LENGTH AS NEEDED PER QUANTITY OF CONNECTIONS. PROVIDE CONNECTION WATER MAIN, STRUCTURAL STEEL, FOUNDATION REBAR, GROUND RING, AND LIGHTNING PROTECTION SYSTEM. PROVIDE CONNECTION TO TELECOMMUNICATIONS GROUND BUS BAR.
10. PROVIDE TIMECLOCK FOR EXTERIOR LIGHTING CONTROL. REFER TO LIGHTING CONTROL SEQUENCE OF OPERATIONS ON DRAWING E001 FOR ADDITIONAL INFORMATION.
11. NOTE REMOVED.
12. PROVIDE 480V, 3P, 30A FSS IN NEMA 1 ENCLOSURE FOR CONNECTION TO DWBP-1. FUSE PER MANUFACTURER RECOMMENDATIONS. THE CIRCUIT SHALL BE A MINIMUM (3)# 12 + (1)#12 GND IN 3/4" CONDUIT. PROVIDE REQUIRED MOUNTING HARDWARE. ENSURE ALL NEC CLEARANCES ARE MET.
13. DISCONNECT SWITCH PROVIDED BY MECHANICAL.
14. PROVIDE DUCT SMOKE DETECTOR FOR DOAS-1. COORDINATE DUCT SMOKE DETECTOR INSTALLATION WITH MECHANICAL CONTRACTOR.
15. PROVIDE DUCT SMOKE DETECTOR FOR EF-3. COORDINATE DUCT SMOKE DETECTOR INSTALLATION WITH MECHANICAL CONTRACTOR.
16. PROVIDE 208V, 3P, 60A FSS IN NEMA 3R ENCLOSURE FOR CONNECTION TO OWNER PROVIDED AIR COMPRESSOR. FUSE PER MANUFACTURER'S RECOMMENDATIONS. THE CIRCUIT FROM THE DISCONNECT TO THE UNIT AND THE HOMERUN SHALL SHALL BE A MINIMUM OF (3)#4 + (1)#10 GND IN 1-1/4" CONDUIT. PROVIDE ALL REQUIRED MOUNTING HARDWARE. ENSURE ALL NEC CLEARANCES ARE MET. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.

0 1 2 4 6

SCALE: 1/2" = 1'-0"

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL

CONSULTANT:

bkm
Burdette, Koehler, Murphy & Associates, Inc.
8300 Boone Blvd, Suite 400 | Baltimore, Maryland 21209
P: 410.821.0000 | www.bkm.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

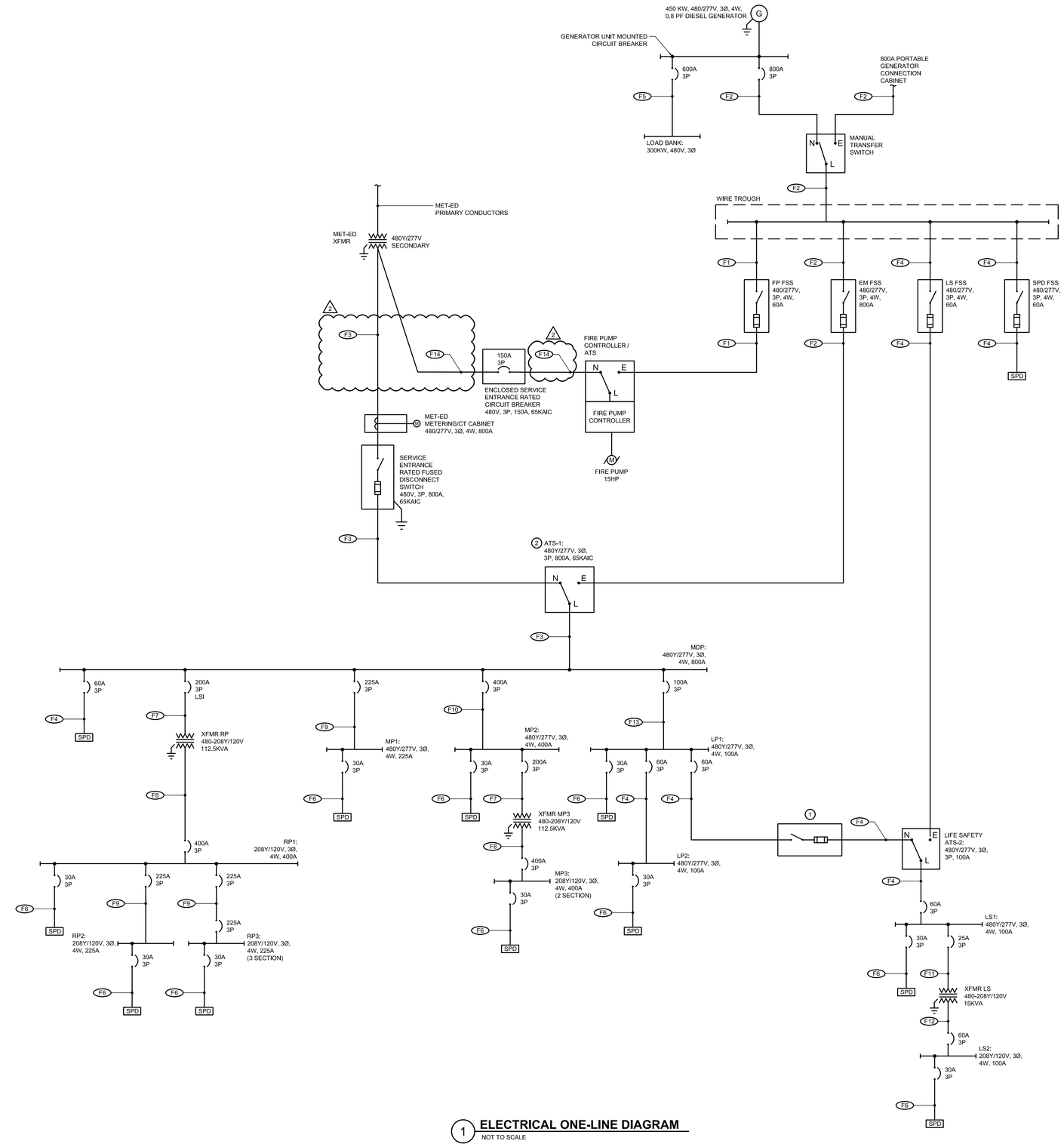
NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT 18-036
PROJECT BID SET
DATE 11/30/2023

DRAWING PART FLOOR PLANS - ELECTRICAL
SHEET E301

1/5/2024 8:41:51 AM

BKM# 19020.01



1 **ELECTRICAL ONE-LINE DIAGRAM**
NOT TO SCALE

GENERAL NOTES:

1. REFER TO DRAWING E001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. ALL TRANSFORMERS ARE 3-PHASE, DELTA-WYE, 480V PRIMARY - 208/120V SECONDARY, DRY-TYPE UNLESS OTHERWISE NOTED.
3. REFER TO SITE PLAN FOR SPARE UNDERGROUND CONDUIT REQUIREMENTS.

DRAWING NOTES:

1. PROVIDE 480V, 3P, 60A, 65KAIC FSS IN NEMA 1 ENCLOSURE WITH 60A CURRENT LIMITING FUSES.
2. PROVIDE WITH BYPASS ISOLATION SWITCH.

FEEDER SCHEDULE:

- F1 PROVIDE 4#8 + 1#10 GND IN 1" CONDUIT.
- F2 PROVIDE (2) SETS OF 4#600KCMIL + 1#3/0 GND IN (2) 4" CONDUITS.
- F3 PROVIDE (2) SETS OF 4#600KCMIL +1#3/0 GND IN (2) 4" CONDUITS.
- F4 PROVIDE 4#6 + 1#10 GND IN 1" CONDUIT.
- F5 PROVIDE (2) SETS OF 3#350KCMIL + 1#1 GND IN (2) 3" CONDUIT.
- F6 PROVIDE 4#8 + 1#10 GND IN 3/4" CONDUIT.
- F7 PROVIDE 3#3/0 + 1#6 GND IN 2" CONDUIT.
- F8 PROVIDE 4#600KCMIL + 1#1/0 GND IN 4" CONDUIT.
- F9 PROVIDE 4#4/0 + 1#4 GND IN 2-1/2" CONDUITS.
- F10 PROVIDE 4#600KCMIL +1#3 GND IN 4" CONDUITS.
- F11 PROVIDE 3#10 + 1#10 GND IN 3/4" CONDUIT.
- F12 PROVIDE 4#6 + 1#8 GND IN 1" CONDUIT.
- F13 PROVIDE 4#3 + 1#8 GND IN 1-1/4" CONDUIT.
- F14 PROVIDE 4#1/0 + 1#6 GND IN 2" CONDUIT.

2

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ARCHITECTURE • MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL:

CONSULTANT:

bkm
Burdette, Koehler, Murphy & Associates, Inc.
8300 Blair Hill Lane, Suite 400 | Baltimore, Maryland 21209
P: 410.321.0000 | www.bkmeng.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT NUMBER: 18-036
PROJECT SET: BID SET
DATE ISSUED: 11/30/2023
DRAWING TITLE: ELECTRICAL ONE-LINE DIAGRAM
SHEET NUMBER: E501
BKM# 19020.01

4/3/2019 8:48:38 AM

Plotted By: Joe Rothe | 1/4/2024 12:45 PM
ARL: G:\19020.01\Drawings\Acad\E\E501 One-Line Diagram

Panelboard: MDP

Location: ELEC. 141
Supply From:
Mounting:
Enclosure: Not Used

Volts: 480/277 3Ø 4W
Phases: 3
Wires: 4

A.I.C. Rating: 65kA
Mains Type: MLO
Mains Rating: 800 A

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load (kVA)	Remarks
1	XFMR RP	3	400 A	300 A	121.0	
2	MP1	3	225 A	225 A	75.6	
3	MP2	3	400 A	400 A	108.0	
4	LP1	3	100 A	100 A	14.3	
5	SPD	3	100 A	60 A	0.0	
6	SPARE	3	--	400 A	0.0	
7	SPACE	--	--	--	0.0	--
8	SPACE	--	--	--	0.0	--
9	SPACE	--	--	--	0.0	--
10	SPACE	--	--	--	0.0	--
11	SPACE	--	--	--	0.0	--
12	SPACE	--	--	--	0.0	--
13						
14						
15						
16						
17						
18						
19						
20						
				Total Conn. Load:	318.9	kVA
				Total Amps:	383.6	A

Legend:

Notes:
PROVIDE I-LINE TYPE PANELBOARD.

Panel: LS1

LOCATION: ELEC. 141
MOUNTING: Surface

MAINS RATING: 60 A
MAINS TYPE: MCB

VOLTAGE: 480/277 3Ø 4W
AIC RATING: 25kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	XFMR LS	25 A	3	1.20			1.51			1	20 A	LIGHTING	2
3	--	--	--		0.00			0.96		1	20 A	LIGHTING	4
5	--	--	--			0.00			0.46	1	20 A	LIGHTING	6
7	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	8
9	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	12
13	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	20
21	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	22
23	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	24
25	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	26
27	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	28
29	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	30
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36
37	SPACE	--	--	0.00			0.00			3	30 A	SPD	38
39	SPACE	--	--		0.00			0.00		--	--	--	40
41	SPACE	--	--			0.00			0.00	--	--	--	42

Connected Load
AØ: 2.71 KVA = 23 A A
BØ: 0.96 KVA = 8 A A
CØ: 0.46 KVA = 4 A A

Notes:

Panel: MP1

LOCATION: ELEC. 141
MOUNTING: Surface

MAINS RATING: 225 A
MAINS TYPE: MLO

VOLTAGE: 480/277 3Ø 4W
AIC RATING: 42kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	SPARE	20 A	3	0.00			0.94			3	15 A	SWHP-1	2
3	--	--	--		0.00			0.94		--	--	--	4
5	--	--	--			0.00			0.94	--	--	--	6
7	PHWP-1	15 A	3	0.58			0.94			3	15 A	SHWP-2	8
9	--	--	--		0.58			0.94		--	--	--	10
11	--	--	--			0.58			0.94	--	--	--	12
13	PHWP-2	15 A	3	0.58			10.98			3	60 A	DOAS-1	14
15	--	--	--		0.58			10.98		--	--	--	16
17	--	--	--			0.58			10.98	--	--	--	18
19	DWH-3	80 A	1	16.05			2.02			3	20 A	DWBP-1	20
21								2.02		--	--	--	22
23									2.02	--	--	--	24
25	DWBP-1	20 A	3	2.02			0.44			3	20 A	JP-1	26
27	--	--	--		2.02			0.44		--	--	--	28
29	--	--	--			2.02			0.44	--	--	--	30
31	SPACE	--	--	0.00			1.33			3	40 A	EF-3	32
33	SPACE	--	--		0.00			1.33		--	--	--	34
35	SPACE	--	--			0.00			1.33	--	--	--	36
37	SPACE	--	--	0.00			0.00			3	30 A	SPD	38
39	SPACE	--	--		0.00			0.00		--	--	--	40
41	SPACE	--	--			0.00			0.00	--	--	--	42

Connected Load
AØ: 35.89 KVA = 130 A A
BØ: 19.84 KVA = 72 A A
CØ: 19.84 KVA = 72 A A

Notes:

Panel: LP1

LOCATION: ELEC. 141
MOUNTING: Surface

MAINS RATING: 100 A
MAINS TYPE: MCB

VOLTAGE: 480/277 3Ø 4W
AIC RATING: 25kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LP2	60 A	3	3.37			0.57			1	20 A	SITE LIGHTING	2
3	--	--	--		2.28			0.32		1	20 A	LIGHTING	4
5	--	--	--			1.43			2.22	1	20 A	LIGHTING	6
7	LS1	60 A	3	2.71			0.00			1	20 A	SPARE	8
9	--	--	--		0.96			0.00		1	20 A	SPARE	10
11	--	--	--			0.46			0.00	1	20 A	SPARE	12
13	SPARE	20 A	1	0.00			0.00			1	20 A	SPACE	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPACE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPACE	18
19	SPARE	20 A	1	0.00			0.00			1	20 A	SPACE	20
21	SPARE	20 A	1		0.00			0.00		1	20 A	SPACE	22
23	SPARE	20 A	1			0.00			0.00	1	20 A	SPACE	24
25	SPARE	20 A	1	0.00			0.00			1	20 A	SPACE	26
27	SPARE	20 A	1		0.00			0.00		1	20 A	SPACE	28
29	SPARE	20 A	1			0.00			0.00	1	20 A	SPACE	30
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36
37	SPACE	--	--	0.00			0.00			3	30 A	SPD	38
39	SPACE	--	--		0.00			0.00		--	--	--	40
41	SPACE	--	--			0.00			0.00	--	--	--	42

Connected Load
AØ: 6.65 KVA = 24 A A
BØ: 3.56 KVA = 13 A A
CØ: 4.11 KVA = 15 A A

Notes:

Panel: MP2

LOCATION: ELEC. 118
MOUNTING: Surface

MAINS RATING: 400 A
MAINS TYPE: MLO

VOLTAGE: 480/277 3Ø 4W
AIC RATING: 42kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	XFMR MP3	175 A	3	33.04			1.03			3	20 A	ACCU-5	2
3	--	--	--		36.20			1.03		--	--	--	4
5	--	--	--			32.99			1.03	--	--	--	6
7	DSF-1	20 A	3	0.44			0.44			3	20 A	DSF-2	8
9	--	--	--		0.44			0.44		--	--	--	10
11	--	--	--			0.44			0.44	--	--	--	12
13	SPACE	--	--	0.00			0.00			--	--	SPACE	14
15	SPACE	--	--		0.00			0.00		--	--	SPACE	16
17	SPACE	--	--			0.00			0.00	--	--	SPACE	18
19	SPACE	--	--	0.00			0.00			--	--	SPACE	20
21	SPACE	--	--		0.00			0.00		--	--	SPACE	22
23	SPACE	--	--			0.00			0.00	--	--	SPACE	24
25	SPACE	--	--	0.00			0.00			--	--	SPACE	26
27	SPACE	--	--		0.00			0.00		--	--	SPACE	28
29	SPACE	--	--			0.00			0.00	--	--	SPACE	30
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36
37	SPACE	--	--	0.00			0.00			3	30 A	SPD	38
39	SPACE	--	--		0.00			0.00		--	--	--	40
41	SPACE	--	--			0.00			0.00	--	--	--	42

Connected Load
AØ: 34.95 KVA = 126 A A
BØ: 38.11 KVA = 138 A A
CØ: 34.90 KVA = 126 A A

Notes:

Panel: LP2

LOCATION: ELEC. 118
MOUNTING: Surface

MAINS RATING: 100 A
MAINS TYPE: MLO

VOLTAGE: 480/277 3Ø 4W
AIC RATING: 14kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING	20 A	1	1.55			0.81			1	20 A	SITE LIGHTING	2
3	LIGHTING	20 A	1		1.83			0.45		1	20 A	LIGHTING	4
5	LIGHTING	20 A	1			0.49			0.94	1	20 A	LIGHTING	6
7	LIGHTING	20 A	1	0.43			0.58			1	20 A	LIGHTING	8
9	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	12
13	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	20
21	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	22
23	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	24
25	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	26
27	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	28
29	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	30
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36
37	SPACE	--	--	0.00			0.00			3	30 A	SPD	38
39	SPACE	--	--		0.00			0.00		--	--	--	40
41	SPACE	--	--			0.00			0.00	--	--	--	42

Connected Load
AØ: 3.37 KVA = 28 A A
BØ: 2.28 KVA = 19 A A
CØ: 1.43 KVA = 12 A A

Notes:

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL

CONSULTANT:
bkm
Burdette, Koehler, Murphy & Associates, Inc.
6330 Blair Hill Lane, Suite 400 | Baltimore, Maryland 21209
P: 410.321.0000 | www.bkma.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT
18-036
PROJECT
BID SET
DATE
11/30/2023

DRAWING
PANEL SCHEDULE
SHEET
E602

1/5/2024 8:41:52 AM

BKM# 19020.01

Panel: RP1

LOCATION: ELEC. 141 **MAINS RATING:** 400 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MCB **AIC RATING:** 18kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RP2	225 A	3	10.22			17.49			3	225 A	RP3	2
3	--	--	--		10.14			19.57		--	--	--	4
5	--	--	--			10.04			22.21	--	--	--	6
7	ACCU-2	40 A	2	2.52			1.50			2	20 A	UH-1 - 146	8
9	--	--	--		2.52			1.50		--	--	--	10
11	ACCU-4	30 A	2			1.88			0.60	1	20 A	B-2	12
13	--	--	--	1.88			1.32			1	20 A	DWH-1	14
15	DDC PANEL	20 A	1		0.60			1.01		1	20 A	CH-1 - 144	16
17	B-1	20 A	1			0.60			0.60	1	20 A	DDC PANEL	18
19	DDC PANEL	20 A	1	0.60			0.00			1	20 A	TIMECLOCK	20
21	DWH-2	30 A	2		2.40			0.60		1	20 A	EF-2	22
23	--	--	--			2.40			0.60	1	20 A	EF-4	24
25	UH-3	20 A	2	1.10			1.10			2	20 A	UH-4	26
27	--	--	--		1.10			1.10		--	--	--	28
29	EXTERIOR SIGNAGE	20 A	1			0.18			1.10	2	20 A	UH-2	30
31	DDC PANEL	20 A	1	0.60			1.10			--	--	--	32
33	SPARE	20 A	1		0.00			0.34		1	20 A	VF-1	34
35	SPARE	20 A	1			0.00			0.50	1	20 A	DHWR-1	36
37	SPACE	--	--	0.00			0.00			3	30 A	SPD	38
39	SPACE	--	--		0.00			0.00		--	--	--	40
41	SPACE	--	--			0.00			0.00	--	--	--	42

Connected Load
AØ: 39.44 KVA = 329 A A
BØ: 40.89 KVA = 341 A A
CØ: 40.71 KVA = 339 A A

Notes:

Panel: RP2

LOCATION: ELEC. 141 **MAINS RATING:** 225 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MLO **AIC RATING:** 14kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	REC - 141.1, EXTERIOR	20 A	1	0.72			0.54			1	20 A	REC - 142	2
3	REC - 143	20 A	1		0.90			0.72		1	20 A	REC - 143,144,145	4
5	REC - 141, EXTERIOR	20 A	1			0.72			0.72	1	20 A	REC - 146, EXTERIOR	6
7	REC - MEZZANINE WEST	20 A	1	0.54			0.72			1	20 A	REC - BAY AREA	8
9	CABLE REEL - BAY AREA	20 A	1		0.36			0.36		1	20 A	CABLE REEL - BAY AREA	10
11	CABLE REEL - BAY AREA	20 A	1			0.36			0.36	1	20 A	CABLE REEL - BAY AREA	12
13	CABLE REEL - BAY AREA	20 A	1	0.36			0.36			1	20 A	CABLE REEL - BAY AREA	14
15	CABLE REEL - BAY AREA	20 A	1		0.36			0.36		1	20 A	CABLE REEL - BAY AREA	16
17	REC - BAY AREA	20 A	1			0.72			0.36	1	20 A	CABLE REEL - BAY AREA	18
19	RECEPTACLE	20 A	1	0.36			0.36			1	20 A	CABLE REEL - BAY AREA	20
21	CARD READERS	20 A	1		0.50			0.36		1	20 A	CABLE REEL - BAY AREA	22
23	REC TV APPARATUS BAY 140	20 A	1			0.36			0.54	1	20 A	POWER APPARATUS BAY 140	24
25	REC TV APPARATUS BAY 140	20 A	1	0.36			0.36			1	20 A	POWER APPARATUS BAY 140	26
27	SPARE	20 A	1		0.00			0.54		1	20 A	POWER APPARATUS BAY 140	28
29	SPARE	20 A	1			0.00			0.36	1	20 A	POWER APPARATUS BAY 140	30
31	AIR COMPRESSOR MEZZ	60 A	3	5.54			0.00			1	20 A	SPARE	32
33	--	--	--		5.54			0.00		1	20 A	SPARE	34
35	--	--	--			5.54			0.00	1	20 A	SPARE	36
37	SPACE	--	--	0.00			0.00			3	30 A	SPD	38
39	SPACE	--	--		0.00			0.00		--	--	--	40
41	SPACE	--	--			0.00			0.00	--	--	--	42

Connected Load
AØ: 10.22 KVA = 85 A A
BØ: 10.14 KVA = 85 A A
CØ: 10.04 KVA = 84 A A

Notes:

Panel: RP3

LOCATION: ELEC. 118 **MAINS RATING:** 225 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MCB **AIC RATING:** 14kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	REC - 100, 101, 102	20 A	1	0.90			0.72			1	20 A	REC - 103, 104	2
3	REC - 104	20 A	1		0.72			0.72		1	20 A	REC - 104	4
5	FLR BOXES- 104	20 A	1			0.72			0.72	1	20 A	FLR BOXES- 104	6
7	FLR BOXES- 104	20 A	1	0.72			0.72			1	20 A	FLR BOXES- 104	8
9	RECEPTACLE	20 A	1		0.72			0.90		1	20 A	REC - 105	10
11	REC - 106	20 A	1			0.90			0.72	1	20 A	REC - 107	12
13	REC - 107	20 A	1	0.36			0.90			1	20 A	REC - 108	14
15	REC -109	20 A	1		0.36			0.36		1	20 A	REC - 109	16
17	REC - 109	20 A	1			0.36			0.18	1	20 A	REC - 109	18
19	REC - 110	20 A	1	0.90			0.72			1	20 A	REC - 109.1	20
21	RECEPTACLE	20 A	1		0.54			0.54		1	20 A	REC - 111	22
23	REC - 113 & CORRIDOR	20 A	1			0.72			0.18	1	20 A	REC - 112	24
25	PRINTER - 113	20 A	1	0.60			0.18			1	20 A	PLOTTER - 113	26
27	REC -114	20 A	1		0.72			0.72		1	20 A	REC - 114	28
29	REC - 115, 116, 117, 118	20 A	1			0.72			0.54	1	20 A	REC - 119	30
31	WATER FOUNTAIN - 119	20 A	1	0.18			0.00			1	20 A	REC - PROJECTOR 104	32
33	TREAD MILL - 119	20 A	1		0.36			0.36		1	20 A	TREAD MILL - 119	34
35	REC - 119	20 A	1			0.36			0.72	1	20 A	REC - 120, 121, CORRIDOR	36
37	REC - 123	20 A	1	0.90			0.90			1	20 A	REC - 124	38
39	REC - 125	20 A	1		0.90			0.90		1	20 A	REC - 126	40
41	REC - 127	20 A	1			0.90			0.90	1	20 A	REC - 128	42
43	REC - CORRIDOR	20 A	1	0.90			0.54			1	20 A	REC - CORRIDOR	44
45	REC -KITCHEN	20 A	1		0.90			0.36		1	20 A	REC - KITCHEN	46
47	REC - KITCHEN	20 A	1			0.54			0.60	1	20 A	FRIDGE - KITCHEN	48
49	FRIDGE - KITCHEN	20 A	1	0.60			0.60			1	20 A	FRIDGE - KITCHEN	50
51	REC - 134	20 A	1		0.54			0.54		1	20 A	FLR BOXES - 134	52
53	REC - 135, 136, 137, 147	20 A	1			0.54			0.54	1	20 A	REC - 138, 139	54
55	REC - MEZZANINE WEST	20 A	1	0.54			0.36			1	20 A	REC - EXTERIOR	56
57	REC - EXTERIOR	20 A	1		0.54			4.00		2	50 A	RANGE - KITCHEN	58
59	REC - 109	20 A	1			0.72			4.00	--	--	--	60
61	REC - 138	20 A	1	0.72			0.72			1	20 A	REC - 138	62
63	REC - 138	20 A	1		0.72			0.60		1	20 A	FREEZER - 139	64
65	OVEN - KITCHEN	30 A	2			1.65			0.60	1	20 A	DISHWASHER - KITCHEN	66
67	--	--	--	1.65			0.54			1	20 A	RECEPTACLE	68
69	RECEPTACLE DAY ROOM 134	20 A	1		0.54			0.54		1	20 A	RECEPTACLE MEETING 104	70
71	RECEPTACLE KITCHEN 133	20 A	1			0.36			0.72	1	20 A	RECEPTACLE KITCHEN 133	72
73	RECEPTACLE FITNESS 119	20 A	1	0.36			0.18			1	20 A	RECEPTACLE IT 129	74
75	RECEPTACLE IT 129	20 A	1		0.18			0.18		1	20 A	RECEPTACLE IT 129	76
77	RECEPTACLE WATCH...	20 A	1			0.72			0.72	1	20 A	RECEPTACLE	78
79	EXTERIOR SIGNAGE	20 A	1	0.18			0.36			1	20 A	RECEPTACLE	80
81	OPERABLE PARTITION	20 A	1		0.00			0.36		1	20 A	RECEPTACLE FITNESS 119	82
83	FLOORBOX 104	20 A	1			0.54			0.54	1	20 A	FLOORBOX 104	84
85	TV FITNESS 119	20 A	1	0.18			0.36			1	20 A	RECEPTACLE VESTIBULE...	86
87	CARD READERS	20 A	1		0.50			0.25		1	20 A	CARD READERS	88
89	REC - MICROWAVE 133	20 A	1			0.60			0.18	1	20 A	SOLENOID VALVE	90
91	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	92
93	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	94
95	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	96
97	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	98
99	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	100
101	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	102
103	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	104
105	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	106
107	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	108
109	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	110
111	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	112
113	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	114
115	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	116
117	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	118
119	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	120
121	SPARE	20 A	1	0.00			0.00			3	30 A	SPD	122
123	SPARE	20 A	1		0.00			0.00		--	--	--	124
125	SPARE	20 A	1			0.00			0.00	--	--	--	126

Connected Load
AØ: 17.49 KVA = 146 A A
BØ: 19.57 KVA = 163 A A
CØ: 22.21 KVA = 185 A A

Notes:

Panel: MP3

LOCATION: ELEC. 118 **MAINS RATING:** 400 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MCB **AIC RATING:** 42kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	ACCU-1	20 A	2	1.32			0.06			2	20 A	HR-5	2
3	--	--	--		1.32			0.06		--	--	--	4
5	HR-1,2,3,4	20 A	2			0.16			0.19	2	20 A	ACU-04,05	6
7	--	--	--	0.16			0.19			--	--	--	8
9	ACU-01,02,03	20 A	2		0.11			0.08		1	20 A	ACU-09,10,11	10
11	--	--	--			0.11			0.08	--	--	--	12
13	ACU-07,08,12,13	20 A	2	0.14			0.15			2	20 A	ACU-06,14,23	14
15	--	--	--		0.14			0.15		--	--	--	16
17	ACU-22,24	20 A	2			0.05			0.45	2	20 A	ACU-16,19,20, 21	18
19	--	--	--	0.05			0.45			--	--	--	20
21	ACU-15,17,18	20 A	2		0.33			0.18		1	20 A	WASHER - 135	22
23	--	--	--			0.33			0.50	1	20 A	CH-2 RM 120	24
25	CH-2 RM 121	20 A	1	0.50			0.50			1	20 A	CH-2 RM 103	26
27	CH-2 RM 116	20 A	1		0.50			1.01		1	20 A	CH-1 RM 102	28
29	CH-2 RM 133	20 A	1			0.50			0.50	1	20 A	CH-2 RM 137	30
31	CH-2 RM 136	20 A	1	0.50			0.50			1	20 A	CH-2 RM 147	32
33	CH-2 RM 115	20 A	1		0.50			2.50		2	30 A	DRYER - 135	34
35	WASHER - 117	20 A	1			0.18			2.50	--	--	--	36
37	WASHER - 117	20 A	1	0.18			2.50			2	30 A	DRYER - 117	38
39	DRYER - 117	30 A	2		2.50			2.50		--	--	--	40
41	--	--	--			2.50			0.43	1	20 A	EF-1	42
43	ACCU-3	20 A	2	1.32			0.00			1	20 A	SPARE	44
45	--	--	--		1.32			0.00		1	20 A	SPARE	46
47	SPARE	20 A	1			0.00			1.50	2	20 A	EXTRACTOR - 139	48
49	SPARE	20 A	1	0.00			1.50			--	--	--	50
51	EXTRACTOR - 139	20 A	2		0.00			6.97		3	80 A	VRF-1A	52
53	--	--	--			0.00			6.97	--	--	--	54
55	VRF-1C	80 A	3	6.97			6.97			--	--	--	56
57	--	--	--		6.97			6.97		3	80 A	VRF-1B	58
59	--	--	--			6.97			6.97	--	--	--	60
61	DRYER 139	30 A	3	2.12			6.97			--	--	--	62
63	--	--	--		2.12			0.00		1	20 A	SPARE	64
65	--	--	--			2.12			0.00	1	20 A	SPARE	66
67	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	68
69	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	70
71	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	72
73	SPACE	--	--	0.00			0.00			--	--	SPACE	74
75	SPACE	--	--		0.00			0.00		--	--	SPACE	76
77	SPACE	--	--			0.00			0.00	--	--	SPACE	78
79	SPACE	--	--	0.00			0.00			3	30 A	SPD	80
81	SPACE	--	--		0.00			0.00		--	--	--	82
83	SPACE	--	--			0.00			0.00	--	--	--	84

Connected Load
AØ: 33.04 KVA = 275 A A
BØ: 36.20 KVA = 302 A A
CØ: 32.99 KVA = 275 A A

Notes:

Panel: LS2

LOCATION: ELEC. 141 **MAINS RATING:** 60 A **VOLTAGE:** 120/208 3Ø 4W
MOUNTING: Surface **MAINS TYPE:** MCB **AIC RATING:** 14kA

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	FACP	20 A	1	0.60			0.60			1	20 A	FAP	2
3	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	4
5	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	6
7	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	8
9	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	12
13	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	20
21	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	22
23	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	24
25	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	26
27	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	28
29	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	30
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36
37	SPACE	--	--	0.00			0.00			3	30 A	SPD	38
39	SPACE	--	--		0.00			0.00		--	--	--	40
41	SPACE	--	--			0.00			0.00	--	--	--	42

Connected Load
AØ: 1.20 KVA = 10 A A
BØ: 0.00 KVA = 0 A A
CØ: 0.00 KVA = 0 A A

Notes:

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
10839-D PHILADELPHIA RD
WHITE MARSH, MD 21162
(P) 410-344-1460
(F) 443-403-2460
(E) INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL

CONSULTANT:

bkm
Burdette, Koehler, Murphy & Associates, Inc.
6320 Blair Hill Lane, Suite 400 | Baltimore, Maryland 21209
P: 410.321.0000 | www.bkmeng.com

CUMRU FIRE DEPARTMENT
1775 WELSH ROAD
MOHNTON, PA 19540

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	1/5/2024

PROJECT 18-036
PROJECT BID SET
DATE 11/30/2023

DRAWING PANEL SCHEDULE
SHEET E603

1/4/2024 1:21:14 PM

BKM# 19020.01