PENNSYLVANIA GAME COMMISSION

STATE GAME LANDS #214
NEW 40'x80' PYMATUNING WILDLIFE MANAGEMENT AREA BUILDING
NORTH SHENANGO TOWNSHIP, CRAWFORD COUNTY

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PROJECT SPECIFICATIONS

The Contractor shall comply with the ***Contract Terms and Conditions*** provided with the Bid Documents including but not limited to the following:

INSURANCE REQUIREMENTS – In accordance with the ***Contract Terms and Conditions***, the Contractor is required to have in place during the term of the Contract and any renewals or extensions thereof, the following types of insurance, issued by companies acceptable to the Commonwealth and authorized to conduct such business under the laws of the Commonwealth of Pennsylvania:

A. **Worker's Compensation Insurance** for all of the Designer/Contractor's employees and those of any subcontractor, engaged in Work at the site of the project as required by law.

B. **Builders Risk Insurance** the Designer/Contractor shall, until all physical on-site work is complete, maintain insurance on all insurable work included in the Contract against loss or damage by fire and lightning and those perils covered by the extended coverage endorsement. Insurable work includes work both interior and exterior of any building being constructed. The property insurance must include a Builder's Risk Policy or an installation floater that covers all risks. The risk of damage to the construction work is that of the Designer/Contractor and surety. No claims for such loss or damage will be recognized by the agency, nor will such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor. The Designer/Contractor and all subcontractors are required to produce certificates of insurance, naming the Commonwealth of Pennsylvania and Pennsylvania Game Commission as an additional insured.

C. **Public Liability and Property Damage Insurance** to protect the Commonwealth, the Designer/Contractor, and any and all subcontractors from claims for damages for personal injury (including bodily injury), sickness or disease, accidental death and damage to property including the loss of use resulting from any property damage, which may arise from the activities performed under the Contract or the failure to perform under the Contract, whether such performance or non-performance be by the Designer/Contractor, by any subcontractor, or by anyone directly or indirectly employed by either. **The minimum amounts of coverage shall be $250,000 per person and $1,000,000 per occurrence for bodily injury, including death, and $250,000 per person and $1,000,000 per occurrence for property damage.** Such policies shall be occurrence rather than claims-made policies and shall not contain any endorsements or any other form designated to limit and restrict any action by the Commonwealth, as an additional insured, against the insurance coverage in regard to Work performed for the Commonwealth.

Prior to commencement of the Work under the Contract and at each insurance renewal date during the term of the Contract, the Contractor shall provide the Commonwealth with current certificates of insurance. **These certificates or policies shall name the Commonwealth AND Pennsylvania Game Commission as additional insured and shall contain a provision that the coverage's afforded under the policies will not be cancelled or changed until at least thirty (30) days written notice has been given to the Commonwealth.**

COMPLIANCE WITH LAW – The Contractor shall comply with all applicable federal and state laws and regulations and local ordinances in the performance of the Contract.

WORKMANSHIP - All Work shall be performed in a Workmanlike manner and all materials and labor shall be in strict and entire conformity with the Drawings and Specifications.

INSPECTION AND CHANGES - All Work is subject to review and acceptance by the Pennsylvania Game Commission. Any Work rejected as unsatisfactory or unsuitable shall be redesigned and resubmitted with suitable design at the sole cost of the designer to the complete satisfaction of the Game Commission.

Changes shall be in accordance with the ***Contract Terms and Conditions.***

TEMPORARY SERVICES AND JOB CONDITIONS - The Contractor shall be responsible for providing any and all temporary facilities necessary to execute and protect the Work. The Contractor shall accept all conditions as found upon examination of the site and shall coordinate, plan, and execute the Work accordingly. The Contractor shall cooperate in the arrangements of the Work as necessary to least affect the administration or operations of existing buildings, facilities, and infrastructure. The Contractor shall keep the Work site clean at all times.

PREVAILING WAGE – Prevailing minimum wages apply to this project. See ***Contract Terms and Conditions*** and attached Prevailing Wage Determination.

The Contractor and each Subcontractor shall file a statement each week and a final statement at the conclusion of the Work on the contract with the contracting agency, under oath, and in form satisfactory to the Secretary, certifying that workmen have been paid wages in strict conformity with the provisions of the contract as prescribed by this section or if wages remain unpaid to set forth the amount of wages due and owing to each workman respectively. The PA Labor and Industry "Weekly Payroll Certification for Public Works Projects" form shall be used. The initial and final Payroll Certifications shall be notarized.

PAYMENT TERMS - A schedule of values is provided with the bid. Payment will be made on a monthly basis upon satisfactory completion of items listed on the Schedule of Values and in accordance with the ***Contract Terms and Conditions.***

All payments due to the Contractor shall be processed after all Work has been inspected and approved by an agent of the Pennsylvania Game Commission. Payment will not be made for Work that is not progressing satisfactorily or for unsuitable or defective Work.

Payments may be withheld for failure to provide required documentation for the project including but not limited to required submittals / shop drawings and weekly submission of Certified Payrolls.

INVOICING – All Project invoices shall be submitted directly to:

Mr. Austin Kieffer, P.E., Chief of Engineering
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg PA 17110
Office: 717-787-4250 Ext:73613
Email: akieffer@pa.gov

All invoices must be submitted in black and white with no color and shaded areas. Invoices must include the Purchase Order Number, Contractor's SAP Vendor Number, Dates of services and the Contractor's name and address as listed on the Purchase Order. Payment items on invoices shall match the items on the Purchase Order. Failure to submit invoices that meet these requirements will result in a delay of payment.

Please Note: Vendors are reminded to **NOT** include employer identification numbers, Social Security Numbers, bank account information, or other personally identifiable information on their invoices. That information is uniquely tied to your SAP Vendor Number and, for security purposes, should not be explicitly stated on an invoice.

CONTRACT TERM - The Contract shall commence upon delivery of Purchase Order to Contractor and shall terminate on **October 18, 2024**. Contract time is of the essence of the Project. All Work must be completed and accepted by this date.

EXCISE TAXES, PENNSYLVANIA SALES TAX - The Commonwealth is exempt from all Excise Taxes. See ***Contract Terms and Conditions.***

OFFSET PROVISION - The Designer/Contractor agrees that the Commonwealth may set off the amount of any state liability or other debt of the Contractor or its subsidiaries that is owed to the Commonwealth and not being contested on appeal against any payments due the Contractor under this or any other contract with the Commonwealth.

PERFORMANCE SECURITY / CONTRACT BONDS – Within 10 days after award of the purchase order, the Bidder to whom the Contract is awarded, shall provide **Contract Performance Security** and a **Payment Bond** in a form acceptable to the Commonwealth for the amounts listed below and in accordance with the ***Contract Terms and Conditions.***

A **Performance Bond** at one hundred percent (100%) of the contract amount, conditioned upon the faithful performance of the contract in accordance with the plans, specifications and conditions of the contract.

A **Payment Bond** in an amount equal to one hundred percent (100%) of the contract amount.

Performance and Payment Bonds shall be executed by a surety company authorized to do business in the Commonwealth and listed on the current U.S. Dept. of Treasury, Bureau of Fiscal Service, Department Circular 570 (https://fiscal.treasury.gov/surety-bonds/list-certified-companies.html). Bonds shall include a current Power of Attorney dated the same as the date of the bond. Bonds shall be made payable to the Commonwealth.

GUARANTY / WARRANTY – See ***Contract Terms and Conditions*** – all items are warranted for a period of one year following delivery by the Contractor and acceptance by the Commonwealth.

ADDENDA TO THE INVITATION FOR BID (IFB) – See ***Contract Terms and Conditions*** – If the issuing office deems it necessary to revise any part of this IFB before the bid response date, the issuing office will post an addendum to the DGS website at www.emarketplace.state.pa.us. It is the Contractor's responsibility to periodically check the website for any new information or addenda to the IFB.

HOLD HARMLESS PROVISION - See ***Contract Terms and Conditions*** - The Contractor shall hold the Commonwealth harmless from and indemnify the Commonwealth against any and all third party claims, demands and actions based upon or arising out of any activities performed by the Contractor and its employees and agents under this Contract, provided the Commonwealth gives Contractor prompt notice of any such claim of which it learns.

RECIPROCAL LIMITATIONS ACT
REQUIREMENTS

Please Complete Applicable Portion of Pages 3 & 4 and Return with Bid.

NOTE: These Requirements Do Not Apply To Bids Under $10,000.00

I. REQUIREMENTS

A. The Reciprocal Limitations Act requires the Commonwealth to give preference to those bidders offering supplies produced, manufactured, mined or grown in Pennsylvania as against those bidders offering supplies produced, manufactured, mined or grown in any state that gives or requires a preference to supplies produced, manufactured, mined or grown in that state. The amount of the preference shall be equal to the amount of the preference applied by the other state for that particular supply.

The following is a list of states which have been found by the Department of General Services to have applied a preference for in-state supplies and the amount of the preference:

	STATE	PREFERENCE	
1.	Alaska	7%	(applies only to timber, lumber, and manufactured lumber products originating in the state)
2.	Arizona	5%	(construction materials produced or manufactured in the state only)
3.	Hawaii	10%	
4.	Illinois	10%	for coal only
5.	Iowa	5%	for coal only
6.	Louisiana	4%	meat and meat products
		4%	catfish
		10%	milk & dairy products
		10%	steel rolled in Louisiana
		7%	all other products
7.	Montana	5%	for residents *
		3%	for non-residents*
			*offering in-state goods, supplies, equipment and materials
8.	New Mexico	5%	
9.	New York	3%	for purchase of food only
10.	Oklahoma	5%	
11.	Virginia	4%	for coal only
12.	Washington	5%	(fuels mined or produced in the state only)
13.	Wyoming	5%	

B. The Reciprocal Limitations Act requires the Commonwealth to give preference to those bidders offering printing performed in Pennsylvania as against those bidders offering printing performed in any state that gives or requires a preference to printing performed in that state. The amount of the preference shall be equal to the amount of the preference applied by the other state for that particular category of printing.

The following is a list of states which have been found by the Department of General Services to have applied a preference for in-state printing and the amount of the preference:

	STATE	PREFERENCE
1.	Hawaii	15%
2.	Idaho	10%
3.	Louisiana	3%
4.	Montana	8%
5.	New Mexico	5%
6.	Wyoming	10%

C. The Reciprocal Limitations Act, also requires the Commonwealth to give resident bidders a preference against a nonresident bidder from any state that gives or requires a preference to bidders from that state or exclude bidders from states that exclude nonresident bidders. The amount of the preference shall be equal to the amount of the preference applied by the state of the nonresident bidder. The following is a list of the states which have been found by the Department of General Services to have applied a preference for in-state bidders and the amount of the preference:

	STATE	PREFERENCE	
1.	Alaska	5%	(supplies only)
2.	Arizona	5%	(construction materials from Arizona resident dealers only)
3.	California	5%	(for supply contracts only in excess of $100,000.00)
4.	Connecticut	10%	(for supplies only)
5.	Montana	3%	
6.	New Mexico	5%	(for supplies only)
7.	South Carolina	2%	(under $2,500,000.00)
		1%	(over $2,500,000.00) This preference does not apply to construction contracts nor where the price of a single unit exceeds $10,000.
8.	West Virginia	2.5%	(for the construction, repair or improvement of any buildings
9.	Wyoming	5%	

	STATE	PROHIBITION
1.	New Jersey	For supply procurements or construction projects restricted to Department of General Services Certified Small Businesses, New Jersey bidders shall be excluded from award even if they themselves are Department of General Services Certified Small Businesses.

D. The Reciprocal Limitations Act also requires the Commonwealth not to specify, use or purchase supplies which are produced, manufactured, mined or grown in any state that prohibits the specification for, use, or purchase of such items in or on its public buildings or other works, when such items are not produced, manufactured, mined or grown in such state. The following is a list of the states which have been found by the Department of General Services to have prohibited the use of out-of-state supplies:

	STATE	PROHIBITION
1.	Alabama	Only for printing and binding involving ”messages of the Governor to the Legislature“, all bills, documents and reports ordered by and for the use of the Legislature or either house thereof while in session; all blanks, circulars, notices and forms used in the office of or ordered by the Governor, or by any state official, board, commission, bureau or department, or by the clerks of the supreme court . . ./and other appellate courts/; and all blanks and forms ordered by and for the use of the Senate and Clerk or the House of Representatives, and binding the original records and opinions of the Supreme Court . . . /and other appellate courts/
2.	Georgia	Forest products only
3.	Indiana	Coal
4.	Michigan	Printing
5.	New Mexico	Construction
6.	Ohio	Only for House and Senate bills, general and local laws, and joint resolutions; the journals and bulletins of the Senate and house of Representatives and reports, communications, and other documents which form part of the journals; reports, communications, and other documents ordered by the General Assembly, or either House, or by the executive department or elective state officers; blanks, circulars, and other work for the use of the executive departments, and elective state officers; and opinions of the Attorney General.
7.	Rhode Island	Only for food for state institutions.

*If the bid discloses that the bidder is offering to supply one of the above-listed products that is manufactured, mined, or grown in the listed state, it shall be rejected. Contractors are prohibited from supplying these items from these states.

II. CALCULATION OF PREFERENCE

In calculating the preference, the amount of a bid submitted by a Pennsylvania bidder shall be reduced by the percentage preference which would be given to a nonresident bidder by its state of residency (as found by the Department of General Services in Paragraph C_above). Similarly, the amount of a bid offering Pennsylvania goods, supplies, equipment or materials shall be reduced by the percentage preference which would be given to another bidder by the state where the goods, supplies, equipment or materials are produced, manufactured, mined or grown (as found by the Department of General Services in Paragraphs A and B above).

THIS FORM MUST BE COMPLETED AND RETURNED WITH THE BID

III. STATE OF MANUFACTURE

All bidders must complete the following chart by listing the name of the manufacturer and the state (or foreign country) of manufacture for each item. If the item is domestically produced, the bidder must indicate the state in the United States where the item will be manufactured. **This chart must be completed and submitted with the bid or no later than two (2) business days after notification from the** Issuing Office **to furnish the information. Failure to complete this chart and provide the required information prior to the expiration of the second business day after notification shall result in the rejection of the bid.**

ITEM NUMBER	NAME OF MANUFACTURER	STATE (OR FOREIGNCOUNTRY) OF MANUFACTURE

IV. BIDDER'S RESIDENCY

A. In determining whether the bidder is a nonresident bidder from a state that gives or requires a preference to bidders from that state, the address given on the first page of this invitation to bid shall be used by the Commonwealth. If that address is incorrect, or if no address is given, the correct address should be provided in the space below:

Correct Address: _____

_____

_____

_____

B. In order to claim the preference provided under Section I.B., Pennsylvania resident bidders must complete the following or have such information on file with the Issuing Office:

1. Address of bidder's bona fide establishment in Pennsylvania at which it was transacting business on the date when bids for this contract/requisition were first solicited: _____

2. **a.** If the bidder is a corporation:

(1) The corporation ☐ is or ☐ is not incorporated under the laws of the Commonwealth of Pennsylvania.

(a) If the bidder is incorporated under the laws of the Commonwealth of Pennsylvania, provide date of incorporation: _____

(b) If the bidder is not incorporated under the laws of the Commonwealth of Pennsylvania, it must have a certificate of authority to do business in the Commonwealth of Pennsylvania from the Pennsylvania Department of State as required by the Pennsylvania Business Corporation Law (15 P.S. §2001). Provide date of issuance of certificate of authority: _____

(2) The corporation ☐ is or ☐ is not conducting business in Pennsylvania under an assumed or fictitious name. If the bidder is conducting business under an assumed or fictitious name, it must register the fictitious name with the Secretary of the Commonwealth and the office of the prothonotary of the county wherein the registered office of such corporation is located as required by the Fictitious Corporate Name Act, as amended 15 P.S. §51 et seq. Corporate bidders conducting business under an assumed or fictitious name must provide date of registry of the assumed or fictitious name: _____

b. If the bidder is a partnership:

(1) The partnership ☐ is or ☐is not conducting business in Pennsylvania under an assumed or fictitious name. If the bidder is conducting business under an assumed or fictitious name, it must file with the Secretary of the Commonwealth and the office of the prothonotary the county wherein the principal place of business is located as required by the Fictitious Name Act of May 24, 1945, P.L. 967, as amended 54 P.S. §28.1. Partnerships conducting business under an assumed or fictitious name must provide the date of filing of the assumed or fictitious name with the Secretary of the Commonwealth: _____

(2) The partnership ☐is or ☐ is not a limited partnership formed under the laws of any jurisdiction other than the Commonwealth of Pennsylvania. If the bidder is an Out-of-state limited partnership, it must register with the Pennsylvania Department of State as required by the Act of July 10, 1981, P.L. 237, as amended, 59 Pa. C.S.A. §503. Out-of-state limited partnerships must provide the date of registry with the Pennsylvania Department of State: _____

c. If the bidder is an individual:

He or she ☐ is or ☐ is not conducting business under an assumed or fictitious name. If the bidder is conducting business under an assumed or fictitious name, he or she must file with the Secretary of the Commonwealth and the office of the prothonotary in the county wherein the principal place of business is located as required by the Fictitious Name Act of May 24, 1945, P.L. 967, as amended, 54 P.S. §28.1. Individuals conducting business under an assumed or fictitious name must provide the date of filing of the assumed or fictitious name with the Secretary of the Commonwealth: _____

WORKER PROTECTION AND INVESTMENT CERTIFICATION FORM

A. Pursuant to Executive Order 2021-06, *Worker Protection and Investment* (October 21, 2021), the Commonwealth is responsible for ensuring that every worker in Pennsylvania has a safe and healthy work environment and the protections afforded them through labor laws. To that end, contractors and grantees of the Commonwealth must certify that they are in compliance with Pennsylvania's Unemployment Compensation Law, Workers' Compensation Law, and all applicable Pennsylvania state labor and workforce safety laws including, but not limited to:

1. Construction Workplace Misclassification Act
2. Employment of Minors Child Labor Act
3. Minimum Wage Act
4. Prevailing Wage Act
5. Equal Pay Law
6. Employer to Pay Employment Medical Examination Fee Act
7. Seasonal Farm Labor Act
8. Wage Payment and Collection Law
9. Industrial Homework Law
10. Construction Industry Employee Verification Act
11. Act 102: Prohibition on Excessive Overtime in Healthcare
12. Apprenticeship and Training Act
13. Inspection of Employment Records Law

B. Pennsylvania law establishes penalties for providing false certifications, including contract termination; and three-year ineligibility to bid on contracts under 62 Pa. C.S. § 531 (Debarment or suspension).

CERTIFICATION

I, the official named below, certify I am duly authorized to execute this certification on behalf of the contractor/grantee identified below, and certify that the contractor/grantee identified below is compliant with applicable Pennsylvania state labor and workplace safety laws, including, but not limited to, those listed in Paragraph A, above. I understand that I must report any change in the contractor/grantee's compliance status to the Purchasing Agency immediately. I further confirm and understand that this Certification is subject to the provisions and penalties of 18 Pa. C.S. § 4904 (Unsworn falsification to authorities).

Signature ***Date***
Name (Printed)
Title of Certifying Official (Printed)
Contractor/Grantee Name (Printed)

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF LABOR AND INDUSTRY

Bureau of Occupational and Industrial Safety

UNIFORM CONSTRUCTION CODE

BUILDING PERMIT

The plans and specifications for the building or structure named below have been reviewed by the Department of Labor and Industry and found to be in compliance with the Pennsylvania Construction Code Law (1999, November 10, P.L. 491, No. 45).

Permit Number	202300346
Permit Holder	PA GAME COMMISSION ENGINEERING DIVISION
Address	2001 ELMERTON AVENUE HARRISBURG PA 17110
Building/Structure Name	GAME COMMISSION STATE GAME LAND 214 PYMATUNING WILDLIFE MANAGEMENT AREA BUILDING
Building Address	9552 HARTSTOWN RD HARTSTOWN 16131
Political Subdivision:	NORTH SHENANGO TOWNSHIP
County:	CRAWFORD
Approved use and occupancy classification(s)	B
Approved construction type	VB
Plan code	BUILDING

This permit authorizes construction of the above named building or structure in accordance with the Pennsylvania Construction Code Act, its regulations and all plans and specifications approved by the Department. A copy of this permit shall be retained at the work site until the completion of all construction.

File Number	548073
Date Issued	3/31/2023

Joseph C. Martin
Building Code Official

A highway access occupancy permit is required under S420 of the State highway Law (36 P.S.S 670-420) before driveway access to a commonwealth highway is permitted.

Uniform Construction Code (UCC)

INSPECTION LOG

THIS LOG MUST BE RETAINED AT THE CONSTRUCTION OR DEMOLITION SITE UNTIL THE COMPLETION OF ALL WORK AND MUST BE MADE AVAILABLE TO ALL DEPARTMENT CODE OFFICIALS, UPON REQUEST. All Inspections preceded by a "Y" must be performed in accordance with the approved construction documents and section 403.45 of the UCC before a "Certificate of Compliance or a Certificate of Occupancy and Use" will be issued. This document's only use is to inform the permit holder of required inspections and is to enable L&I staff to record the completion of these inspections during the course of the construction process. It is not intended to document the fullfillment of all required UCC obligations or establish the right to legally occupy the building or structure named below.

Drawing Index Number: 0 **File Number:** 548073
Building/Structure Name: GAME COMMISSION
Address: 9552 HARTSTOWN RD
HARTSTOWN PA 16131

Requests for inspections must be made in conformance with the Inspection Procedures Statement and should be directed to the inspector named below.

Inspector: Eric Varner (814)795-0022 ervarner@pa.gov

If unavailable, contact Central Office: 717-787-1291 jecole@pa.gov

REQUIRED	INSPECTION	INSPECTOR (PRINT)	INSPECTOR (SIGNATURE)	DATE ACCEPTED
Y	Footing Environment			
Y	Foundation			
	Concrete Under Slab/Floor			
	Underground Plumbing			
	Underground Mechanical			
Y	Underground Electrical			
Y	Plumbing Rough-in			
Y	Mechanical Rough-in			
Y	Electrical Rough-in			
D	Framing			
Y	Insulation			
	Fire Protection			
Y	Accessibility Final			
Y	Energy Final			
Y	Mechanical Final			
Y	Electrical Final			
Y	Plumbing Final			
Y	Building Final			
	Demolition Final			
	Alterations Final			
	Sign Final			
	Structure Final			

BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES

Project Name:	Pymatuning Educational and Instructional Building
Awarding Agency:	PA Game Commission
Contract Award Date:	1/15/2024
Serial Number:	23-09203
Project Classification:	Building
Determination Date:	11/27/2023
Assigned Field Office:	Pittsburgh
Field Office Phone Number:	(412)565-5300
Toll Free Phone Number:	(877)504-8354
Project County:	Crawford County

BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES

Project: 23-09203 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Asbestos & Insulation Workers	8/1/2022		$39.36	$28.51	$67.87
Boilermakers	6/1/2008		$33.90	$20.06	$53.96
Bricklayer	5/1/2022		$31.24	$23.16	$54.40
Carpenter	6/1/2022		$34.49	$18.54	$53.03
Carpenters - Piledriver/Welder	1/1/2023		$40.63	$21.22	$61.85
Carpenters - Piledriver/Welder	1/1/2024		$42.13	$21.97	$64.10
Carpenters - Piledriver/Welder	1/1/2025		$43.38	$22.72	$66.10
Carpenters - Piledriver/Welder	1/1/2026		$44.63	$23.47	$68.10
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2022		$34.54	$18.30	$52.84
Cement Finishers	6/1/2016		$28.71	$17.85	$46.56
Cement Masons	6/1/2021		$31.77	$21.89	$53.66
Drywall Finisher	6/1/2022		$29.00	$19.41	$48.41
Drywall Finisher	6/1/2023		$31.89	$22.92	$54.81
Drywall Finisher	6/1/2024		$33.51	$23.80	$57.31
Electricians	12/26/2022		$45.55	$27.52	$73.07
Electricians	1/1/2024		$47.30	$28.51	$75.81
Electricians	12/30/2024		$49.05	$29.44	$78.49
Elevator Constructor	1/1/2023		$56.14	$42.83	$98.97
Elevator Constructor	1/1/2024		$58.55	$43.87	$102.42
Glazier	6/1/2021		$28.70	$11.65	$40.35
Glazier	6/1/2022		$21.00	$22.35	$43.35
Glazier	6/1/2023		$21.00	$22.35	$43.35
Iron Workers	6/1/2023		$33.57	$32.68	$66.25
Laborers (Class 01 - See notes)	6/1/2022		$22.33	$20.07	$42.40
Laborers (Class 02 - See notes)	6/1/2022		$22.48	$20.07	$42.55
Laborers (Class 03 - See notes)	6/1/2022		$22.61	$20.07	$42.68
Laborers (Class 04 - See notes)	6/1/2022		$23.08	$20.07	$43.15
Landscape Laborer (Skilled)	1/1/2020		$21.64	$16.98	$38.62
Landscape Laborer (Skilled)	1/1/2023		$23.79	$18.28	$42.07
Landscape Laborer (Skilled)	1/1/2024		$24.79	$18.53	$43.32
Landscape Laborer (Skilled)	1/1/2025		$25.79	$18.78	$44.57
Landscape Laborer (Skilled)	1/1/2026		$26.79	$19.03	$45.82
Landscape Laborer (Tractor Operator)	1/1/2020		$21.94	$16.98	$38.92
Landscape Laborer (Tractor Operator)	1/1/2023		$24.09	$18.28	$42.37
Landscape Laborer (Tractor Operator)	1/1/2024		$25.09	$18.53	$43.62
Landscape Laborer (Tractor Operator)	1/1/2025		$26.09	$18.78	$44.87
Landscape Laborer (Tractor Operator)	1/1/2026		$27.09	$19.03	$46.12
Landscape Laborer	1/1/2020		$21.22	$16.98	$38.20
Landscape Laborer	1/1/2023		$23.37	$18.28	$41.65
Landscape Laborer	1/1/2024		$24.37	$18.53	$42.90
Landscape Laborer	1/1/2025		$25.37	$18.78	$44.15
Landscape Laborer	1/1/2026		$26.37	$19.03	$45.40
Millwright	6/1/2020		$41.68	$20.32	$62.00
Operators (Class 01 - see notes)	7/1/2022		$34.17	$20.62	$54.79

BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES

Project: 23-09203 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators (Class 01 - see notes)	7/1/2023		$35.87	$20.92	$56.79
Operators (Class 01 - see notes)	7/1/2024		$36.87	$21.42	$58.29
Operators (Class 02 -see notes)	7/1/2022		$29.55	$20.62	$50.17
Operators (Class 02 -see notes)	7/1/2023		$31.25	$20.92	$52.17
Operators (Class 02 -see notes)	7/1/2024		$32.87	$21.42	$54.29
Operators (Class 03 - See notes)	7/1/2022		$27.00	$20.62	$47.62
Operators (Class 03 - See notes)	7/1/2023		$28.70	$20.92	$49.62
Operators (Class 03 - See notes)	7/1/2024		$29.70	$21.42	$51.12
Operators (Class 04 - Chief of Party (Surveying and Layout))	7/1/2022		$26.60	$20.62	$47.22
Operators (Class 04 - Chief of Party (Surveying and Layout))	7/1/2023		$28.30	$20.92	$49.22
Operators (Class 04 - Chief of Party (Surveying and Layout))	7/1/2024		$29.30	$21.42	$50.72
Operators (Class 04 - Instrument Person (Surveying & Layout))	7/1/2022		$25.60	$20.62	$46.22
Operators (Class 04 - Instrument Person (Surveying & Layout))	7/1/2023		$27.30	$20.92	$48.22
Operators (Class 04 - Instrument Person (Surveying & Layout))	7/1/2024		$28.30	$21.42	$49.72
Operators (Class 04 - Rodman/Chainman (Surveying and Layout))	7/1/2022		$25.15	$20.62	$45.77
Operators (Class 04 - Rodman/Chainman (Surveying and Layout))	7/1/2023		$26.85	$20.92	$47.77
Operators (Class 04 - Rodman/Chainman (Surveying and Layout))	7/1/2024		$27.85	$21.42	$49.27
Painters Class 2 (see notes)	6/1/2022		$26.11	$22.14	$48.25
Painters Class 6 (see notes)	6/1/2023		$30.56	$24.01	$54.57
Painters Class 6 (see notes)	6/1/2024		$32.14	$24.93	$57.07
Painters Class 6 (see notes)	6/1/2025		$34.16	$25.81	$59.97
Pile Driver Divers (Building, Heavy, Highway)	1/1/2023		$58.70	$21.22	$79.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2024		$60.95	$21.97	$82.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2025		$62.82	$22.72	$85.54
Pile Driver Divers (Building, Heavy, Highway)	1/1/2026		$64.70	$23.47	$88.17
Piledrivers	1/1/2023		$39.13	$21.22	$60.35
Piledrivers	1/1/2024		$40.63	$21.97	$62.60
Piledrivers	1/1/2025		$41.88	$22.72	$64.60
Piledrivers	1/1/2026		$43.13	$23.47	$66.60
Plasterers	6/1/2022		$31.44	$19.74	$51.18
Plasterers	6/1/2023		$32.14	$20.54	$52.68
plumber	6/1/2022		$44.63	$25.22	$69.85
plumber	6/1/2023		$46.98	$25.87	$72.85
plumber	6/1/2024		$50.08	$25.87	$75.95
plumber	6/1/2025		$53.28	$25.87	$79.15
plumber	6/1/2026		$56.38	$25.87	$82.25
plumber	6/1/2027		$59.48	$25.87	$85.35
Pointers, Caulkers, Cleaners	12/1/2022		$35.47	$20.88	$56.35

BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES

Project: 23-09203 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Roofers	5/1/2023		$33.00	$17.66	$50.66
Roofers	5/1/2024		$35.03	$17.18	$52.21
Sheet Metal Workers	7/1/2022		$39.50	$31.43	$70.93
Sign Makers and Hangars	7/15/2022		$30.54	$24.35	$54.89
Sign Makers and Hangars	7/15/2023		$31.76	$24.63	$56.39
Sprinklerfitters	4/1/2023		$44.33	$28.04	$72.37
Steamfitters	6/1/2022		$42.15	$27.32	$69.47
Steamfitters	6/1/2023		$44.10	$28.37	$72.47
Stone Masons	12/1/2022		$38.56	$23.61	$62.17
Terrazzo Finisher	12/1/2022		$36.13	$18.03	$54.16
Terrazzo Mechanics	12/1/2022		$35.49	$20.32	$55.81
Tile Finisher	12/1/2022		$28.76	$17.34	$46.10
Tile Setter	12/1/2022		$35.64	$21.81	$57.45
Truckdriver class 1(see notes)	1/1/2023		$33.18	$22.21	$55.39
Truckdriver class 1(see notes)	1/1/2024		$34.93	$22.71	$57.64
Truckdriver class 1(see notes)	1/1/2025		$36.43	$23.21	$59.64
Truckdriver class 1(see notes)	1/1/2026		$37.93	$23.71	$61.64
Truckdriver class 2 (see notes)	1/1/2023		$33.64	$22.52	$56.16
Truckdriver class 2 (see notes)	1/1/2024		$35.39	$23.02	$58.41
Truckdriver class 2 (see notes)	1/1/2025		$36.89	$23.52	$60.41
Truckdriver class 2 (see notes)	1/1/2026		$38.39	$24.02	$62.41
Truckdriver class 3 (see notes)	1/1/2016		$28.23	$16.98	$45.21
Window Film / Tint Installer	10/1/2019		$25.00	$2.63	$27.63

BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES

Project: 23-09203 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenter	1/1/2023		$38.35	$20.59	$58.94
Carpenter	1/1/2024		$39.85	$21.34	$61.19
Carpenter	1/1/2025		$41.10	$22.09	$63.19
Carpenter	1/1/2026		$42.35	$22.84	$65.19
Carpenter Welder	1/1/2023		$39.85	$20.59	$60.44
Carpenter Welder	1/1/2024		$41.35	$21.34	$62.69
Carpenter Welder	1/1/2025		$42.60	$22.09	$64.69
Carpenter Welder	1/1/2026		$43.85	$22.84	$66.69
Carpenters - Piledriver/Welder	1/1/2023		$40.63	$21.22	$61.85
Carpenters - Piledriver/Welder	1/1/2024		$42.13	$21.97	$64.10
Carpenters - Piledriver/Welder	1/1/2025		$43.38	$22.72	$66.10
Carpenters - Piledriver/Welder	1/1/2026		$44.63	$23.47	$68.10
Cement Finishers	1/1/2023		$34.14	$25.05	$59.19
Cement Finishers	1/1/2024		$35.14	$26.30	$61.44
Cement Finishers	1/1/2025		$35.94	$27.50	$63.44
Cement Masons	1/1/2020		$32.84	$21.10	$53.94
Electric Lineman	8/29/2022		$62.66	$28.08	$90.74
Electric Lineman	9/4/2023		$64.68	$29.01	$93.69
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	6/1/2023		$33.57	$32.68	$66.25
Laborers (Class 01 - See notes)	1/1/2023		$29.85	$25.50	$55.35
Laborers (Class 01 - See notes)	1/1/2024		$32.10	$25.50	$57.60
Laborers (Class 01 - See notes)	1/1/2025		$33.60	$26.00	$59.60
Laborers (Class 01 - See notes)	1/1/2026		$34.60	$27.00	$61.60
Laborers (Class 02 - See notes)	1/1/2023		$30.01	$25.50	$55.51
Laborers (Class 02 - See notes)	1/1/2024		$32.26	$25.50	$57.76
Laborers (Class 02 - See notes)	1/1/2025		$33.76	$26.00	$59.76
Laborers (Class 02 - See notes)	1/1/2026		$34.76	$27.00	$61.76
Laborers (Class 03 - See notes)	1/1/2023		$30.50	$25.50	$56.00
Laborers (Class 03 - See notes)	1/1/2024		$32.75	$25.50	$58.25
Laborers (Class 03 - See notes)	1/1/2025		$34.25	$26.00	$60.25
Laborers (Class 03 - See notes)	1/1/2026		$35.25	$27.00	$62.25
Laborers (Class 04 - See notes)	1/1/2023		$30.95	$25.50	$56.45
Laborers (Class 04 - See notes)	1/1/2024		$33.20	$25.50	$58.70
Laborers (Class 04 - See notes)	1/1/2025		$34.70	$26.00	$60.70
Laborers (Class 04 - See notes)	1/1/2026		$35.70	$27.00	$62.70
Laborers (Class 05 - See notes)	1/1/2023		$31.36	$25.50	$56.86
Laborers (Class 05 - See notes)	1/1/2024		$33.61	$25.50	$59.11
Laborers (Class 05 - See notes)	1/1/2025		$35.11	$26.00	$61.11
Laborers (Class 05 - See notes)	1/1/2026		$36.11	$27.00	$63.11
Laborers (Class 06 - See notes)	1/1/2023		$28.20	$25.50	$53.70
Laborers (Class 06 - See notes)	1/1/2024		$30.45	$25.50	$55.95
Laborers (Class 06 - See notes)	1/1/2025		$31.95	$26.00	$57.95
Laborers (Class 06 - See notes)	1/1/2026		$32.95	$27.00	$59.95
Laborers (Class 07 - See notes)	1/1/2023		$30.85	$25.50	$56.35

BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES

Project: 23-09203 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 07 - See notes)	1/1/2024		$33.10	$25.50	$58.60
Laborers (Class 07 - See notes)	1/1/2025		$34.60	$26.00	$60.60
Laborers (Class 07 - See notes)	1/1/2026		$35.60	$27.00	$62.60
Laborers (Class 08 - See notes)	1/1/2023		$32.35	$25.50	$57.85
Laborers (Class 08 - See notes)	1/1/2024		$34.60	$25.50	$60.10
Laborers (Class 08 - See notes)	1/1/2025		$36.10	$26.00	$62.10
Laborers (Class 08 - See notes)	1/1/2026		$37.10	$27.00	$64.10
Millwright	6/1/2020		$41.68	$20.32	$62.00
Millwright	6/1/2023		$45.50	$23.72	$69.22
Millwright	6/1/2024		$47.59	$23.72	$71.31
Millwright	6/1/2025		$49.72	$23.72	$73.44
Operators (Class 01 - see notes)	1/1/2023		$36.79	$23.58	$60.37
Operators (Class 01 - see notes)	1/1/2024		$38.59	$24.03	$62.62
Operators (Class 01 - see notes)	1/1/2025		$40.39	$24.23	$64.62
Operators (Class 02 -see notes)	1/1/2023		$36.53	$23.58	$60.11
Operators (Class 02 -see notes)	1/1/2024		$38.33	$24.03	$62.36
Operators (Class 02 -see notes)	1/1/2025		$40.13	$24.23	$64.36
Operators (Class 03 - See notes)	1/1/2023		$32.88	$23.58	$56.46
Operators (Class 03 - See notes)	1/1/2024		$34.68	$24.03	$58.71
Operators (Class 03 - See notes)	1/1/2025		$36.48	$24.23	$60.71
Operators (Class 04 - See notes)	1/1/2023		$32.42	$23.58	$56.00
Operators (Class 04 - See notes)	1/1/2024		$34.22	$24.03	$58.25
Operators (Class 04 - See notes)	1/1/2025		$36.02	$24.23	$60.25
Operators (Class 05 - See notes)	1/1/2023		$32.17	$23.58	$55.75
Operators (Class 05 - See notes)	1/1/2024		$33.97	$24.03	$58.00
Operators (Class 05 - See notes)	1/1/2025		$35.77	$24.23	$60.00
Operators Class 1-A	1/1/2023		$39.79	$23.58	$63.37
Operators Class 1-A	1/1/2024		$41.59	$24.03	$65.62
Operators Class 1-A	1/1/2025		$43.39	$24.23	$67.62
Operators Class 1-B	1/1/2023		$38.79	$23.58	$62.37
Operators Class 1-B	1/1/2024		$40.59	$24.03	$64.62
Operators Class 1-B	1/1/2025		$42.39	$24.23	$66.62
Painters Class 1 (see notes)	6/1/2021		$29.61	$21.21	$50.82
Painters Class 1 (see notes)	6/1/2022		$30.06	$22.14	$52.20
Painters Class 2 (see notes)	6/1/2023		$36.01	$24.01	$60.02
Painters Class 2 (see notes)	6/1/2024		$38.09	$24.93	$63.02
Painters Class 2 (see notes)	6/1/2025		$40.36	$25.81	$66.17
Painters Class 3 (see notes)	6/1/2023		$38.33	$24.01	$62.34
Painters Class 3 (see notes)	6/1/2024		$40.66	$24.93	$65.59
Painters Class 3 (see notes)	6/1/2025		$43.69	$25.81	$69.50
Pile Driver Divers (Building, Heavy, Highway)	1/1/2023		$58.70	$21.22	$79.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2024		$60.95	$21.97	$82.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2025		$62.82	$22.72	$85.54
Pile Driver Divers (Building, Heavy, Highway)	1/1/2026		$64.70	$23.47	$88.17

BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES

Project: 23-09203 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Piledrivers	1/1/2023		$39.13	$21.22	$60.35
Piledrivers	1/1/2024		$40.63	$21.97	$62.60
Piledrivers	1/1/2025		$41.88	$22.72	$64.60
Piledrivers	1/1/2026		$43.13	$23.47	$66.60
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2022		$48.43	$40.28	$88.71
Truckdriver class 1(see notes)	1/1/2023		$33.18	$22.21	$55.39
Truckdriver class 1(see notes)	1/1/2024		$34.93	$22.71	$57.64
Truckdriver class 1(see notes)	1/1/2025		$36.43	$23.21	$59.64
Truckdriver class 1(see notes)	1/1/2026		$37.93	$23.71	$61.64
Truckdriver class 2 (see notes)	1/1/2023		$33.64	$22.52	$56.16
Truckdriver class 2 (see notes)	1/1/2024		$35.39	$23.02	$58.41
Truckdriver class 2 (see notes)	1/1/2025		$36.89	$23.52	$60.41
Truckdriver class 2 (see notes)	1/1/2026		$38.39	$24.02	$62.41
Truckdriver class 3 (see notes)	1/1/2019		$29.59	$19.82	$49.41

BUREAU OF DIVERSITY, INCLUSION AND SMALL BUSINESS OPPORTUNITY

The Small Diverse Business Program for Construction encourages and ensures open and equitable contracting practices are used by prime contractors in soliciting and contracting with Minority Business Enterprises, Women Business Enterprises, LGBT Business Enterprises, Disability-Owned Business Enterprises, and Service-Disabled Veteran Business Enterprises, together referred to hereafter as Small Diverse Businesses (SDBs), and Veteran Business Enterprises (VBEs)

This project is subject to a SDB and VBE participation for the construction contract of the building.

The following participation is required:
General Construction: SDB Goal 9.70% VBE Goal 0.0%
Plumbing Contract: SDB Goal 0.0% VBE Goal 0.0%
Mechanical Contract: SDB Goal 0.0% VBE Goal 0.0%
Electrical Contract: SDB Goal 0.0% VBE Goal 0.0%

A BDISBO pre-bid presentation of how to incorporate SDB and VBE will be conducted virtually via Microsoft Teams Link at a date determined via bid flyer.

TECHNICAL SPECIFICATION SECTION 1-11-00 - SUMMARY OF MULTIPLE CONTRACTS

1.1 – GENERAL CONSTRUCTION

The general contractor is responsible for the providing and installing following but not limited to:

Erosion and sediment controls, temporary restroom facilities, trash removal, staging areas, barricades, fencing, demolition, septic system system, related septic piping and electrical, building envelope construction, weatherproofing, insulation, masonry, concrete, wall construction, steel fabrication, blocking, room finishes, floor finishes, egress apparatus', and related activities and components. All coordination of other trade work related to behind wall construction.

The general contractor is responsible for creating, coordination and updated a construction schedule for all trades. This trade will be responsible to attend a monthly job conference meeting held at the construction site.

1.2 – PLUMBING CONSTRUCTION

The plumbing contractor is responsible for the providing and installing following but not limited to:
Plumbing and water related equipment, fixtures, piping, water heating components, drain lines, fittings and final wiring from rough-in stage. Any penetrations through walls and floors will be designated and supplied by the plumbing contractor but coordinated with activities with other trades.

The plumbing contractor is responsible for coordinating their work with the respected trades at the project. This trade will be responsible to attend a monthly job conference meeting held at the construction site.

1.3 – MECHANICAL CONSTRUCTION

The mechanical contractor is responsible for the providing and installing following but not limited to:
Mechanical equipment, ductwork, thermostats, heating components, diffusers, vents, fresh air intake equipment, all fuel intake plumbing (applicable tanks), component wiring from rough-in stage. Any penetrations through walls and floors will be designated and supplied by the mechanical contractor but coordinated with activities with other trades.

The mechanical contractor is responsible for coordinating their work with the respected trades at the project. This trade will be responsible to attend a monthly job conference meeting held at the construction site.

1.4 – ELECTRICAL CONSTRUCTION

The electrical contractor is responsible for the providing and installing following but not limited to:
Electrical equipment, fixtures, wiring, receptacles, diffusers, vents, fresh air intake equipment, all fuel intake plumbing (applicable tanks), component wiring from rough-in stage. Any penetrations through walls and floors will be designated and supplied by the mechanical contractor but coordinated with activities with other trades.

The mechanical contractor is responsible for coordinating their work with the respected trades at the project. This trade will be responsible to attend a monthly job conference meeting held at the construction site.

TECHNICAL SPECIFICATIONS

The following stipulations, specifications and description of Work are defined and described as Technical Specifications and it is understood and agreed that everything herein contained is hereby made part of the Contract. Wherever any feature of the Work is not fully set forth in these Technical Specifications and is necessary for the completion of Work, it shall be understood that the same is governed by the rules of the best prevailing practice for that class of Work, as determined by the Pennsylvania Game Commission and its representatives.

These Technical Specifications and any drawings, maps and/or plans forming a part thereof, will cover the furnishing of all labor, equipment, tools, materials, and related items necessary to perform the Work, as required under this Contract.

DRAWINGS

The following Drawings are included:

CS-1 Cover Sheet & Building Site Plan
SP-1 Site Details & Sections
A-1 Building Floor Plan & Elevations
A-2 Building Reflected Ceiling Plan & Schedules
A-3 Building Sections & Notes
A-4 Details & Sections
A-5 Enlarged Plans & Elevations
S-1 Foundation Plan, Roof Framing Plan & Sections
M-1 Mechanical Floor Plan, Schedules & Details
P-1 Plumbing Floor Plans
E-1 Electrical Floor Plan, Schedules & Details

TECHNICAL SPECIFICATION SECTION No. 1 - SUMMARY OF WORK

1.1 – SCOPE OF PROJECT

The intent of this project is to construct a new 40' x 80' one story wood framed building to serve as the Pennsylvania Game Commission (PGC) Pymantuning Wildlife Management Area Building. The new building is in North Shenango Township, Crawford County on State Game Lands #214. The project consists of constructing the wood framed building structure with concrete floor slabs, metal roofing and siding panel systems, installing insulation, gypsum wall and ceiling panels, FRP panels, doors, windows, HVAC, plumbing, on-site septic system and electrical building systems and other building appurtenances. Connections of the utilities for the new building are part of this project and include the telephone, electric, sewer and water supply systems. Piping and connection to a new onsite septic system is part of the plumbing contract. The connections including trenching and backfilling will be the responsibility of the associated contract. The site is mainly level but will need some excavation and additional fill w/stone for the parking areas and front access roadway entries from roadway. This is included in the quantities.

1.2 – WORK AREA

The work area for this project is on State Game Lands #214, Pymatuning Wildlife Management Area. The building site is located approximately 3 miles Northeast of Hartstown, above US Route 322 at 9552 Hartstown Road, Hartstown, PA 16131. The property is owned by the PGC.

1.3 – WORK HOURS

The work hours at the project site are during regular PGC business hours which are Monday through Friday, 7:00AM to 3:30PM. Work during different hours is permitted with prior approval by the PGC. Requests should be submitted two days in advance.

1.4 – ACCESS TO WORK AREA

Access to the work area is directly off Hartstown Road. The Contractor may use any available space to store equipment or materials on site with permission from the PGC but must provide access for PGC around the site.

1.5 – SITE LAYOUT AND PREPARATION

The PGC will locate the approximate building footprint and mark the floor elevation during the initial job conference. The Contractor is responsible for the new building construction, installing the required utility systems and/or lines and grading/placement of the stone parking area around the new building.

1.6 – PERMITS, LAWS AND REGULATIONS

The Contractor shall procure and pay for all permits, licenses, inspections, conveniences, or other approvals necessary for the execution of the contract. *The only fee expected may or may not be a third-party inspection of the electrical meter base and trenching.* The PGC has secured a building permit from the PA Department of Labor & Industry (L&I) for construction of this building at no cost to the contractor. A copy of this permit will be provided to the contractor along with an inspection log checklist. The contractor shall notify the L&I inspector and coordinate with the PGC so that the required inspections take place, and the project is not unduly delayed. ***Local building code officials have no jurisdiction over this project.***

The Contractor shall comply with all laws, ordinances, rules, orders and regulations relating to the performance of the work, the protection of adjacent property, the maintaining of surface passageways, safety measures, and/or other protective facilities.

All applicable Federal and State laws and regulations and regulations of all utilities, having jurisdiction over construction of the project shall apply to the contract throughout, and they shall be deemed to be included in the contract as a part, thereof, the same as though herein written out in full.

All regulations of the Occupational Safety and Health Act are in effect on this contract. It will be the Contractor's responsibility to make himself aware of all appropriate County, State and Federal regulations that apply to this contract.

Any violations incurred from improper execution of the above provisions shall be paid for by the Contractor. Loss of time on the project from such violations will not be tolerated.

TECHNICAL SPECIFICATION SECTION No. 2 - SUBMITTALS

2.1 – SECTION INCLUDES/CONTENT

A. Included in this section of the specifications is a list of approvals required for all materials incorporated into the project. The Pennsylvania Game Commission reserves the right to require additional approvals if necessary. No material, equipment or supplies listed herein shall be incorporated into the work until the Contractor has obtained prior approval from the Department.

B. Submittals required by each prime contract are indicated in the description of items to be submitted, Paragraph 2.8.

2.2 - SUBMITTAL PROCEDURES

A. Comply with the following or resubmission will be required:

1. Indicate contract number and specification section on each item submitted.
2. Signify approval by stamp, initialing and dating each item prior to submission to the Designer.

B. Items requiring testing shall be forwarded directly to the approved laboratory. The Contractor shall pay all costs associated with testing.

C. Expedite critical materials, equipment and shop drawings, and other required submissions.

D. Incomplete submissions will be returned for resubmission.

E. Use of substitutions for materials or details shown on the contract drawings or called for in these specifications require written approval from the Department.

2.3 - PRODUCT DATA

A. Manufacturer's printed directions and manufacturer's standard specifications showing all dimensions, cuts, finishes, etc., as well as catalog cuts and ratings of all material will be required and shall be submitted in advance prior to application and/or installation.

2.4 - TESTS

A. Submit required reports listing items tested, tests conducted, and results obtained as specified.

2.5 - CERTIFICATIONS

A. Submit required certifications in written form identifying authorized representative, manufacturer, systems designer, and other required data as specified.

2.6 - WARRANTIES

A. Refer to Specifications for required warranties. Copies of proposed warranties specified for products shall accompany the designated submittal of that product.

2.7 - OPERATION AND MAINTENANCE MANUALS

A. Manual Format (Use 3-ring binder):

1. Title page with the following information for each system covered:
   a. Project Title and Contract Number (in capital letters)
   b. Name of Company
   c. Name of the individual to be called
   d. Normal telephone numbers
   e. Contractor's account number for project
2. Index listing all sections of the Manual.
3. Copies of all warranties for equipment or materials furnished in contract. (Index tabbed)
4. Complete system circuit diagrams, block diagrams, copies of all approved shop drawings, which shall clearly illustrate how all the components relate and how they are interconnected and a point wiring diagram.
5. Reports, testing analysis.
6. Operating instructions and maintenance instructions for all equipment and finish materials furnished.
7. All approved, shop drawings, descriptive data, and any certifications.

2.8 - SUBMITTALS LIST

A. Abbreviations

1. Mfr - for Manufacturer
2. Prod - for Producer or Supplier
3. SHDR - for Shop Drawings
4. DeDa - for Descriptive Data or Catalog Cuts
5. Samp - for Samples
6. Cert - for Certification
7. Tests - required Test Reports
8. Warr – for Warranties

GENERAL CONSTRUCTION								
DESCRIPTION OF ITEMS TO BE SUBMITTED	MFR	PROD	SHDR	DeDa	SAMP	CERT	TESTS	WARR
CONCRETE	X	X		X			X	
WOOD BUILDING FRAMING & ENGINEERED LUMBER	X	X		X			X	
WOOD ROOF TRUSSES	X	X	X	X		X		
CONCEAL FASTENER METAL ROOFING SYSTEM	X	X		X	X	X		X
SNOW GUARDS	X	X		X				
EXPOSED FASTENER METAL SIDING SYSTEM	X	X		X	X	X		X
NEW SEAMLESS ALUMINUM GUTTERS & DOWN SPOUTING	X	X		X				
NEW ALUMINUM SOFFIT, FASCIA & TRIMS	X	X		X				
BATT INSULATION	X	X		X				
RIGID FOUNDATION INSULATION	X	X		X				
STEEL DOORS, FRAMES & HARDWARE	X	X		X				X
WINDOWS	X	X		X				
ARCHITECTURAL CASE WORK & COUNTERTOPS	X	X	X	X				
FIBERGLASS REINF. PLASTIC (FRP) WALL PANEL SYSTEM	X	X		X				
GYPSUM WALL AND CEILING SYSTEM	X	X		X				
PAINTING	X	X		X	X			
EPOXY FLOORING SYSTEM	X	X		X	X			
RESILIENT TILE PLANK FLOORING SYSTEM	X	X		X	X			X
SOLID PLASTIC BATHROOM PARTITIONING SYSTEM	X	X		X	X			
TOILET ACCESSORIES	X	X		X				
SEALANTS	X	X		X			X	
PROJECT SCHEDULE				X				
MECHANICAL CONSTRUCTION								
DESCRIPTION OF ITEMS TO BE SUBMITTED	MFR	PROD	SHDR	DeDa	SAMP	CERT	TESTS	WARR
GAS FURANCE w/ CASED COIL, & OUTDOOR UNIT	X	X		X				X
INSULATED DUCTWORK	X	X	X	X				

THERMOSTAT/CONTROLS	X	X		X				
AIR REGISTERS AND DAMPERS	X	X		X				
EXHAUST FANS, EXHAUST DUCTS & THRU WALL SLEEVES WITH HOODS	X	X		X				
PROJECT SCHEDULE				X				
PLUMBING CONSTRUCTION								
DESCRIPTION OF ITEMS TO BE SUBMITTED	MFR	PROD	SHDR	DeDa	SAMP	CERT	TESTS	WARR
ADA COMPLIANT WATER CLOSET	X	X		X				
ADA COMPLIANT WALL HUNG LAVATORY	X	X		X				
ADA COMPLIANT MUTLI-STATION WALL HUNG LAVATORY	X	X		X				
WALL HUNG URINALS	X	X		X				
COUNTERTOP SET IN SINK BASIN	X	X		X				
FLOOR MOP/UTILITY SINK	X	X		X				
SINK FAUCETS	X	X		X				
FLUSH VALVES	X	X		X				
ELECTRIC HOT WATER HEATER	X	X		X				
POLYCAST PRE-SLOPED TRENCH DRAIN SYSTEM	X	X		X				
WELL PUMP AND PRESSURE TANK	X	X		X				
FLOOR DRAINS	X	X		X				
PEX DOMESTIC WATER SUPPLY PIPING SYSTEM	X	X		X				
PIPING INSULATION	X	X		X				
SANITARY SEWER PIPING	X	X		X				
ADA COMPLIANT BI-LEVEL WATER COOLER/FOUNDATION	X	X		X				
HOSE BIB	X	X		X				
ON -SITE SEPTIC TANK AND PUMP TANK	X	X	X	X				
EFFLUENT TANK PUMP	X	X		X				
PROJECT SCHEDULE				X				
ELECTRICAL CONSTRUCTION								
DESCRIPTION OF ITEMS TO BE SUBMITTED	MFR	PROD	SHDR	DeDa	SAMP	CERT	TESTS	WARR
BATTERY BACK UP	X	X		X				

EMERGENCY EXIT SIGNAGE w/ EXIT LIGHTING								
INTERIOR LIGHTING FIXTURES & CONTROLS	X	X		X				
EXTERIOR LIGHTING FIXTURES AND CONTROLS								
WIRING DEVICES AND RECEPTACLES	X	X		X				
ELECTRICAL POWER CONDUCTORS & CONDUIT	X	X		X				
GROUNDING AND BONDING ELECTRICAL SYSTEMS	X	X		X				
NEW SERVICE, METER BASE, PANELBOARD WITH BREAKERS	X	X		X				
COMMUNICATION PATHWAYS	X	X		X				
PROJECT SCHEDULE				X				

TECHNICAL SPECIFICATION SECTION No. 3 - EROSION AND SEDIMENTATION CONTROL

3.1 -SCOPE

This work is implementing the erosion and sedimentation control measures to protect the surrounding environment. Compliance is required with Chapter 102 of the Department of Environmental Protection's regulations is also required.

3.2 - PROCEDURE

The Contractor shall install a 12-inch diameter silt sock around the building site. The silt sock shall be anchored with 1" x 1" x 3' wood posts on 8-foot centers. The end of the silt sock shall be extended uphill so that water cannot flow around the barrier.

Failure to implement soil erosion and sediment pollution control measures may result in a cease-and-desist order, causing shutdown of the work. No extension of time, nor additional compensation will be granted if such a shutdown should occur because of act or neglect of the Contractor.

The Contractor may, with the approval of the Game Commission, perform temporary seeding operations to maintain finished graded areas until the optimum time for performing permanent seeding. Areas that will be surfaced by stone to serve as parking areas of driveways do not need to be seeded.

Periodically remove accumulated sediments from control measures and dispose of in suitable work areas. Remove all temporary erosion and sediment pollution control measures upon completion of construction, unless otherwise directed by the Game Commission.

3.3 - SUBMITTALS

Submit a catalog cut or other information for erosion and sediment controls from the manufacturer to the PGC for review and approval before ordering any materials. Refer to submittal specification section for submission requirements.

3.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for the installation of soil erosion and sediment controls, including temporary seeding as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 4 - EXCAVATION

4.1- SCOPE

This work involves the excavation, drilling, hauling, and disposal of all materials encountered for construction of the building concrete foundations, entries and sidewalks, signage, installation of drainage pipes, water lines and other utilities, as indicated on the Drawings, or designated by the Game Commission.

4.2 - PROCEDURE

A. General - Follow all guidelines set forth in the Construction Industry Standards, OSHA 2207, of the Occupational Safety and Health Administration, U.S. Department of Labor. Protect the work, adjacent buildings, and property.

The Contractor is required to contact the PA One Call System at 8-1-1 or 1-800-242-1776 (outside PA) prior to excavation operations at the site.

During excavation operations, keep the top surface graded for drainage. Do not over-excavate because unauthorized excavation and replacement of materials in the over-excavated areas will not be measured and paid for. Replace over-excavated work with concrete, gravel, earth or other materials designated by, and at no additional cost to the Game Commission.

B. **Excavation -** Remove all materials to the limits shown on the Drawings or as necessary to construct the concrete foundations for the new building, installation of utility lines, new gravel parking areas and roadway entries.

C. Disposal – Suitable excavated materials will be used for backfill of drainage pipes, utility lines and building concrete foundations. The excavated materials will also be used to establish the finished grade around the new building. This project is intended to be a balanced cut/fill job and the Contractor will not be required to transport extra material off the site.

4.3 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all excavation of soils to the required depths for the construction of new building foundations, concrete aprons and entry slabs, and utility trenches as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 5 - COMPACTED BACKFILL

5.1 - SCOPE

This work is backfilling and grading around the completed concrete foundations and installed utility lines with suitable materials obtained from the required excavation as shown on the Drawings, or as directed by the Game Commission.

5.2 - MATERIALS

Secure backfill materials from the required excavation. The onsite soil may contain cobbles and boulders which are not suitable for backfill around pipes or concrete foundations. Screening of the excavated soils may be necessary to separate objectionable stones and other debris from the backfill material. Materials shall be free from roots, brush, frozen and other objectionable materials, and stones having any dimension greater than three (3) inches. The Game Commission will decide the material's suitability for use as backfill during excavation operations.

5.3 - PROCEDURE

Conduct backfill operations so that the building foundations and utility lines are not damaged. At your own expense, and to the satisfaction of the Game Commission, repair or replace any structure damaged by your operations.

Place backfill in the dry. Place material in layers not exceeding four (4) inches in depth and compact each layer with vibratory compactors. Where working clearances permit, backfill may be placed in layers not exceeding eight (8) inches in depth, and compacted with a roller. Do not drop backfill materials, but scatter and bring up evenly. Add water or dry the backfill materials as necessary to attain as close to the optimum moisture content as possible during compaction. No free water shall drain off and adversely affect the underlying or adjacent materials. Acceptable compaction will be determined on the basis of non-movement of the material under the compaction equipment. If the density and/or moisture content of the backfill is not satisfactory, replace and/or re-compact the materials to the satisfaction of, and at no additional cost to the Game Commission.

5.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for performing all compacted backfilling to the required depths for the construction of new building foundations, and utility trenches as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 6- AGGREGATE

6.1 - SCOPE

This work is providing a subbase for concrete slabs, sidewalks, and building entries and backfilling around the building, parking areas and roadway entries with #2A coarse aggregate as shown on the Drawings. Work includes stone around the perimeter around the building and the parking areas. Related work includes AASHTO #57 and #10 aggregate for backfill around drainage pipes, water lines, electric conduits, etc.

6.2 - APPLICABLE PUBLICATIONS

AASHTO T 27 - Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates.

Pub. 408 - Specifications,
Pennsylvania Department of Transportation.

Bulletin 14 - Aggregate Producers,
Pennsylvania Department of Transportation.

6.3 - MATERIALS

Aggregate used for the subbase of concrete slabs shall be Type C, #2A coarse aggregate, as specified in Section 703.2 of Pub. 408.

Aggregate used for backfilling around the foundation drainpipes shall be Type A, #57 coarse aggregate as specified in Section 703.2 of Pub. 408.

AASHTO #10 stone shall also be used to backfill around installed water lines, electric conduit and drainage pipes.

Obtain aggregates from a source listed in Bulletin 14.

6.4 - PROCEDURE

Place aggregates and stone in the dry, and not on frozen ground for concrete slab foundations. Conduct aggregate placement operations in such a way that the permanent structures are not damaged.

At concrete slab foundations, place stone in loose layers not exceeding 4 inches in depth and compact each layer with mechanical tampers or other approved means. If working clearances permit, place stone in loose layers not exceeding 8 inches in depth and compact each layer with rollers, tracked vehicles or other approved equipment. After compacting to the required thickness shown on the Drawings, accurately shape the foundation bed by a template to provide uniform contact for concrete placement.

Trenching and backfill around the drainpipes and utility lines are the responsibility of the electrical and plumbing contractor's work. Electrical and plumbing trades own their own trenching and backfill.

6.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for providing all aggregates and the placement and compacting of aggregates to the required depths for the construction of new building foundations, concrete sidewalks/entries, and utility trenches as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work. Aggregate used for replacing caved-in-material, and material excavated beyond the established payment lines will not be measured and paid for.

A. Unit of Measurement: Tons, measured by the weight slips from stone supplier, as applicable for the three types of aggregate used for the project.

TECHNICAL SPECIFICATION SECTION No.7 – VAPOR BARRIER

7.1 - SCOPE

This work is providing and installing a polyethylene vapor barrier under the concrete floor slab for the new building as shown on the Drawings.

7.2 – MATERIALS – The vapor barrier shall be a polyethylene sheet conforming to ASTM E 1745 and ASTM D4397 with a minimum thickness of 10 mils and a perm rating of <0.03 perms. No C&A film is to be used. Tape and seal all joints with approved pressure-sensitive or waterproof tape. Submit a catalog cut or other information for the vapor barrier from the manufacturer to the PGC for review and approval before ordering any materials.

7.3 - PROCEDURE

Prepare the #2A coarse aggregate subbase for the concrete floor slab according to the requirements of Section 6 of these Technical Specifications. Smooth the top surface of the stone subbase to lessen the chance of puncturing the vapor barrier. Install rigid foam insulation panels along the exterior edges of the floor slab. Place the vapor barrier on top of the stone subbase and under the insulation panels. Smooth and stretch the vapor barrier so there are no folds or creases. Make sure that the vapor barrier extends to the perimeter along all four sides of the concrete floor slab.

Cut the vapor barrier around the trench drains and vertical pipe. Use pressure-sensitive or waterproof tape along seams in the vapor barrier and around trench drains. Repair or replace any damaged or punctured sections in the vapor barrier.

7.4 – MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for the installation of vapor barriers including vapor barrier tapes as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work. No separate measurement or payment for vapor barrier used to repair cuts or holes.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION No. 8 - STEEL REINFORCEMENT

8.1 - SCOPE

This work is furnishing and placing steel reinforcing bars and accessories such as chairs, clips, annealed steel wire ties and other supports and fasteners. Applicable portions of "Building Code Requirements for Reinforced Concrete" (ACI Standard 318) published by the American Concrete Institute applies to the design, material specifications, and material placement, except if modified by the contents of this Section. See Structural Drawings for addition drawing specifications and notes for steel reinforcement.

8.2 - MATERIALS

A Reinforcing Bars - Steel bars for concrete reinforcement shall be grade 60, deformed and shall conform with all the provisions of one of the standards listed below, except the "Bend Test Requirements" provisions of ASTM A615, A616 and A617 standards.

1 ASTM Designation A615 "Standard Specification for Deformed and Plain Steel Bars for concrete Reinforcement,"

2 ASTM Designation A616 "Standard Specification for Rail-Steel Deformed and Plain Bars for Concrete Reinforcement," or

3 ASTM Designation A617 "Standard Specification for Axle-Steel Deformed and Plain Bars for Concrete Reinforcement."

For ASTM A615, A616, and A617, bend test requirements for reinforcing bars shall be based upon 180 degree bends of full size bars around pins with diameters specified below.

Bend Test Requirements	
Bar Designation	Pin Diameter for Bend Test
#3, #4, #5	3.5 times the diameter of the bar
#6, #7, #8	5 times the diameter of the bar
#9, #10, #11	7 times the diameter of the bar

B Chairs - Chairs and other supports for steel reinforcing shall be of standard manufacture commonly used in practice.

C Clips - Clips and other fasteners shall be of standard manufacture commonly used in practice.

D Tie-Wire - Wire for tying concrete reinforcing shall be of annealed steel of standard manufacture commonly used in practice.

8.3 - SUBMITTALS

Submit samples, manufacturer's literature, product certification, and shop drawings for all concrete reinforcing bars, fabrics and accessories to the PGC for review and approval before ordering any materials. Refer to submittal specification section for submission requirements.

8.4 - PROCEDURE

A **Drawings -** The Contract Structural Drawings show the size, typical shape, and position of reinforcement. Additional drawings required to facilitate the fabrication and placement of reinforcement shall be provided by the Contractor. Checked reinforcement drawings made to show placement details, bending details, and reinforcement lists shall be submitted in quadruplicate to the Department at least twenty (20) days before authorizing the fabricator to proceed with fabrication. These drawings will be reviewed by the Department and one print with comments and corrections will be returned to the Contractor. The comments and corrections made on these drawings by the Department does not relieve the Contractor of the responsibility of complying with the Contract Drawings and Specifications.

B **Bends -** Bend all bars cold. Use a portable bending machine to bend bars on site only with the approval of the Department. Do not bend any bars partially embedded in concrete. Bends shall not be sharper than 6 times the diameter of the bar:

C **Placement -** Place steel reinforcement in the concrete as shown on the Drawings. Before placement, thoroughly clean the surfaces of the reinforcement and of any metal supports. Remove flaky rust, loose mill scale, dirt, grease, oil, grout, membrane curing compound, or any other foreign substances which are objectionable. After being placed, the reinforcement shall be maintained in a clean condition until it is completely embedded in the concrete. Reinforcement shall be accurately placed, fastened at each intersection with wire or metal clips, and secured in position so that it will not be displaced during the placement of concrete. Special care shall be exercised to prevent any disturbance of the reinforcement in concrete that has already been placed.

8.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all steel reinforcement including furnishing of steel reinforcement, fabrication, placement, ties, clips and chairs as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum

TECHNICAL SPECIFICATION SECTION No. 9 – CONCRETE

9.1 - SCOPE

This work is furnishing all materials, plant, and equipment, and performing all labor for the manufacture, transporting, placing, finishing, patching, curing, and testing of concrete to be placed under the Contract. Concrete is to be used for the continuous footings, post footings, and floor slabs of the new building. Exterior concrete sidewalks and slabs are to be constructed for the front and side building entries and for condensing units mounting pads. The Contractor shall protect all concrete against damage until final inspection and acceptance by the Game Commission.

Except as herein qualified, matters pertaining to measuring, placing and testing of concrete; materials used; construction of formwork; concrete finishing; curing of concrete; detailing, fabricating and placing of reinforcing and accessories shall be governed by the following codes and regulations:

(a) Building Code Requirements for Reinforced Concrete (ACI 318)

(b) Current "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI 315)

(c) Current "Recommended Practice for Measuring, Mixing, and Placing Concrete" (ACI 304)

(d) All matters in connection with concrete work, not otherwise specified, shall conform to the applicable sections of the Pennsylvania Department of Transportation Specification Publication 408.

9.2 - TESTING AND CERTIFICATIONS

Obtain all concrete from a PennDOT approved source. Submit a concrete mix design for each supplier to the Game Commission for approval 3 days prior to placing concrete.

One set of four (4) standard test cylinders for each day's pour shall be taken and forwarded to an approved laboratory for testing. Two (2) cylinders shall be tested at he age of seven (7) days and two (2) cylinders tested at the age of twenty-eight (28) days. Three (3) copies of tabulated results of such tests shall be forwarded to the Game Commission for approval and distribution. All costs in connection with tests of concrete shall be borne by the Contractor.

Provide product information, and/or original certifications for the following items: cement, admixtures, aggregates, preformed expansion joint filler, epoxy bonding compound, joint seal material, and curing compound.

9.3 - COMPOSITION

Concrete shall be composed of Portland cement, water, fine and coarse aggregates and approved admixtures, all well mixed and brought to the proper consistency.

1. Concrete shall be Class A and shall develop a minimum compressive strength of 3,300 psi in twenty-eight (28) days.

2. Concrete shall be obtained from a batch plant currently approved by the Pennsylvania Department of Transportation (PennDOT) or the Department.

3. Ready-mixed concrete shall be mixed and delivered in accordance with ASTM Designation C94.

9.4 - MATERIALS

All materials shall be obtained from sources listed in PennDOT Bulletin 14 or PennDOT Bulletin 15 as applicable.

A. Cement - Cement shall be one of the following types:

(1) Normal Strength Air-Entraining Portland Cement, Type IA or Type IIA, conforming to ASTM Designation C150. Synthetic fiber reinforcing should be added to the cement to meet ASTM C1609/C1609M. The fiber reinforcing shall meet ASTM C 1116/C 1116M for macro-chopped strands.

(2) Normal Strength Air-Entraining Portland Blast Furnace Slag Cement, Type IS-A, conforming to ASTM Designation C595. Synthetic fiber reinforcing should be added to the cement to meet ASTM C1609/C1609M. The fiber reinforcing shall meet ASTM C 1116/C 1116M for macro-chopped strands.

B. Admixtures - Approved types of admixtures meeting ASTM Designation C260, increasing the plasticity and workability of the concrete may be used.

C. Water - Water for concrete shall be clean and free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances.

D. Aggregates - Aggregates for concrete of normal weight shall conform to "Specifications for Concrete Aggregates" (ASTM C33).

E. Preformed Expansion Joint Filler - Preformed expansion joint filler shall be of the size shown on the Drawings, shall be gray in color, and shall conform with the requirements of AASHTO M153, Type 1, sponge rubber. Joint filler shall be solid sponge rubber, and no reprocessed material will be accepted. Joint filler made of numerous pieces of sponge rubber which adhere to each other will not be acceptable. The material shall be stored as recommended by the manufacturer.

F. Joint Seal Material - The joint seal material shall conform with the requirements of ASTM C290 such as Sikaflex-2c or Sikadur 51 as manufactured by the Sika Corporation, Lyndhurst, New Jersey or an approved equal. The material shall be stored as recommended by the manufacturer.

G. Curing Compound - The curing compound shall be clear or translucent containing a red fugitive dye conforming to the requirements of AASHTO M148, Type 1-D, and must not affect water in any respect to injure fish life or impair or be detrimental to water for human consumption. The curing compound shall be stored as recommended by the manufacturer.

9.5 – PREPARATION OF AREAS TO RECEIVE CONCRETE

For pole footings, excavate to the proper depth and grade. Remove any organic material from the areas to receive concrete.

For concrete slabs, place and compact #2A coarse aggregate as shown on the Drawings. Place rigid foam insulation panels and vapor barrier. Install the splash boards on the outside edges of the building to act as forms.

9.6 - JOINTS AND EMBEDDED ITEMS

Place preformed expansion joint filler around the poles and in the expansion joint as shown on the Drawings. Place trench drains, drainage pipes and utility sweeps. All joint materials and embedded items shall be clean and free of dust, grit, mud, oil or grease, and shall be held firmly in place to avoid displacement during concreting.

9.7 - FORMWORK

Forms shall conform to the shapes, lines, grades, and dimensions of the concrete as called for on the Drawings. They shall be sufficiently tight to prevent leakage of mortar and shall be properly braced or tied together to maintain the desired position and shape during and after placing concrete. Forms shall be removed in such a manner as to assure the complete safety of the structure.

9.8 - CONCRETE PLACEMENT

A. Depositing - Concrete shall be deposited in the presence of a representative of the Game Commission.

In all cases, concrete shall be deposited as nearly as practicable in its final position and not allowed to flow in a manner to permit or cause segregation and loss of slump. Once concreting is started, the operation shall be carried on continuously until the placing of the panel or section is completed. Concrete shall be placed in continuous, approximately horizontal layers, the depths of which generally shall not exceed twenty (20) inches.

All conveying equipment shall be of such size and design as to insure a practically continuous flow of concrete at the forms. Free falls of more than four (4) feet are not permitted.

Any concrete that has been contaminated by foreign matter or which has become so stiff that proper placing can not be assured, shall be wasted.

If unfavorable weather conditions exist, the Game Commission may order the work stopped, either before concreting has started or after it is in progress, until a suitable formwork or covering is set up on the site to protect fresh concrete from rain, hail, snow, or other unfavorable conditions.

B. Consolidation - Concrete shall be consolidated by vibration so that concrete is thoroughly worked around the reinforcement, around embedded items, and into corner of forms, eliminating all air or stone pockets which may cause honey-combing, pitting, or planes of weakness. Internal vibrators shall be of the largest size and the most powerful that can be properly used in the work, as described in Table 5.1.4 of ACI 309, and they shall be operated by competent workers. Vibrators shall not be used to transport concrete within the forms and shall not be attached to the reinforcing bars to consolidate concrete. Vibrators shall be inserted and withdrawn at points approximately eighteen (18) inches apart. At each insertion, the duration shall generally be between five (5) and fifteen (15) seconds, sufficient to consolidate concrete, but not sufficient to cause segregation. A spare vibrator shall be kept at the job site during all concrete placing operations. Before continuing the placement operations, any displacement of reinforcement, forms, or embedded items because of placement or vibration shall be corrected. Concrete which has been segregated by over vibration shall be removed and discarded. Proper care shall be used to ensure that the vibrators does not penetrate or disturb layers which have partially hardened. If directed by the Game Commission, exposed form surfaces shall be spaded in addition to vibration to minimize bubbles in concrete surface.

9.9 - REMOVAL OF FORMS AND REPAIR OF CONCRETE

A. Removal of Forms - Forms shall be removed as soon as practicable to avoid delay in curing and to enable earliest repair of surface imperfections. The time of form removal shall be based on the effect on the concrete; there shall be no damage to the concrete, due either to the removal of support or to the form stripping operation. Forms shall be carefully removed to avoid injury to the concrete, and satisfactorily repair any concrete so damaged. Forms shall not be removed until twenty-four (24) hours has elapsed from concrete placement except when specifically authorized by the Game Commission. During cold weather, forms shall be kept in place for five (5) days, unless otherwise authorized by the Game Commission. The Contractor shall accept full responsibility for any damage to concrete incurred by stripping too early.

B. Repair of Concrete - Repair of concrete shall be performed by skilled workers and in the presence of a representative of the Game Commission. Repairs shall be completed within 48 hours after removal of forms. When directed by the Game Commission, the Contractor shall repair or remove and replace any concrete that does not meet the requirements of any portion of this Technical Specification. Any concrete which is not satisfactorily repaired shall be removed and replaced.

9.10 - TOLERANCES

The concrete surfaces and reinforcing steel shall conform to the tolerance limits listed in the following tables. Permissible surface irregularities for the various classes of concrete surface finish as specified in "Finishing Concrete" section of these specifications are defined as "Finishes," and are to be distinguished from tolerances as described herein. The Contractor shall establish and maintain, in an undisturbed condition and until final completion and acceptance of the Project, sufficient control points and benchmarks to be used for reference purposes to check tolerances. Concrete work that exceeds the tolerance limits specified shall be satisfactorily remedied or removed and replaced by and at the expense of the Contractor.

CONCRETE TOLERANCES		
Variation from established lines	Change in 10 feet Maximum permissible	1/4 inch 1 inch
Variation from the plumb in lines and surfaces	In 10 feet In 20 feet In 40 feet	1/4 inch 3/8 inch 3/4 inch
Variation from the level or from the grades indicated on the Drawings for top of walls	In 10 feet In 20 feet In 40 feet	1/4 inch 3/8 inch 3/4 inch
Variation in thickness of slabs and walls	Minus Plus (Walls) Plus (Slabs)	1/4 inch 1/2 inch No limit
Footings:		
(1) Variation of dimensions in Plan	Minus Plus	1/2 inch 2 inches
(2) Misplacement or Eccentricity	Not more than	2 inches
(3) Reduction in thickness	Minus	5% of thickness

NOTE: No abrupt changes in line, grade or dimension will be permitted for any of the conditions listed above. Variations in thickness will be permitted only as "spot" conditions and shall not extend over large areas.

Reinforcement steel shall be fabricated in accordance with the fabricating tolerances given in ACI 315 and shall be placed conforming to the tolerance limits listed in the following table:

REINFORCEMENT STEEL TOLERANCES		
Variation for Protective Covering	With 2-inch cover With 3-inch cover	1/4 inch 1/2 inch
Variation from indicated spacing for individual bar		1/2 inch
Variation from lap	Minus Plus	0 inch No limit

9.11 - FINISHING CONCRETE

A. General - Allowable deviations from plumb or level and from alignment, grades, and dimensions shown on the Drawings and as specified in Section 7.10 are defined as "tolerances," and are to be distinguished from finishes as described herein. Finishing shall be completed immediately after removing the forms.

B. Formed Surfaces - All formed concrete surfaces shall be treated as described below by a skilled concrete finisher.

Holes shall be filled, and defective areas repaired immediately after form removal. Fins and irregularities shall be removed or corrected. There shall be no conspicuous offsets, bulges or misalignment of concrete.

C. Unformed Surfaces - All unformed surfaces shall be finished in accordance with the following requirements by a skilled concrete finisher:

Immediately after vibration is completed, the surface shall be leveled and screeded sufficiently to produce an even, uniform texture.

Floating shall be done by hand or power-driven equipment. Floating shall not start until some stiffening has taken place in the surface concrete and the moisture film or "shine" has disappeared. The floating should work the concrete no more than necessary to produce a surface that is uniform in texture and free of screed marks. Any necessary cutting or filling of surface to prevent irregularities should be done during the floating operations. Joints and edges shall be finished with edging tools at this time.

After floating is completed, apply a light steel trowel finish to the top surface of the floor slab concrete. Light surface pitting and light trowel marks are not objectionable. For the doorway ramps and front apron slab; apply a light broom finish for traction.

9.12 - CURING AND PROTECTION

A. General - After finishing operations are completed, the concrete shall be membrane cured. A minimum of seven (7) consecutive days of curing and protection shall be required. The following definitions of air temperature and curing temperature are specified below, as they will be mentioned frequently in this section:

Air Temperature - The measured temperature in the shade, not in the direct rays of the sun, and away from artificial heat.

Curing Temperature - The temperature of the air immediately adjacent to concrete. Where concrete is not covered by forms or other protective coverings, or where protective coverings are considered inadequate, the curing temperature will be considered as being not more than the air temperature. During cold weather, the curing temperature is the temperature inside the forms, protective coverings or housings. The curing temperature for the first 24-hour period after placing concrete will be considered as not more than the temperature of the concrete at the time of its placement in the forms.

B. Insulation - High-low thermometers shall be provided and an accurate daily record of air and curing temperatures maintained during cold weather. These temperatures shall be submitted daily to the Game Commission. Curing temperatures shall be taken on the surface of the concrete and at representative locations on structures.

Adequate care shall be provided so that at any time during the curing period the curing temperature does not fall below 50°F. Any day during which the curing temperature drops below 50°F but remains above 35°F, will not be considered as day as a curing day and the duration of the curing period shall be extended accordingly. If at any time during the curing period, the curing temperature falls below 35°F, the contractor shall core and test the concrete at his own expense. The concrete shall be considered satisfactory and acceptable if the strength and durability requirements of Section 7.3.1 are met.

In moderate weather, when the forecasted air temperature is expected to be between 35°F and 50°F, in addition to membrane curing, insulated blankets shall be furnished and placed over concrete and forms.

During cold weather, when the forecasted air temperature is expected to be 35°F or lower, cure shall be by the methods prescribed for curing in moderate weather, and in addition, furnish and install canvas covered frames or some type of approved housing that will completely enclose the fresh concrete and forms. Also, sufficient approved heating apparatus (preferably steam equipment) shall be furnished to maintain the temperature of air surrounding the fresh concrete between 50°F and 80°F, for seven (7) days. Concrete covers shall be kept moist during the curing period. After seven (7) days, the temperature shall gradually be lowered within the housing to the outside temperature over a period of 72 hours. When heating apparatus is required, special care shall be provided to prevent the concrete from drying. Combustion heaters shall not be used during the first 24 hours unless adequate precautions are taken to prevent exposure of the concrete to exhaust gases which contain carbon dioxide. Arrangements shall be made for heating, covering, insulating, or housing the concrete work, in advance of placement, and they

shall be adequate to maintain the required temperature without injury to the concrete due to concentration of heat.

Changes in air temperature immediately adjacent to the concrete during and immediately following the curing period shall be kept as uniform as possible, not exceeding five (5) degrees Fahrenheit in any one (1) hour or 50°F in any 24-hour period.

C. Membrane Curing - Finishing of the concrete surfaces shall be completed prior to the application of curing compound.

Curing compound shall be applied in two (2) coats, each coat covering 300 square feet of concrete surface per gallon. A pressure tank type spraying equipment shall be used, which shall provide continuous agitation of the compound during coating operations. Do not use ordinary orchard-type hand sprays. In order to insure thorough and complete coverage of the concrete surfaces, the first coat shall be applied by moving the spray gun back and forth in one direction, and the second coat immediately thereafter by moving the spray gun at right angles to the direction of the first coat.

The first coat shall be applied immediately after finishing operations are completed. The second coat shall be applied immediately after the first coat has set.

D. Protection - All concrete shall be protected against injury until final inspection and acceptance by the Game Commission.

During the curing period, the concrete shall be protected from damaging mechanical disturbances, such as load stresses, heavy shock, and excessive vibration. All finished concrete surfaces shall be protected from damage by construction equipment, materials or methods, by application of curing procedures, and by rain or running water.

Until final inspection and acceptance by the Game Commission, the Contractor shall repair, or remove and replace any damaged concrete at no additional cost to the Game Commission.

9.13 – SUBMITTALS

Submit a manufacturer's concrete mix design for each type of concrete used for this project to the PGC for review and approval before ordering any materials.

9.14 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all cast in place concrete including furnishing of concrete, forms, all labor, and equipment for mixing, placing, curing, finishing, repairing and forming and all laboratory and field tests as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Cubic Yards, measured by the average end area method or by the three-dimensional volume method, as applicable.

TECHNICAL SPECIFICATION SECTION No. 10 – FRAMING LUMBER AND CARPENTRY

10.1 - SCOPE

This work is providing and installing the lumber and fasteners necessary to frame the building.

10.2 - MATERIALS

A. Dimension Lumber – The lumber used to frame the building should be of the sizes, spacing and arrangement shown on the Drawings. The lumber should conform to the following requirements.

1. Grading Agency – Southern Pine Inspection Bureau, Inc. (SPIB)
2. Nominal sizes – as indicated on the Drawings, S4S.
3. Moisture content – S-dry or MC19
4. Structural Grade – No. 2 or better

B. Engineered Lumber – The engineered lumber including laminated veneer wood lumber (LVL), laminated wood strand lumber, and engineered lumber connectors should be of the sizes, spacing and arrangement shown on the Drawings.

C. Treated Lumber – Same as dimension lumber plus treatment by ACQ (waterborne preservative), 0.4 pcf retention in conformance with the American Wood Preservers Association (AWPA). Use category UC2 for interior construction not in contact with the ground, use category UC3b for exterior construction not in contact with the ground and use category UC4a for items in contact with the ground.

D. Plywood – Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D5456 and manufactured with an exterior-type adhesive complying with ASTM D2559. The plywood shall have at least 2,600 psi extreme fiber stress in bending. Plywood for the heated/unheated wall to be good one side.

E. Wood Posts – The wood posts can be dimensional treated posts or glue laminated columns manufactured from #1 Southern Yellow Pine with the lower portions pressure treated to 0.60 pcf with CCA in compliance with AWPA C28. The pressure treated portion of the wood posts shall extend at least one foot above the finished concrete floor elevation.

F. Fasteners – Of the sizes and type suited for the applications. Where rough carpentry is exposed to weather, in ground contact, in pressure-treated lumber, or in the area of high relative high humidity, provide fasteners of Type 304 stainless steel.

1. Nails, Brads and Staples: ASTM F1667
2. Power-Driven Fasteners: NES NER-272

3. Wood Screws: ASME B18.6.1
4. Lag Bolts: ASME B18.2.1(ASME B18.2.3.8M)
5. Bolts: Steel bolts complying with ASTM A307, Grade A (ASTM F568M, Property Class 4.6); with ASTM A563 hex nuts /washers where indicated.
6. Expansion Anchors: Anchor bolt and sleeve assembly made with carbon-steel components, zinc plated to comply with ASTM B633, Class FE/Zn 5.

10.3 - PROCEDURE

Construct the building frame according to the dimensions and layout shown on the Drawings. Excavate holes for the exterior wood posts and place concrete in the bottom of the holes as shown on the Drawings to prepare for post installation. Construct and erect exterior wood wall framing. Install truss seats, girts and corner braces as shown. Provide extra framing lumber around doors and windows to provide the support necessary to install these items. All exterior wall sections that will be finished with CDX plywood and are to be framed with 2' x 6' studs on 16-inch centers. Base plates for these walls must be pressure treated. Provide temporary bracing for the building frame to maintain the integrity of the building as construction progresses.

Frame interior wall sections with 2"x 4" and 2"x 6" studs were shown on 16-inch centers to receive the gypsum board. The base plates for interior walls must be pressure treated. Drill holes in the wall base plates (treated) for expansion anchors or use power actuated gun to secure completed wall panels to the concrete floor.

After construction is complete, remove all temporary bracing and waste lumber from the site.

10.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all framing lumber and carpentry including furnishing and erection of wood framing members, wood framing connectors and clips, anchors, fasteners as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 11 – ROOF TRUSSES

11.1 - SCOPE

This work is providing and installing the wooden roof trusses for the new building as shown on the Drawings.

11.2 – TRUSS DESIGN

A. General Dimensions and Features – The trusses have a 4:12 pitch and 2-foot overhangs @ the eaves and gable ends. The trusses shall have a 40-foot span and are spaced on 4-foot centers. ***Trusses must include an 8-inch energy heel in the truss design.***

B. Design Loading – The roof trusses must have a roof load rating of 42.5 lbs/ SF ground snow load (snow load factor of 0.7) and a wind load rating of 25 lbs/SF and wind speed rating of 115 MPH minimum.

C. Design Drawings and Calculations – The design drawings and calculations for the trusses must be sealed and certified by a licensed professional engineer (valid Pennsylvania license). The drawings must be submitted for review by the PGC. The truss design shall conform with the applicable provisions of "National Design Specification for Stress-Grade Lumber and Its Fastenings" (National Forest Products Association) and "Design Specifications for Light Metal Plate Connected Wood Trusses" (TPI).

11.3 - PROCEDURE

Conform to the manufacturer's recommendations for storing, handling, installing and bracing of the trusses. Provide adequate temporary bracing of the trusses during installation.

Provide adequate permanent bracing of the top chords, bottom chords and web members of the trusses according to the manufacturer's recommendations. Install purlins for the roof panels on the top chord of the trusses. Secure the roof trusses to the building frame with galvanized steel hurricane ties or dimensional blocking.

After construction is complete, ***provide all bracing for the roof trusses as required by the truss manufacturer.***

11.3 – SUBMITTALS

Submit design shop drawing of all trusses, sealed by PA licensed engineer and other information for wood trusses, bracing from manufacturer to the PGC for review and approval before ordering any materials.

11.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all wood roof trusses including engineering design, manufacture, erection, and bracing as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 12 – STANDING SEAM METAL ROOFING AND SNOW RAIL SYSTEMS

12.1 - SCOPE

This work is furnishing and installing a standing seam metal roofing system with continuous snow rails system at all roof eaves on the Waterfowl Check, as shown on the Drawings.

12.2 – MATERIALS

A. Standing Seam Metal Roofing System – Snap on Seam, Fabral SSR 1 ½" is the basis of design and this metal roofing system.

1. Materials:
   a) Metallic-Coated Steel Sheet: aluminum-zinc alloy-coated steel sheet (Galvalume) complying with ASTM A 792/A 792M, Class AZ50/AZ55 coating designation; structural quality. Pre-painted by the coil- coating process to comply with ASTM A 755/A 755M.
   b) Material Gauge: 24 gauge.
   c) Exterior Finish: As selected from manufacturer's premium finishes.
   d) Color: Shall match existing metal roofing system.
   e) Panel Coverage: 16 inches
   f) Panel Height: 1-1/2 inch.

2. Miscellaneous Materials
   a) Miscellaneous Metal Sub-framing and Furring: Provide manufacturer's standard sections as required for support and alignment of metal panel system.
   b) Panel Accessories: Provide components required for a complete, weather-tight panel system including trim, copings, fasciae, mullions, sills, corner units, panel clips, flashings, sealants, gaskets, fillers, panel closures, and similar items. Match material and finish of metal panels unless otherwise indicated.
   c) Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
   d) Panel Fasteners: Self-tapping screws designed to withstand design loads.
   e) Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are non-staining, and do not damage panel finish.
      1) Sealant Tape: Buytl
      2) Joint Sealant: One Part Poly
      3) Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

3. Fabrication
   a) General: Provide factory-formed metal roof panel system complying with ASTM E 1514 requirements.
   b) Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
   c) Form panels in continuous lengths, endlaps are not permitted.
   d) Field forming of panels shall be done by factory employees operating the machines.
   e) Fabricate metal panel joints with factory-installed butyl sealant that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
   f) Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
      1) Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
      2) Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
      3) Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
      4) Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
      5) Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.

4. Finishes
   a) Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
   b) Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
   c) Steel Panels and Accessories: Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

B. Underlayment – Fabral All Purpose High-Temperature Underlayment prevents moisture entry into structures by sealing uniformly to the substrate and around nail penetrations. Fabral All Purpose High-Temperature Underlayment is 50 ml thick and is supplied in 200 sq. ft rolls. Fabral All Purpose High-Temperature Underlayment is self-adhering and cold applied. No special adhesives, heat, or equipment are necessary to install Fabral All Purpose High-Temperature Underlayment when installed at 45° F and warmer.

C. Flashing Sections – The flashing sections shall be fabricated from the same material and finish as the metal roof panels.

D. Fasteners – 22-gauge steel in a two piece sliding clip arrangement allowing for thermal movement. The fasteners shall be concealed design. The nails and/or screws for attachment of fasteners and flashing sections shall be corrosion resistant as recommended by the metal roof panel manufacturer. Exposed fasteners shall be color matched to the roof panels.

E. Tape Sealant – Pressure sensitive, 100% solids, polyisobutylene compound sealing tape with release paper backing. The tape sealant shall be permanently elastic, non-sagging, non-toxic and non-staining tape seal approved by the metal roof panel manufacturer.

F. Caulk – One part polyurethane sealant as approved by the metal roof panel manufacturer.

G. Bar/Rail-Type Snow Retention Systems for Standing Seam Metal Roofs - Snow guard system to be installed at roof eaves of new building addition.

1. Basis of Design: ColorGard, manufactured by S-5! Metal Roof Innovations, Ltd.
2. Components:
   a) Clamps
      1) Manufactured from 6061-T6 aluminum extrusions conforming to ASTM B221 or aluminum castings conforming to ASTM B85 and to AA Aluminum Standards and Data.
      2) Set screws: 300 Series stainless steel, 18-8 alloy, 3/8 inch diameter, with round nose point.
      3) Attachment bolts: 300 Series stainless steel, 18-8 alloy, 8 mm or 10 mm diameter, hex flange bolt.

   b) Cross Members:
      1) Manufactured from 6061-T6 or 6005-T5 alloy and temper aluminum extrusions conforming to ASTM B221 and AA Aluminum Standards and Data.
      2) Receptacle in face to receive color-matched metal strips.
      3) Provide splice connectors ensuring alignment and structural continuity at end joints.

3. Color Strips: Same material and finish as roof panels; obtained from roof panel manufacturer.
4. Snow and Ice Clips:
   a. Aluminum, with rubber foot, minimum 3 inches wide.
      1) Model: SnoClip II or SnapClip II for standing seam heights 1" to 1.75"
5. Install system in accordance with manufacturer's instructions and approved Shop Drawings

H. Warranty

1. Material and Workmanship Warranty: Manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
   a) Failures include, but are not limited to, Structural failures including rupturing, cracking, or puncturing. Deterioration of metals and other materials beyond normal weathering.
   b) Warranty Period: Two years from date of Substantial Completion.

2. Paint Finish Warranty: 30 years from date of Substantial Completion. If metallic colors are used, the "fade" part of the warranty shall be removed.
   a) 30 years for Kynar type finish.

3. Installer's Warranty: Submit installer's warranty, signed by Installer, covering the Work of this Section, including all components of roof panels for the following warranty period:
   a) Warranty Period: Two years from date of Substantial Completion

4. Weather-tight Warranty:
   a) Warranty Period: Twenty years from date of Substantial Completion

12.3 – SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
2. Submit a catalog cut or other information for the standing seam metal roof panels, underlayment, fasteners, tape sealant, snow guards and caulk from the manufacturers to the PGC for review and approval before ordering any materials.

B. Shop Drawings:

1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches.
3. A Watertight Warranty is required, shop drawings or Fabrals standard details must be reviewed by the manufacturer prior to installation.

C. Samples: For each type of exposed finish required, prepared on Samples of size indicated below.
1. Metal Panels: 12 inches long by actual panel width. Include clips, fasteners, closures, and other metal panel accessories.
2. Include similar Samples of trim and accessories involving color selection.

D. Qualification Data: For Installer.

E. Product Test Reports: For each product, for tests performed by a qualified testing agency.

F. Sample Warranties: Provide 20-year WTW (Weather Tight Warranty) warranty.

12.4 - PROCEDURE

The metal roof panels shall be roll formed in continuous lengths from eave to ridge. The panels can be jobsite or factory formed in continuous lengths. Spliced panels are not acceptable. Fabricate the trim and flashing sections to the profiles shown on the Drawings.

Secure the underlayment on the existing wood roof deck. Install the panel fasteners on the prepared roof surface. Install the roof panels plumb, level and straight with seams and ribs parallel conforming to the pattern shown on the Drawings. Install the roof panels so that the system is weather-tight. Allow for expansion and contraction. The roof panels shall be installed according to the manufacturer's recommendations and approved shop drawings.

Install snow retention system at all roof eaves of the new addition as shown on the Drawings.

Dispose of excess materials and remove debris from the site. Clean the work in accordance with the manufacturer's recommendations. Touch up minor scratches and abrasions. Replace damaged sections of the roof.

12.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for a standing seam metal roofing system including shop drawings, underlayment, flashings, vented ridge, snow bar retention system, fasteners, and sealants as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 13 – METAL SIDING PANELS

13.1 - SCOPE

This work is providing and installing the exposed fastener metal siding panel system on the new building frame and as shown on the Drawings. Color to be verified before ordering.

13.2 – MATERIALS

A. Siding Panels – The siding panels shall be fabricated galvanized steel sheet with a minimum coating of 0.90 oz/SF and shall be **26-gauge – 0.019"** minimum**,** capable of supporting the design wind loading. Metal siding system shall include a 4'-0" high above finished floor wainscoting, color is EVERGREEN. The siding panels above the wainscoting shall be the same configuration with a finish color is STONE/TAN/BEIGE.

B. Trim – Steel sheet stock prefabricated, end wall flashing, corners, dew drip caps, door jambs trim, cut edge trim and side wall flashing. The finish color will match the application it is associated with. The window and door jambs are TAN w/J channel to match siding. Fascia and soffit trim shall be EVERGREEN.

C. Sealants and Fasteners – Manufacturer's standard type exterior sealants and gaskets. Screw fasteners, cadmium plated self-tapping, hex head with washer and soft neoprene sealing ring finished to match metal siding surface.

13.3 - PROCEDURE

The siding panels are to be sized to the proper dimensions for installation. Install the siding panels with the recommended spacing and type of fasteners. The Contractor is responsible for the correct spacing of the girts to support the siding panels. Siding panels are to be installed with the corrugations running vertically. Cut "custom" panels at the site for gable ends if necessary. The Contractor should shear or use snips to cut siding panels to minimize the potential to damage the protective coatings on the panels.

Install the wainscoting and flashing for the building followed by the siding panels.

Install finish trim sections where needed on the siding panels. Make sure all edges and ends are properly sealed with gaskets or sealants.

After construction is complete, remove all waste pieces of roof and siding panels, trim, and fasteners from the site.

13.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for metal panel siding systems including, panels, flashings, transitions, moldings, fasteners, and sealants as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 14 – SOFFITS AND FASCIA

14.1 - SCOPE

This work is providing and installing the soffits and fascia at the roof overhangs for the new building as shown on the Drawings.

14.2 – MATERIALS

A. Soffits – The soffits shall be preformed, prepainted aluminum alloy (minimum 0.019 inch thick sheet stock) formed to a V-groove section, fully perforated, micro vented surface at roof eaves and solid soffit at roof rakes shall have finish color is GREEN.

B. Fascia – Fascia shall be preformed, prepainted aluminum alloy (minimum 0.019 inch thick sheet stock) with plain surface and the finish color is GREEN.

C. Nails – Aluminum; use prefinished GREEN nails for soffits and fascia.

D. Trim – Trim to match the same color as the material being finished.

E. Sealant – Silicone, single component, solvent curing, clear in color.

14.3 - PROCEDURE

Install F&J-channel to receive soffit sections in conjunction with siding panel and nail to fascia to secure. Install fascia and trim sections with sealant as needed.

14.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for aluminum soffits and fascia at roof overhangs, including trims, fasteners and sealant as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 15 – GUTTERS AND DOWNSPOUTS

15.1 - SCOPE

This work is providing and installing gutters and downspouts for the new building.

15.2 – MATERIALS

A. Gutters – Aluminum with baked on GREEN finish. Gutter shall be seamless for the length of the roof. Gutter shall be standard 5-inch width, .032 gauge minimum.

B. Downspouts – Aluminum with baked on GREEN finish and 3-inch by 4-inch cross section.

C. Fittings, Hangers and Brackets – Aluminum fittings and brackets as recommended by gutter and downspout manufacturer with hidden hangers at 2'-0" on center maximum.

15.3 - PROCEDURE

Submit a catalog cut or other information for the gutter and downspout from the manufacturer to the PGC for review and approval before ordering any materials.

Install gutters on the roof eaves of the new building. Secure the gutters to the fascia with hidden hangers. Install downspout drop sections and end caps at the ends of the roof eaves as shown on the drawings. Connect downspout sections to the gutters and run the downspout along the edge of the building to the ground level and onto splash blocks. Make sure the water drains away from the building properly. Route the downspouts to prevent any potential discharge at egress areas.

15.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for aluminum rain gutter and downspout system, hangers, fasteners, and sealants as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 16 – INSULATION

16.1 - SCOPE

This work is providing and installing the insulation in the walls and ceiling of the new building and perimeter foundation insulation including under the floor slab as shown on the Drawings.

16.2 – MATERIALS

A. Fiberglass Blankets - The insulation for the walls and the ceiling (building will be fully conditioned) shall be Kraft-faced formaldehyde-free, fiber glass insulation conforming to ASTM C665, Type II (non-reflective faced), Class C, Category 1. Wall cavities shall have R-20 insulation. The insulation for the ceiling (between trusses) shall be R-49.

B. Rigid Foam Panels – The insulation panels to be installed at perimeter of foundation, under the floor slab and at exterior of building envelope, shall be rigid foam (extruded polystyrene) panels conforming to ICC ES 96-24 and ASTM C578. The panels shall be 2 inches thick R-10. The building envelope wall panels are to be installed between wood purlins. Exterior wall panels shall be 1-½ inches thick with a minimum R value of 7.5 and installed with cap fasteners approved by the panel manufacturer.

C. Attic Rafter Vents – The attic rafter vents shall be extruded pre-formed polystyrene designed to fit between the roof framing members to provide cross ventilation between insulated attic spaces and vented eaves in the heated areas.

16.3 - PROCEDURE

Store insulation materials indoors before installation. Keep insulation clean and dry. When transporting, cover with a waterproof tarpaulin as necessary.

Install attic rafter vents properly against the underside of the roof deck, between the roof trusses. Install insulation as directed by manufacturer.

Open insulation packages and be careful to avoid cutting the product or facing. Gently push the insulation into the wall and ceiling cavities. Install the insulation so that the Kraft-facing is toward the interior of the building. Secure the flanges of the facing to the studs or roof truss chords. Take care not to stretch the insulation which could cause the material to compress or tear. Space the staples at least six inches from each end of the batt and 12” to 24” apart. Cut insulation as necessary to fit around framing for doors, outlets, vents and fans.

Install the R-49 ceiling insulation between the bottom chord of the trusses with the vapor barrier facing down.

Place rigid foam panels under the edges of the floor slab as shown on the drawings. The panels should extend 4-feet in from the perimeter of the building.

16.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all building envelope thermal insulation systems including fiberglass batt cavity insulation, vent baffles, rigid foundation and building envelope insulation, insulation supports, fasteners, and sealants as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 17– WINDOWS

17.1 - SCOPE

This work is furnishing and installing vinyl-clad wood framed casement windows in the building, including interior aluminum framed pass-thru windows with fixed and sliding glass frames at goose and duck check areas.

17.2 – MATERIALS

A. WOOD EXTERIOR WINDOWS

Provide windows complying with the performance requirements indicated and tested according to NAFS. Basis-of-Design Product: Subject to compliance with requirements provide Andersen Corporation; Andersen 400 Series windows or approved equal.

1. Construction:
    a. Frame: Finger-jointed or laminated veneer lumber capped with rigid vinyl, preservative treated WDMA I.S. 4.
    b. Interior Sash: Solid lumber, kiln dried and suitable for stain or painted finish, preservative treated WDMA I.S. 4.
    c. Exterior Sash: Co-extruded rigid vinyl or liquid-applied vinyl over finger-jointed lumber.
2. Wood Species: Clear pine.
3. Interior Finish: Custom: Site-finished.
4. Exterior Finish: Frame and Sash: AAMA 613 for color retention, Terratone.
5. Window Type: Casement or as indicated on Drawings
6. Performance Grade Requirements: Casement Performance Class LC and Grade, Non-Impact-Resistant
7. Air Infiltration Requirements: Air Infiltration Rate: < 0.3 cfm/sf².
8. Environmental Certifications: ENERGY STAR performance requirements.
9. Weatherstrip: Type and Material for Casement and Awning: Flexible vinyl bulb or vinyl covered foam gasket.
10. Attachment Flange: Type and Material for Casement: Integral rigid vinyl.
11. Hardware:
    a. Operator Gear Type and Material: Rotary, die-cast zinc and stainless-steel components.
    b. Hinge Type and Material: Concealed hinge and track, standard, 400 series galvanized steel.
    c. Crank Handle Material and Style: Die-cast zinc.
    d. Sash Lock Type and Material: Single actuation, die-cast zinc and engineered polymer components.
    e. Crank and Sash Lock Color, Classic Series: Stone.
12. Insect Screens: Conventional.
    a. Frame Material: Aluminum.

b. Painted Finish and Color: Factory-applied baked-on silicone polyester enamel Dark Bronze.
c. Insect Screen Material: Aluminum wire cloth.

13. NON-IMPACT-RESISTANT GLAZING
    a. Thermal Transmission (U-Factor), NFRC 100
    b. Solar Heat Gain Coefficient (SHGC), NFRC 200
    c. Visible Light Transmittance (VLT), NFRC 200
    d. Sound Transmission Class (STC)/Outdoor Indoor Transmission Classification (OITC), ASTM E90:
14. Glass Units: Provide insulating glass units certified through Insulating Glass Certification Council as conforming to the requirements of IGCC and ASTM E2190.
    a. Manufacturer Designation: Andersen Low-E4 Glass.
    b. Glazing Configuration: Dual-pane.
    c. Seal and Spacer Type: Dual sealed insulating glass units with polyisobutylene primary seal, silicone secondary seal and stainless steel spacers.
    d. Glass Type: Fully tempered glass, ASTM C1048.
    e. Opacity: None.

B. ALUMINUM PASS-THRU INTERIOR WINDOWS

Basis-of-Design Product: CRL Pass-Thru Windows, Diane Model Pass-Thru interior window,72" wide by 48" high, with two sliding panels that meet in the center and are flanked by fixed side panels on either side.

1. Construction:
    a. Frame: Catalog Number D1031DU with duranodic bronze finish.
    b. Glazing: 1/4-inch-thick clear tempered glass installed in aluminum panels.
    c. Hardware: Shall contain all manufactures mounting hardware including overhead track (D7), jambs, catch locks, as required to complete installation.

17.3 – SUBMITTALS

Submit a catalog cut or other information for each type of window and from the manufacturers to the PGC for review and approval before ordering any materials.

17.4 - PROCEDURE

Install the windows according to the manufacturer's instructions. Install additional framing lumber and construct window rough opening as required to safely support the window opening within building walls. Install the windows in the blocked and framed openings and secure them according to the manufacturer's instructions. Caulk or insulate around the installed windows to provide a weather-tight seal. Install any trim pieces on the interior or exterior as required, including the interior sill. Test the operation of the windows and make any adjustments if necessary.

17.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all new windows as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Each. No separate measurement or payment for additional framing lumber and carpentry, caulking, or trim as required to install and finish the windows.

TECHNICAL SPECIFICATION SECTION No. 18 – DOORS

18.1 - SCOPE

This work is providing and installing the exterior and interior entry and office doors in the new building as shown on the Drawings. Doors and frames shall include to have the necessary hardware, thresholds and/or weather-stripping/caulk as needed to provide for a tight seal.

18.2– MATERIALS

A. General – Refer to the door schedule on the drawings for details of hinge and swing requirements, sizes and lockset hardware. All locks (interior and exterior) are to be keyed alike. Manufacturers are quoted for hardware, locksets, gaskets, closers, etc. for the doors to set standards for performance and finish; other manufacturers are acceptable provided that their products are the same level of quality.

B. Aluminum-Framed Entrance Doors – Kawneer aluminum entrance, glass and glazing, door hardware and components. Basis-of-Design: 350 Swing Door; Medium stile, 3-1/2" vertical face dimension, 1-3/4" depth, 10” bottom rail, single acting for high traffic applications or approved equal. See Door Schedule on Drawings for sizes.

1. Materials
   a. Aluminum Extrusions: Alloy and temper recommended by aluminum-framed entrance door manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.090” (2.3 mm) wall thickness at any location for the main frame and door leaf members.
   b. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum-framed entrance door members, trim hardware, anchors, and other components.
   c. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.
   d. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.
   e. Weather Seals: Provide weather stripping with integral barrier fin or fins of semi-rigid, polypropylene sheet or polypropylene-coated material. Comply with AAMA 701/702.

2. Entrance Door Frame
   a. Trifab™ VG 450/451/451T.
   b. Non-Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

c. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposed shall be stainless steel.
d. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.
e. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
f. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

3. Glazing
   a. Glazing: Double pane thermally insulated tempered glazing, top glazing panel.
   b. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.
   c. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.
   d. Bottom glazing panel, shall be manufactures 1” thick insulated solid glazing infill panel with anodized aluminum skins, substrate with insulated core to match door/frame color.

4. Hardware: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, or other corrosion-resistant material compatible with aluminum; designed to smoothly operate, tightly close, and securely lock aluminum-framed entrance doors. Standard hardware shall include the following:
   a. Weather-stripping: Meeting stiles on pairs of doors shall be equipped with an adjustable astragal utilizing wool pile with polymeric fin. The door weathering on a single acting offset pivot or butt hung door and frame (single or pairs) shall be comprised of a thermoplastic elastomer weathering on a tubular shape with a semi-rigid polymeric backing. Sill Sweep Strips: EPDM blade gasket sweep strip in an aluminum extrusion applied to the interior exposed surface of the bottom rail with concealed fastener. Threshold: Extruded aluminum, one piece per door opening, with ribbed surface.
   b. Hinging: Kawneer top & bottom 4 1/2" x 4” ball bearing butt hinge.
   c. Exit Device: Kawneer 1686 concealed rod exit device with mortised type cylinder with CO-9 pull exit device.
   d. Closer: Best HD800 series door closer.
   e. Security Lock/Dead Lock: Inactive Leaf, one pair of Kawneer flush bolts
   f Cylinder/Core: Best Cormax,

B. Insulated Doors - The insulated doors in the new building shall have the following features and characteristics. These doors are listed on the door schedule. The insulated doors shall be supplied with vertical narrow lights. Ceco Door Products Medallion Series conform to the following specifications, but other manufacturers are acceptable.

1. Entry doors are galvannealed 18 gage (minimum) steel 3'-0"x 7'-0" flush panel w/insulated core conforming to ANSI A250.8-03
2. Entry door frames with galvannealed 16 gage (minimum) steel double rabbet frame (knock down)
3. Factory applied baked on primer with a factory or field applied white enamel finish coat on door and frame applied according to the manufacturer's instructions
4. Doors are 1-3/4" thick
5. Equipped with Precision 2108 x 4908A panic exit device trim and lever handle with 630 satin stainless-steel finish
6. Satin finish stainless steel hinges
7. Equipped with Best HD800 series door closer.
8. Equipped with Rockwood K1050 (10"x34") kick plates (one side) with 630 satin stainless-steel finish
9. Equipped with weather tight gaskets
10. Equipped with aluminum mill finish threshold
11. Equipped with National Guard Products C607DKB nylon brush seal.
12. Dormakaba Best Access products 12E72 rim cylinder with 626 satin chrome finish. Permanent cores to be Cormax Patented.
13. Cores and keys delivered directly to PA Game Commission.

C. Non-insulated Doors – The non-insulated interior doors in the new building shall have the following features and characteristics. These doors are listed on the door schedule. These doors shall be flush panel. Ceco Door Products Regent Series conforming to the following specifications, but other manufacturers are acceptable.

1. Passage doors are galvannealed 20 gage steel flush 3'-0" x 7'-0" panel 1-3/4" thick full flush with honeycomb core
2. Passage doors frames w/galvanealed 16 gage (minimum) steel double rabbet frame
3. Impact resistant, full honeycomb core with a min. crush strength of 45 psi
4. Seamless edges with 7 gage steel hinge reinforcement.
5. Satin finish stainless steel hinges
6. Dormakaba Best Access Systems 9K30L14C S3 privacy with 626 satin chrome finish for the bathroom door.
7. Dormakaba Best Access Systems 9K37AB14C S3 entry set with 626 satin chrome finish for offices and mechanical room doors. Keying Best Cormax to existing PGC System.
8. Equipped with kick plates (one side) and concave wall stop with 630 satin stainless-steel finish.

D. Keying – All Cormax cores shall be keyed to the PGC keying system. For a quote for keying or all hardware, you may contact Delbert Hiestand by calling 717-413-1328 or by his email delbert.hiestand@dormakaba.com

18.3 – SUBMITTALS

Submit a catalog cut and other information for the man doors, garage doors and accessories from the manufacturers to the PGC for review and approval before ordering any materials.

18.4 - PROCEDURE

Install the steel entry doors and frames according to the manufacturer's instructions. All steel surfaces of the doors and frames are to be factory primed and a factory or field painted finish. The finish coat of the steel doors and frames shall be a white outdoor grade enamel. The garage door tracks, torsion springs and garage doors are to be installed by a manufacturer's representative.

18.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all new doors, door frames, door hardware, and keying as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Each according to the type of door as listed on the Proposal Form. No separate measurement or payment for the frames, accessories, door hardware and keys.

TECHNICAL SPECIFICATION SECTION NO. 19 – GYPSUM BOARD

19.1 – SCOPE

This work is to furnish and install gypsum boards on the interior wood framed walls and ceilings of the new addition. Finishing the gypsum board is also included a part of this section.

19.2 – MATERIALS

A. Gypsum Board – Gypsum board shall conform to ASTM C1396 and be 1/2" thick @ 16" centers at wall surfaces and 5/8" thick @ 24" centers at ceiling surfaces, use sag resistant gypsum ceiling board. Furnish and install 5/8" thick type X gypsum board panels at the east and west addition walls adjacent to the exterior doors.
Acceptable manufacturers of gypsum board include American Gypsum, CertainTeed Corp., Georgia Pacific Gypsum LLC, Gold Bond, National Gypsum Company and USG Corporation.

B. Trim Accessories – Cornerbead an L-bead shall be galvanized steel sheet, rolled zinc, plastic or paper-faced galvanized steel sheet.

C. Joint Tape – Paper complying with ASTM C475.

D. Joint Compound – Provide a Level 4 gypsum finish at all wall and ceiling surfaces. For each coat use formulation that is compatible with other compounds applied on previous or successive coats.

1. Pre-filling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners and trim flanges, use drying-type, all-purpose compound.
3. Fill Coat: For second coat, use sandable topping drying-type, all-purpose compound.
4. Finish Coat: For third coat, use sandable topping drying-type, all-purpose compound, then smoothed and finish sanded, once dry and ready for painting.

E. Drywall Screws – Steel drill screws complying with ASTM C1002.

19.3– SUBMITTALS

Submit a catalog cut and other manufacturers information for all gypsum panels and gypsum finishing systems to the PGC for review and approval before ordering any materials. Refer to submittal specification section for submission requirements.

19.4 - PROCEDURE

A. Examination – Examine areas and substrates including wood framing for compliance with requirements and other conditions that will affect the installation of the gypsum board. Examine gypsum board panels before installation. Reject panels that are wet, moisture damaged and mold damaged. Proceed with installation only after unsatisfactory conditions have been corrected.

B. General Installation – Install panels across framing to minimize the number of abutting end joints and to avoid abutting end joints as much as possible. Stagger abutting end joints of adjacent panels not less than one framing member. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings. Form control and expansion joints with space between edges of adjoining gypsum panels. Attach panels to wood framing with drywall screws on 16-inch centers. Install cornerbead at outside corners and L-bead at exposed panel edges.

C. Finishing Gypsum Board – Treat joints, interior angles, edge trim, penetrations, fastener heads, surface defects and elsewhere as required to prepare gypsum board surfaces for finishing. Promptly remove residual joint compound from adjacent surfaces. Pre-fill open joints, rounded or beveled edges, and damaged surface areas. Apply joint tape over gypsum board joints. Finish panels to level 5 according to ASTM C840.

D. Protection – Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period. Remove and replace panels that are wet, moisture and/or mold damaged.

19.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all gypsum board wall and ceiling assemblies including finishing as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION NO. 20 – PAINTING

20.1 - SCOPE

This work is painting the installed gypsum wallboard, gypsum ceilings, steel doors and door frames, new and existing masonry wall surfaces and existing acoustical tile ceilings

20.2 – MATERIALS

A. Interior Coatings

Primer and topcoat paint shall be interior latex for all gypsum surfaces. The paint colors shall be selected by the Facility from full range of colors available. Acceptable paint manufacturers include Sherwin Williams, Benjamin Moore & Co., Duron, Inc., ICI Paints, PPG Architectural Finishes, Inc., and Pratt & Lambert. Sherwin Williams was selected for basis of design. Prime coat paint must comply with MPI #50 and topcoat paint must comply with MPI #44.

1. Gypsum wall and ceiling surfaces. Egg-Shel / Satin Finish:
   a) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
   b) 2nd Coat: S-W ProMar 200 Zero VOC Latex Egg-Shel, B20-12600 Series.
   c) 3rd Coat: S-W ProMar 200 Zero VOC Latex Egg-Shel, B20-12600 Series (4 mils wet, 1.7 mils dry per coat).

B. Exterior Coatings, including interior metal door and frames surfaces.

1. Pre-primed steel doors and frames. Semi-Gloss Finish:
   a) 1st Coat: S-W Pro Industrial Acrylic Semi-Gloss, B66-650 Series.
   b) 2nd Coat: S-W Pro Industrial Acrylic Semi-Gloss, B66-650 Series (2.0-4.0 mils dry per coat).

20.3– SUBMITTALS

Submit a catalog cut and other manufacturers information for all interior and exterior coatings and finishes to the PGC for review and approval before ordering any materials. Refer to submittal specification section for submission requirements.

20.4 - PROCEDURE

Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 degrees F. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces. Apply paints according to the manufacturer's written instructions. Use applicators and techniques suited for the paint and substrate. If

undercoats or other conditions show through the topcoat, apply additional coats until cured film has a uniform paint finish, color and appearance. Apply paints to produce a finish without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. At the end of each workday, remove rubbish, empty cans, rags, and other discarded materials from the building. Clean spattered surfaces. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Apply a prime coat according to MPI #50. Apply two topcoats according to MPI #44.

Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendations.

20.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for applying all interior and exterior paint coating systems as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 21 – SUSPENEDED CEILING SYSTEM

21.1 - SCOPE

This work is to furnish and install acoustical panels and metal suspension system to form a suspended ceiling system in the new building as shown on the Drawings. A suspended ceiling system is to be installed in the office, bathroom, and mechanical room only. The heated shop area is to have a metal panel ceiling.

21.2 – MATERIALS

A. Acoustical Panels – The acoustical panels shall have a Class A fire rating and shall be white with a random medium or fine texture (Fissure). Provide a 24 inches x 48 inches x 5/8-inch-thick panel from Armstrong World Industries, or a comparable equal product. The edge detail of the panels is square. The panels must be mold, mildew and bacteria resistant.

B. Hanger Rods – Mild steel, zinc coated or protected with rust-inhibitive paint.

C. Metal Suspension System – Armstrong World Industries standard 15/16-inch metal suspension system or comparable product from USG Interiors, Inc. or Chicago Metallic Corporation. The finish color of the metal suspension system is white.

D. Metal Edge Moldings and Trim – Armstrong World Industries or comparable product by USG Interiors, inc. or Chicago Metallic Corporation.

21.3 - PROCEDURE

Examine the substrates, areas and conditions to which the drop ceiling components will attach or abut to see if there are problems with installing the drop ceiling. Correct those problems before installing the drop ceiling components. Examine acoustical panels before installation. Reject acoustical tiles that are wet, moisture damaged or mold damaged.

Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders and comply with the layout shown on the Drawings.

Install acoustical panels in compliance ASTM C636 and according to the manufacturer's recommendations.

Install hangers where required plumb and free from contact of other objects within the ceiling plenum. Install supplemental suspension members or hangers in the form of trapezes or equivalent devices. Secure wire hangers to ceiling suspension members and to supports above. Connect hangers directly to structures or to inserts, eye screws, or other devices that are secure and appropriate for each substrate and that will not deteriorate or otherwise fail due to age, corrosion or elevated temperatures. Space hangers not more than 48 inches on

center along each member supported directly from hangers and not more than 8 inches from the ends of each member. Install edge moldings and trim of type indicated at the perimeter of the drop ceiling areas and where necessary to conceal edges of the acoustical panels. Attach moldings to substrates at intervals not more than 16 inches on center and not more than 3 inches from the ends. Level the ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely. Do not expose fasteners, including pop rivets on moldings or trim.

Install suspension system runners so that they are securely interlocked with one another. Remove and replace dented, bent or kinked members.

Clean exposed surfaces of acoustical panels, trim and edge moldings. Comply with the manufacturer's recommendations for cleaning and touchup of minor finish damage. Remove and replace panels and other ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

21.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all suspended ceiling systems including suspending grid, wall angle, hanger rods and hardware, and acoustic panels, as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION NO. 22 – FINISH FLOORING

22.1 - SCOPE

This work is to furnish and install finish flooring systems including underlayment and accessories as shown on the Drawings.

22.2 – MATERIALS

A. Resilient Tile Flooring. Basis of Design: Resilient plank flooring, adhesives and subfloor preparation products and accessories:

1. Provide Mannington Amtico Signature Wood Collection:

    a) Description: The Amtico Collection luxury vinyl plank, a layered construction consisting of a tough, clear, commercial urethane finish with aluminum oxide formula provides superior durability and resistance against scratching, abrasion and stains. An aesthetic layer utilizing the latest technology in imaging, texturing and finish and backing layers providing the support and foundation for the aesthetic layers. Colors are insoluble in water and resistant to cleaning agents and light.
    b) 20-year Commercial Product Warranty
    c) Pattern and Color: Pattern and Color selected from the range currently available from Mannington Amtico Collection Inc.
    d) Size: 6 in. x 36 in.
    e) Wear layer thickness: 40 mil
    f) Thickness: 0.098 in.
    g) Mannington Commercial, P.O. Box 12281, Calhoun, GA 30703, Ph. No. (800) 241-2262, www.manningtoncommercial.com/amtico

2. Adhesives - Provide Mannington adhesive for new construction or as recommended by the flooring manufacturer.

3. Provide ADA compliant thresholds of thickness and width as required to transition new flooring systems at new door openings.

4. Compliance: Comply with manufacturer's product data, including technical bulletins, product catalog, installation instructions, and product carton instructions for subfloor preparation, installation, and maintenance procedures.

5. Place resilient edge strips tightly butted to flooring, and secure with adhesive recommended by the edge strip manufacturer. Install edge strips at edges of flooring that would otherwise be exposed.

B. Epoxy Flooring System. Basis of Design: 3/16" Decorative Quartz Epoxy Seamless Flooring System with integral cove base or approved equal. (Unisex Restroom, Corridor & Mechanical Room Flooring)

1. Basis of Design: Durex Coverings, Inc. Mosaix Floor #190 is a seamless, 3/16-inch decorative epoxy flooring system that utilizes 100% solids epoxy. The system incorporates a decorative mosaic mixture of ceramic aggregate and clear epoxy/urethane resins to build a monolithic, durable, and chemical resistant seamless floor.

2. Provide an epoxy light non-skid surface within Unisex Restroom, new flooring shall not tear at mops and remain easily cleanable.

3. Add seamless integral cove base at all perimeter walls.

4. Provide ADA compliant aluminum threshold at door opening transitions if required.

5. Perform all subfloor preparation and leveling as required correcting all unsatisfactory subfloor conditions.

C. Vinyl Cove Base: Provide 6-inch-high, .125-inch thickness, vinyl cove base with a toe to cover the gap and hide imperfections along floor edges. Color shall be selected by the Department from the full range of available colors. Install vinyl base with wall base adhesive. Provide pre-made inside and outside corners for easy installation. Use Armstrong S-725 Wall Base Adhesive, or approved equal, for installation of new vinyl wall base.

22.3 – SUBMITTALS

Submit a catalog cut and other manufacturers information for all finish flooring systems referenced above and wall base to the PGC for review and approval before ordering any materials. Refer to submittal specification section for submission requirements.

22.4 - PROCEDURE

Install flooring in strict accordance with the latest edition of flooring manufacturers installation guidelines. Failure to comply may result in voiding the manufacturer's warranty.

Test concrete surfaces to receive new seamless epoxy flooring systems for moisture vapor emissions (MVE). If test results are not within the flooring manufacturers allowable ranges, install manufacturer's mitigation systems to correct level of MVE.

Remove all existing flooring in Employees Restroom. Prepare all subfloors by thoroughly cleaning removing all oil, grease, dirt, sealers, curing compounds, and

other contaminants. All laitance or weak concrete surfaces should be removed by mechanical means and concrete surfaces shall be patched and profiled before coatings are applied. All construction and expansion joints and cracks shall be addresses prior to application of seamless floor.

Protect installed flooring as recommended by the flooring manufacturer against damage from rolling loads, other trades, or the placement of fixtures and furnishings until inspected and accepted by the Department.

22.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation to furnish and install finish flooring systems and materials including an resilient vinyl plank flooring system, epoxy flooring system, underlayment, barriers, floor preparations, transition strips, thresholds, and vinyl base moldings of the size and type specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 23 – ARCHITECTURAL CASE WORK

23.1 - SCOPE

A. Work of this Section includes all labor, materials, equipment, and services necessary to furnish and install all architectural casework as shown on the drawings and/or specified herein, including, but not limited to, the following:

1. Pre-finished architectural base and wall cabinets as shown on drawings.
2. Heavy duty solid composite counter tops.
3. Wood grounds, blocking, nailers, furring as required for work of this Section.
4. All hardware, finish fasteners, and sealants for work of this Section.

23.2 – MATERIALS

A. Quality Standards - The quality standards of the Architectural Woodwork Institute, "Architectural Woodwork Standards," 1st Edition, latest edition, shall apply to all workmanship, including materials and installation, for architectural casework, and by reference are made a part of this specification. All work shall conform to "Premium" grade requirements of the AWI "Architectural Woodwork Standards," unless otherwise modified herein.

B. Basic Requirements - Before proceeding with casework required to be fitted to other construction, obtain field measurements, and verify all dimensions of shop drawing details as required for accurate fit.

1. Compatibility of Grain and Color: The Department reserves the right to select materials for best compatibility between visually related members and veneers.
2. Inspect each piece of casework; do not use twisted, warped, bowed, or otherwise damaged or defective wood.

C. Utility Cabinets – Kitchen Classics Hickory base and wall cabinets or approved equal w/Satin finish hardware (knobs) and adjustable shelves and meeting the following requirements and nominal sizes.
1. Base cabinets (2) - 24” W and 35”H with single door and drawer
2. Wall cabinets (2) 21” W and 30”H with single door

D. Restroom and Break room Cabinets – Kitchen Classics Hickory base and wall cabinets or approved equal w/Satin finish hardware (knobs) and adjustable shelves and meeting the following requirements and nominal sizes.
1. Base cabinets (2) - 18” W and 35”H with single door and drawer
2. Sink Base cabinets (1) - 24” W and 35”H with single door
3. Wall cabinets (2) 15” W and 30”H with single door
4. Wall cabinet (1) - 21” W and 30”H with single door **Plywood** - AWI Section 4; veneer with plywood core unless otherwise specified, and with the following requirements:

E. Countertops – Heavy duty, granite look laminate with fully laminated edges and backsplash.

F. Fasteners –

1. Wood Screws: FS FF-S-111, type, size, material and finish as required for the condition of use.
2. Nails: FS FF-N-105, type, size, material and finish as required for the condition of use.
3. Anchors: Type, size, material and finish as required for the condition of use.

23.3 – SUBMITTALS

Submit catalog cuts and other manufacturers information for all architectural casework with hardware and countertops to the PGC for review and approval before ordering any materials. Refer to submittal specification section for submission requirements.

A. Shop Drawings (Casework & Countertops.)

1. Shop drawings shall indicate all materials, thicknesses and finishes.
2. Shop drawings shall show all finish hardware, anchors, fastenings and accessories.
3. Shop drawings shall show all jointing, joint treatment and butt jointing in veneers.
4. Shop drawings for wood paneling must show complete elevations of units as well as panel matching required.

B. Samples: Submit samples of each of the following items:

1. Transparent finish for each species of wood veneer laminate plywood panels, twelve (12) inches square, for each finish specified or shown.

23.4 - PROCEDURE

A. Fabrication General

1. Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-0" for plumb and level (including countertops), and with 1/16" maximum offset in flush adjoining surfaces, 1/8" maximum offset in revealed adjoining surfaces.
2. Scribe and cut work to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.
3. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation.

B. Wood Trim

1. Install with minimum number of joints possible, using full-length pieces for each run. Stagger joints in adjacent and related members. Cope at returns, miter corner.
2. Joints of all trim and/or moldings shall be set tight, miter exterior angles and cope interior angles. Joints, except end joints less than twelve (12) feet apart, will not be permitted in straight runs of trim and/or moldings and rails.
3. Secure all trim and/or moldings with glue and blind nail with finishing nails. Set exposed nail heads in finished work and putty. Sand all work to remove any tool marks and irregularities.

C. Finishing

1. General: All finishing work of this Section shall be shop applied, unless otherwise noted, as specified below. All finishing shall match approved samples.

2. Field Touch-Up: Provide field touch-up as required, including the filling and touch-up of exposed job made nail or screw holes, refinishing of raw surfaces resulting from job fitting, repair of job inflicted scratches and mars, and final cleaning up of the finished surfaces.

D. Clean Up and Protection

1. Clean Up: At regular intervals during the course of the work, all debris and excess material shall be cleaned up and removed from the site. Upon completion of installation, clean all spaces of debris caused by woodwork installation.

2. Protection: Protect all casework from marring, defacement of other damage until final completion and acceptance of the project by the Owner. Repair or replace all defective units prior to final inspection. Any units that cannot be satisfactorily repaired shall be replaced with new units of same original design, at no additional cost to the Owner.

23.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all architectural casework, hardware (pulls), countertops, and finishing as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 24 – INCIDENTALS

24.1 - SCOPE

This work is to furnish and install toilet accessories, fiberglass reinforced wall panel system, ceiling/scuttle, as shown on the Drawings.

24.2 - MATERIALS

A. Toilet Accessories:

1. Toilet Paper Dispenser: Palmer Fixture Twin 9" Model RD0027 with 2-1/4" core. Include 3-3/8" adaptor and translucent cover or approved equal.

2. Paper Towel Dispenser: Bradley Model No. 250-15, stain finish stainless steel, surface mounted, Capacity: 525 multi-fold or 400 C-fold paper towels, tumbler lock and refill indicator or approved equal.

2. Liquid-Soap Dispenser: Provon TFX Model GOJ2745-12 with a 1200 ml capacity or approved equal. Provide two refills per unit.

3. Grab Bars: Bradley 812 Series, 1-1/2" outside diameter heavy-duty stainless-steel ADA compliant grab bars with concealed mounting or approved equal. Grab bars shall include No.4 satin finish that resist scratches.

4. Mirror: Bradley Mode; 740-1836 ADA compliant, fixed angle, tilt frame, satin finish 20-gauge stainless steel frame with welded corners, 18 inches by 36 inches or approved equal. Surface mount mirror with 3/4" by 3/4" frame, frame projects 4 inches at the top and tapers to 1 inch at the bottom. Provide 1/4" thick tempered glass mirror.

B. Fire Extinguishers: 20 lbs. ABC fire extinguishers fully charged and tested shall be furnished and installed by the PGC, not in contract.

C. Fiberglass Reinforced Wall Panel System:

1. Furnish and install Fiberglass reinforced thermosetting polyester resin panel sheets complying with ASTM 5319 at all locations as indicated on drawings. Fiberglass reinforced panels (FRP) shall have a Class A fire rating. Color White.

2. Dimensions: Thickness – 0.090" nominal, Width – 4'-0" nominal, Length – 10'-0" or as indicated on drawings.

3. Properties: Resistant to rot, corrosion, staining, denting, peeling and splintering. Conforms to ASTM D 790 for flexural strength and ASTM D 638 for tensile strength. Impact strength of 72 ft. lbs./in ASTM 256.

4. Moldings: PCV trim thin wall semi-rigid extruded PVC. Provide inside and outside corners, meeting and edge trims as required for installation in accordance with the manufacturer's product specifications.

5. Base: FRP Base molding, 10' lengths complete with inside and outside corners and end caps. Color Black.

6. Accessories: White non-staining nylon drive rivets and adhesives complying with ASTM C 557. Install white silicone sealant.

7. Installation: Comply with manufacturers recommended procedures and installation sequence. Comply with all recommended preparation of back up surfaces.

D. Ceiling Hatch/Scuttle:

1. 24" x 36" min. ceiling access door, 16-gauge steel door and frame, continuous hinge with key operated cam latch. Install in accordance with the manufacturer's product specifications.

E. Wall Mounted Access Ladder:

1. Heavy Duty aluminum tubular rail fixed access ladder with mill finish, Model No. 501, manufactured by O'keeffe's Inc. Architectural Building Products to comply with ASTM standards, or approved equal.

2. Wall mounted access ladder shall meet or exceed OSHA and ANSI standards.

E. Coat Rack:

1. Shelf and coat hanger rod.

F. Toilet Partitions:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Solid Color
Reinforced Composite (SCRC) Toilet Partitions as manufactured by Bobrick Washroom Equipment, Inc., or comparable product, by one of the following:
    a. Scranton Products.
    b. Ultimate Corian System by Shower Shapes
    c. Wilsonart Gibralter Material
    d. Wilsonart EarthStone material.
    e. Or Equal as approved by Professional.

2. Panels, doors and pilasters shall be fabricated from solid color reinforced composite material, which is composed of dyes, organic fibrous material, and polycarbonate/phenolic resins. Material shall have a non-ghosting, graffiti-resistant surface integrally bonded core through a series of manufacturing steps requiring thermal and mechanical pressure. Edges of material shall be same color as the surface. Material shall be a one-piece unit which is waterproof and resistant to de-lamination, steam, corrosion, soaps, detergents and mildew.

3. Fire/Smoke Testing: All materials shall be certified as a Class B in accordance with ASTM E- 84, with 35 maximum flame spread and 100 maximum smoke development.

4. Toilet-Enclosure Style: Floor mounted with overhead bracing as required.

5. Door, Panel and Pilaster Construction: Stiles and Doors, panels and pilasters shall be 3/4" thick; all edges to minimum 1/8' radiused and polished, and all exposed surfaces to be free of saw marks.
    a. Colors: SCO4 Forest Green
    b. All Hardware shall be Type 304 stainless steel with satin finish.

6. Pilaster Shoe: Formed 20 gage ASTM A666 Type 304 stainless steel with No. 4 satin finish; 3 inches high; concealing floor fastenings; with theft-proof sex bolts.
    a. Pilaster shoes shall be anchored to finish floor with No. 5 lead anchors and No. 14 stainless steel Phillips head screws.

7. Compartment Brackets:
    a. Continuous double ear stainless steel wall bracket minimum 0.125 wall thickness.
    b. Use brackets for all panels to pilaster, pilasters to wall and panel to wall connections.
    c. Wall brackets to be thru-bolted to panels and pilasters with one-way sex bolts.
    d. Accomplish attachment of brackets to adjacent wall construction by the 1-1/2 inch No. 14 stainless steel Phillips head screws anchored directly behind the vertical edge of panels and pilasters at maximum 13 inch intervals along the full-length of bracket and at each maximum 13 Inch interval alternately spaced between anchor connections; plastic anchors are not acceptable.

8. Attachments, Screws, and Bolts: Stainless steel, tamper proof type.
    a. For attaching panels and pilasters to brackets: Through-bolts and nuts; tamper proof.

9. Hinge: Stainless Steel barrel hinges:
    a. Cam shall be adjustable in the field to permit door to be fully closed or partially open when compartment is unoccupied.
    b. Hinges shall be attached to the door and style by theft-resistant, pin-in-head Torx stainless steel machine screws into factory installed, threaded brass inserts.
    c. Fasteners secured directly into the core are not acceptable.
    d. Door shall be furnished with two 11-gauge stainless steel door stop plates with attached rubber bumpers to resist door from being kicked in/out beyond style.
    e. Door stops and hinges shall be secured with stainless steel, pin-in-head Torx machine screws into threaded brass inserts.
    f. Threaded brass inserts shall withstand a direct pull force exceeding 1,500 pounds per insert.

10. Hardware: Stainless Steel.
    a. Coat hook with rubber bumper; one for each compartment, mounted on door.
    b. Fabricate door strike and keeper from stainless steel, with wraparound flange, surface mounted and thru-bolted to pilaster.
    c. Fabricate door latch housing from stainless steel, surface mounted and thru-bolted to door.
    d. Slide bolt and button to be stainless steel, with black finish.
    e. Accessible stall door to be equipped with a slide latch that does not require gripping or twisting and shall be slotted to permit emergency access.
    f. Provide door pull for out-swinging doors (typical); provide two door pulls (one each side) at accessible compartments to comply with ADA requirements.
    g. Provide wall stop at out-swinging doors where applicable.
    h. Provide metal heat sink at bottom of doors and partitions

11. Installation:
    a. Toilet compartment partitions shall be floor-mounted, overhead braced, with non-corrosive panels and pilasters as in 'Sierra Series" partitions manufactured by Bobrick Washroom Equipment.

    b. General: Comply with manufacturer's written installation instructions. Install unit's rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

    c. Installation shall be per manufacturer's Instructions and Professional's approval.

24.3– SUBMITTALS

Submit a catalog cut and other manufacturers information for all toilet accessories, fiberglass reinforced wall panel system, and ceiling hatch to the PGC for review and approval before ordering any materials. Refer to submittal specification section for submission requirements

24.4 – PROCEDURE

Install all incidentals and building components in accordance with the manufacture’s product specifications, applicable 2018 International Building Code provisions, and shop drawings. Comply with ICC/ANSI A117.1 guideline for mounting heights and locations of all toilet accessories and grab bars.

24.5 – MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all incidental building systems and components including toilet accessories, Fiberglass reinforced wall panel system, and ceiling hatch as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 25 - SEEDING

25.1 - SCOPE

This work is securing a satisfactory stand of grass at all disturbed earth areas and includes preparation of the seed bed, furnishing and placing lime and fertilizer, furnishing and sowing of seed, mulching, and maintaining and tending the seeded areas. Do not seed areas (parking area and driveways) that are shown to be surfaced by stone by the PGC. The limits of the parking area and driveways will be staked out by the PGC during building construction.

25.2 - APPLICABLE ACTS AND PUBLICATIONS

Bulletin 15 - Approved Construction Materials, Pennsylvania Department of Transportation.

Pub 408. - Specifications, Pennsylvania Department of Transportation.

25.3 - MATERIALS

A - Grass Seed - Use grass seed conforming to section 804.2(b) of Pub. 408 and consisting of the following seeds and application rates.

Formula L	Max. % Weed	Purity% (Min.)	Germination % (Min.)	Seed Rate (Lbs./Acre)
Hard Fescue mixture (Festuca longifolia) A combination of improved certified varieties with no one variety exceeding 50%.	0.15	98	85	63
Creeping Red Fescue	0.15	98	85	41
Annual Ryegrass (Lolium Multiflorum)	0.15	98	90	12
Total Lbs./Acre				116

***** No seed shall contain Canada Thistle, Field Bindweed, Johnson Grass, Perennial Sowthistle, Quackgrass, Horse Nettle, Bedstraw, Corncockle, Brassica Kaber, Brassica Nigra, Wild Onion, or Wild Garlic.

With the approval of and at no additional cost to the Game Commission, you may add annual ryegrass seed to the mixture to secure a cover crop.

Seed shall be furnished fully tagged and delivered by separate varieties, separately packaged or bagged. Mix seed in the presence of a representative of the Game Commission.

Deliver premixed seed in bags or other suitable containers, each fully labeled with the name, trademark, and warranty of the producer and with the mixture type, weedseed percentage, purity percentage, germination percentage, and mix formula or composition. Do not use seed which has become wet, moldy, or otherwise damaged in transit or storage, has a mix date older than 9 months prior to seeding, or has a test date older than 6 months prior to seeding.

B - Fertilizer - Fertilizer shall conform to the applicable act specified in Section 31.2 of these Technical Specifications. Use dry formulation of 10-20-20-analysis.

Fertilizers shall be delivered in bags or other suitable containers, each fully labeled and bearing the name, trademark, and warranty of the producer.

C - Lime - Conform to section 804.2.(a).1 of Pub.408.

D - Mulches - Mulches shall be free from mature seedbearing stalks or roots of prohibited or noxious weeds as defined by law. Do not use mulches which are cut into lengths of less than 6 inches.

Mulches shall be either one or a combination of the following, shall contain no stems of tobacco, soybeans, or other coarse or woody materials.

1. Hay - Timothy hay, mixed clover and timothy hay, or other approved native or forage grasses, well-cured to less than 20 percent moisture content by weight.

2. Straw - Either wheat or oat straw, and reasonably free of viable seeds, well-cured to less than 20 percent moisture content by weight.

3. Wood Fiber - Use wood fiber meeting the requirements of Section 805.2(a).1.c of Pub. 408.

4. Pellet Mulch -. Use pellet mulch meeting the requirements of Section 805.2(a).1.d of Pub. 408.

E - Mulch Binders - Use one of the following mulch binders in accordance with section 805.2(b) of Pub. 408: Recycled Cellulose Fiber, Wood Fiber, Nonasphaltic Emulsion, Polyvinyl Acetate, or a Mixture of Recycled Cellulose Wood Fiber and Wood Fiber Obtain binders from a producer listed in Bulletin 15.

F - Water - Water shall be fresh and free from injurious amounts of oil, acid, alkali, salts, or other materials harmful to the growth of grass.

20.4 - PROCEDURE

Follow the procedures specified below. The amounts of seed, lime, fertilizer and mulch specified are the minimum acceptable. The Game Commission may, at its own expense, test the soils to determine if any modifications to the seed and soil requirements are necessary. Employ such modifications if they are deemed necessary, at no additional cost to the Game Commission, and accept full responsibility for obtaining a satisfactory stand of grass.

A - Preparation of Seed Bed by Shallow Tilling - After the areas to be seeded have been graded and approved by the Game Commission, thoroughly till the surfaces to a depth of 3 inches by raking, harrowing, or other approved means. Apply fertilizer and lime at a rate of 680 Lbs. and 4,000 Lbs. per acre respectively, and make sure that they are worked thoroughly into the soil to a depth of 3 inches and the tillage operations are sufficient to insure that the soil conditions are satisfactory for seeding. Smooth and bring the area to grade. Immediately prior to sowing, rake the soil to a depth of 3/4 inch. Rake in a direction parallel to the contour lines on the slope, and not uphill or downhill. Remove all sticks, stones, weeds, roots, and other objectionable materials appearing on the surface. Maintain the surface in a true and even condition during sowing of seed.

B - Sowing - Sow the seed mixture on a still day at a rate specified in Section 31.3 of these Technical Specifications. Sow by hand or by approved sowing equipment in 2 applications, one-half the seed while the seeder is traveling in one direction and the other half while the seeder is traveling at right angle to the first direction. After sowing, rake, cultipack, or brush drag the surface very lightly, just deep enough to cover the seeds. Rake only in a direction parallel to the contour lines.

You may use hydroseeding or grain drilling, provided all methods and equipment are approved by the Game Commission. In case of hydroseeding, you may apply fertilizer and limestone at the time of sowing. In case of grain drilling, you may apply fertilizer at the time of sowing, provided the fertilizer does not come in contact with the seed. Drill only in a direction parallel to the contour lines.

Do not sow seed on frozen or partially frozen ground.

C - Mulching - After sowing is completed, spread mulch uniformly over the entire seeded area at a rate of 3 tons (dry weight) per acre. The mulch shall be moist at the time of placement.

Apply wood fiber mulch hydraulically in accordance with the manufacturer's tank-mixing instructions. Wood fiber mulch may be incorporated into the slurry after the seed and soil supplements have been thoroughly mixed. Apply wood fiber mulch at a rate of 800 Lbs. per acre unless otherwise indicated by the manufacturer.

On slopes 6:1 or flatter, apply pellet mulch by hand or using a mechanical spreader immediately after seeding, at a rate of 2,615 Lbs. per acre. Thoroughly wet pellet mulch with water without dislodging mulch.

To prevent loss or bunching by wind and to form a soil-binding mulch, anchor the moist mulch to the soil with a mulch binder. Use mulch binders at the following rates:

Recycled Cellulose Fiber - 775 Lbs./Acre
Wood Fiber - 775 Lbs./Acre
Mixture of Recycled Cellulose Fiber and Wood Fiber - 775 Lbs./Acre
Nonasphaltic Emulsion - Manufacturer's Recommended Rate
Polyvinyl Acetate - Manufacturer's Recommended Rate

On slopes where machinery cannot be used, retain the mulch in place by some suitable means which will not be detrimental to subsequent operations.

20.5 - MAINTENANCE

At no additional cost to the Game Commission, maintain the seeded areas until all work under the Contract has been completed and accepted by the Game Commission. Maintenance shall include refilling rain-washed gullies, reseeding, reapplying fertilizer, lime and mulch, and removal of large and noxious weeds, as directed by the Game Commission.

20.6 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for all seeding including soil amendments and stabilization of all distributed soils on site as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 26 – HEATING SYSTEM AND DUCTWORK ***Separation of Contract, to be awarded separate*** **with "Contract 2".**

26.1 - SCOPE

This work is providing and installing the heat pump, air handler, ductwork, registers, and grilles that make up the new building's heating and air-conditioning system.

26.2 – MATERIALS

A. Heat Pump and Air Handler – Bosch Heat Pump BOVA-060-HDN1-M18M outside condenser unit with BGH96M100C5B, propane gas, air handler/furnace and BMAC4860CNTF case coil or an approved equal with the following characteristics.

1. 5-ton, Inverter Ducted System
2. All materials and workmanship to be guaranteed for one year from date of installation. Manufacturer's 5-year warranty on functional parts & compressor.
3. Minimum 17 SEER and 9.5 HSPF
4. 2-stage gas valve and multi-speed blower.
5. Inverter Ducted Split Face Coil.
6. Outdoor unit is to be equipped with snow legs
7. Outdoor unit is to be installed on composite, formed or precast concrete pad

B. Thermostat – Bosch BCC100 Wi-Fi Thermostat or an approved equal.

C. Ductwork – To be sized and installed from the requirements and procedures of SMACNA. Metal ductwork to meet or exceed UCC code requirements. All supply ducts to be insulated as per code. Supply duct take-offs to be equipped with integrated dampeners capable of balancing the system.

D. Hanger Rods and Supports – Cadmium plated steel rods and nuts with Unistrut cross bar members.

E. Grills and Registers – Steel with baked white enamel finish.

26.3 - PROCEDURE

Conform to the manufacturer's requirements when installing the heat pump, air handler and other components of the heating system. The drawings show the suggested size, location and layout of the ductwork and grilles/registers for each room in the building. Layout can be modified if air flows and system performance can be maintained. Mount ductwork with the applicable hardware.

Install the thermostat in the break room/office. Make the required electrical connections to operate the system. Test the HVAC system and make any necessary balance adjustments in the ductwork. Demonstrate system to PGC on site staff.

Discharge the condensate line outside the exterior of the wall and properly seal the penetration with a weather-tight sealant.

26.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for HVAC systems, ductwork, duct insulation and all related accessories including a thermostat as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 27 – PLUMBING
***Separation of Contract, to be awarded separate* with "Contract 3".**

27.1 - SCOPE

This work is providing and installing the components of the water supply and sanitary sewer systems inside the building. Connections to the water well supply, existing on-site septic tank, trench drains, mechanical room floor drain, piping for these drains and fittings are part of this contract. The well pump, tank, piping and electric for well pump shall be included in this contract. The well will be on a separate contract.

27.2 – MATERIALS, WATER SUPPLY & FITTINGS

A. Water Supply Pipe - The water supply (hot and cold) pipes shall be non-oxygen barrier PEX-A (cross-linked polyethylene) conforming to ASTM F876, ASTM F877 and NSF 14 & 61 or type "L" copper. Provide type "L" copper leads to connect water heater to PEX plumbing systems, 18" minimum from water heater.

B. Water Supply Fittings and Valves – Install fittings and clamps conforming to the PEX manufacturers product specifications. All fittings and valves shall be brass body per manufacturer. Hose bibbs to be brass anti-siphon frost proof with shut off valve mounted above.

C. Waste and Vent Pipe and Fittings – Schedule 40 PVC conforming with ASTM D1784, D1785 and D2665.

D. Pipe Cements – The solvent cement for making connections in PVC pipes and fittings shall conform to ASTM D2564. The primer for making connections in PVC pipes and fittings shall conform to ASTM F656.

E. Pipe Insulation – Self sealing elastomeric sleeves conforming to ASTM C534.

F. Supply Lines to Faucets and Toilets – Flexible braided stainless steel.

G. Shower Valve and Head – Residential grade compatible with water supply piping.

H. Water Supply Service Pipe – The water supply service line from the well to the new building water supply system may be HDPE piping approved for drinking water.

I. Submersible Well Pump – The well pump shall provide 600 GPH minimum of drinking water from 175'-250' deep well with a range of 9 GPM to 11GPM depending on well depth. Well pump shall be constructed with stainless steel complainants, include all fittings, adaptors, ABS piping, direct burial electrical conductors and plumbing hardware for proper installtion.

J. Tank – Well X Trol 203 10-gal Drawdown Tank

K. Tank Shelf (see Drawing Isometric) – Pressure Treated Perimeter Nailers/Supports (Painted white) with 3/4" PVC trim boards as a shelf material (similar products accepted with approval)

L. Tank Cross Kit – 1" Brass Barb, Check Valve, Ball shut-off Valve, Drain, Pressure Relief Valve, Presser Gauge, Pressure Switch with 3" riser

M. Wire – Direct bury 10/3 AWG solid copper wire, sunlight resistant, RoHS complaint, UL Listed E-123776

N. Miscellaneous – Pitless Adaptor, Fittings, stainless steel clamps, Torque arrestor and all items needed to install water system.

O. Trench Drains – The trench drains in the bays shall be 48" long NDS Dura Slope DS-091 or an approved equal. The trench drains are to be 3" lower than finished floor elevation with concrete sloped from the perimeter to the drains. The drains shall have a heavy-duty steel grate capable of supporting vehicles and/or heavy equipment. Furnish and install a new six inch thick 4,000 lb. Class A concrete subbase beneath trench drain extending 6" either side of trench drain.

P. Floor Drain – The floor drain in the mechanical room shall be a 3-inch PVC general purpose floor drain equipped with a removable stainless-steel strainer such as an Oatey Model #43579.

27.3 – MATERIALS, PLUMBING FIXTURES

A. General – Refer to the elevations and fixture legend on the drawings for the layout of the bathroom and fixture installation location. Manufacturers and model numbers of fixtures are listed below to set a standard for performance, size and finish. Other manufacturers are acceptable provided that their products are the same or better level of quality.

B. Toilet – KOHLER Highline 2-piece Comfort Height Elongated Toilet (MFG# K-3493-RA-0) or approved equal meeting the following requirements.

1. White vitreous china construction
2. Elongated bowl and min. bowl rim height of 17" (ADA compliant)
3. Include or supply tank hardware, wax ring and elongated polypropylene finish white toilet seat
4. Pressure assist flushing system (1.4-gallon flush)
5. 12-inch rough-in

27.4 – MATERIALS, PLUMBING SINKS, AND FAUCETS

A. General – Refer to the elevations and fixture legend on the drawings for the layout of the utility sink and cabinets. Manufacturers and model numbers of fixtures are listed below to set a standard for performance, size and finish. Other manufacturers are acceptable provided that their products are the same or better level of quality.

B. Bathroom Sink – American Standard Comrade Wall Mount Bathroom Sink (MFG# 0124.024.020) or approved equal meeting the following requirements.

1. White, vitreous china construction
2. Pre-drilled 4" center faucet holes for center set faucet applications
3. Wall hanger for mounting included
4. ADA compliant
5. Rectangular shape, min. width 21", min. depth 18"

C. Bathroom Sink Faucet – American Standard Monterrey Gooseneck Spout Bathroom faucet (MFG# 7502.170.002) or approved equal meeting the following requirements.

1. Polished chrome finish
2. 4" centerset design
3. 2 handle lever design
4. Gooseneck spout (10" min. height)
5. ADA compliant

D. Utility Sink – Swan 23" x 23" Veritek Single Bowl Laundry Tub (MFG# MF-1F) or approved equal meeting the following requirements.

1. White, 22-gallon capacity
2. Angular steel legs

E. Utility Sink Faucet – American Standard Cadet 2-Handle Laundry Faucet (MFG# 7573.140.002) or approved equal meeting the following requirements.

1. Solid brass construction with Satin finish
2. Ceramic disk valves
3. Brass swivel spout with hose end
4. 2.2 GPM flow rate
5. ADA compliant

F. Break Room Faucet – American Standard Colony Soft Gooseneck Spout faucet (MFG# 4275.550.002) or approved equal meeting the following requirements.

1. Polished chrome finish
2. 4" centerset design
3. 2 handle lever design
4. Gooseneck spout (10" min. height)
5. ADA compliant

G. Break Room Sink – Kohler Staccato Stainless-Steel single-basin commercial sink (Model# 3363-3-NA) meeting the following requirements.

1. Single bowl 20-inch width
2. 8-inch depth
3. Sound-absorption material applied
4. 18 gauge

27.5 – MATERIALS, WATER HEATER

A. Water Heater – The water heater shall be an electric water heater with the following features and characteristics:

1. AO Smith 40-gallon tank, short and 240 volts
2. Dual 5,500-watt copper, stainless or titanium elements
3. Minimum 9-year warranty on the tank
4. Minimum 25 GPH recovery @ 90°F
5. Factory installed temperature/pressure relief valve
6. Adjustable thermostat

B. Drip Pan – Black plastic (polyethylene) with pre-cut side opening for 1-inch drain fitting. The diameter of the drip pan shall be at least 2-inches greater than the outside diameter of the water heater. Raise drip pan and heater with suitable blocking to aid in draining the tank.

27.6 - SUBMITTALS

Submit a catalog cut or other information for the utility sink, faucet, cabinets, light and countertops from the manufacturers to the PGC for review and approval before ordering any materials.

27.7 - PROCEDURE

Conform to the requirements of the International Plumbing Code for all work conducted under this section. Lay out supply, waste and vent pipes so that structural supports do not have to be cut or drilled through. Use applicable hangers/supports for all pipes where needed.

Install electrical wire and water supply to existing well casing, provide pitless adaptor in well casing and connect all water supplies and wire feeds to appropriate locations for well assembly. Provide AASHTO #10 aggregate for water supply bedding. Construct a corner shelf above the water heater location capable of supporting the pressure tank. Provide pressure tank and all fixtures to make the water supply completely functional. Assemble the tank and features so that the system operates on a 40/60PSI range. Circuit breakers in panel box are provided by the electrical contract.

Install ¾-inch pipe from well shut off as a branch line to the water heater and ½-inch connection for the faucets, shower and toilet. Install shut-off valves in the supply piping at the sinks and at the toilet. Install flexible stainless-steel supply pipe from the shut-off valves to the faucets and toilet. Cover the hot water supply pipes with sleeve insulation.

Waste and vent pipes shall be PVC. Use 1½-inch PVC for sink drains. Use 2-inch and 3-inch pipe for vents as shown on the sewage schematic. Use 3-inch PVC for the toilet drain and 4-inch PVC for the sewer lateral drainpipe that exits from the building. Install the applicable traps, toilet flanges and other fittings connections under plumbing fixtures. Excavate outside the building to run the sewer pipe and provide a conduit for the water supply to enter under the building slab. Excavate the trench as shown on the Drawings. The trench depth will vary with the existing ground level and the slope of the pipe. The pipes shall be sloped at a minimum ¼-inch per foot. Install the solid drainage pipe in the trench and backfill with AASHTO #10 stone. Complete backfilling of the trench with excavated material outside the building and #2A coarse aggregate under the floor of the building.

Excavate the trench drain areas as recommended by the manufacturer so the units can be surrounded by at least 6-inches of concrete. The top of the trench drains is to be below the finished elevation of the concrete floor to properly drain. Protect the trench drains during concrete placement so that concrete does not enter the units. Secure the trench drains so that they are not displaced during concrete operations. Use essentially the same procedure for installing the floor drain in the mechanical room.

Connect sewer to holding/sewer tank. Install alarm according to manufacturer guidelines and recommendations.

27.8 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation to furnish and install new plumbing fixtures, sinks, shower cabinet, water closet, well pump and tank, domestic water and sanitary sewer branch plumbing piping systems, hot water heater, hose bids, trench and floor drains specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 28 – LIGHTING AND ELECTRIC POWER DISTRIBUTION
***Separation of Contract, to be awarded separate* with "Contract 4".**

28.1 - SCOPE

This work is furnishing and installing all the normal and emergency power lighting fixtures with controls, electric power distribution systems wiring and devices for the new building as shown on the Drawings. This work includes installing all over-current protectors within the 200-amp electrical service panel and installation of the telephone and data lines from the office to the mechanical room and office.

28.2 – GENERAL

The drawings are indicative of the character and scope of the electrical work and are not intended to show all the details. The actual location of all wiring, outlets and equipment shall be determined at the site. The Contractor may install flush mount or recessed boxes in the heated bay on the FRP walls.

All work shall be manufactured, tested and installed accordance with the National Electric Code (NEC) 2005, the International Building Code (IBC) 2015 and all applicable local codes. The Contractor shall furnish a fire underwriter's certificate of inspection covering the work installed under this specification.

28.3 – MATERIALS

A. Circuit Panel Box – The circuit panel box shall be dead front design complying with NEMA PB 1 and be circuit breaker type. Panel-board bus shall be copper with copper ground bus. The enclosure shall be NEMA PB 1, Type 1 with a surface type cabinet front, screw fastened cover with hinged door and flush lock. Finish color is standard gray enamel. Provide a 42-space minimum panel box (200-amp service) for the new building. Acceptable manufacturers are Siemens, Cutler-Hammer, Square-D or General Electric. No Homeline will be accepted.

B. Circuit Breakers – The circuit breakers are molded case circuit breakers conforming to NEMA AB 1, stab lock design. Circuit breakers must be equipped with integral thermal and instantaneous magnetic trip in each pole. Provide circuit breakers UL listed as Type SWD for lighting circuits. Do not use tandem circuit breakers. Acceptable manufacturers shall be Siemens, Cutler-Hammer, Square-D or General Electric. No Homeline will be accepted.

C. Wire – Metal Clad type MC AWG #6 through #12 wire with ground. Wire must be in rigid conduit where exposed and where drops occur down along building posts.

D. Outlet and Junction Boxes – Metal or PVC for surface or recessed mounting only in the heated bay and outside of the building. Provide closures for unused ports and waterproof covers for outside receptacle boxes. PVC "New Work" boxes can be used in walls.

E. Outlets and Switches – Rated for 20 amps (or more if required by equipment manufacturer), 120/277 and as manufactured by Hubbell, Bryant, Arrow-Hart, GE, P&S or Leviton. Light switches in the "break room, restroom and utility room" are to fitted with motion sensing switches. Where 3-way switches are found, install the motion sensing switch in the location that best scans the area.

F. Lighting Fixtures – The lighting fixture schedule is shown on the drawings.

G. Bulbs – Install the maximum wattage as recommended by the lighting fixture manufacturer.

H. Conduit – All exposed wiring shall be in conduit. Conduit shall be Schedule 40 PVC rigid non-metallic conduit conforming to NEMA TC-2 and UL651. Conduit fittings shall conform to NEMA TC-3 and UL514b. MC cable may be used in unheated storage bay area if desired.

I. Exhaust Fan – Nutone Model # HD110NT, 110 CFM exhaust fan or approved equal with the following characteristics. Furnish and install 4" dia. metal flexible duct with 90-degree metal elbow including wall cap with connector duct for side wall discharge. Provide stainless steel anchors, silicone sealants, foil duct tape, and all hardware required for installation in accordance with product specifications.

1. Permanently lubricated motor, resilient motor mount to isolate vibration
2. Steel with white finish
3. UL listed and HVI certified for safe use over showers
4. Ceiling mount with galvanized steel housing.
5. Match the ductwork and louvered end cap to the exhaust fan capacities.

28.4 - PROCEDURE

The installation of every component in the electrical system must be performed according to the National Electric Code (NEC).

Mount the circuit panel box and outlet boxes for the lighting fixtures, equipment power supplies and receptacles in the locations as shown on the Drawings.

Drill holes in the lumber wall framing to run wiring as necessary to all fixtures, equipment, and outlet locations. Use conduit in the heated and not heated bay areas of the building where wiring would be exposed. Secure the conduit with clamps approved by the manufacturer. Conduit must be extended and connected to all the outlet boxes. Use solvent cement for all conduit joints and connections. Pull wire through conduit without stripping insulation from the wires.

Install the light fixtures, switches and receptacles in the outlet boxes. Make the required conductor and ground connections. Install the light bulbs in the fixtures.

Trench for the electrical service from the existing service pole to the new building. Telephone and data lines to be installed from the office to the mechanical room. The tele/data lines from the pole will be installed by others in contractor provided conduit. Contractor may use same trench if maintain required separation.

28.5 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for the installation of a new lighting fixtures and controls and electrical power distribution systems wiring and devices as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION No. 29 – ELECTRIC POWER SUPPLY CONNECTION
***Separation of Contract, to be awarded separate* with "Contract 4".**

29.1 - SCOPE

This work is furnishing and installing a new underground 200-amp electric service from a new pole location to the Wildlife management Area Building. This work includes installing a 200-amp main electrical distribution panel along with a 200- amp service disconnect.

Furnish and install new electrical conductors in conduit with expansion joints including all electrical accessories for new underground electrical circuitry from the New Crew Building to the existing storage building, new water pump, signal cabling from existing septic tank and existing ATS above ground fuel pump and monitoring systems. All underground electrical circuits shall be installed in full compliance with the NEC. This work shall include all rough and final wiring required for connection of new circuitry to existing electrical sub-panel and fuel dispensing and monitoring equipment.

29.2 – MATERIALS

A. Conduit – Conduit shall be 3-inch minimum Schedule 80 PVC w/expansion joint and securing straps where needed. Any sweep elbows to be 36" minimum.

B. Service Conductor – Three conductor 4/0 aluminum and/or electric provider approved. Comply with underground service detail on Drawing E-1. Electrical Contractor furnish and install new electrical service cabling and conduit from utility ground mounted transformer to new meter base.

C. Meter Socket – The meter socket shall be a self-contained, outdoor type, weatherproof construction, UL listed with a painted finish enclosure. The meter socket shall be mounted to electric company specifications and to have the following features.

1. 4 terminal, ring-less, socket suitable for plug-in meter
2. Approximate physical dimensions: 11.0"W x 15.5"H x 4.5"D

D. Grounding Rods – 8-foot long grounding rod(s) and connecting cable

E. Warning Tape – Complies to NEC 300.5(D)3.

F. Conduit Bedding – AASHTO #10 stone; refer to section 5 of the Technical Specifications.

23.3 - PROCEDURE

The PGC will have a work order number with the Electric Company (WPP). Please notify them and PGC representatives three weeks prior to when the electric service connections will be made to schedule time to install and energize the electric lines. The PGC will contact and

pay any fees (if any) for an electrical inspector to certify that the meter socket/associated work meet the electric company's requirements.

The Contractor is responsible for installing electrical components for the new overhead electrical service including, service entrance conductors, grounding rod(s), meter socket, mask, and the accessories associated with this work from the pole. In certain circumstances, the electric company mandates the conductors to be installed by their service technicians at no cost or a varying cost based on linear feet of wire.

The contractor is responsible for providing a conduit and conductors from the panel box, through the building envelope into the adjacent storage building to a previously installed subpanel. The contractor is responsible for making all electrical connections.

All conduit is to be trenched to meet building code depth to a minimum of 3' deep and bedded in AASHTO #10 aggregate.

29.4 - MEASUREMENT AND PAYMENT

This price and payment shall constitute full compensation for the installation of a new overhead electrical service connection and supporting electrical service electrical gear and components to the building, including all new underground electrical circuitry supporting site electrical requirements as specified and shown and as directed by PGC staff including but not limited to all labor, materials, equipment, supervision, accessories, disposal of waste and related work.

A. Unit of Measurement: Lump Sum.

TECHNICAL SPECIFICATION SECTION NO. 30 – SEPTIC SYSTEM

30.1 - SCOPE

This work is providing and installing the septic tank and alarm system that comprise the septic system as shown on the Drawings.

30.2 – MATERIALS

A. Septic Tank(s) – Precast concrete with a capacity and the following characteristics and features:

1. Concrete strength is 4,000 psi (min.) at 28 days.
2. Reinforcing steel is grade 60 conforming to ASTM A615 and ASTM A185.
3. Capable of supporting HS-20 traffic loading.
4. 12-inch minimum riser with manhole cover.
5. Manhole is 24-inch diameter
6. Mastic sealed joints.
7. 4-inch diameter inlet penetration.
8. Outside face sprayed with a bituminous protective coating.
9. Dual tanks should be designated as 60/40% capacity. Diaphragm baffles shall have gas baffles.
10. The access lids shall be equipped with a 20” minimum diameter with a cast steel lid. All intakes and discharges shall have baffles sealed with elastomeric, asphaltic or similar impermeable material.

B. Alarm System – The alarm system shall be an electric float sensing system with a warning light and buzzer. The alarm shall be calibrated to go off when the tank reaches 90% capacity. All wiring, float sensors are to be included in a complete alarm system.

C. Effluent Filter – The tank effluent filter shall be constructed with SDR-35 or Schedule 40 housing. It shall be capable of filtering 1,500 gallons per day with a minimum of 2.44 SFT of 1/16” filteration area. The housing shall have a molded-in gasket and gas baffle.

D. Effluent Pump – The effluent pump shall be 1/2 HP and have capacity to pump 60GPM with a 1 Meter head pressure and 10GPM with a 8 Meter head pressure. The pump components shall be constructed of cast body and capable of handling ¾” diameter solids.

E. Aggregate Bedding – The bedding for the precast concrete holding tank shall be #2A coarse aggregate. The bedding for the pipe running to the holding tank shall be AASHTO #10.

D. Pipe – Schedule 40 PVC conforming to ASTM D1784 and ASTM D1785. SDR 35 conforming to ASTM D 1784 for material of pipe, ASTM D 3034 for stiffness and ASTM D 2564 for solvent cements.

30.3 - SUBMITTALS

Submit a catalog cut or other information for the holding tank and alarm system from the manufacturers to the PGC for review and approval before ordering any materials.

30.4 - PROCEDURE

Mark the location of the septic tank as shown on the drawings. Excavate to a depth so that the holding tank lid has at least 12-inches of earth cover. The limits of excavation shall be 12-inches outside the edges of the tank(s). Place a minimum base of 4-inch layer of #2A coarse aggregate in the bottom of the hole to serve as a foundation for the tank. Smooth and compact the aggregate to form a level even support surface for the holding tank.

Place the septic tank into the excavated hole. Seal the joints in all tank sections. Backfill around the tank and compact. Connect the sewer pipe from the building to the septic tank. Install the alarm system according to the manufacturer's instructions. Backfill over the tank and install the manhole cover on the riser.

30.5 - MEASUREMENT AND PAYMENT

Lump Sum. Separate measurement and payment for excavation, aggregate bedding, compacted backfill and piping according to the applicable sections of the Technical Specifications.