#### **ADDENDUM NUMBER 4**

#### **PARTICULARS**

1.01 DATE: MARCH 1, 2022

1.02 PROJECT: PIERPONT VET TECH1.03 OWNER: WV HIGHER EDUCATION1.04 ARCHITECT: PICKERING ASSOCIATES

TO: PROSPECTIVE BIDDERS:

- 2.01 THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS AND MODIFIES THE ORIGINAL PROCUREMENT DOCUMENTS DATED FEBRUARY 1, 2022, ADDENDUM NUMBER 1 DATED FEBRUARY 14, 2022, ADDENDUM NUMBER 2 DATED FEBRUARY 21, 2022 AND ADDENDUM NUMBER 3 DATED FEBRUARY 23. 2022, WITH AMENDMENTS AND ADDITIONS NOTED BELOW.
- 2.02 ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED IN THE BID FORM. FAILURE TO DO SO MAY DISQUALIFY THE BIDDER.

#### **SPECIFICATIONS:**

- 1. Form of Proposal: Replace with revised Form of Proposal attached to this Addendum 5 pages.
- Replace the following documents (which were partially illegible) with the revised documents, attached to this Addendum:
  - a. Bid Bond
  - b. Bid Bond Preparation Instructions
  - c. State of WV Purchasing Affidavit
  - d. Disclosure of Interested Parties to Contracts
  - e. WV-72 Certified Drug-Free Workplace Report Coversheet
- 3. Section 01 50 00 Temporary Facilities and Controls: Paragraph 1.11 Field Offices: Omit in its entirety, unless needed for contractor's daily use. Project meetings will be held in the adjacent Caperton Center.
- 4. Section 07 72 00 Roof Accessories: Add Section 07 72 00, attached to this Addendum.
- 5. Section 10 51 13 Metal Lockers: Paragraph 2.02.A. Clarification: Lockers shall be 12 inches wide.
- 6. Section 10 44 00 Fire Protection Specialties: Paragraph 2.02.B.2: Revise Size to 10 pounds.
- 7. Section 23 09 24 Digital Control System Points List: Add Section 23 09 24, attached to this Addendum.
- 8. Section 23 09 93 Sequence of Operations for HVAC Controls: Replace in its entirety with revised Section 23 09 93. attached to this Addendum.

#### **DRAWINGS:**

- 1. See revisions shown bubbled on the following attached reissued 24 x 36 Drawings:
  - a. Civil: C105 (Sanitary Service line tie-in information).
  - b. Structural: S112 (Roof framing revision for roof hatch).
  - c. Architectural: A111 & A302 (Addition of roof hatch & ladder in Storage Room 030).
  - d. Electrical: E122, E130, E501, E600 & E601 (Misc. revisions).
- 2. Add attached 24 x 36 Electrical Drawing E123 Site Power Plan Alt. No. 4 (light for Monument Sign).

- 3. Civil Drawings and Specifications: General Clarification Note: Follow all Geotechnical recommendations for over-excavation, engineered fill replacement and all subgrade preparations, typical. Refer to Geotechnical Report in the Project Manual.
- 4. Drawing A112 Roof Plan: Clarification: Provide crickets on upper slope of roof hatch to direct water around roof hatch to drains. Revise location of walkway pads to extend from roof hatch to rooftop unit (same quantity of walkway pads will be required that are shown on roof plan). See attached Drawing A111 for roof hatch location.

#### **CONTRACTOR QUESTIONS:**

**Q1:** The site plans show the new sanitary service for the addition but does not show where it ties into the local utility service line. Can this information be provided?

A1: See attached Drawing C105 for information regarding tie-in to existing sanitary service line.

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#### **END OF SECTION**

SECTION	00300 - FORIN	W OF PROPUSAL	_

BID TO THE OWNER:	Community and Technical College System of West Virginia 1018 Kanawha Boulevard, East, Suite 700 Charleston, WV 25301
PROJECT:	RFB 22194  Pierpont Community & Technical College: Vet Tech Relocation
Bidder's Name:	
and also having examine proposes to furnish all la	after called "Bidder," being familiar with and understanding the Bidding Documents, and the site and being familiar with all local conditions affecting the Project, hereby bor, material, equipment, supplies and transportation, and to perform all Work in ling and Contract Documents within the time set forth below for the sum of:
BASE BID:	\$
The Bidder, if successfu within the below listed co	(Amount to be shown in both words and numbers. In the event of a difference between the written amount and the number amount, the written amount shall prevail.)  I and awarded a Contract, agrees that all Work is to be Substantially Complete onsecutive calendar days following receipt of Owner's written Notice to Proceed nal Completion within 30 consecutive calendar days thereafter.
CALENDAR DA	YS:
	(All amounts to be shown in both words and numbers)
drawings and/or specifie	may be added to the Base Proposal if selected by Owner. All work shown on d is in Base Bid, except for such work specifically called to be an Alternate. Refer lates. (NOTE: In event of a discrepancy, amount in words shall govern.)
Alternate No. 1:	All work associated with the construction of Resource Room 034.

(Amount to be shown in both words and numbers)

Additional Calendar Days (if any) \_\_\_\_\_

(All amounts to be shown in both words and numbers)

Add:

Add:	\$	
	(Amount to be shown in both words and r	numbers)
Additional Ca	alendar Days (if any)	
	(All amounts to be shown in both	words and numbers)
Alternate No and associa	o. 3: All work associated with the construction ted interior work in Hall 003 and Mech. 00	tion of Wash Rm. 032, Dry/Groom 033 6.
Add:	\$	
	(Amount to be shown in both words and r	numbers)
Additional Ca	alendar Days (if any)	
	(All amounts to be shown in both	words and numbers)
	<u>b. 4</u> : All work associated with the consect corner planting bed.	,
Add:	\$	
	(Amount to be shown in both words and r	numbers)
Additional Ca	alendar Days (if any)	
SPECTFULLY SU	JBMITTED:	
SNATURE: _	Signature in Ink	DATE:
ME: _	Please Type or Print	Corporate Seal if Applicable
LE:	riease Type OF Pillit	

FORM OF PROPOSAL

#### CONTRACTOR'S LICENSE

West Virginia Code §21-11-2 requires that all persons desiring to perform contractual work in West Virginia must be duly licensed. The West Virginia Contractor's Licensing Board is empowered to issue the contractor's license. Application for a contractor's license may be made by contacting the West Virginia Department of Labor, 1900 Kanawha Boulevard, East, Charleston, West Virginia 25305. Telephone: (304) 558-7890. West Virginia Code §21-11 requires any prospective Bidder to include the contractor's license number on their Bid. Successful Bidder will be required to furnish a copy of their contractor's license prior to issuance of a Purchase Order/Contract.

# AFFIDAVITS (on the following pages) – TO BE SUBMITTED WITH BID OR AS OTHERWISE PERSCRIBED BY LAW

- PURCHASING AFFIDAVIT: West Virginia code §5A-3-10A states that no contract or renewal of
  any contract may be awarded by the state or any of its political subdivisions to any vendor or
  prospective vendor when the vendor or prospective vendor or a related party to the vendor or
  prospective vendor is a debtor and the debt owed is an amount greater than \$1,000 in the
  aggregate. The Bidder (vendor) shall execute and submit with its bid, or as otherwise prescribed
  by West Virginia Code, the Purchasing Affidavit provided in the Bidding Documents.
- DRUG-FREE WORKPLACE CONFORMANCE AFFIDAVIT: West Virginia Code §21-1D-5 requires each contractor that submits a bid for the work to submit an affidavit that the contractor has a written plan for a drug-free workplace policy prior to being awarded a contract. The contractor (bidder/vendor) shall execute and submit with its bid, or as otherwise prescribed by West Virginia Code, the Drug-Free Workplace Conformance Affidavit provided in the Bidding Documents.

#### CERTIFIED DRUG-FREE WORKPLACE REPORT

In accordance with West Virginia Code §21-1D-7b, no less than once per year, or upon completion of the project, every contractor shall provide a certified report to the public authority which let the contract. That report must include each of the items identified in the Required Report Content section of the Certified Drug-Free Workplace Report Coversheet.

#### DISCLOSURE OF INTERESTED PARTIES TO CONTRACTS

Pursuant to West Virginia Code §6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of \$1 million or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the

business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing interested parties to the contract within 30 days following the completion or termination of the applicable contract.

The Disclosure Form is available at the following URL: <a href="http://www.ethics.wv.gov/Pages/forms.aspx">http://www.ethics.wv.gov/Pages/forms.aspx</a>

#### VENDOR REGISTRATION AND DISCLOSURE STATEMENT

The successful Bidder must be a registered vendor with the West Virginia Department of Administration, Purchasing Division, prior to receiving a contract/purchase order. Vendor registration information is available at the following URL: <a href="http://www.state.wv.us/admin/purchase/vrc/wv1.pdf">http://www.state.wv.us/admin/purchase/vrc/wv1.pdf</a>

#### LIQUIDATED DAMAGES

The Owner will suffer financial loss if the Work is not Substantially Complete within the Contract Time following the date established for commencement of the Work in the notice to proceed and/or purchase order. As liquidated damages, and not as a penalty, the Contractor and the Contractor's surety shall be liable for and shall pay the Owner the sum of \$ 500.00 per day until Substantial Completion is achieved.

Allowances may be made for delays due to shortages of materials and/or energy resources, subject to proof by documentation, and for delays due to strikes or other delays beyond the control of the Contractor. All delays and any claim for extension of Contract Time must be properly documented in accordance with the General Conditions of the Contract for Construction, AIA Document A201-2017, and the State of West Virginia Supplementary Conditions to AIA Document A201-2017.

#### ADDENDA ACKNOWLEDGMENT

The undersigned hereby acknowledges receipt of the following Addenda and has taken the information contained therein into full consideration in the formulation of this Bid.

Addenda	No. 1				
	No. 2				
	No. 3				
	No. 4				
	No. 5				
Failure to ackn	owledge receipt of e	ach Addendum may b	e cause for rejectio	on of the Bid	
				n or the Bla.	
SIGNATURE:	Signature i		DATE:		

# LIST OF PROPOSED SUBCONTRACTORS (To Be Completed and Submitted with Bid)

List as designated below the proposed subcontractor for each major branch of work for this bid. Also, provide the subcontractor's license number as required by the West Virginia Contractors Licensing Act. If

FORM OF PROPOSAL

the branch of work is to be completed solely by the Bidder/Contractor, so indicate. If the acceptance of an alternate bid changes a subcontractor, indicate by notation below. The Bidder/Contractor may be requested to change an unsatisfactory subcontractor. The Bidder/Contractor is responsible for selecting or changing subcontractors. The Owner and Architect/Engineer may indicate their concerns about any entity listed which they have reason to believe past experience indicates that poor performance may be expected. The Bidder/Contractor has full responsibility for satisfactory execution of all work in accordance with the Contract Documents. Any change of proposed subcontractors shall be at no additional cost to the Owner, as the Bidder/Contractor has full responsibility for execution of the work. Bidder/Contractor shall have up to two hours after the bid opening to make adjustments if necessary. Owner will suffer loss should Contractor change from those listed beyond the two-hour time stipulated. Please email adjustments/modifications to Chief Procurement Officer at <a href="rich.donovan@wvhepc.edu">rich.donovan@wvhepc.edu</a>.

Branch of Work/Material Category		Subcontractor/Supplier	Contractor License No.
1.	Steel Fabricator		
	Masonry Contr. Roof Membrane Manufacturer		
4.	Roof Installer		
5.	Storefront Supplier		
6.	Sprinkler Contr.		
7.	Plumbing Contr.		
8.	Mechanical Contr.		
9.	Electrical Contr.		

END OF FORM OF PROPOSAL END OF SECTION 00300

BID BOND	
KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned	,
,,	, as Principal, and
of,, a corporation with its principal office in the City of	
of West Virginia, as Obligee, in the penal sum of	
well and truly to be made, we jointly and severally bind ourselves, our heirs, ac	dministrators, executors, successors and assigns.
The Condition of the above obligation is such that whereas the P Department of Administration a certain bid or proposal, attached hereto and m	
NOW THEREFORE,  (a) If said bid shall be rejected, or	
(b) If said bid shall be accepted and the Principal shall enter attached hereto and shall furnish any other bonds and insurance required by the agreement created by the acceptance of said bid, then this obligation shal full force and effect. It is expressly understood and agreed that the liability of event, exceed the penal amount of this obligation as herein stated.	the bid or proposal, and shall in all other respects perform I be null and void, otherwise this obligation shall remain in
The Surety, for the value received, hereby stipulates and agrees tha way impaired or affected by any extension of the time within which the Obl waive notice of any such extension.	
WITNESS, the following signatures and seals of Principal and Surety	v, executed and sealed by a proper officer of Principal and
Surety, or by Principal individually if Principal is an individual, thisday of	of, 20
Principal Seal	
	(Name of Principal)
	By(Must be President, Vice President, or Duly Authorized Agent)
	(Title)
Surety Seal	(Name of Surety)
	Attorney-in-Fact

Agency\_\_\_\_ REQ.P.O#\_\_\_

IMPORTANT – Surety executing bonds must be licensed in West Virginia to transact surety insurance, must affix its seal, and must attach a power of attorney with its seal affixed.

#### BID BOND PREPARATION INSTRUCTIONS

			Ric	Bond
(A)	WV State Agency	KNOW		ENTS, That we, the undersigned,
(71)	(Stated on Page 1 "Spending Unit")	(C)	of	(D) (E)
(B)	Request for Quotation Number (upper right corner of page #1)	as Principal, and	(F)	organized and existing under the laws
(C)	Your Business Entity Name (or Individual Name if Sole Proprietor)	of the State of(J)	(I) with	n its principal office in the City of held and firmly bound unto The State
(D)	City, Location of your Company	of West Virginia	is Obligee, in the penal sum of	(K)
(E)	State, Location of your Company	(\$ (L)	) for the payme	nt of which, well and truly to be made,
(F)	Surety Corporate Name	we jointly and seve	erally bind ourselves, our heirs	, administrators, executors,
(G)	City, Location of Surety	successors and ass		,
(H)	State, Location of Surety			
(I)	State of Surety Incorporation	The Co	ndition of the above obligatior	is such that whereas the Principal has submitted to
(J)	City of Surety's Principal Office			ninistration a certain bid or proposal, attached hereto
(K)	Minimum amount of acceptable bid bond is 5% of total bid. You may state "5% of bid"			writing for
	or a specific amount on this line in words.		(M)	
(L)	Amount of bond in numbers			
(M)	Brief Description of scope of work			
(N)	Day of the month			
(O)	Month	NOW T	HEREFORE	
(P)	Year		TC :11:1 1 111	1
(Q)	Name of Business Entity (or Individual Name if Sole Proprietor)	(a) (b)	If said bid shall be rejected If said bid shall be accen	i, or ted and the Principal shall enter into a contract in
(R)	Seal of Principal			eto and shall furnish any other bonds and insurance
(S)	Signature of President, Vice President, or	required by the bi	d or proposal, and shall in all	other respects perform the agreement created by the
(5)	Authorized Agent	acceptance of said	d bid then this obligation sha	ll be null and void, otherwise this obligation shall
(T)	Title of Person Signing for Principal	remain in full force	e and effect. It is expressly u	nderstood and agreed that the liability of the Surety
(Ù)	Seal of Surety	for any and all cla	aims hereunder shall, in no ev	vent, exceed the penal amount of this obligation as
(V)	Name of Surety	herein stated		
(W)	Signature of Attorney in Fact of the Surety	100		
		Surety and its bon	d shall be in no way impaired	by stipulates and agrees that the obligations of said or affected by any extension of time within which the
NOTE 1:	Dated Power of Attorney with Surety Seal	Obligee may accept	ot such bid: and said Surety do	es hereby waive notice of any such extension.
	must accompany this bid bond.	WIT	NESS the following signature	res and seals of Principal and Surety, executed and
		sealed by a prope	er officer of Principal and Su	rety, or by Principal individually if Principal is an
		individual, the _(N	N)day of <u>(O)</u> , 20	<u>(P)</u> .
		Principal Seal		(Q)
		•		(Name of Principal)
			(R)	
				By(S)
				(Must be President, Vice President, or
				Duly Authorized Agent)
				(T)
				Title
		Surety Seal		(V)
		Janety Jean	(U)	(Name of Surety)
				(W)
				Attorney-in-Fact
				/ thorney-iii-i det

IMPORTANT – Surety executing bonds must be licensed in West Virginia to transact surety insurance, must affix its seal, and must attach a power of attorney with its seal affixed.

AGENCY\_(A)\_ RFQ/RFP#\_\_\_\_\_(B)

# STATE OF WEST VIRGINIA Purchasing Division

## **PURCHASING AFFIDAVIT**

**CONSTRUCTION CONTRACTS:** Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

**ALL CONTRACTS:** Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

**EXCEPTION:** The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

#### **DEFINITIONS:**

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

#### WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name:			
Authorized Signature:		Date:	
State of			
County of, to-wit:			
Taken, subscribed, and sworn to before me this day	of		, 20
My Commission expires	, 20		
AFFIX SEAL HERE	NOTARY PUBLIC		

## West Virginia Ethics Commission



## **Disclosure of Interested Parties to Contracts**

Pursuant to *W. Va. Code* § 6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of \$1 million or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing interested parties to the contract within 30 days following the completion or termination of the applicable contract.

For purposes of complying with these requirements, the following definitions apply:

"Business entity" means any entity recognized by law through which business is conducted, including a sole proprietorship, partnership or corporation, but does not include publicly traded companies listed on a national or international stock exchange.

"Interested party" or "Interested parties" means:

(1) A business entity performing work or service pursuant to, or in furtherance of, the applicable contract, including specifically sub-contractors;

(2) the person(s) who have an ownership interest equal to or greater than 25% in the business entity performing work or service pursuant to, or in furtherance of, the applicable contract. (This subdivision does not apply to a publicly traded company); and

(3) the person or business entity, if any, that served as a compensated broker or intermediary to actively facilitate the applicable contract or negotiated the terms of the applicable contract with the state agency. (This subdivision does not apply to persons or business entities performing legal services related to the negotiation or drafting of the applicable contract.)

"State agency" means a board, commission, office, department or other agency in the executive, judicial or legislative branch of state government, including publicly funded institutions of higher education: Provided, that for purposes of W. Va. Code § 6D-1-2, the West Virginia Investment Management Board shall not be deemed a state agency nor subject to the requirements of that provision.

The contracting business entity must complete this form and submit it to the contracting state agency prior to contract award and to complete another form within 30 days of contract completion or termination.

This form was created by the State of West Virginia Ethics Commission, 210 Brooks Street, Suite 300, Charleston, WV 25301-1804. Telephone: (304)558-0664; fax: (304)558-2169; e-mail: ethics@wv.gov; website: www.ethics.wv.gov.

# West Virginia Ethics Commission **Disclosure of Interested Parties to Contracts**

(Required by W. Va. Code § 6D-1-2)

Na	ame of Contracting Business Entity:	Address:	
Na	ame of Authorized Agent:	Address:	
Co	ontract Number:	Contract Description:	
Go	overnmental agency awarding contract:		
	Check here if this is a Supplemental Disclosu	re	
Lis en	st the Names of Interested Parties to the contract wh tity for each category below <i>(attach additional pag</i>	nich are known or reasonably anticipated by the contractes if necessary):	oting business
1.	Subcontractors or other entities performing w  ☐ Check here if none, otherwise list entity/individ		
2.	Any person or entity who owns 25% or more of the Check here if none, otherwise list entity/individ	of contracting entity (not applicable to publicly tractual names below.	(ealitites)
3.	Any person or entity that facilitated, or negreservices related to the negotiation or drafting ☐ Check here if none, otherwise list entity/individ		cluding legal
Sig	gnature:	Date Signed:	
No	otary Verification		
Sta	ate of	, County of	:
l, _ ent		, the authorized agent of the contract hat the Disclosure herein is being made under oath a	
Tal	ken, sworn to and subscribed before me this	day of,	<u>_</u> .
Da <sup>·</sup> Da <sup>·</sup>	te Received by State Agency: te submitted to Ethics Commission: vernmental agency submitting Disclosure:		

# State of West Virginia Purchasing Division

#### CERTIFIED DRUG-FREE WORKPLACE REPORT COVERSHEET

In accordance with **West Virginia Code** § 21-1D-7b, no less than once per year, or upon completion of the project, every contractor shall provide a certified report to the public authority which let the contract. That report must include each of the items identified below in the Required Report Content section.

<u>Instructions:</u> Vendor should complete this coversheet, attach it to the required report, and submit it to the appropriate location as follows: For contracts more than \$25,000, the report should be mailed to the West Virginia Purchasing Division at 2019 Washington Street East, Charleston, WV 25305. For contracts of \$25,000 or less, the vendor should mail the report to the public authority issuing the contract.

Contra	act Identification:	
Contra	act Number:	
Contra	act Purpose:	
Agend	cy Requesting Work:	
	red Report Content: I check each box as an indication that the required inf Information indicating the education and training ser	ormation has been included in the attached report.
	21-1D-5 was provided;	vice to the requirements of west virginia code §
	Name of the laboratory certified by the United States successor that performs the drug tests;	s Department of Health and Human Services or its
	Average number of employees in connection with th	e construction on the public improvement;
	Drug test results for the following categories includin negative tests: (A) Pre-employment and new hires; (D) Random.	
<u>Vendo</u>	or Contact Information:	
Vendo	or Name:	Vendor Telephone:
Vendo	or Address:	Vendor Fax:Vendor E-Mail:

#### SECTION 07 72 00 ROOF ACCESSORIES

#### **PART 1 GENERAL**

#### 1.01 SECTION INCLUDES

A. Roof hatches.

#### 1.02 REFERENCE STANDARDS

- A. 29 CFR 1910.23 Ladders current edition.
- B. 29 CFR 1910.29 Fall Protection Systems and Falling Object Protection Criteria and Practices Current Edition.
- C. ASTM A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
- D. ASTM A153/A153M Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2016a.
- E. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- F. ASTM A792/A792M Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process 2021a.

#### 1.03 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used.
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- B. Warranty Documentation:
  - 1. Submit manufacturer warranty.
  - Ensure that forms have been completed in Owner's name and registered with manufacturer.
  - 3. Submit documentation that roof accessories are acceptable to roofing manufacturer, and do not limit the roofing warranty.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products under cover and elevated above grade.

#### 1.05 WARRANTY

- A. See Section 01 78 00 Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.

#### PART 2 PRODUCTS

#### 2.01 ROOF HATCHES AND VENTS

- A. Roof Hatch Manufacturers:
  - 1. Babcock-Davis: www.babcockdavis.com/#sle.
  - 2. Best Access Doors: www.bestaccessdoors.com/#sle.
  - 3. Bilco Company: www.bilco.com/#sle.
  - 4. Milcor, Inc: www.milcorinc.com/#sle.
  - 5. Nystrom, Inc: www.nystrom.com/#sle.
- B. Roof Hatches: Factory-assembled aluminum frame and cover, complete with operating and release hardware.
  - Style: Provide flat metal covers unless otherwise indicated.
  - 2. Mounting Substrate: Provide frames and curbs suitable for mounting on corrugated metal roof deck with insulation.

Roof Accessories 07 72 00 - 1 of 3

- 3. Thermally Broken Hatches: Added insulation to frame and cover; available in each manufacturer's standard, single leaf sizes; special sizes available upon request
- 4. For Ladder Access: Single leaf; 30 by 36 inches.
- C. Frames and Curbs: One-piece curb and frame with integral cap flashing to receive roof flashings; extended bottom flange to suit mounting.
  - 1. Material: Mill finished aluminum, 11 gauge, 0.0907 inch thick.
  - Insulation: Manufacturer's standard; 1 inch rigid glass fiber, located on outside face of curb.
  - 3. Curb Height: 12 inches from finished surface of roof, minimum.
- D. Metal Covers: Flush, insulated, hollow metal construction.
  - 1. Capable of supporting 40 psf live load.
  - 2. Material: Mill finished aluminum; outer cover 11 gauge, 0.0907 inch thick, liner 0.04 inch thick.
  - 3. Insulation: Manufacturer's standard 1 inch rigid glass fiber.
  - 4. Gasket: Neoprene, continuous around cover perimeter.
- E. Safety Railing System: Roof hatch manufacturer's standard accessory safety rail system mounted directly to curb.
  - 1. Railing: Comply with 29 CFR 1910.23 for ladder safety, with a safety factor of two.
  - 2. Self-Closing Gate: Comply with 29 CFR 1910.29 for safe egress and fall protection through hatch opening.
  - 3. Posts and Rails: Aluminum tubing.
  - 4. Gate: Same material as railing; automatic closing with latch.
  - 5. Finish: Manufacturer's standard, factory applied finish. Safety yellow.
  - 6. Mounting Brackets: Hot dipped galvanized steel, 1/4 inch thick, minimum.
  - 7. Fasteners: Stainless steel, Type 316.
  - 8. Manufacturers: Same as roof hatch.
- F. Roof Hatch Hardware: Type 316 stainless steel, unless otherwise indicated or required by manufacturer.
  - 1. Lifting Mechanisms: Compression or torsion spring operator with shock absorbers that automatically opens upon release of latch; capable of lifting covers despite 10 psf load.
  - 2. Hinges: Heavy duty pintle type.
  - 3. Hold open arm with vinyl-coated handle for manual release.
  - 4. Latch: Upon closing, engage latch automatically and reset manual release.
  - 5. Manual Release: Pull handle on interior.
  - 6. Locking: Padlock hasp on interior.

#### 2.02 NON-PENETRATING ROOFTOP SUPPORTS/ASSEMBLIES

- A. Non-Penetrating Rooftop Support/Assemblies: Manufacturer-engineered and factory-fabricated, with pedestal bases that rest on top of roofing membrane, and not requiring any attachment to roof structure and not penetrating roofing assembly.
  - 1. Design Loadings and Configurations: As required by applicable codes.
  - 2. Support Spacing and Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
  - 3. Steel Components: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A123/A123M.
  - 4. Hardware, Bolts, Nuts, and Washers: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A153/A153M.

#### **PART 3 EXECUTION**

#### 3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

Roof Accessories 07 72 00 - 2 of 3

#### 3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using methods recommended by manufacturer for achieving acceptable results for applicable substrate under project conditions.

#### 3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions, in manner that maintains roofing system weather-tight integrity.

#### 3.04 CLEANING

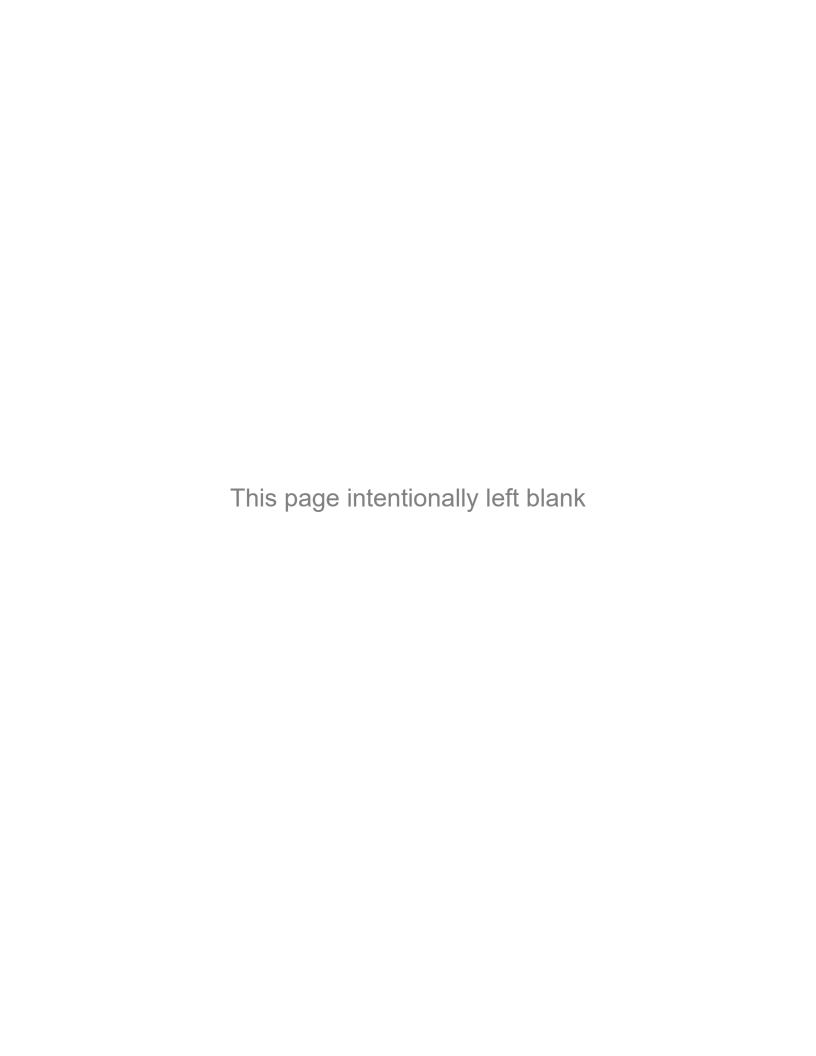
A. Clean installed work to like-new condition.

#### 3.05 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

**END OF SECTION 07 72 00** 

Roof Accessories 07 72 00 - 3 of 3



# SECTION 23 09 24 DIGITAL CONTROL SYSTEM POINTS LIST

#### **PART 1 GENERAL**

#### 1.01

The following list shall be the minimum points required of the digital control system. It is not the intent to show all required points. If or when additional points are required to accomplish the sequences of control specified, these points shall also be provided. The point types are identified as follows:

- 1. DI Contact Input (NO or NC)
- 2. DO Contact Output (NO or NC)
- 3. AI Analog Input
- 4. AO Analog Output
- 5. PI Pulsed Input

#### 1.02 AIR HANDLING UNIT POINTS LIST:

Туре	Description	Qualiity
Al	Return Air Temperature	1
Al	Mixed Air Temperature	1
Al	Supply Air Temperature	1
Al	Supply Air Static Pressure	1
DI	Supply Fan Status	1
AO	Economizer Dampers	1
AO	Supply Fan Volume Control	1
Al	Air Filter Pressure Drop	1
DI	Freezestat	1
DO	Fan System Start/Stop	1
Al	Space Temperature	*
Al	Return Air Humidity	1

<sup>\*</sup>One sensor for unoccupied control, additional space sensor as shown on drawings. When DDC zone control is specified all zone thermostats shall be DDC inputs.

#### 1.03 MINIMUM POINTS LIST FOR VAV WILL BE AS FOLLOWS:

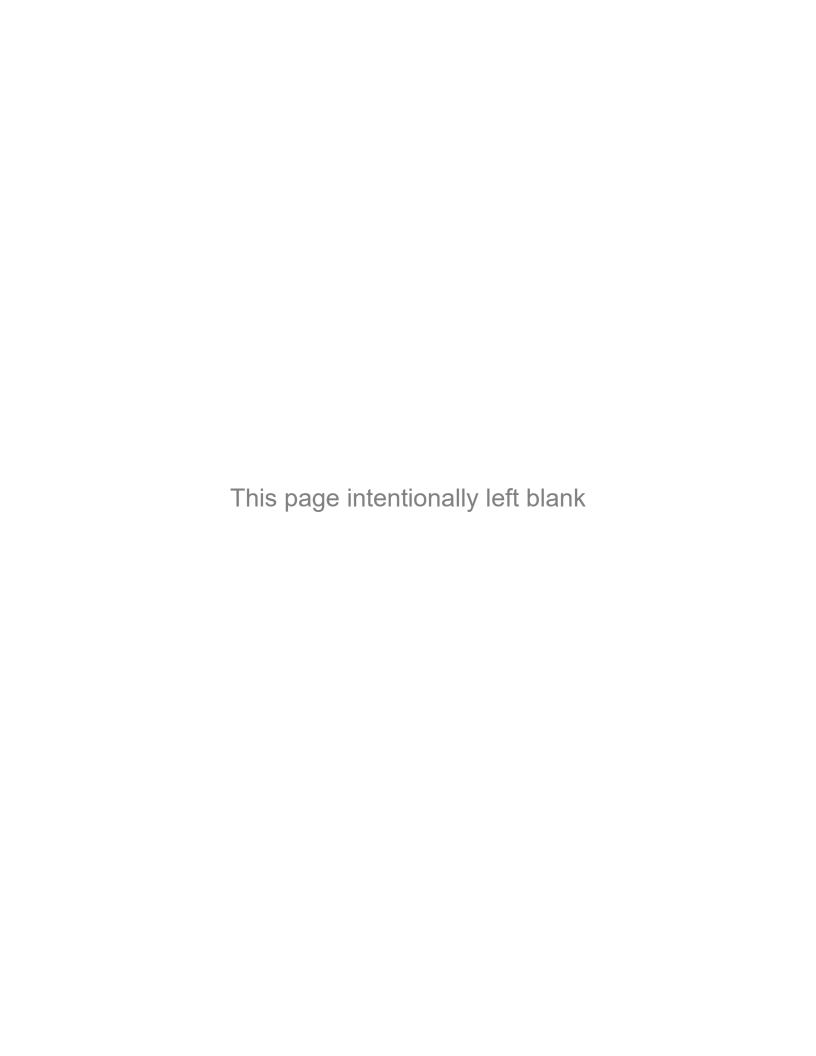
Type	Description	Quantity
Al	Space Temperature	11
Al	Space Setpoint	11
Al	Discharge Air Temperature	11
AO	Heating stage(s)	11

#### 1.04 GENERAL OR GLOBAL POINTS:

Type	Description	Quantity
Al	Outside Air Humidity	1
Al	Outdoor Air Temperature	1
DO	General Exhaust Fans	1
DI	General Exhaust Fans Status	1

PART 2 PRODUCTS - NOT APPLICABLE PART 3 EXECUTION - NOT APPLICABLE 3.01 INSTALLATION

**END OF SECTION 23 09 24** 



# SECTION 23 09 93 SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

#### **PART 1 GENERAL**

1.01

All equipment (valves, dampers, actuators, controllers, etc.) required to perform the functions specified shall be provided under this ATC contract unless noted herein or elsewhere in these contract documents. Electric motor driven equipment (pumps, chillers, compressors, cooling towers, etc.) shall be provided with minimum on (run) and minimum off timers to prevent short cycling of the equipment (coordinate with equipment manufacturer's). All DDC system control points shall have a default value in case of sensor failure or logic error. All controlled devices shall fail safe on loss of control. All setpoints and parameters shall be fully adjustable from the end user / owner interface.

#### **PART 2 PRODUCTS - NOT USED**

#### PART 3 EXECUTION

#### 3.01 UNIT HEATERS

A. Thermostat to cycle unit heater fans upon a demand for heating. Furnish all wiring between thermostats and fan motor.

#### 3.02 VARIABLE VOLUME BOXES WITH REHEAT ELECTRIC

A. Each box shall have a electric modulating damper operator (furnished with the box) and a electric reheat coil furnished under this ATC contract. Cooling shall be controlled by modulating the volume damper, heating shall be controlled by energizing the reheat after the air volume has been throttled to a minimum.

#### 3.03 DDC-VAV BOXES

- A. The VAV box manufacturer shall provide the box with air flow taps for connection to the air flow sensor provided under this ATC work. All other control components shall be furnished by the ATC. ATC shall send to the box manufacturer the DDC controller and damper actuator for factory mounting (if the HVAC Contractor is using Trane VAV boxes the damper motor is integral with the box, coordinate accordingly).
- B. VAV Shutoff Control When the room temperature is below setpoint the box damper shall be at cooling minimum. As room temperature rises above cooling setpoint the control shall modulate the damper open to satisfy the setpoint. Box controls shall reverse action during warm-up.
- C. VAV Reheat Control When the room temperature is below setpoint the box damper shall be at heating minimum and the heating coil shall energize. As temperature rises to heating setpoint the valve modulates toward the closed position. If the room temperature rises above the heating setpoint the valve shall close. When room temperature rises above cooling setpoint the damper shall modulate from cooling minimum to maximum to maintain the cooling setpoint.
- D. An override pushbutton shall be provided at each sensor thermostat to override the unoccupied schedule for a fixed (programmable) time. The DDC system shall track, log and report on the amount of time each box was overridden as well as VAV box discharge air temperature.

#### 3.04 VARIABLE VOLUME SHUTOFF BOXES

A. Each box is furnished with a modulating damper operator and shall be controlled from a local thermostat, to vary the CFM from full CFM to shutoff.

#### 3.05 VARIABLE VOLUME BOXES

A. A complete control package is provided by the VAV box manufacturer. Installation of the thermostat, control wiring and low voltage power supplies are included in this ATC contract. Obtain control diagrams from the box manufacturer and incorporate it into the ATC shop drawings.

#### 3.06 GENERAL EXHAUST FANS

A. Each exhaust fan (and its respective automatic damper) where indicated on the Electric Drawing Starter Schedule shall be a separate status point of the digital control system.

#### 3.07 MONITORING AND ALARMS

The following points shall be monitored and alarmed at the monitoring console and as otherwise specified hereinafter:

#### A. Point Descriptions:

- Current Sensing Relays Provide for all air handling unit supply and return/exhaust fans; all general exhaust fans.
- 2. High/Low Temperature Alarms on all DDC temperature sensors with off-normal messages.
- Fire Alarm System Inputs Fire alarm shall be input into the digital control system for information and smoke control mode. Wiring from the digital control system inputs to the Fire Alarm System outputs shall be by this Contractor. Coordinate connection points with the Electrical Contractor.
- B. When interfacing with equipment providing remote analog inputs or receiving analog outputs to the DDC system or when monitoring requires the installation of external relays at the equipment being monitored, coordinate all requirements such as range, signal condition, grounding, wiring and input impedance with the supplier of the equipment being monitored.

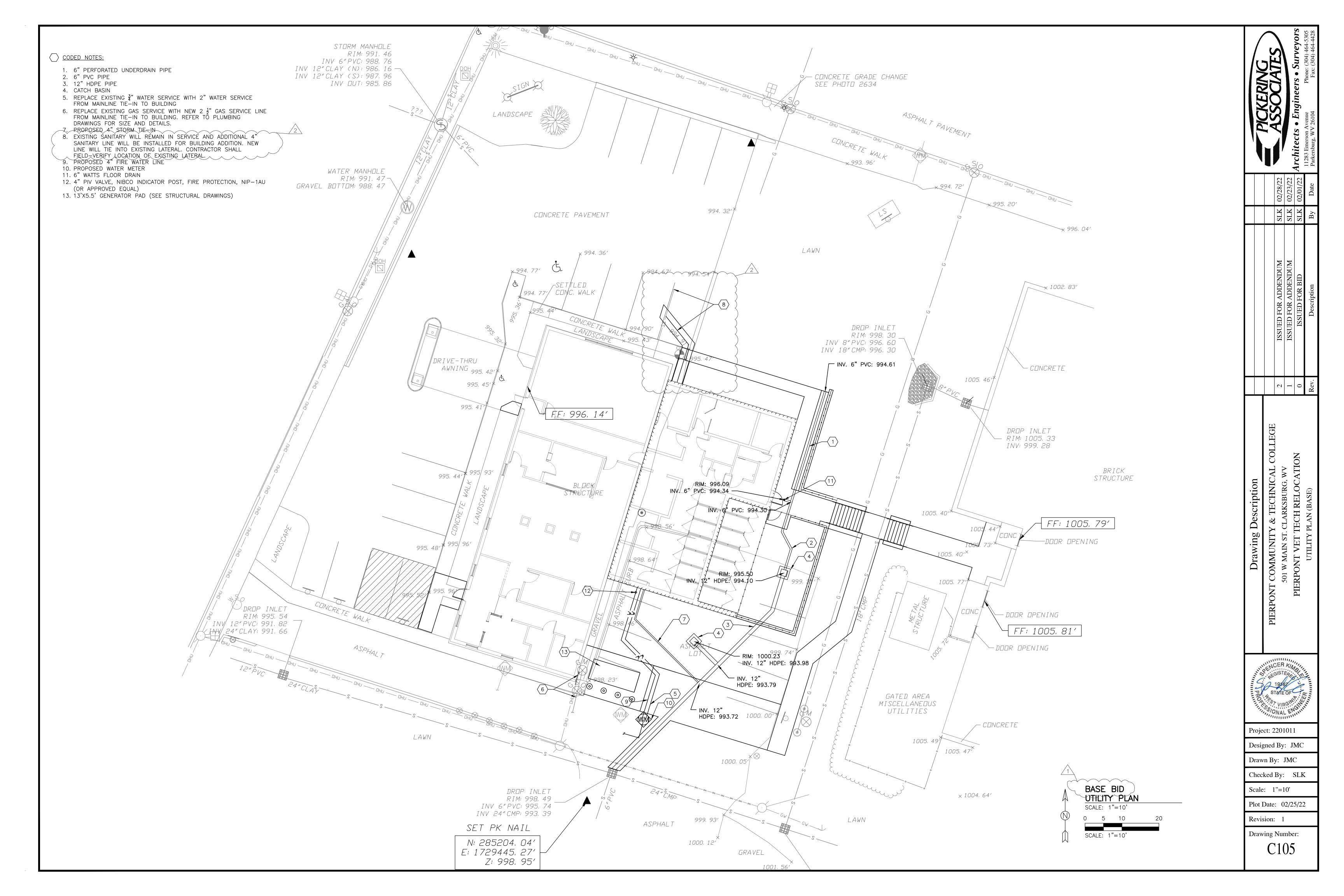
#### 3.08 AIR HANDLING UNIT NO. (RTU-1)

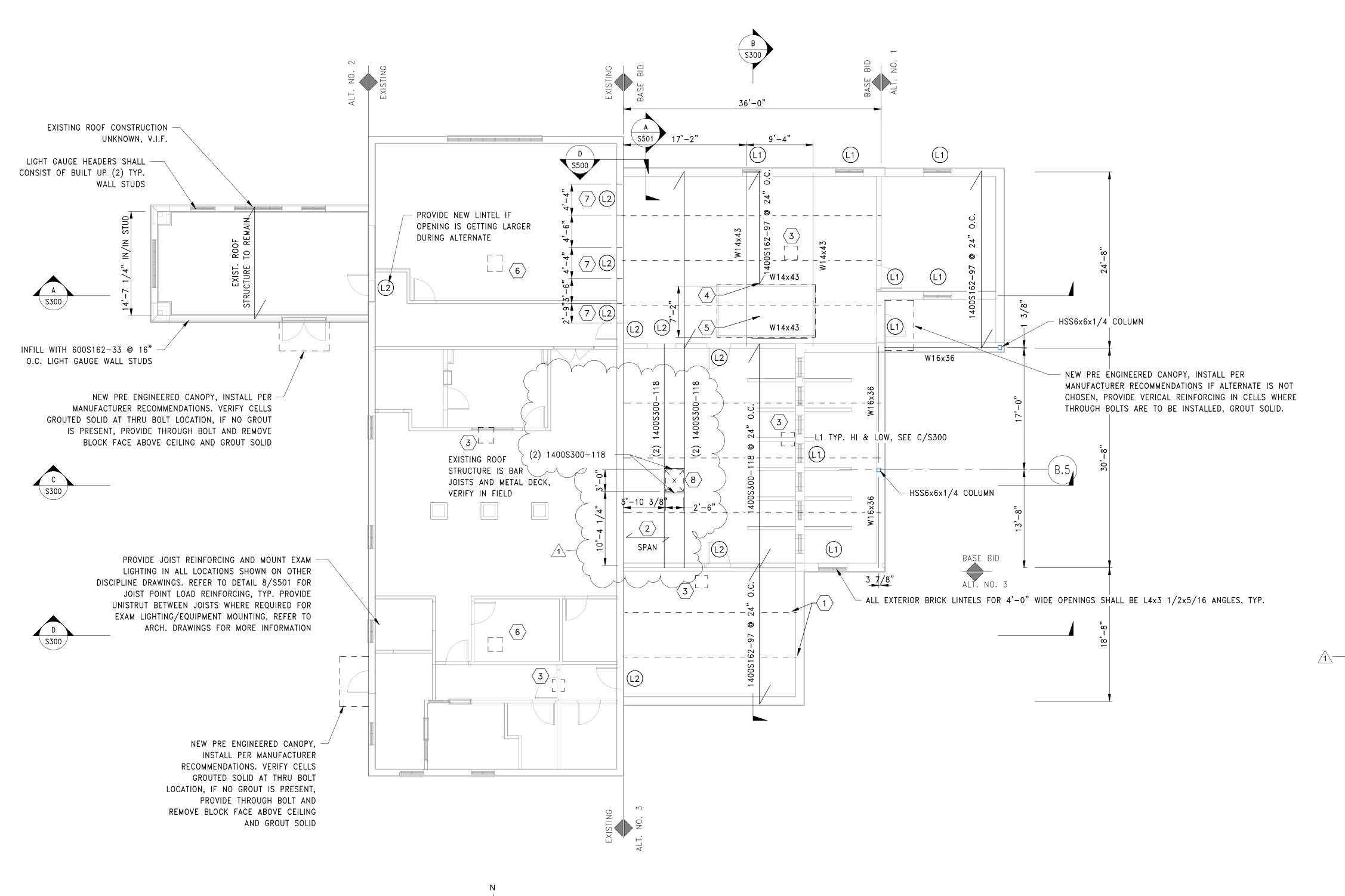
- A. Air Handling System Start/Stop Night Setback The air handling unit (associated supply, return and exhaust fans) shall be able to be scheduled for occupied/unoccupied 7-day and holiday operation. During the occupied mode, the temperature controls shall function as specified, during unoccupied mode the air handling unit controls shall function as specified except the outside air dampers shall remain closed. The controls shall cycle the unit to maintain a reduced space temperature of 60 degrees F.
  - Initial Schedule Unit shall operate Monday thru Friday 7:00 am to 5:00 pm, Saturday 7:00 am to 12:00 noon. Unit shall be off after scheduled hours, Sunday and all legal holidays. Coordinate exact schedule with Owner.
- B. Cooling Setup Control and Cool Down During the unoccupied time, the space temperature rises above 82 degrees F. the unit shall cycle on to cool the space down to 79 degrees F and then turn off. Outside air shall be used for cooling first unless the economizer is locked out. An optimal start program shall start the unit in advance of occupied time to ensure proper space temperatures at occupancy time. During set up or cool down operation if the economizer is inactive the associated relief and exhaust fans shall remain off and the outside air dampers shall remain closed.
- C. Minimum Outside Air This paragraph defines the operation of outside air, vent air and return air dampers (economizer dampers) to provide minimum outside air for ventilation. The phrase "Minimum" in the sequences of operation shall invoke this paragraph. Simple outside air damper sections (all damper blades operating in unison) shall open to a fixed position as determined by air balance to provide the specified minimum ventilation. Return air dampers shall remain full open and vent air dampers shall remain completely closed. Compound outside air damper section (separate operable damper blades or sections) shall have the minimum damper open fully, the maximum outside air damper and vent air damper shall be completely closed, and the return air damper shall be fully open.
  - Outside air minimum shall be adjusted based on building pressure. Outdoor air shall be modulated to maintain positive building pressure of 0.05 inches w.g. (adjustable). See also Static pressure control below.
- D. Morning Warm-Up and Initial Start Air handling system shall enter a morning warm-up mode in advance of the occupied time via an optimal start sequence, the outside air dampers shall remain completely closed and the return dampers shall remain fully open and exhaust fans

- shall remain off in this mode. During morning warm-up the VAV shut-off boxes shall open. This mode shall continue until the return temperature rises above 68 degrees F., at which time the economizer dampers shall be positioned to minimum and the respective exhaust fans shall start. Economizer damper control shall be delayed two minutes during start-up to prevent cabinet heat from false loading the system.
- E. Safeties: The following safeties shall be provided to stop the air handling unit fan(s) and position the control devices to their "fail safe" position, i.e., outside and relief dampers closed, return dampers open, heating valves open and humidifier valves closed. Safeties shall be wired into the fan starter circuit such that the safety shall function whether the start selector switch is in the hand on or automatic position.
  - 1. Low Temperature Limit Cutout "Freezestats" Shall be provided on <u>all</u> air handling units and installed on the leaving air face of the first coil in the air stream (unless otherwise noted) and shall stop the air handling unit fan(s) if a temperature below 38 degrees F. is detected
  - 2. Smoke Detectors (installed on all return and exhaust units equal or above 2,000 cfm) Smoke detectors shall be provided under this HVAC contract installed in the air handling unit return air, and/or the exhaust fan inlet air.
  - 3. Supply Duct High Static Pressure Cutout Provide a manually reset type duct static pressure switch, set at the maximum working pressure of the ductwork, to stop the fan system (supply, return, exhaust) on a rise in duct static above setpoint.
  - 4. Return Duct High Negative Pressure Cutout Provide a manual reset type duct static pressure switch, set at the maximum negative working pressure of the ductwork, to stop the fan system (supply, return, exhaust) on a fall in duct static below setpoint.
- F. Outside Air: Discharge Air Reset The Air Handling Unit controls shall provide discharge air temperature control based on the following outside air reset schedule: 0 degrees F. outside air, 62 degrees F. discharge air; 55 degrees F. outside air, 55 degrees F discharge air. All control setpoints to be fully adjustable to meet job conditions.
- G. Enthalpy Economizer Control Outside air temperature and humidity, and return air temperature and humidity shall be measured, and the enthalpy of each determined. If the enthalpy of the outside air is less than the enthalpy of the return air the economizer shall be enabled. When the outside air enthalpy is higher than the return air enthalpy and mechanical cooling is available the economizer shall be disabled.
  - Economizer cycle When the unit operates in the occupied mode, the minimum outside air shall be provided, the return air dampers shall open full and relief air dampers shall remain closed. This condition is the normal position and shall be maintained during the occupied mode except during the "economizer" cycle. During the "economizer" cycle, the amount of outside air and relief air shall be increased as required to maintain the unit discharge air temperature setpoint. Provide a mixed air sensor and low limit control set at 50 degrees F. to prevent overopening of the fresh air dampers. All control setpoints to be full adjustable to meet job conditions.
- H. Static Pressure Control When the air handling system is operating in the economizer mode the relief air damper shall be under control of a space static pressure sensor (reference to outdoors). The control shall be proportional plus integral and shall modulate the damper to maintain a 0.05 inch w.g. positive static pressure in the space.
- I. Electric Heating Coil On a fall in discharge air temperature below setpoint the steps of electric heat shall be energized in sequence to satisfy the setpoint. Refer to drawings for number of steps. Provide a time delay between steps. Cooling shall be off before the electric heat is energized. During morning warm-up the setpoint shall be raised to 95 degrees F. (adjustable).
- J. DX Cooling Coil When the economizer is active and outside air dampers are full open to outside air and the discharge air temperature rises above setpoint, the solenoid valves and compressor stepping shall be energized in sequence to satisfy the setpoint. Provide on and off time delays between steps. When the minimum step of DX cooling is energized and the discharge air temperature falls below 55 degrees F. and the economizer is active, the economizer dampers shall modulate slowly back toward minimum position until discharge air

- temperature rises above 55 degrees F. Provide air flow switch wired in series with cooling control to keep cooling off unless the fan is operating.
- K. Fan Volume Control The variable speed drives on the supply shall be modulated by a static pressure sensor located two-thirds distance from the supply fan and a proportional plus integral control shall provide a common control signal to the system to provide a static pressure of 1.0" w.g. (adjustable) at that point.

END OF SECTION 23 09 93





ROOF FRAMING PLAN

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

NOTES:

- 1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO CONSTRUCTION AND EMOLITION, TYP.
- 2. DRAWINGS S001 AND S002 SHALL BE REFERENCED FOR GENERAL NOTES.
- 3. ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS SHALL BE REFERENCED FOR MINOR FLOOR, WALL, AND ROOF PENETRATIONS. ALL WORK SHALL BE COORDINATED WITH THE RESPECTIVE CONTRACTOR.
- 4. WALL, FLOOR, AND ROOF FRAMING SHALL BE IN ALIGNMENT WHERE AT ALL POSSIBLE.
  WHERE DIFFERING SPACINGS OCCUR, SPACING ORIGINS SHALL BE SUCH THAT A MAXIMUM NUMBER OF MEMBERS ARE ALIGNED.
- 5. PARTITION WALL TOP TERMINATION/SUPPORT/BRACING DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. PARTITION WALLS SHALL BE SUFFICIENTLY STIFFENED. WALLS SHALL BE EXTENDED TO STRUCTURE ABOVE (DECK, JOISTS, TRUSSES, ETC.) AND TERMINATED WITH VERTICAL—DEFLECTION—ACCOMMODATING CONNECTION, PIN—CONNECTION BRACED WITH VERTICAL KICKERS, BRACED AT CORNERS WITH HORIZONTAL KICKERS, OR TIED TOGETHER WITH STRUTS. PARTITIONS RUNNING PERPENDICULAR TO ROOF FRAMING SHALL BE SUPPORTED WITH STC OR STCT ROOF TRUSS CLIPS. (ADDITIONAL TRANSVERSE MEMBERS BETWEEN BOTTOM CHORDS SHALL BE ADDED FOR WALLS PARALLEL TO JOISTS.) UNLESS NOTED OTHERWISE, WALL STUDS AND DRYWALL SHALL EXTEND A MINIMUM OF 12" AND 4" ABOVE CEILING RESPECTIVELY. WHERE REQUIRED FOR SOUND ATTENUATION, STUDS AND ACOUSTIC BATT SHALL BE EXTENDED TO THE DECK WITH THE BATT FASTENED TO THE STUDS.
- 6. ALL SILL AND SOLE PLATES IN CONTACT WITH MASONRY OR CONCRETE AT EXTERIOR OR SUBGRADE LOCATIONS SHALL BE PRESERVATIVE—TREATED. IBC 2304.11 SHALL BE REFERENCED FOR FURTHER DETAILS.
- 7. INSULATION, REINFORCING, FLASHING, ETC MAY NOT BE SHOWN ON ALL SECTIONS OR DETAILS. HARDWARE, FASTENERS, CLIP ANGLES, ETC. MAY ALSO NOT ALL BE SHOWN ON THE SECTIONS AND DETAILS.
- 8. ALL EXPOSED STEEL SHALL BE GALVANIZED.
- 9. ALL CONNECTION DETAILS SHOWN ON THE DRAWINGS SHALL BE REVIEWED FOR CONSTRUCTABILITY BY THE FABRICATOR.
- 10. PROVIDE DOUBLE LIGHT GAUGE JOIST FRAMING AROUND EXHAUST FANS/SUPPORTS, BLOCKING AS REQUIRED, AND ATTACH PER MANUFACTURER SPECIFICATIONS. COORDINATE SUPPORT STEEL AND DECK OPENING WITH FAN REQUIREMENTS.
- 11. TOP COURSE OF ALL CMU WALLS SHALL BE BOND BEAM REINFORCED WITH (2) #5 BARS CONTINUOUS AND GROUTED SOLID.

## CODED NOTES:

- 1. LIGHT GAUGE JOIST BRIDGING, SEE GENERAL NOTES FOR SPACING REQUIREMENTS AND TYPICAL DETAILS FOR MORE INFORMATION. PROVIDE BRIDGING AT EACH BAY IN ACCORDANCE WITH AISI AND MANUFACTURER SPECIFICATIONS. SEE BRIDGING SPACING TABLE.
- 2. 1" TYPE E x 24 GAUGE (1.0E24 BY VULCRAFT) OR APPROVED SIMILAR, ROOF DECK CONTINUOUS ACROSS A MINIMUM OF (2) SPANS AND BE VULCRAFT OR APPROVED EQUAL. INSTALL DECK IN ACCORDANCE WITH STEEL DECK INSTITUTE AND MANUFACTURER SPECIFICATIONS. ATTACH 36" ROOF DECK TO SUPPORT MEMBERS WITH #12 TEK SCREWS AT SIDE LAPS AND AT LEAST (1) INTERIOR RIB (18" MAX. C/C SPACING). INTERIOR DECK ENDS SHALL HAVE A MINIMUM 2" LAP AND BE CENTERED OVER SUPPORT WITH A MINIMUM 1 1/2" BEARING (OR AS RECOMMENDED BY MANUFACTURER). DECK SHALL HAVE A MINIMUM 1 1/2" PERIMETER END BEARING. END PERIMETER EDGES SHALL BE ATTACHED AT SIDE LAPS AND (2) INTERMEDIATE RIBS (12" MAX. C/C SPACING). PERIMETER EDGES AND SIDE LAPS SHALL BE ATTACHED WITH (0) ADDITIONAL INTERMEDIATE #10 TEK SCREW FASTENER AT MIDSPAN. EACH ATTACHMENT MUST RESIST THE HORIZONTAL FORCE REQUIRED TO PROVIDE ADEQUATE LATERAL BRACING FOR THE PURLINS.
- 3. OPENING FOR EXHAUST FAN, LOCATE AND SIZE PER MECHANICAL DRAWINGS, ENSURE
- ROOF FRAMING IS PRESENT AROUND OPENING PER DETAIL 9/S501, TYP.

  4. ATTACH LIGHT GAUGE JOISTS TO STEEL BEAM WITH S/LBV1.68/14 WELD ON JOIST HANGER BY SIMPSON STRONG—TIE. PROVIDE 1/8"x2" EACH SIDE OF EACH TOP STRAP, FIELD WELD TO STEEL BEAM PER MANUFACTURER RECOMMENDATIONS.
- 5. ROOFTOP UNIT, LOCATE PER MECHANICAL. PROVIDE (4) STEEL BEAMS FRAMING AROUND UNIT CURB, MAX WEIGHT OF UNIT IS NOT TO EXCEED 9,000lbs. VERIFY FRAMING REQUIREMENTS WITH MANUFACTURER FOR SUPPORT REQUIREMENTS OF RTU, TYP.
- 6. EXISTING MECHANICAL ROOF OPENINGS TO BE PATCHED BACK, SIZE OF OPENING(S) UNKNOWN, VERIFY IN FIELD. SUPPLY LOOSE ROOF OPENING FRAMING ANGLES PER DETAIL 9/S501 AND PATCH BACK WITH 1" ROOF DECK, INSULATION TO MATCH EXISTING AND ROOFING PER ARCHITECTURAL.
- 7. OPENING FOR MECHANICAL DUCT PENETRATION, VERIFY LOCATION, ELEVATIONS AND DIMENSIONS WITH MECHANICAL DRAWINGS. PROVIDE (1) ANGLE PER 4" WIDTH OF MASONRY.
- 8. OPENING FOR ROOF HATCH, VERIFY LOCATION AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

LINTEL SCHEDULE

MARK LINTEL SIZE

L1 L5x3 1/2x3/8

L2 L6x4x3/8

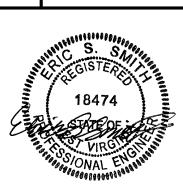
## NOTES:

- 1. ALL LINTELS ARE FOR EACH 4" UNIT WIDTH OF MASONRY, TYP.
- ALL ANGLES SHALL HAVE THEIR SHORT LEG OUTSTANDING AND 6" MINIMUM BEARING.
- 3. LINTELS OVER OPENINGS IN INTERIOR MASONRY PARTITIONS NOT OTHERWISE SPECIFIED SHALL BE PRECAST CONCRETE LINTELS WITH (1) #5 BAR TOP AND BOTTOM FOR EACH 4" UNIT WIDTH OR SHALL BE L4x3 1/2x5/16 ANGLES.
- 4. ALL EXTERIOR MASONRY LINTELS SHALL BE GALVANIZED, TYP.



1 0 Rev.

PIERPONT COMMUNITY & TECHNICAL C 501 W MAIN ST. CLARKSBURG, WV PIERPONT VET TECH RELOCATIC FRAMING PLAN



Project: 2201011

Designed By: STC

Drawn By: STC

Checked By: ESS

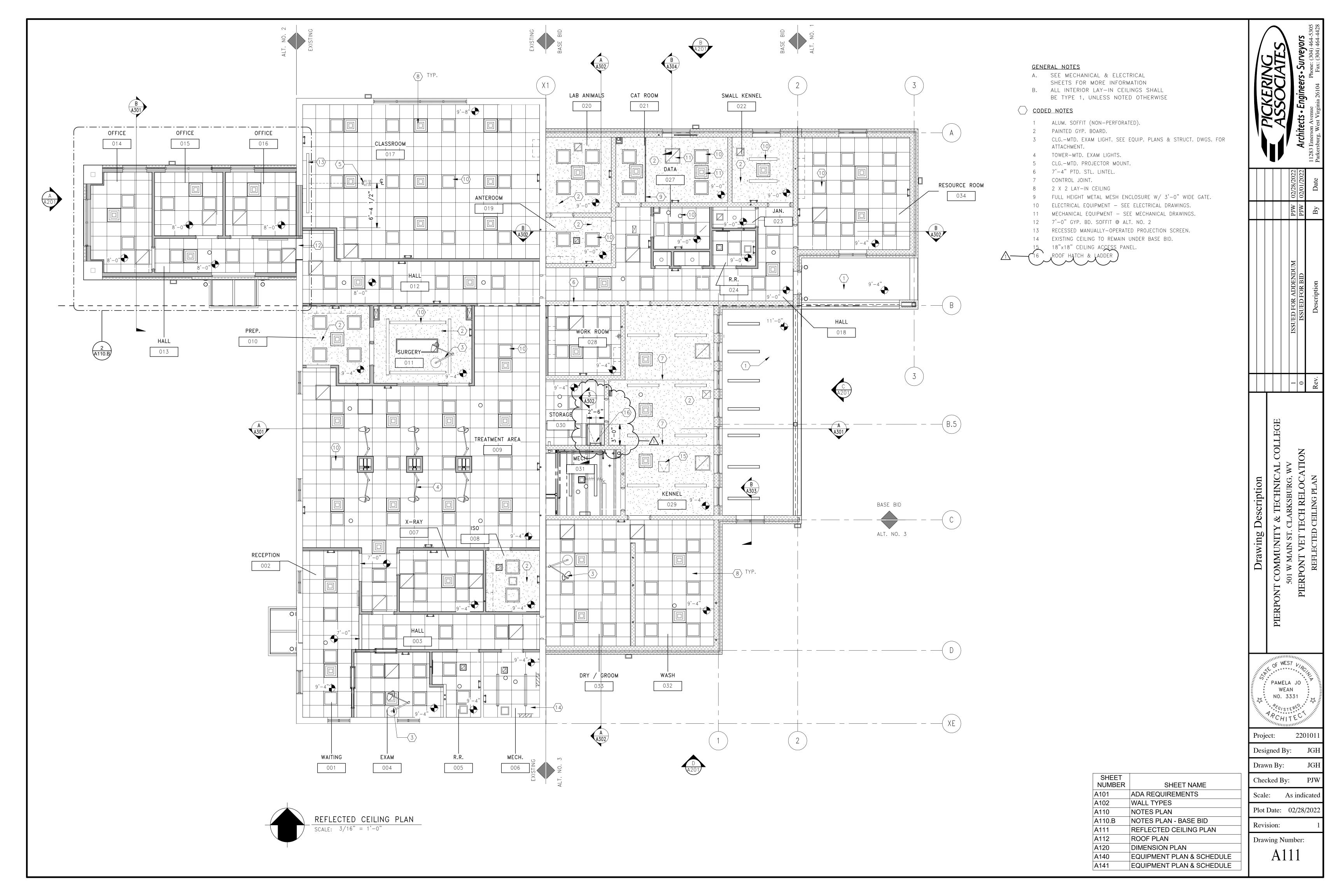
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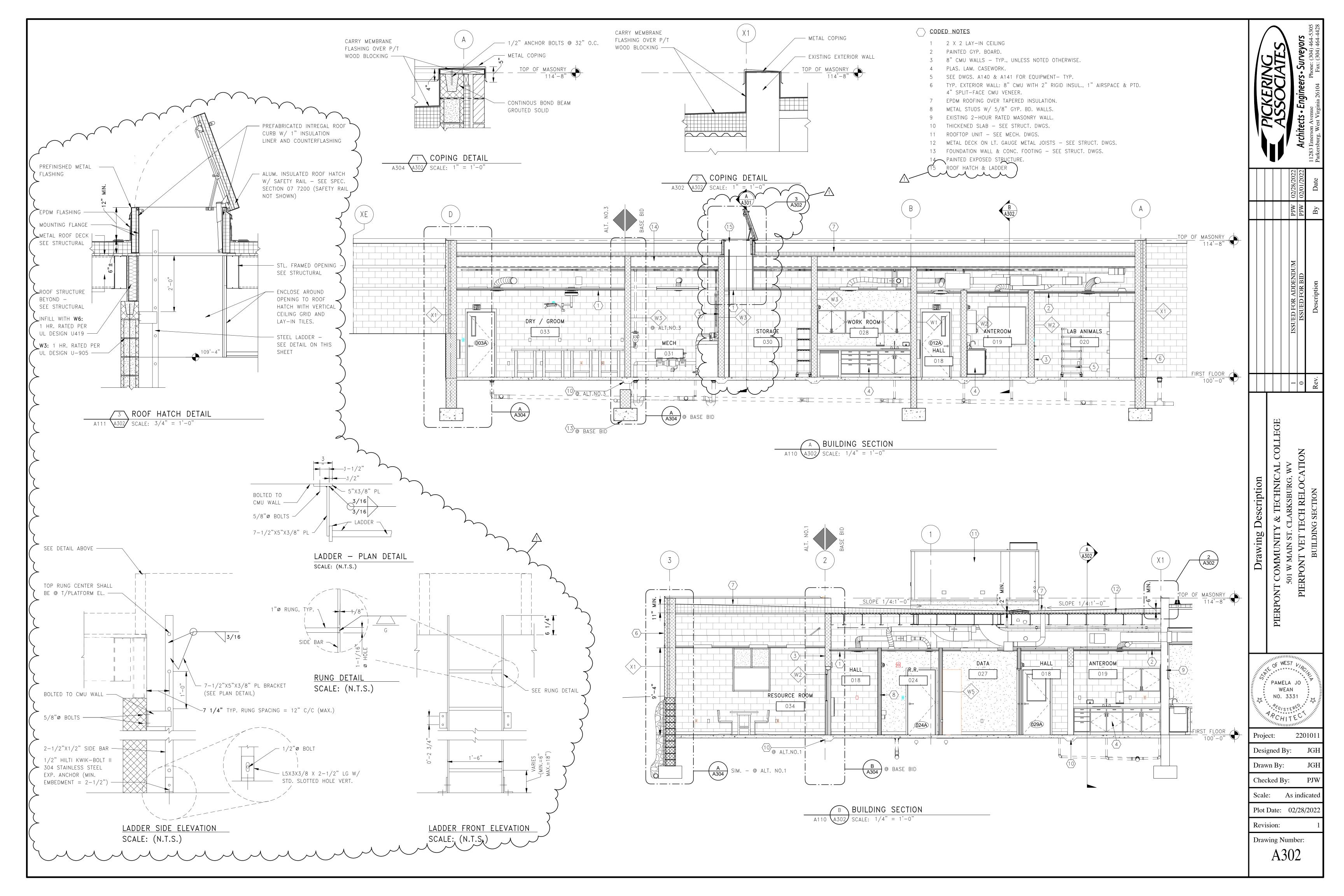
Plot Date: 2/23/22

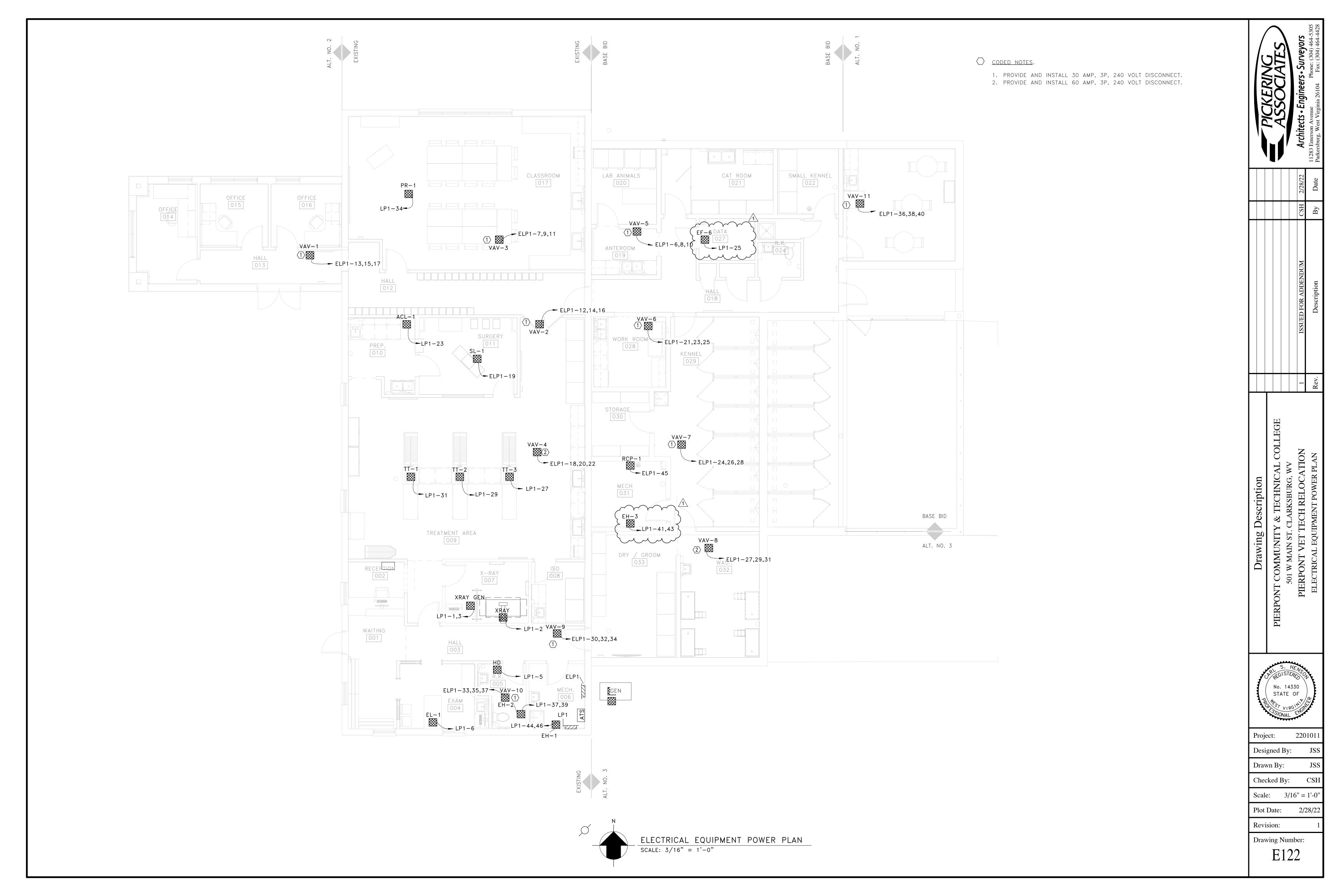
Revision:

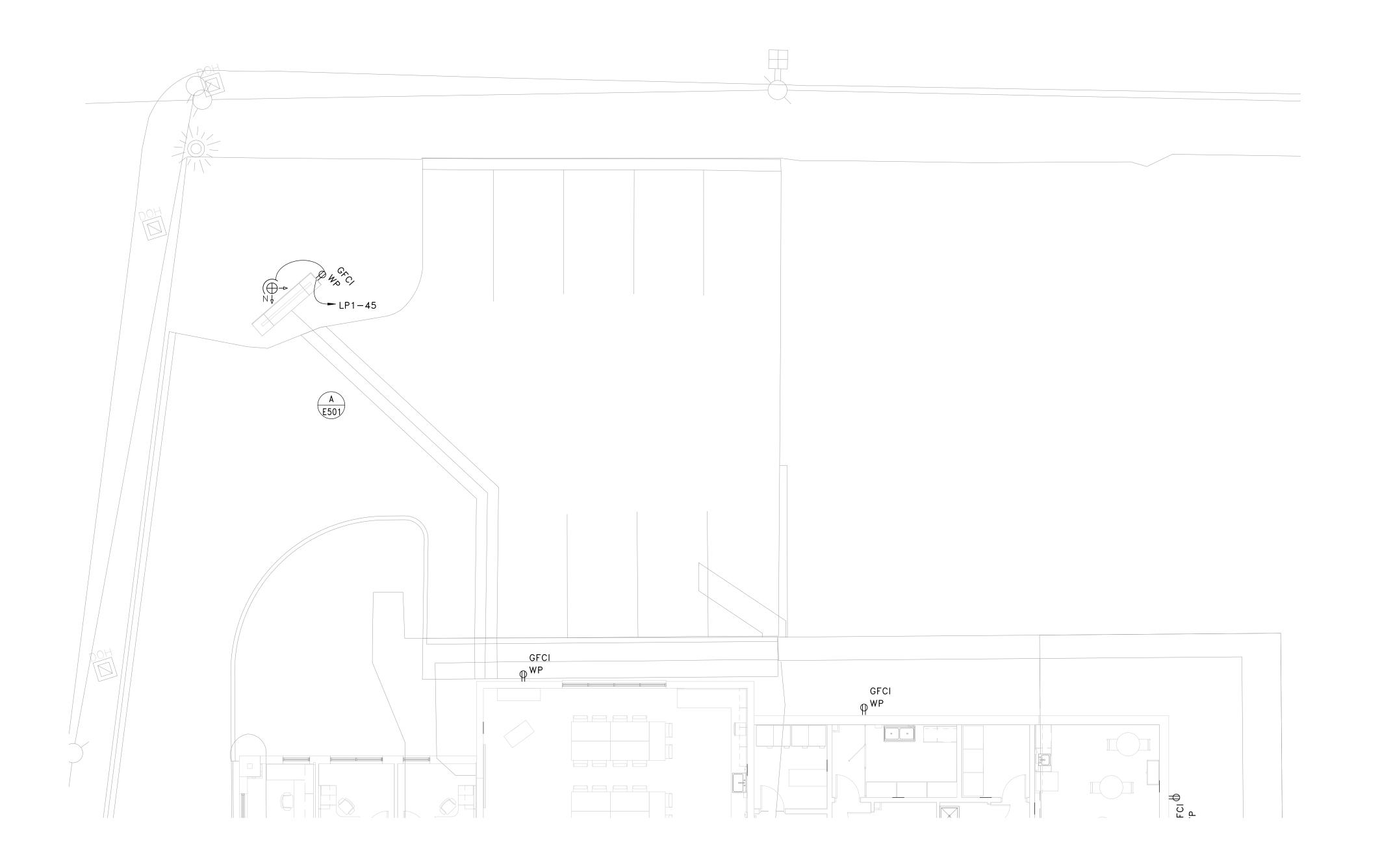
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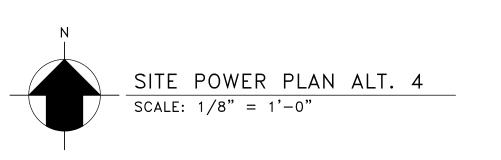
S112

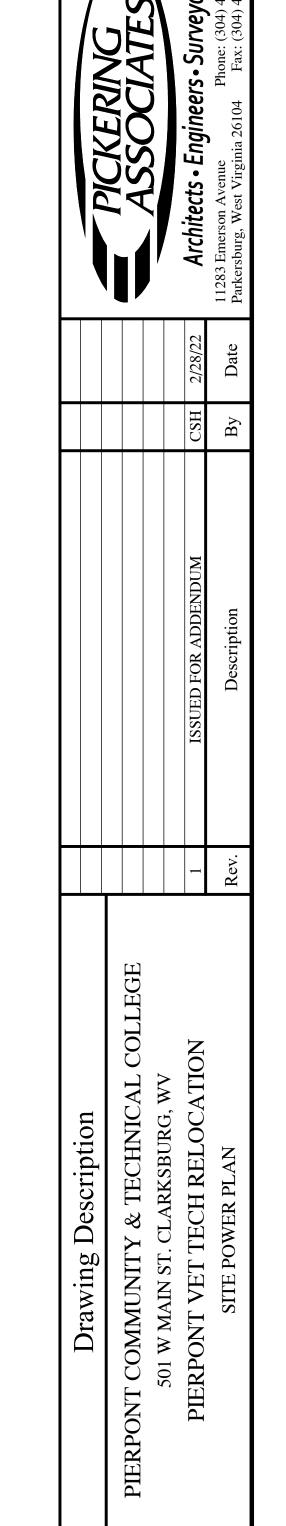










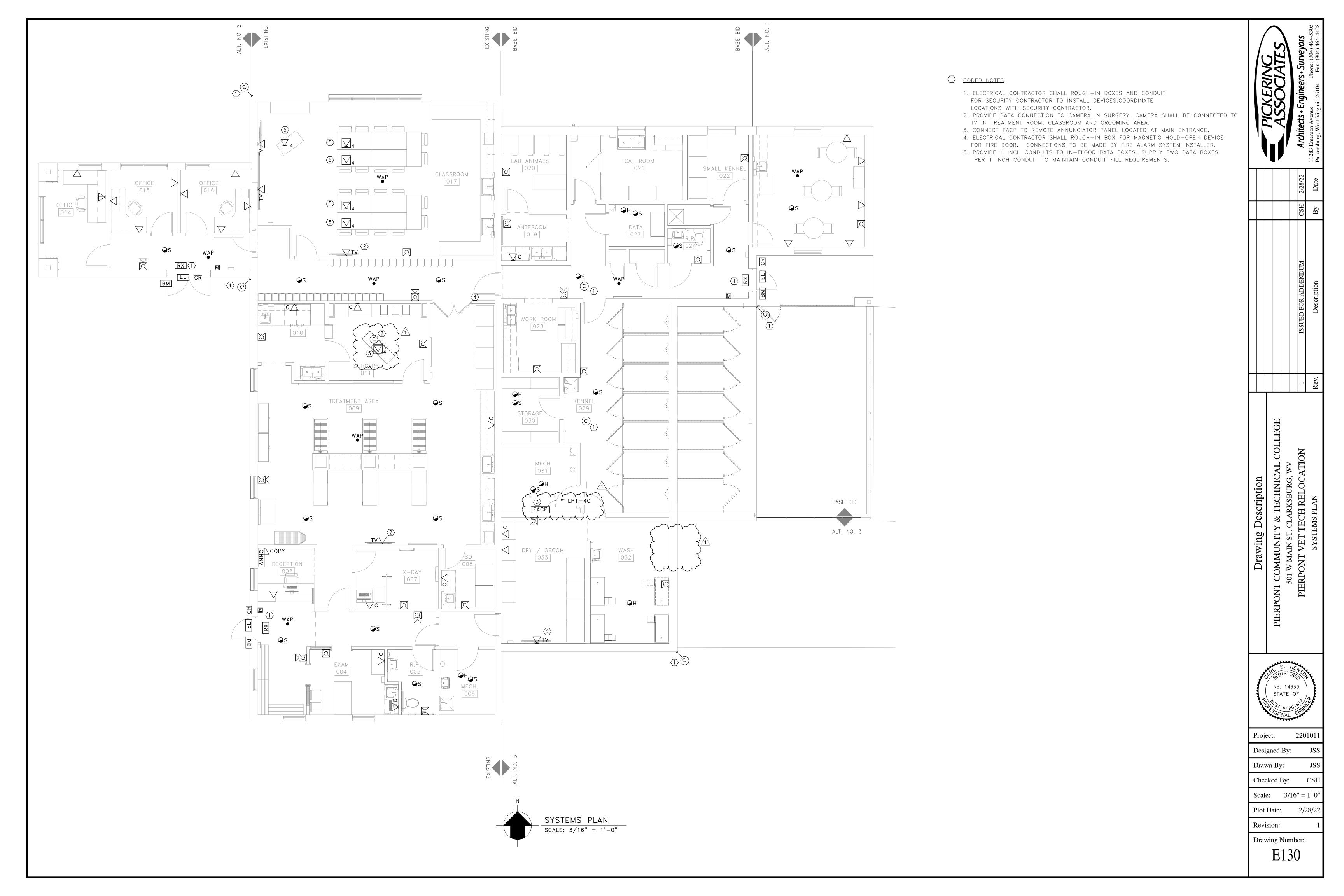


S. HENSON  No. 14330  STATE OF  ROLLST VIRGINIA

Project:	22010
Designed By:	J
Drawn By:	J
Checked By:	CS
Scale: 1/	/8" = 1'-
Plot Date:	2/28/

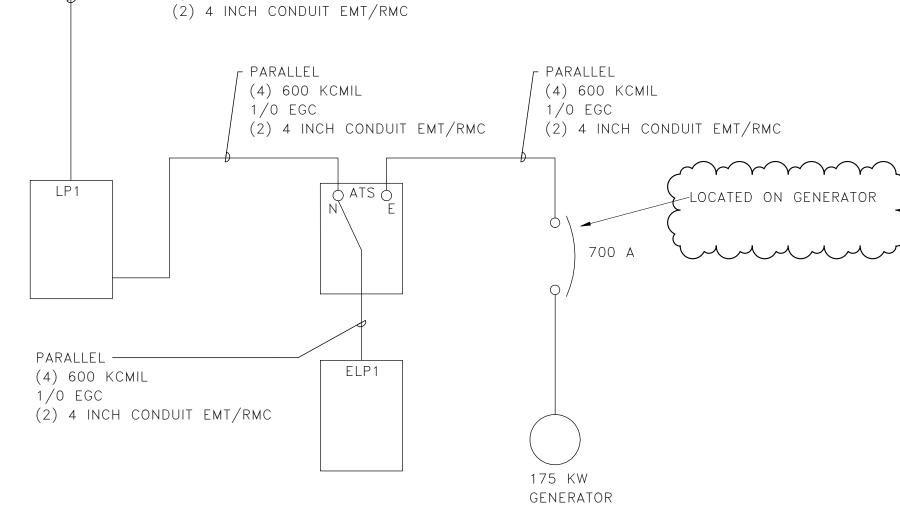
Drawing Number: E123

Revision:

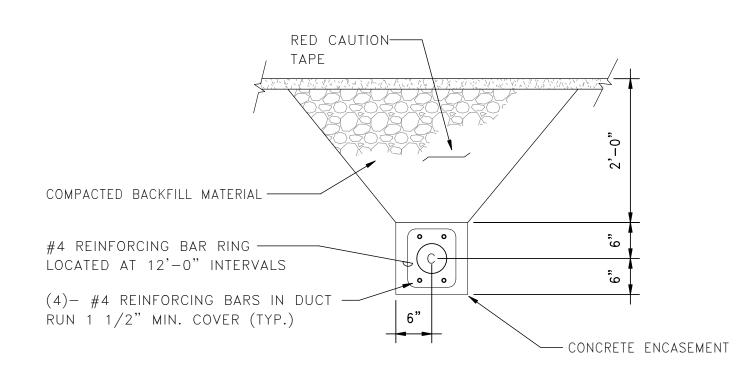


# PARALLEL (4) 600 KCMIL (2) 4 INCH CONDUIT RMC REVENUE METER AND CT CABINET PARALLEL (4) 600 KCMIL 1/0 EGC

NEW SERVICE ENTRANCE

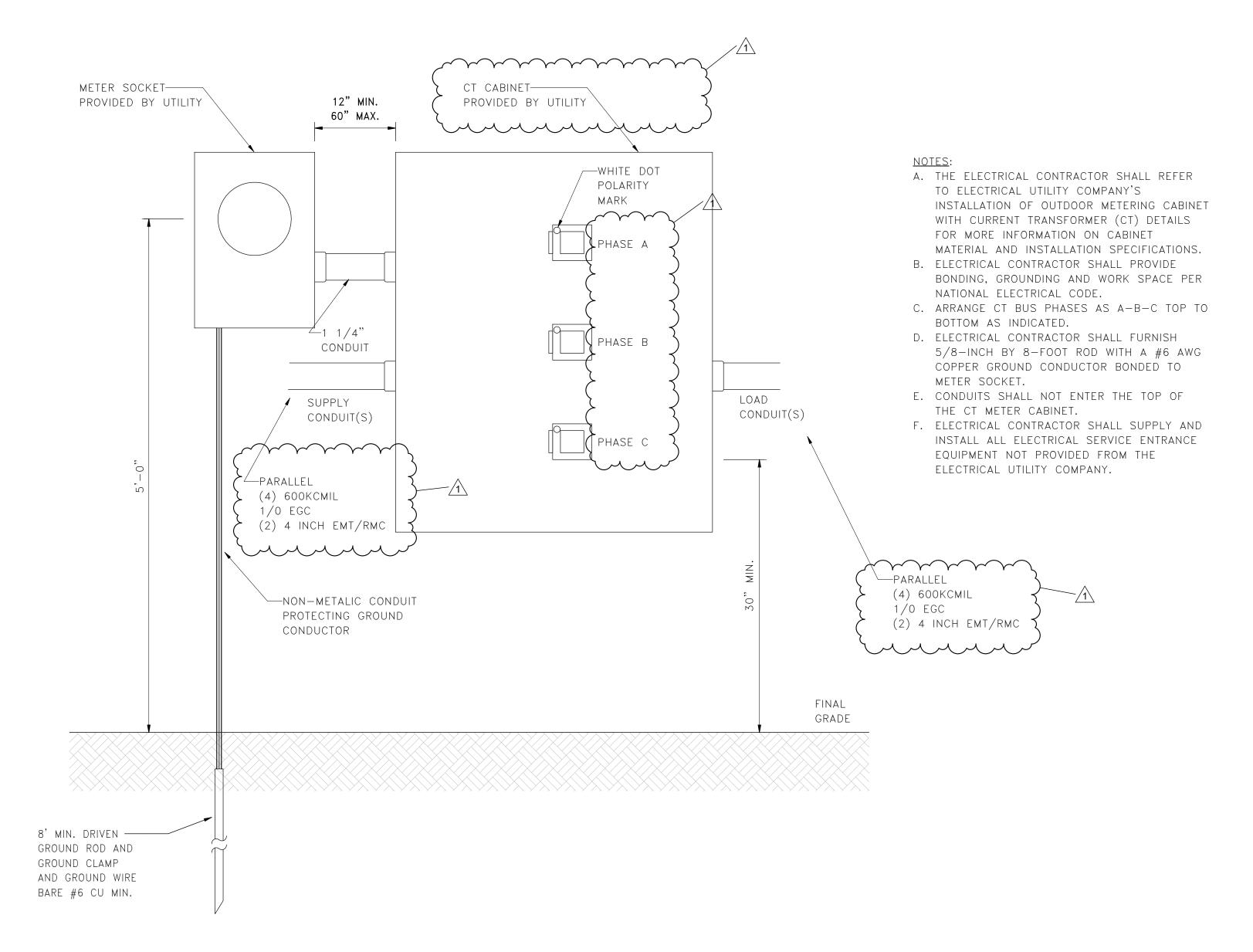


## 1 ELECTRICAL ONE LINE DIAGRAM E501 SCALE: NTS

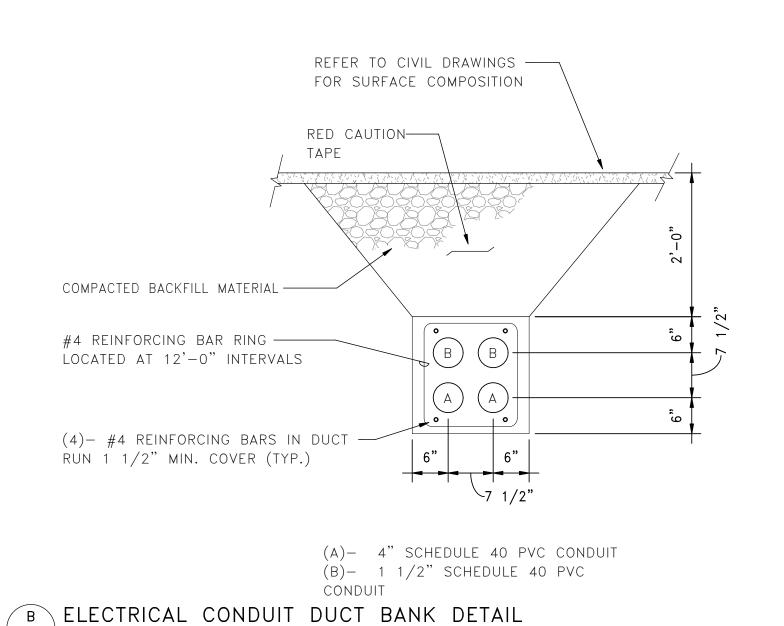


(A)- 1" SCHEDULE 80 PVC CONDUIT

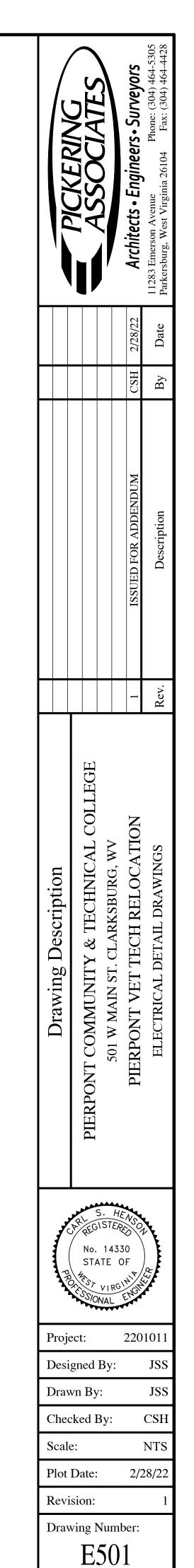
A ELECTRICAL CONDUIT DUCT BANK DETAIL E501 SCALE: NTS



# 2 ELECTRICAL SERVICE ENTRANCE E501 SCALE: NTS



E501 SCALE: NTS



CVALDO	\	DECORPTION	LAMP	DATA	14505	MODEL	0011115
SYMBOL	VA	DESCRIPTION	CCT(K)	LUMENS	MFGR	MODEL	COMMENTS
Α1	29.4	FLAT PANEL LED 2'X2' 0-10V DIMMING	4,000	3,930	LITHONIA	CPANL 2X2 AL01 SWW7	
A2	26.9	WET LOCATION 2X2 TROFFER	4,000	3,234	LITHONIA	2WRTL G L24 3000LM IAW AFL MVOLT GZ1 40K 80CRI WH	
B1	34	Architectural LED Suspended Linear Direct	4,000	4,000	LITHONIA	CSVT L48 AL03 MVOLT SWW3 80CRI STSL	
D1	75	1X4 SURGICAL TROFFER W/ OVERLAP DOOR FRAME. MIL STD RFI FILTER FOR LENS. ISO3 AND IP66 REATED	3,500	8,250	NEWSTAR	SS R 14 HC OA L3 35 1C S UN MS	
E		DUAL HEAD EXIT/EGERESS COMBINATION	3,200	0	ISOLITE	RLC-LED R U WH MTEB	
E 1		DUAL HEAD EXIT/EGERESS COMBINATION WET LOCATION	3,200	0	ISOLITE	RWL-C EM 1 WH MTEBP EB	
F	277	EMERGENCY LIGHT	3,200	80	LITHONIA	ELM4L	
G	2	DUAL HEAD WEATHER-PROOF LED EGRESS	3,200	1,380	LITHONIA	MHV GY 1 LW	
Н	49		4,000	1,800	LITHONIA	JSF 13IN 18LM 40K 90CRI MVOLT ZT WH	
К	28.5	WALL PACK	3,200	0	Acuity Brands Lighting	WDGE 2	
<b>M</b>	25	EXTERIOR SPECIALTY ARCHITECTURAL	4,000	3,021	LITHONIA	ARC1 LED P3 40K MVOLT FAO	<b>~~~~</b>
Ν	21	HIGH-PERFORMANCE LED FLOOD LUMINAIRE FOR FLAG POLE	3,200	2,965	LITHONIA	DSXF1LEDP140KWFLMVOLTVGDDBXD	

	EQUIPMENT		LOAD	INFORMAT	ION			CONDUCTOR	S	CC	)NDUIT		CONTROL			250 /001 / 151 / 150
DESIGNATION	LOAD DESCRIPTION	VOLT	PHASE	(VA)	МСА	МОСР	QTY.	SIZE	EGC	SIZE	TYPE	FVNR	VFD	LOTO	- NOI	ES/COMMENTS
A6F-1	ANTOCKAVE TO THE MAN T	150 DV	71	$\overline{\gamma}$	$\sim$	~~~	V-V	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		3/4	Y PANT Y	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	~~~	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	MQLEAL	$\overline{\gamma}$
ВС	GENERATOR BATTERY CHARGER	120 V	1	500	4.2	20	2	12	12	3/4	RMC				NOTE 2	
ВН	GENERATOR BLOCK HEATER	120 V	. 1	1,500	12.5	20	2	12	12	3/4	RMC				NOTE 2	
	EXHAUSTFAH	1157		186.5	1.62	20				3/4	~ RMe~					
EF-2	EXHAUST FAN	115 V	1	186.5	1.62	20	2	12	12	3/4	RMC					
EF-3	EXHAUST FAN EXHAUST FAN	115 V		93.25	0.81	20	$\frac{2}{2}$	12	$\bigcirc$ 12	$\sqrt{3/4}$	RMC					
F-4 Y		115 V	1 1	93.25	<b>7</b> 0.81	20	2	12	12	3/4	RMC	γ . γ .	Y Y Y		Y	Y Y Y Y Y
	EXHADSTFAN	1151		~5 <del>59.5</del> ~	4.86	20~				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	WAME!					
EF-6	EXHAUSI FAN	115 V	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	119	1.03	$\frac{20}{}$	$\frac{2}{\sqrt{2}}$	12	$\sqrt{\frac{12}{2}}$	3/4	RMC					~~~~
EH-1	ELECTRIC HEATER	208 V	1 1	1,997	9.6	15	2	12	12	3/4	RMC	' '				
MEH-2	ECECTRIC HEATER	~200°\		M,997	~9.6~	Mon		<u> </u>		3/4	- RMC					
EH-3	ELECTRIC HEATER	208 V	1	1,997	9.6	15	2	12	12	3/4	RMC					
EL-1	EXAM LIGHT	120 V	1	240	20	20	2	12	12	3/4	RMC					
HD	AIRBLADE HAND DRYER	120 V	1	1,404	11.7	15	2	12	12	3/4	RMC					
PR-1	PROJECTOR	120 V	1			20	2	12	12	3/4	RMC				NOTE 1	
RCP-1	RECIRCULATING PUMP	120 V	1	55		20	2	12	12	3/4	RMC					
RTU-1	ROOF-TOP UNIT	208 V	3	59,374	153	175	3	4/0	6	3	RMC			Y		
SL-1	SURGERY LIGHT	120 V	1				2	12	12	3/4	RMC				NOTE 1	
TT-1	TREATMENT TOWER	120 V	1	240	20	20	2	12	12	3/4	RMC					
TT-2	TREATMENT TOWER	120 V	1	240	20	20	2	12	12	3/4	RMC					
TT-3	TREATMENT TOWER	120 V	1	240	20	20	2	12	12	3/4	RMC					
VAV-1	VARIABLE AIR VOLUME TERMINAL	208 V	3	3,958	11	20	3	12	12	3/4	RMC			Y		
VAV-2	VARIABLE AIR VOLUME TERMINAL	208 V	3	8,276	23	30	1 3	10	10	3/4	RMC			Y		
VAV-3	VARIABLE AIR VOLUME TERMINAL	208 V	3	10,435/1	$\rightarrow \sim$	40	3 3	8	10	3/4	RMC			Y		
VAV-4	VARIABLE AIR VOLUME TERMINAL	208 V	3	93,780 (	54		3	6	10	1	RMC			Y		
VAV-5	VARIABLE AIR VOLUME TERMINAL	208 V	3	9,715		30	3	10	10	3/4	RMC			Y		
VAV-6	VARIABLE AIR VOLUME TERMINAL	208 V	3	4,318	8	20	3	12	12	3/4	RMC			Y		
VAV-7	VARIABLE AIR VOLUME TERMINAL	208 V	3	8,996 /	<u> </u>		3	10	10	3/4	RMC			Y		
VAV-8	VARIABLE AIR VOLUME TERMINAL	208 V	3	7,556	21	30	3	10	10	3/4	RMC			Y		
VAV-9	VARIABLE AIR VOLUME TERMINAL	208 V	3	2,879	8	20	3	12	12	3/4	RMC			Y		
VAV-10	VARIABLE AIR VOLUME TERMINAL	208 V	3	5,757 <u>1</u>	4	20	3	12	12	3/4	RMC			Y		
VAV-11	VARIABLE AIR VOLUME TERMINAL	208 V	3	2,879	8	20	3	12	12	3/4	RMC			Υ		
XRAY	XRAY TABLE	120 V	1			20	2	12	12	3/4	RMC				NOTE 1	
XRAY GEN	XRAY GENERATOR	208 V	3			20	3	12	12	3/4	RMC				NOTE 1	

1.EQUIPMENT SHOWN IS BASIS OF DESIGN. EC TO COORDINATE WITH OWNER AND EQUIPMENT PROVIDER FOR CIRCUIT LOADING AND INSTALLATION REQUIREMENTS.

2.GENERATOR BATTERY CHARGER AND BLOCK HEATER ARE BASIS OF DESIGN. COORDINATE WITH GENERATOR REQUIREMENTS.

FLC = FULL LOAD CURRENT

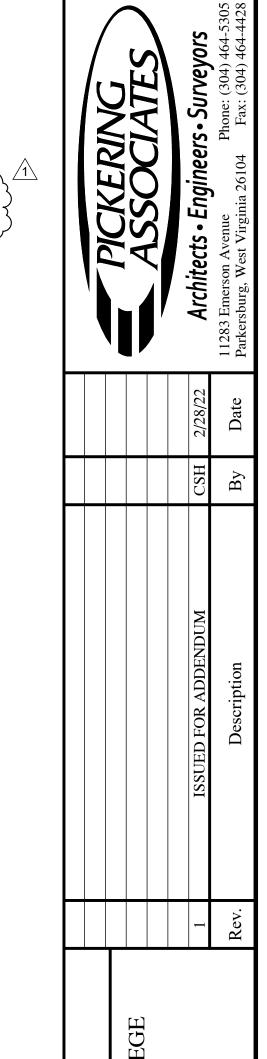
MOCP = MAXIMUM OVERCURRENT PROTECTION DEVICE

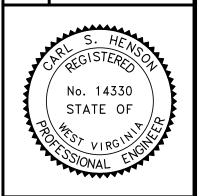
EGC = EQUIPMENT GROUNDING CONDUCTOR

VFD = VARIABLE FREQUENCY DRIVE CONTROL

FVNR = FULL VOLTAGE NON-REVERSING STARTER, WITH OVERLOADS, CONTROL TRANSFORMER, START/ STOP PUSHBUTTONS AND AUXILIARY CONTACT

P = PARALLEL FEED





Drawing Description

PIERPONT COMMUNITY & TECHNICAL COLI
501 W MAIN ST. CLARKSBURG, WV

PIERPONT VET TECH RELOCATION

ELECTRICAL SCHEDULES

	•
Project:	2201011
Designed By:	JSS
Drawn By:	JSS
Checked By:	CSH
Scale:	NTS
Plot Date:	2/28/22
Revision:	1
Drawing Num	ber:

E600

PANEL DESIG: LP1									VOL	TAGE: 2	.08Y/120V 3PH 4W
LOCATION: MECH. 006				FED FROM:							
MOUNTING: SURFACE					MAIN SIZE: 800						
NO. OF CKTS: 54								800 M	MAIN CIRCUIT BREAKER		
											Will Citted Dicestrate
ALL PHASES TO BE BALANCED WIT	HIN 7% U	SING A WIRE SIZE	CTUAL C	CKT.	LOAD	CK C NU		CB/P	WIRE SIZE	(VA)	LOAD DESCRIPTION
				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	В	2		20/1	#12	0	X-RAY TABLE
X—RAY GEN	0	#12	20/2	1 3		4		20/1	#12		LIGHTING
HD, HAND DRYER	1404	#12 (	15/1	5 5		6		20/1	#12	240	EXAM LIGHT EL-1
LIGHTING	499	#12	20X1			8		20/1	#12		REC 014, 015
REC 013, 016	1080	#12	20/1	9		10		20/1	#12		LIGHTING
LIGHTING	1362	#12	20/1	11		12		20/1	#12		REC 001,002
COPIER	1000	#12	20/1	13		14		20/1	#12		REC UPPER 033
REC 009 EAST WALL	720	#12	20/1	15		16		20/1	#12	1290	REC 017 EAST WALL
REC CLASSROOM FLOOR	1080	#12	20/1	17		18		20/1	#12		REC 017 WEST WALL
REC 019, 020, 021	1440	#12	20/1	19		20		20/1	#12		REC LOWER 033
REC RESOURCE ROOM	1440	#12	20/1	21		22		20/1	#12		REC 009 WEST WALL
AUTOCLAVE, ACL-1	0	#12	20/1	23		24		20/1	#12		REC 022, 024
REC 018, 027	1379	#12	20/1	25		26		20/1	#12		REC 032
TT-3 TT-2	240	#12	20/1	27		28 30		20/1	#12 #12		REC 007,008 SCALES
TT-1	240	#12 #12	20/1 20/1	31		32		20/1 20/1	#12		REC 003,004,005,006
REC_030, 031	1260	#12	20/1	33		34		20/1	#12	0	PROJECTOR, PR-1
REC 028	360	#12V	2071	35		36					
		1	·	37		38	<del> </del> 3	50/2	#10	6200	DRYER
EH-2	1997	#12	15/2	39		40	2	20/1	#12	600	EQUIPMENT
E11 7	1007	"10	15 /0	<b>L</b> 41		42		20/1	#12		RECEPTACLE
EH-3	1997	#12	15/2	) 43		44				1007	EU 1
SIGN LIGHTING AND RECEPTACLE	201	#12	20/1	<b>\ 45</b>		46		5/2	#12	~\***	EH-1
BATTERY CHARGER	500	#12	20/1	) 47		48	{ 2	20/1	#12	1500	BLOCK HEATER
				49		50	$\searrow$	ىر		<u>س سر</u>	
				51		52					
				53		54					
N.E.C. Connected Load Summary						er Option	•	•			
Lighting: 3.61 KVA M	otors:	11.65	KVA		AS -	Powerlin	k "AS	S" Bre	aker	QO	— Standard "QOB" Bolt—On Bkr.
Receptacles: 36.58 KVA H	eating:	217.92	KVA		LO -	Lock-On	n Devi	ice		HR	— HACR Rated Circuit Breaker
Equipment: 0.60 KVA To	tal.	270.36	KVΔ	750.46 A	GF -	GND Fau	ilt CK	T Into	rruntar		

PANEL DESIG: ELP1 VOLTAGE: 208Y/120V 3PH 4W LOCATION: MECH. 006 FED FROM: LP1 MOUNTING: SURFACE MAIN SIZE: 800 NO. OF CKTS: 54 800 MAIN CIRCUIT BREAKER ALL PHASES TO BE BALANCED WITHIN 7% USING ACTUAL CONNECTED LOAD (VA) WIRE SIZE WIRE SIZE LOAD DESCRIPTION LOAD DESCRIPTION NUM. 20/1 #12 646 EF-1,-2,-3 20/1 #12 833 EF-4,-5 59374 | #4/0 | 200/3 60/3 #6 9715 VAV-5 10435 #8 40/3 VAV-3 30/3 | #10 | 8276 | VAV-2 3958 | #12 | 20/3 VAV-1 SURGERY LIGHT SL-1 0 #12 20/1 60/3 | #6 | 93780 | VAV-4 4318 #12 20/3 VAV-6 30/3 #!0 8996 VAV-7 7556 #!0 30/3 VAV-8 20/3 | #12 | 2879 | VAV-9 5757 #12 20/3 VAV-10 20/3 | #12 | 2879 | VAV-11 LIGHTING IN ANIMAL AREAS 42 20/1 #12 1800 REFRIGERATOR RESOURCE ROOM 44 20/1 #12 1800 REFRIGERATOR CLASSROOM 46 20/1 #12 790 RECEPTACLE REC SURGERY REFRIGERATOR WORK ROOM

Breaker Options (if used)

LO — Lock—On Device

227.56 KVA 631.64 A GF — GND Fault CKT Interrupter

AS — Powerlink "AS" Breaker

QO — Standard "QOB" Bolt—On Bkr.

HR — HACR Rated Circuit Breaker

N.E.C. Connected Load Summary

Receptacles:

Equipment:

0.47 KVA Motors:

KVA Total:

7.99 KVA Heating: 217.92 KVA

1.17 KVA

Drawing Description

PIERPONT COMMUNITY & TECHNICAL COLLEGE

501 W MAIN ST. CLARKSBURG, WV

PIERPONT VET TECH RELOCATION

ELECTRICAL PANEL SCHEDULES

Rev.

S. HENSON
No. 14330
STATE OF
ROST VIRGINIA

Project: 2201011

Designed By: JSS

Drawn By: JSS

Checked By: CSH

Scale: NTS

Plot Date: 2

Revision:

Drawing Number:

rawing Number E601