



**Contract / Bidding Information**

for

**Units 115-116 Conversion - 2020**

for

**Pawnee City Housing Authority**

**418 11th Street**

**Pawnee City, Nebraska 68420**

**November 5, 2020**

**Pawnee City Housing Authority**  
**Units 115/116 Conversion - 2020**

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Note: Drawings and manufacturer information, if provided, are at the end of the bid packet.

**Pawnee City Housing Authority**

**Units 115/116 Conversion - 2020**

**NOTICE TO BIDDERS**

Proposals from contractors will be received by the Board of Commissioners, Pawnee City Housing Authority, Pawnee City, NE 68420 until 3:00 p.m., CST, on Tuesday November 24th, 2020 for the remodel of units 115 & 116, converting the two apartments into a single apartment. The work is to take place at the Pawnee City Housing Authority located at 418 11<sup>th</sup> St., Pawnee City, Nebraska. A single contract will be awarded for the requested work. The project is to be constructed in accordance with the plans and or specifications as prepared by Pawnee City Housing Authority. All bids received in accordance with the afore mentioned date and time will be considered by the Housing Authority.

A single prime bid is requested for this work.

All sealed proposals shall be delivered to Mr. Anthony Nussbaum, Executive Director, of the Pawnee City Housing Authority, 418 11<sup>th</sup> St., Pawnee City, Nebraska or submitted electronically at <https://ha.internationaleprocurement.com/>.

Specifications may be examined at and obtained from the office of the Executive Director, of the Pawnee City Housing Authority, 418 11<sup>th</sup> St., Pawnee City, Nebraska. Specification can also be view online at <https://ha.internationaleprocurement.com/>

This project is open to receive proposals from HUD Section 3 individuals / businesses. HUD Section 3 requirements and submittal forms are available at the office of the Housing Authority Director.

All proposals shall be submitted on forms issued by the Housing Authority and any other form of proposals will not be considered.

The successful contractor will be required to furnish corporate surety, performance bonds in a sum equal to 100 percent of the contract price as proposed, in accordance with H.U.D. requirements.

Each bid shall be accompanied by a bid bond or certified check in an amount equal to five percent (5%) of the bid.

No bidder may withdraw for at least thirty (30) days after the scheduled closing time for the receipt of bids.

The construction shall be based on the equipment and materials as specified. Any and all requests for change in materials, systems, etc. shall require prior approval from the Owner.

The Housing Authority reserves the right to reject any or all bids and to waive any or all formalities in any proposal and to award the contract to the lowest responsible bidder. The Housing Authority Board will vote on the acceptance of a contractor's bid at a later time from the bid opening and the bidding contractors will be notified of their bid's status thereafter.

Executive Director  
Pawnee City Housing Authority

**Pawnee City Housing Authority**

**Units 115/116 Conversion - 2020**

**BID FORM FOR LUMP SUM CONTRACT**

Place \_\_\_\_\_

Date \_\_\_\_\_

Project No. \_\_\_\_\_

Proposal from  (Name of Business) \_\_\_\_\_ (hereinafter called "Bidder")

a \_\_\_\_\_ corporation, partnership or individual.  
(Name of State the Business is From)

Proposal to the Housing Authority (hereinafter called "Owner").

The Bidder, in compliance with the Notice to Bidder, having received and familiarized themselves with the site of the proposed work, the conditions surrounding the proposed project including the availability of materials and labor and the following documents (hereinafter called "Contract Documents"):

- |                                  |                                    |
|----------------------------------|------------------------------------|
| Notice to Bidder                 | Form of Non-Collusive Affidavit    |
| Instructions to Bidder           | Statement of Bidder Qualifications |
| General Conditions               | Contract Form                      |
| Supplementary General Conditions | Notice to Proceed                  |
| Specifications & Drawings        | Certificate of Completion          |
| Certificate and Release          | Performance Bond and Payment Bond  |

Bidder hereby proposes to furnish all labor, materials, tools, equipment, and incidentals required to complete the project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below. This price is to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in the written Notice to Proceed, provided by the Owner and to fully complete the project within the time allotted in the "Specification" section of this bid packet. A two hundred dollar (\$200.00) per day penalty will be imposed by the Owner for all work extending past the time allowed.

Bidder agrees to perform the work and supply all of the labor and materials to complete the work for the base bid, described in the specifications for the sum of:

\_\_\_\_\_ dollars (\$ \_\_\_\_\_).

Addendum Receipt: Receipt of the following Addendum to the Contract Documents is acknowledged:

Addendum No \_\_\_\_\_ Dated \_\_\_\_\_

Addendum No \_\_\_\_\_ Dated \_\_\_\_\_

Bidder understands that the Owner reserves the right to reject any and all bids and/or to waive any informalities in the bidding and to award the contract to the lowest responsible bidder.

Bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 calendar days after the scheduled closing time for receiving bids.

A formal contract will be executed within 10 days of written notice of acceptance of this bid. For all Contracts over \$25,000.00, the Bidder is required to furnish a performance and labor and material payment bond each in the amount equal to 100% of the contract price.

Bidder understands that they are prohibited from placing a lien on the Owner's property.

Bidder will provide a Bid Guarantee of 5% of the amount of the base bid and alternate bid that shall be a certified check, bank draft, U.S. Government Bond at par value, or a bid bond secured by a surety company authorized to do business in the state of Nebraska. The bid guarantee attached in the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_) is to become the property of the Owner in the event the contract and bond are not executed within the time set forth above, as liquidated damages for the delay and additional expenses to the Owner caused thereby.

Submitted by: \_\_\_\_\_  
Signature Title Date

Business: \_\_\_\_\_  
Name Address City State Zip Code

**Pawnee City Housing Authority**

**Units 115/116 Conversion - 2020**

**INSTRUCTIONS TO BIDDER**

AIA Document A701, Instructions to Bidders, 5th edition, 1997. Contractors unfamiliar with the terms and requirements of this document will be furnished a copy upon request.

**GENERAL CONDITIONS**

The General Conditions of this Contract are the AIA Document A201, General Conditions of the Contract for Construction, 15th edition, 1997, hereinafter referred to as the "AIA General Conditions." Contractors unfamiliar with the terms of these General Conditions will be furnished with a copy upon request.

**SUPPLEMENTARY GENERAL CONDITIONS**

1. The Supplementary General Conditions contain changes and additions to the AIA General Conditions where any part of the AIA General Conditions is modified or voided by the Supplementary General Conditions. The unaltered provisions shall remain in effect.
2. Modification to articles of the General Conditions:

**ARTICLE 8 - Time**

Change paragraph 8.1.2 to read as follows:

8.1.2 The Contractor shall commence work under their contract within five (10) days of written notice to proceed and shall substantially complete the entire project within the time allotted in the "Specification" section of this bid packet. A two hundred dollar (\$200.00) per day penalty will be imposed by the Owner for all work extending past the time allowed. "Substantial Completion" shall be as defined in paragraph 8.1.3.

**ARTICLE 9 – Payments and Completion**

Add paragraph 9.3.4 as follows:

9.3.4 The Owner will make payments on account of the contract as follows:

Ninety percent (90%) of the value, proportionate to the amount of the contract, of labor and materials incorporated in the work and material on the premises, at approximately 30-day intervals, as estimated by the Owner, less the aggregate of previous payments. On a substantial completion of the entire work, a sum will be paid in the discretion of the Owner, and the final balance will be paid upon final completion of the work and issuance of the final certificate by the Owner.

**ARTICLE 11 – Insurance and Bonds**

Change paragraph 11.4.1 to read as follows:

11.4.1 Before commencing the work, the Contractor shall pay for and furnish a Performance Bond, and labor and material payment bond, each in the amount equal to 100% of the contract price. Such bonds are to be executed on AIA Document 312a, December 1984 edition, by a corporate surety company licensed by the State of Nebraska to issue such bonds, and acceptable to the Owner.

Add to paragraph 11.1.4 as follows:

11.1.4 Each prime Contractor shall take out and maintain during the life of the Contract, insurance of the kinds as set forth in the Certificate of Insurance form set forth on the following page (AIA Document G-715) and shall furnish to the Owner the executed copies of such Certificates giving evidence of the coverage.

### **CONTRACT FORM**

AIA Document A101-1997, Standard Form of Agreement Between the Owner and Contractor where the basis of payment is a STIPULATED SUM. Contractors unfamiliar with the terms and requirements of this document will be furnished a copy upon request.

**Pawnee City Housing Authority**

**Units 115/116 Conversion - 2020**

**SPECIFICATIONS**

**DIVISION 1 - GENERAL REQUIREMENT**

**SECTION 1010 SUMMARY OF THE WORK**

1. Converting Units 115 & 116 into a single 3-bedroom apartment. The Contractor will present material and color samples to the Housing Authority Director for final selection. The Contractor will provide samples in a timely manner as to not delay construction. The Contractor will provide a finished project, any damage to walls, floors or ceilings, or any exposed / opened areas due to demolition must be finished to match the adjacent wall, floor or ceiling finished surface.

**SECTION 1030 TIME OF COMPLETION**

1. Contractors shall start the work on a single unit within five (5) days after the date of "Notice to Proceed" and shall have the project finally complete within ninety (90) calendar days from the date of the "Notice to Proceed".

**SECTION 1040 OWNER'S USE OF BUILDING**

1. The Contractor's attention is directed to the fact that all buildings may be occupied during the construction period and construction operations shall be so scheduled as to minimize disruption of the tenants.

**SECTION 1050 BUILDING PERMIT, TAXES, AND OTHER FEES**

1. It is the responsibility of the Contractor to verify with all governing authorities (city, county, state, federal, etc.) the requirement and associated fee for a building permit.
2. All taxes, including State Sales Tax, applicable to the work, and all other fees, licenses, and permits of all kinds, imposed by governmental agencies and utility companies, shall be borne by the Contractors, each Contractor being responsible for those items relating to his own work.

**SECTION 1060 DRAWINGS AND SPECIFICATIONS**

1. The drawings and specifications as instruments of service are the property of the Architects and all copies of the same must be returned to them upon completion of the contract.
2. All repeated features throughout must be constructed alike, although drawn in detail only once, and similarly all detail and ornament must be continued throughout all moldings, bands, etc., and all indications of materials, etc., shall be understood to apply to all similar features throughout.
3. Wherever work specified to be done "as directed," the Contractor must obtain specific directions from the Owner before undertaking such work. In case of failure to do so, the Contractor (if the Owner so requests) must take down such work and reconstruct it in accordance with the instructions given.
4. Wherever materials are specified to be "Approved" or an approved pattern, make, or design, it is understood that before installation of such material, the written approval of the Owner for same must be obtained especially for this work.
5. All drawings and specifications used for construction purposes shall be obtained by the Contractor or Subcontractor concerned directly from the Owner immediately before commencing such construction and each Contractor or Subcontractor shall assure himself that such drawings and specifications contain all changes and revisions to date.



#### SECTION 1070 COOPERATION OF CONTRACTORS

1. It is the intention of these specifications that the various trades engaged in work herein specified, whether same is included in one contract or let in several contracts, shall cooperate with one another for the purpose of securing a complete and perfect job.

#### SECTION 1080 DEFINITIONS

1. The work "approved" as used herein means "approved by the Owner."
2. "For Approval" means "for the Architect's approval."
3. "Selected" means "selected by the Owner."
4. "As Directed" means "as directed by the Owner."
5. "Provide" means "furnish and install."
6. Where the words "or approved" as used, the Owner is the sole judge of the quality and suitability of the proposed substitution.

#### SECTION 1200 SAMPLES, SHOP DRAWINGS, ETC.

1. Wherever it is required that Contractor submit shop drawings for approval, or manufacturers, i.e. names, or brochures, or samples, or other items for approval before fabrication or incorporation in the work, the following procedures shall be followed:
  - A. The submittal shall first be made directly to the Owner for his review.
  - B. The Owner will make his review and return the shop drawings (or brochures, samples, etc.) to the Contractor either with the approval noted thereon or with request for corrections or with rejection as such is necessary.
  - C. All re-submittals after corrections have been made shall be processed in the same manner.
  - D. All submittals shall be made in not less than five (5) copies. Additional copies of final approved shop drawings (or brochures, samples, etc.) shall be made available to the job as required.
2. Approvals by the Owner of all submittals are for compliance with the design concept of the project only, and do not relieve the Contractor from following the plans and specifications. Approval of a submittal that contains a deviation from the plans and specifications will not permit the Contractor to make such deviation unless he calls particular attention to it in writing and receives approval thereof from the Owner in writing.

#### SECTION 1300 TEMPORARY FACILITIES

1. Job Telephone: None provided.
2. Temporary Utilities:
  - A. Water: Available at the site. Make connections as necessary. No charge will be made by the Owner for water used. Confirm exact location of water source at location with Owner.
  - B. Electrical: Temporary power is available at the site. Confirm sources to connect with Owner and extend as required. No charge will be made by the Owner for electrical power used.
  - C. Toilets: Toilet facilities for the use of workmen are available at the site, verify location with the Owner.
  - D. Drinking Water: Drinking water is available at the site, verify location with the Owner.

#### SECTION 1400 CLEANING UP

1. Keep the premises free from accumulation of waste materials or rubbish caused by operations. At the completion of the work, remove all waste materials.
2. Keep the premises free from accumulation of waste materials or rubbish caused by operations. At the completion of the work, remove all waste materials and rubbish from and about the project as well as all tools, construction equipment, machinery, and surplus materials.

#### SECTION 1500 PROJECT CLOSEOUT

1. Before final payment, furnish to the Owner through the Owner, manufacturer's manual of instructions for proper care and maintenance of materials and equipment installed under the contract. When specified, instruct the Owner's maintenance personnel as to such care and maintenance.

#### SECTION 1600 ALLOWANCES

None.

#### SECTION 1700 SITE CONDITIONS

1. Each bidder shall visit the site of the work and thoroughly and fully inform himself relative to construction hazards and procedure labor, and all other conditions and factors, local and otherwise, which may affect the prosecution and completion of the work and the cost thereof, including the availability and cost of labor, and available facilities for transportation handling, and storage of materials and equipment. Additionally, each bidder shall field measure and determine exact quantities of materials required. It shall be understood and agreed that all such factors have been properly investigated and considered in the preparation of every proposal submitted, as there will not be a subsequent financial adjustment, to any contract awarded there under, which is based on the lack of such prior information or its effect on the cost of the work. CONTRACTOR IS ADVISED THAT NO COVERED, ON SITE STORAGE WILL BE AVAILABLE DURING THE CONSTRUCTION PERIOD.

#### SECTION 1720 GUARANTEE

1. The Contractor shall guarantee that all materials and workmanship are in serviceable and satisfactory condition and shall make good at his own expense any imperfections that may develop during the period specified and any damage to other work caused by such imperfections of the repairing of the same. The period shall be as specified under the various sections or trade headings of the specifications, and where not specified, the period for all Work shall be one (1) year from the date of substantial completion.

#### SECTION 1800 BASE BID

1. Base Bid: Single prime bid is requested.
2. Alternates: (If alternates are requested or provided) Single alternate to be indicated as "Alternate 1" on the provided bid form and shall be included with the "Single Prime Bid".

### **DIVISION 2 - SITE WORK**

#### SECTION 2700 SELECTIVE DEMOLITION

1. General
  - A. Demo and remove existing walls, doors, floor covering, decking and floor joist as indicated on the project drawings.
  - B. Job Conditions: Owner's tenants will be continuously occupying the apartment units adjacent to the work space during both the demolition and construction periods. Conduct selective demolition work in a manner that will minimize need for disruption of Owner's or tenant's normal operations. Provide minimum of 72 hours advance notice, to Owner, of demolition activities that will severely impact tenant's normal operations.
  - C. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished. Conditions existing at time of commencement of contract will be maintained by Owner insofar as practicable. However, variations within structure may occur.
  - D. Partial Demolition and Removal: Items indicated to be removed but of salvable value to

Owner may be removed as work progresses. Owner will indicate to the Contractor what items the Owner wants to keep.

- E. Protections: Provide temporary barricades and other forms of protection as required to protect Owner's personnel or tenants and general public from Injury due to selective demolition work.
- F. Provide protective measures as required to provide free and safe passage of Owners personnel or tenants and general public to and from occupied portions of the apartment unit.
- G. Protect from damage existing finish work that is to remain in place and become exposed during demolition operations.
- H. Protect floors with suitable coverings when necessary.
- I. Construct temporary dustproof partitions where required to separate areas where noisy or extensive dirt or dust operations are performed.
- J. Remove protections at completion of work.
- K. Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.
- L. Conduct selective demolition operations and debris removal in a manner to insure minimum interference with adjacent occupied facilities.

## 2. Execution

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed.
- B. Cover and protect furniture, equipment and fixtures to remain from soiling or damage when demotion work is performed.
- C. Erect and maintain dustproof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.
- D. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on drawings.
- E. If unanticipated mechanical or electrical elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Owner in accurate detail. Pending receipt of directive from Owner, rearrange selective demolition schedule as necessary to continue overall job progress without delay.
- F. Salvage Materials shall become property of the Owner unless otherwise indicated by the Owner.
- G. Remove debris, rubbish and other materials resulting from demolition operations from building site. Transport and legally dispose of materials off site.
- H. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
- I. Burning of removed materials is not permitted on project site.
- J. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.
- K. Repair demolition performed in excess of that required. Return surfaces that remain to condition existing prior to commencement of selective demotion work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

## DIVISION 3 – CONCRETE

### SECTION 3310 – CONCTETE

#### 1. Scope of Work

##### A. Related Documents

- (1) The General Provisions of the contract, including General and Supplementary Conditions and all other requirements apply to this work.

##### B. Description of Work

- (1) Furnish all labor, materials and related items necessary to complete the work indicated on the drawings and/or specified.
- (2) Items of work to be performed shall include, but are not limited to the following:
  - a. Concrete floor patch back after plumbing installation.

##### C. Quality Assurance

- (1) Comply with all Local, State and Federal codes and requirements published and implied.
- (2) Comply with all published standards (latest editions) on recommendations, specifications and testing.
  - a. ACI 301 “Structural Concrete Specifications for Buildings”.
  - b. ACI 311 “Recommended Practice for Concrete Inspection”.
  - c. ACI 318 “Building Code Requirements for Reinforced Concrete”.
  - d. ACI 347 “Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete”.
  - e. Concrete Reinforcing Steel Institute, “Manual of Standard Practice”.
  - f. Comply with all governing authorities’ codes and requirements.

##### D. Submittals

- (1) Subcontractor may be required to submit Certificates of materials and compliance with specified requirements. Certificates of compliance shall be signed by the materials producer and the contractor.
- (2) Manufacturer’s Data: for information only, submit two (2) copies each of manufacturer’s specifications with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, water-stops, joint systems, chemical floor hardeners, and other items as requested by the Owner.
- (3) Shop Drawings: Submit five (5) copies for approval, including fabrication, bending, and placement of the concrete reinforcement. Comply with “ACI” 315, showing bar schedules, stirrup spacing, diagrams of bent bars, and arrangements of concrete reinforcement. Include special reinforcement required and openings through concrete structures.

#### 2. Materials

##### A. Concrete Materials

- (1) Portland Cement; ASTM C 150, Type I, unless otherwise specified. Use only one brand of cement through the project, unless otherwise specified or indicated.
- (2) Aggregates; ASTM C 33 or C 330 for lightweight “Weslite” and as herein specified. Provide aggregates from a single source for all exposed concrete.
  - a. Crushed stone, processed from natural stone.
  - b. Washed gravel, natural or crushed.
  - c. “Weslite” crushed and processed, note less than 90# per cubic foot, in the dry.
- (3) Air-Entraining Admixture; ASTM C 260
- (4) Reinforcing Materials:
  - a. Reinforcing bars; ASTM A 615; grade 60.
  - b. Steel Wire; ASTM A 82, plain, cold-drawn, steel.
  - c. Welded Wire Fabric; ASTM A 185, welded steel wire.

- d. Supports; Provide supports for reinforcement including bolsters, chairs, spacers, and other devices for spacing, supporting and fastening the reinforcing bars and welded wire fabric in place.
  - e. Supports for slab on grade; use supports with sand plates or horizontal runners where wetted base materials will not support chair legs.
- (5) Water; clean, fresh, free from oil, acid, organic matter or other deleterious substances.
- (6) Calcium Chloride; DO NOT USE IN CONCRETE, except as otherwise authorized in writing by the Owner.
- B. Related Materials
- (7) Water-stops; flat dumbbell type or center-bulb type, rubber or PVC, water-stops at construction joints and other joints as indicated. Size to suit joints. The rubber units shall comply with Corps of Engineers CRD-C 513, and PVC shall comply with CRD-C 572.
- (8) Structural expansion joints, and preformed expansion joint fillers.
- (9) Joint sealing compound.
- (10) Water-vapor barrier; cover over sub-grade materials as indicated on the drawings. Use only materials which are resistant to decay ASTM E 154, Section II.
- a. Clean polyethylene sheeting, 0.006" (6 mils) thick
  - b. Polyethylene-coated barrier paper, consisting of a 0.002" (2 mils) thick
- (11) Liquid chemical floor hardener; colorless aqueous solution containing a blend of magnesium fluosilicate and zinc fluosilicate combined with a wetting agent containing not less than 2 lbs. of fluosilicates per gallon.
- (12) Absorptive cover; burlap cloth made from jute or kenaf, approximately 9 oz per sq. yd., AASHO M 182, class 3, or cotton mats ASTM C 440.
- (13) Moisture-retaining cover:
- a. Waterproof paper; ASTM C 171, type I or II.
  - b. Polyethylene sheeting; AASHO M 171, 0.004" thick.
  - c. Polyethylene coated burlap.
- (14) Membrane-forming curing compound; ASTM C 309, type I.
- C. Strength & Proportions of Mixes
- (15) Structural concrete except as indicated on plans, and other concrete not exposed to weather or freezing shall be minimum 3,000 PSI, with a cement content of 5.5 bags per cubic yard.
- (16) Exterior concrete, driveways, walks, slabs, including exterior walls, stairs and other concrete exposed to weather or freezing shall be minimum 3,500 PSI with a cement content of 6.5 bags per cubic yard.
- D. Admixtures
- (17) Use air-entraining admixture in all concrete. Add air-entraining admixture at the manufacturer's prescribed rate to result in concrete, at the point of placement having air content within the following limits:
- a. Concrete structure and slabs exposed to freezing and thawing or subjected to hydraulic pressure.
    - 1. 3% to 6% maximum, 2" aggregate
    - 2. 4% to 8% maximum, ¾" aggregate
    - 3. 5% to 9% maximum, ½" aggregate
  - b. All other concrete: 2% to 4% max.
- E. Slump Limits
- (1) Proportion and design, to result in concrete slump at the point of placement as follows:
- a. Ramps and sloping surfaces – Not more than 3".
  - b. Reinforced foundation systems – Not less than 1" and not more than 3".
  - c. All other concrete – Not less than 1" and not more than 4".

F. Concrete Mixing

- (1) Job site mixing:
  - a. Mix materials for concrete in an acceptable drum type batch machine mixer. For mixes of one cubic yard or smaller capacity, continue mixing after all ingredients are in the mixer, before any part of the batch is released. For mixers of larger capacity than one cubic yard, increase the min. 1-1/2 minutes of mixing time by 15 seconds for each additional cubic yard or fraction thereof.
- (2) Ready-mix concrete:
  - a. Comply with ASTM C 94, and as herein specified.
  - b. Add no additional water to a concrete batch with insufficient slump.
  - c. Provide a batch ticket for each batch discharged and used in the work, indicating the project name and number, date, mix type, mix time, quantity, and amount of water introduced.
  - d. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.

3. Workmanship

A. Placing Reinforcement

- (1) Comply with the specified codes and standards, and the Concrete Reinforcing Steel Institutes recommended practice for "Placing Reinforcement Bars".
- (2) Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or will destroy the bond with concrete.
- (3) Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support all reinforcing by the use of metal chairs, runners, bolsters, spacers and hangers, as required.
- (4) Place reinforcement to obtain the minimum required concrete coverage. Arrange, space and securely tie bars and bar supports to hold the reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces. Use all cautions to protect placed bars and maintain minimum concrete coverage to protect reinforcement until concrete placement is complete.
- (5) Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire.

B. Concrete Placement

- (1) Pre-placement inspection; Before placing concrete, inspect excavations receiving placement and/or complete the formwork receiving placement, reinforcing steel, and items to be imbedded or cast-in. Notify other trades to complete installation of their work; cooperate with trades in setting such work, as required. Thoroughly wet wood forms immediately before placing concrete as required where form coatings are not used.
- (2) In placing concrete, comply with ACI 304, and as herein specified. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete that has hardened sufficiently to cause the formation of seams or planes of weakness within the section. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation due to re-handling or flowing.
- (3) Deposit concrete in forms in horizontal layers not exceeding 18" in depth and in a manner to avoid inclined seams or planes.
- (4) Consolidate placed concrete by mechanical vibrating equipment supplemented by hand spading, rodding or tamping. Use vibrators designed to operate with vibratory element submerged in concrete, maintaining a speed of not less than 6,000 impulses per minute.
- (5) Do not use vibrators to transport concrete inside the forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than the visible effectiveness of the

vibration. Do not insert vibrators into the lower levels of concrete that have begun to set. At each insertion limit the duration of vibration to the time necessary to consolidate the concrete and complete the embedment of reinforcement and other items without causing segregation of mix.

#### C. Placement of Concrete Slabs

- (1) Deposit and consolidate concrete slabs in a continuous operation, within the limits of construction joints, until the placing of a panel or section is completed.
- (2) Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
- (3) Bring slab surfaces to the correct level with a straight edge and strike-off. Use bull floats or darbies to smooth the surface, leaving it free of humps or hollows. Do not sprinkle water on the plastic surface. Do not disturb the slab surfaces prior to beginning finishing operations.
- (4) Maintain slab reinforcement in proper position during concrete placement operations.

#### D. Cold Weather Placing

- (5) Protect concrete work from physical damage or reduce strength, which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.
- (6) When air temperature has fallen to or is expected to fall below 40 F., uniformly heat all water and aggregates before mixing as required to obtain a mix temperature of not less than 50 F., and not more than 80 F., at point of placement.
- (7) Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen sub-grade or on sub-grade containing frozen materials.
- (8) Do not use calcium chloride, or other antifreeze agents, or accelerators, unless approved in writing.

#### E. Hot Weather Placing

- (9) When hot weather conditions exist that would seriously impair the quality and strength of concrete, place concrete in compliance with ACI 305 and as specified.
- (10) Wet forms thoroughly prior to placing concrete.
- (11) Do not use retarding admixtures without the written acceptance of the Owner.

F. Joints: Located as shown on the drawings, and as recommended by the concrete manufacturer.

- (12) Expansion joints; interior ½" wide, filled with pre-molded compressible filler, unless otherwise indicated or specified, and finished with sealant. Exterior ¾", filled with pre-molded compressible filler, unless otherwise specified, and finished with sealant.
- (13) Construction joints: locate and install as indicated, specified and as industry recommended. Limit slab pours to 40'-0" maximum dimensions. Use manufactured forms for joint construction.
  - a. Place construction joints perpendicular to the main reinforcement. Continue all reinforcement across construction joint.
- (14) Isolation joints; construct isolation joints as indicated on drawings, and in all slab-on-ground at juncture points of contact between horizontal and vertical surfaces, such as column pedestals, foundation and structure walls, retaining walls and elsewhere as drawn.
- (15) Control joints: in slabs-on-ground to form panels at intervals not exceeding 20'-0" in either direction. Use inserts 1/8" wide X 1/4<sup>th</sup> to 1/5<sup>th</sup> of the slab depth or saw cuts unless otherwise shown.
  - a. Form control joints by inserting a pre-molded 1/8" fiberboard strip into the fresh concrete until the top surface of the strip is flush with the slab surface. Remove insert after concrete has cured and clean groove of loose debris. Contractor may saw-cut control joint approximately 1/8" wide and 1" deep into surface of finished slab.

#### G. Installation of Embedded Items

- (1) Set and insert into the work anchorage devices and other embedded items required for the work and other trades, that is attached to, or supported by, cast-in-place concrete. Use the shop drawings, setting drawings, diagrams, instructions and directions as provided by the manufacturer for correct locations.

#### H. Horizontal Slab Finishes

- (1) Scratch finish: apply to slab surfaces that are to receive concrete floor topping or mortar beds for tile installation, and other bonded cementitious finish flooring material.
  - a. After placing slab, plane surface to a tolerance not exceeding 1/8" in eight feet, tested with a straight edge. Slope surfaces uniformly to drains where required. After leveling, roughen surface before final set, with stiff broom, or brushes.
- (2) Float finish: apply to slab surfaces that are to receive trowel finish and/or covered with membrane or elastic waterproofing applications.
  - a. Begin the floating process when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power driven floats. Consolidate surface with power driven floats, or by hand floating if area is small or inaccessible to power units. Level surface plane to a tolerance not exceeding 1/8" in eight feet. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling slab surface re-float surface to a uniform smooth texture.
- (3) Trowel finish: apply to slab surfaces that are to be exposed-to-view, and surfaces that are to receive a resilient flooring, paint, or other thin film finish coating system.
  - a. Upon completion of the floating process, begin first trowel finish operation using a power-driven trowel. Begin final trowel when the surface produces a ringing sound as the trowel is moving over the surface.
  - b. Consolidate concrete surface by final hand trowel operation, free of trowel marks, uniform texture and appearance, and with a surface plane tolerance not exceeding 1/8" in eight feet. Grind smooth surface defects that would telegraph through the applied floor covering system.
- (4) Non-Slip Broom Finish: apply to exterior concrete platforms, steps and ramps, sidewalks and other areas as indicated, specified or scheduled.
  - a. Immediately after trowel finishing, slightly roughen concrete surface by brooming perpendicular to main traffic flow.

#### I. Concrete Curing & Protection

- (1) General:
  - a. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures and maintain without drying at a relatively constant temperature for a period of time necessary for hydration of cement and proper hardening.
  - b. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Keep continuously moist for a minimum of 72 hours.
  - c. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 168 hours, cumulative not necessarily consecutive, during which the concrete has been exposed to air temperatures above 50 degrees F. Avoid rapid drying during the final curing stages.
- (2) Curing methods: Perform curing of concrete by moist curing, moisture-retaining cover, membrane curing, and/or a combination thereof.
  - a. Provide moisture curing by the following methods:
    1. Keep concrete surface continuously wet by spraying with water.
    2. Continuous water-fog spray.
    3. Covering surface with absorptive cover, saturated with water continuously, lapped edges four inches with adjacent covers.
  - b. Provide moisture-cover curing as follows:



1. Cover concrete surfaces with moisture-retaining cover, placed in widest practicable widths with edges lapped four inches and sealed with waterproof tape or adhesive. Immediately repair holes or tears during curing period.
- c. Provide membrane curing as follows:
  1. Apply membrane-forming curing compound to damp concrete surfaces as soon as water film has disappeared. Apply uniformly in a two-coat operation by power-spray equipment in accordance with manufacturer's directions. Recoat areas that are subjected to heavy rainfall within three hours of initial application. Maintain continuity of coating and repair damage during curing period.
  2. Do not use membrane-curing compounds on surfaces which are to be covered with a coating material or a material to be bonded to the concrete.
- J. Concrete Surface Repairs
  - (1) Repair and patch all rejected or unapproved areas of concrete placement and/or surface finish.
    - a. Repair immediately in an industry approved method, for final acceptance by the Owner.
4. Clean Up
  - A. At the end of each day's work clean up the work area and remove all trash debris, preparing the work area for the next day's work.
  - B. Upon completion of all the work, clean up all trash, debris and remove from the site.

## **DIVISION 4 - MASONRY**

### **SECTION 4210 CLAY MASONRY**

1. Scope of Work
  - A. Related Documents
    - (1) The general provisions of the contract, including General and Supplementary Conditions and General Requirements (if any) apply to the work specified in this section.
  - B. Description of Work
    - (1) Complete the clay masonry work as required to infill walls where doors and/or windows were removed or relocated, furnishing and installing the specified material to complete the work.
    - (2) Protect adequately all materials during delivery, storage, installation, and until final acceptance.
  - C. Quality Assurance & Reference
    - (1) Codes and Standards: Comply with the provisions of the following codes, specifications, and standards (latest editions) except as otherwise shown or specified.
      - a. Structural Clay Products Institute
      - b. American Standards Association
      - c. American Society for Testing and Materials
      - d. American Concrete Institute
      - e. Local, State and Federal codes governing clay masonry construction
2. Submittals

- A. Submit product data for masonry units, cementitious products for mortar and grout, coloring pigments and masonry accessories. Submit samples of exposed masonry units and colored pigment mortar.
3. Materials
- A. Masonry Units
    - (1) Retain masonry units from demo of exterior wall.
  - B. Mortar
    - (1) Portland Cement C 150, types I, II, or III as best suited to job conditions.
    - (2) Hydrated lime for masonry purpose, C 207, type S.
    - (3) Lime putty, from quicklime conforming to C5, and shall be prepared in a plant specifically built to slake and age quicklime for use in masonry mortar.
    - (4) Aggregate for masonry mortar, C 144.
    - (5) ASTM C 270, Mortar for unit masonry.
      - a. Type N and O, exterior, solid load bearing walls
      - b. Type N, exterior, solid non-load bearing walls
      - c. Type M or S, masonry in contact with earth.
  - C. Related Materials
    - (1) Steel reinforcing bars shall be high strength steel with FY-60 SKI conforming to ASTM A 432, except ties and stirrups conforming to ASTM A 15 will be allowed. All bars shall be deformed in accordance with ASTM A 305.
    - (2) Horizontal masonry joint reinforcement shall be fabricated from zinc-coated cold-drawn steel wire conforming to ASTM A 82, fixed or adjustable.
    - (3) Anchors and ties shall be of corrosion resistant metal in conformance with A. 41.1 “American Standard Building Code Requirements for Masonry”.
    - (4) Wall ties, for brick veneer facing shall be 7/8” wide, 6” long, 22 gauge, corrugated, corrosion resistant ties, conforming to ASTM A 153, class B01, B-a, or B-3, as applicable.
    - (5) In-wall flashing; 3 oz. per sq. ft. electro-deposit copper bonded by asphalt to a sheet of Kraft paper or bituminous backing as manufactured by:
      - a. Sisalkraft Division, St. Regis, Cary, Illinois
      - b. Phoenix Building products, Inc., Warminster, Pa.
      - c. Afco Products, Inc., Somerville, Mass.
    - (6) Control joint resilient keys; factory fabricated, solid section of natural or synthetic rubber, combination thereof, plastic or other rubber-like material. Durometer hardness shall not be less than 70 when tested in conformance with ASTM D 2240.
4. Storage of Materials
- A. Clay Masonry units and cementitious materials shall be stored under cover in a dry place.

- B. Clay masonry units shall be protected against wetting prior to use, and shall be free from soil, ice, and frost when laid in the wall.
- C. Reinforcing, metal ties, and anchors shall be protected from contact with soil and before being placed shall be free from loose rust and other coatings that will destroy or reduce the bond.

## 5. Workmanship

### A. General

- (1) Workmanship shall conform to the following requirements of local building codes and building code requirements for masonry – American Standard A 41.1. The instructions of each manufacturer, applicable published recommendations of the Structural Clay Products Institute, and the requirements of these specifications, unless indicated otherwise on the drawings.
- (2) Handle materials carefully avoiding damage. Protect materials from contact with earth and cover with weatherproof material until used.
- (3) Promptly remove damaged materials from the site or dispose of them in an approved manner.

### B. Clay Unit Placement

- (1) Brick masonry shall be placed plumb, true to line, with level courses accurately spaced, and built to the thickness and bond pattern indicated on the drawings or specified. Where no pattern is drawn or indicated, brick masonry shall be laid in a running (center) bond pattern.
  - a. Brick masonry shall be wetted, dry face placed.
  - b. Each unit shall be adjusted to final wall position while mortar is still plastic; any unit disturbed after mortar has stiffened shall be removed and relaid with fresh mortar.
  - c. Spaces around metal door frames, built-in items and vertical reinforcement shall be solidly filled with mortar as each course is laid.
  - d. Anchors, wall ties, accessories, flashings and other items to be built in shall be installed as masonry work progresses.
  - e. All cutting and fitting of masonry, including that required to accommodate the work of other sections shall be done by masonry mechanics with masonry saws.
- (2) Wet clay brick 3 to 24 hours before laying, if absorption is in accordance with one of the following, at mason's option:
  - a. Water sprinkled on the units, complete absorption is less than one minute.
  - b. Immersed, .025 ounces of water per square inch in one minute.
- (3) Face Brick Attachment:
  - a. Metal ties:

1. One tie for each two (2) square feet of wall, the distance between adjacent ties not to exceed 24" vertical or horizontal. Embed ties a minimum of 2" into grout; ties to be within 12" off all openings.
  2. Horizontal wire reinforcement, fixed or adjustable, located 16' O.C. horizontally.
- (4) Vertical bar reinforcement in brick masonry shall be properly positioned and secured against displacement, and the cavities containing such reinforcement shall be completely filled with grout. Splices in vertical reinforcement shall be made only at such points and in such a manner that the structural strength is not reduced. Lap splices shall be 36 bar diameters, wire tied. Minimum clean distance between vertical bars and masonry units shall be ½".
  - (5) Bond all intersections of masonry walls of all types by laying a true bond with at least 50% of the unit and 50% of the wall units at the intersection or bond with approved anchors.
  - (6) Lay all running brick, rolock and soldier coursing with full bed and head joints.
  - (7) Provide solid bearing for all lintels, beams, plates and other load bearing members.
  - (8) As masonry walls progressively ascend, provide lateral support or bracing as required. Protect walls against extreme heat and cold as specified in Section 4220.
  - (9) Cover tops and the upper two feet of each side of all walls with waterproof membrane securely anchored, except when masonry work is actually in progress or covering interferes with other trade work.

C. Mortar

- (1) Prepare mortar only with materials herein before specified and in conformance with "proportion specification" of ASTM C 270.

D. Joints

- (1) Tool all points as initial set takes place with approved round jointer slightly larger than width of mortar joints, or as otherwise indicated.
- (2) Cut out defective joints, fill joints solidly and tool to match adjacent work. Fill all holes in mortar joints, except required weep holes.

E. Control Joints

- (1) Control joints shall be provided in accordance with the locations and details shown on the drawings, and shall be constructed by using jamb units and control joint key. Weather side and interior side of control joint shall be left ready for sealing. See Division 7900, Caulking and Sealants.

F. Weep Holes

- (1) Weep holes shall be provided 32" on centers in mortar joints of the exterior wythe of veneer walls along the bottom of the cavity over foundations, through-wall flashings and other water stops in the wall. Weep holes shall be kept free of mortar and other obstructions.

G. Pointing & Cleaning

- (1) At the completion of the work, all holes in joints of masonry surfaces to be exposed or painted, except weep holes, shall be filled with mortar and suitably tooled. Masonry walls shall be dry brushed at the end of each day's work and also after final pointing, and shall be left clean and free from mortar spots and droppings. Any cracks in masonry shall be repaired. Defective joints shall be cut out and re-pointed.

H. Weather Requirements

- (1) Cold weather requirements – Clay masonry units, mortar and grout shall be preconditioned and masonry protected as specified in the following table:

Mean Daily Air Temperature/Construction & Protection Requirements of:

40-32 F Heat mixing water or aggregate to minimum 70 F and maximum 160 F. Protect masonry from rain or snow for 24 hrs.

32-25 F Heat mixing water and aggregate to minimum 70 F and maximum of 160 F. Completely cover masonry for 24 hrs.

25-21 F Heat mixing water and aggregate to minimum 70 F and maximum 160 F. Provide heat sources on sides of masonry construction. Wind breaks shall be provided for wind velocity in excess of 15 m.p.h. Cover masonry completely with insulating blankets for 24 hrs.

Below 20 F Heat mixing water and aggregate to minimum 70 F and maximum 160 F. Provide enclosures and heat to maintain air temperature above 32 F. Temperature of masonry units shall be minimum 30 F when laid. Maintain masonry temperature above 32 F for 24 hrs. by enclosures and supplemental heat.

I. Cleaning of Clay Masonry

- (1) Sample cleaning of a wall area not to exceed 20 square feet shall be approved by Owner prior to cleaning of wall surfaces.
- (2) A solution of not more than 1 part hydrochloric (muriatic) acid to 9 parts water shall be used, followed immediately by a thorough rinsing with clear water. All sash, metal and other corrodible parts shall be thoroughly protected. Green efflorescence shall be removed in accordance with the clay product manufacturer's recommendations.

6. Clean Up

- II. At the conclusion of masonry work, remove all scaffolding and equipment used the work. Clean up all debris, refuse and surplus material; remove from premises.

**DIVISION 5 – METALS**

Not required.

**DIVISION 6 - WOOD AND PLASTICS**

## SECTION 6100 – ROUGH CARPENTRY

### 1. SCOPE OF WORK

#### A. Related Documents

- (1) The general provisions of the contract, including General and Supplementary Conditions and General Requirements, apply to the work in this section.

#### B. Description of Work

- (1) Furnish all labor, materials and related items necessary to complete the work indicated on the drawings and/or specified. The items of work to be performed shall include but are not limited to the following.
- (2) Framing, furring, blocking and nailer strips.
- (3) Hardware for securing rough carpentry materials.
- (4) Select materials to suite the required function of the part.
- (5) Rough frames around access openings, etc.
- (6) Layout all work accurately to indicated lines on the drawings.

#### C. Quality Assurance

- (1) All lumber shall meet or exceed the following requirements, ASTM D-2255, “method for establishing clear wood strength values” and ASTM D-245, “method for establishing structural grades for visually graded lumber.
- (2) Western Wood Products Association.
- (3) American Plywood Association.

### 2. MATERIALS

#### A. Framing Material

- (1) Studs, headers, sills, plates, and blocking, shall be minimum stress-grade of 1,200 psi “F” value and 1,760,000 “E” value.
- (2) All framing lumber shall be surface four sides.
- (3) Seasoning of lumber shall be kiln dried W/S stamp.

#### B. Structural Framing

- (1) Solid beams, built-up beams, purlins and other structural members, shall be stress-grade lumber of 1750 psi “F” value and 1,760,000 “E” value.
- (2) Laminated beams shall be stress-grade 2400 psi “F” value, and 1,700,000 “E” value.
- (3) Structural lumber shall be surface four sides.
- (4) Structural lumber shall be kiln dried W/S stamp.

#### C. Treated Lumber

- (1) K-33, #2 southern yellow pine C.C.A. treated, (copper chromate arsenate); stress-grade 1200 psi “F” value and 1,760,000 “E” value.
- (2) All sill plates in contact with concrete and damp locations shall be C.C.A. treated lumber.

#### D. Floor Joists

- (1) All floor joists shall be TJI’s or Truss Joist as shown and specified on the Structural Drawings: sheets S-1, S-2, and S-3.\
- (2) Bridging members shall be 1 X 4, min. stress-grade lumber of 1200 psi “F” value and 1,540,000 “E” value.

#### E. Plywood Sheathing

- (1) Conform to Product Standard PS-1-74 for softwood plywood.
- (2) Sub-floor sheathing, 3/4” standard exterior glue.

#### F. Exterior Wall Sheathing

- (1) 5/8" Dens-Glass Gold exterior Bd., F.C., by GP, or rigid insulation as shown or specified on the drawings.

### **3. WORKMANSHIP**

A. Work shall be performed in conformance with good trade practice, recommendations of manufacturers, building codes and these specifications.

- (1) Store lumber so it is properly ventilated, held straight, well-drained, protected from the elements, supported at points not over 4' apart with bottom of pies at least 1-1/2" above basic support. (i.e. concrete or wood floors).
- (2) Sort material to suit its placement so that permitted defects will have the least detrimental effect on the stability and appearance of the work.
- (3) Do not use in the permanent parts of the work any material which is unsuitable from any cause.
- (4) Layout work carefully, cut material to fit, level, plum and brace to hold work in proper position. Drive nails and spikes home, and pull bolt nuts tight with heads and washers in close contact with the work.
- (5) Fasten securely all parts of rough carpentry work in their proper places.

### **4. CLEAN UP**

A. Work areas will be cleaned up at the end of each day's work and left free of sawdust, debris and scrap.

- (1) Materials for new work may be neatly stacked in the work area, in preparation for the next day's work.
- (2) Upon completion of all rough carpentry work, areas will be thoroughly cleaned, and equipment, sawdust, debris, scrap and excess materials shall be removed from the premises.

## **SECTION 6200 - FINISHED CARPENTRY**

### **1. SCOPE OF WORK**

A. Related Documents

- (1) The General Provisions of the contract, including General and Supplementary Conditions and all other requirements apply to this work.

B. Description of Work

- (1) Furnish all labor, materials and related items necessary to complete the work indicated on the drawings and/or specified.
- (2) Items of work to be performed shall include, but are not limited to the following:
  - a. Cabinet installation
  - b. Door, window and base trim

C. Quality Assurance

- (1) Comply with the provisions of the following specifications, recommendations and standards, (latest editions) except as otherwise shown or indicated.
- (2) Architectural Woodwork Institute (AWI).
- (3) National Woodwork Manufactures Association (NWMA).
- (4) U.S. Commercial Standards: CS-171.

(5) National Hardwood Grading Rules.

D. Submittals

- (1) Submit five (5) copies of shop drawings including dimensions, details and finish of items to be installed.
  - a. Shop drawings to include plan, elevation and cross-section of item installed and/or manufacturer's data, and specification sheets.

**2. INSTALLATION**

A. Work shall be performed in conformance with good trade practices, recommendations of manufacturers, building codes and these specifications unless specifically indicated otherwise on the drawings.

- (1) Protect materials against dampness and other damage during and after delivery. Store materials in dry, well-ventilated area, free of extremely high or low temperatures and humidity.
- (2) All work shall be well-fitted and securely fastened in its proper location with nails, screws, or other approved fastening devices.
- (3) Do not install work until material has been primed on the back side, when installing in damp areas.
- (4) Contractor will touch up drywall and paint on portions of walls left exposed or damaged after cabinet installation. Match existing paint color and sheen.

**3. CLEAN UP**

- A. Project will be kept clean and neat at all times. Clean up at the end of each day's work with removal of trash acquired during that day's work.
- B. Upon completion of all work, the project will be cleaned up with the removal from the premises, of all equipment and surplus material, plus the disposal of all trash debris.

**SECTION 6410 CUSTOM CABINETS**

Kitchen cabinets shall be provided and installed by the Contractor. The cabinets are to be constructed of solid material for cabinet doors and drawer fronts and finish grade plywood veneer for the cabinet boxes, drawer boxes and shelving, no particle board or similar items will be approved. The cabinet doors and drawer fronts are to be raised panels in a medium to light oak finish. The approved cabinet suppliers are as follows, if the Contractor wishes to use a different cabinet supplier a submittal must be approved by the Owner prior to bid opening.

Shenandoah  
Kraft Maid  
Schuler



Aristokraft  
Marquis  
Kemper  
Kitchen Craft  
Custom Wood Products

\*Custom manufactured cabinets may be approved. They must meet or exceed the product supplier listed above.

#### SECTION 6412 CABINET / DRAWER HARDWARE

Cabinet pull hardware in the apartment and family units are to be:

- A. Mfr. - Amerock
- B. Model – BP52994g10
- C. Style – Allison 3-3/4”
- D. Finish – Satin Nickle

#### SECTION 6651 – Solid Surface Fabrications

##### 5. SCOPE OF WORK

###### A. Related Documents

- (1) The general provisions of the contract, including General and Supplementary Conditions and General Requirements, apply to the work in this section.

###### B. Description of Work

- (1) Furnish all labor, materials and related items necessary to complete the work indicated on the drawings and/or specified. The items of work to be performed shall include, but are not limited to the following.
  - 1. Supply and install Corian Solid Surface Countertops per manufacturer.
  - 2. Supply and install Swanstone double bowl vanity in bathroom.
  - 3. Similar product may be provided with approval from the Owner. Approval must be obtained prior to submitting bid.

###### C. Quality Assurance

###### (1) A. Qualifications:

- 1. Shop that employs skilled workers who custom fabricate products similar to those required for this project and whose products have a record of successful in-service performance.
- 2. Fabricator/installer qualifications:
- 3. Work of this section shall be by a certified fabricator/installer, certified in writing by the manufacturer.
- 4. Applicable standards:
  - a. Standards of the following, as referenced herein:
  - b. American National Standards Institute (ANSI)
  - c. American Society for Testing and Materials (ASTM)
  - d. National Electrical Manufacturers Association (NEMA)
  - e. NSF International
  - f. Fire test response characteristics:
  - g. Provide with the following Class A (Class I) surface burning characteristics as determined by testing identical products per UL

723 (ASTM E84) or another testing and inspecting agency acceptable to authorities having jurisdiction:

- h. Flame Spread Index: 25 or less.
- i. Smoke Developed Index: 450 or less.

## 6. MATERIALS

### A. Solid polymer components

- (1) Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI Z124.6, having minimum physical and performance properties specified.
- (2) Superficial damage to a depth of 0.010 inch (.25 mm) shall be repairable by sanding and/or polishing.

### B. Thickness

- (1) 1/2 inch

### C. Edge treatment:

- (1) Quarter round

### D. Backsplash:

- (1) 4"

## 7. 2.3 ACCESSORIES

### A. Joint adhesive:

- (1) Manufacturer's standard one- or two-part adhesive kit to create inconspicuous, nonporous joints.

### B. Sealant:

- (1) Manufacturer's standard mildew-resistant, FDA-compliant, NSF 51-compliant (food zone — any type), UL-listed silicone sealant in colors matching components

### C. Sink/lavatory mounting hardware:

- (1) Manufacturer's standard bowl clips, panel inserts and fasteners for attachment of undermount sinks/lavatories.

### D. Conductive tape:

- (1) Manufacturer's standard aluminum foil tape, with required thickness, for use with cutouts near heat sources.

### E. Insulating felt tape:

- (1) Manufacturer's standard for use with conductive tape in insulating solid surface material from adjacent heat source.

## 8. 2.4 FACTORY FABRICATION

### A. Shop assembly

- (1) Fabricate components to greatest extent practical to sizes and shapes indicated, in accordance with approved shop drawings and manufacturer's printed instructions and technical bulletins.
- (2) Form joints between components using manufacturer's standard joint adhesive without conspicuous joints.
  - 1. Reinforce with strip of solid polymer material, 2" wide.
- (3) Provide factory cutouts for plumbing fittings and bath accessories as

indicated on the drawings.

- (4) Rout and finish component edges with clean, sharp returns.
  - 1. Rout cutouts, radii and contours to template.
  - 2. Smooth edges.
  - 3. Repair or reject defective and inaccurate work.

## 9. 2.5 FINISHES

A. Select from the manufacturer's standard color chart.

- (1) Color: Granola

B. Finish:

- (1) Provide surfaces with a uniform finish
  - 1. Matte; gloss range of 5–20.

## 10. 3.3 REPAIR

A. Repair or replace damaged work which cannot be repaired to architect's satisfaction.

## 11. 3.4 CLEANING AND PROTECTION

A. Keep components clean during installation.

B. Remove adhesives, sealants and other stains.

## 12. CLEAN UP

A. Work areas will be cleaned up at the end of each day's work and left free of debris and scrap.

- (1) Materials for new work may be neatly stacked in the work area, in preparation for the next day's work.
- (2) Upon completion of all work, areas will be thoroughly cleaned and equipment, debris, scrap and excess materials shall be removed from the premises.

# DIVISION 7 – THERMAL & MOISTURE PROTECTION

## SECTION 7200 INSULATION

### 1. Scope of Work

A. Related Documents

- (1) The General Provisions of the contract, including General and Supplementary Conditions and all other requirements apply to this work.

B. Description of Work

- (1) Furnish all labor, materials and related items necessary to complete the work indicated as specified.
  - a. Wall insulation where exterior wall was infilled.

C. Quality Assurance

- (1) Comply with the requirements of the applicable published standards, latest edition. ASTM C764.
- (2) Adhere to manufacturer's specification and requirements.
- (3) Comply with all local, state and federal codes.

## 2. Materials

- A. Ceiling / roof insulation: Add a depth of 6" of Certaineed TrueComfort Blown-in Fiberglass insulation or approved equal.

## 3. Workmanship

- A. All insulation stored on the job site shall be raised above the deck or ground level on wooden pallets and weather protected.
  - (1) Materials are to be stored in manufacturer's wrap or packaging until used.
  - (2) All work is to be accomplished in a skilled workman like manner.
- B. Placement
  - (1) Blown-in insulation shall be installed in strict accordance with manufacturer's recommendations at a depth of 6" +/- 1/2".

## 4. Clean Up

- A. Upon completion of work, cleanup area and remove excess material, debris and scrap from the premises.

## SECTION 7300 ASPHALT SHINGLES

### 1. Scope of Work

#### A. Related Documents

- (1) The General Provisions of the contract, including General and Supplementary Conditions and all other requirements apply to this work.

#### B. Description of Work

- (1) Furnish all labor, materials and related items necessary to complete the work indicated as specified.
- (2) Items of work to be performed shall include, but are not limited to, the following:
  - a. Install asphalt roofing system and associated detail requirements, ridge, valley and edge flashings.
  - b. Roof vents and all other items required to complete the roofing system installed.

#### C. Quality Assurance

- (1) Comply with all Local, State and Federal codes and requirements published and implied.
- (2) Comply with all published standards (latest editions) on recommendations, specifications and testing.
- (3) Asphalt Roofing Manufacturer's Association.

#### D. Submittals:

- (1) Subcontractor shall submit five (5) copies of product data sheets, specifications and recommended installation requirements.
- (2) Submit shingle sample to, Owner and Owner for approval of color, weight and type.

#### E. Guarantee

- (1) Shingles shall be warranted for a period of twenty-five, (25), years by the manufacturer.

- (2) Installer shall state on company letterhead, the system was installed as per manufacturer's instructions and recommendations to maintain manufacturer's warranty, and in the same letter warranty installers' labor for a 2, (two), year period from final payment.

#### 5. Materials

- A. Asphalt Shingles: match existing shingles, self-sealing, or a manufacturer of an "OR EQUAL" product. American made products are preferred.
  - (1) Weight: Approximately 260 pounds per square.
  - (2) Color: Per owner, to match existing buildings.
  - (3) Shingles shall carry Class A, U.L. rating and Wind Resistance Label, and shall meet ASTM D 3018, Type I, D 3161, Type I, and D 3462.

#### 6. Installation

- A. Roofing materials shall be delivered and stored dry at all times. When storing materials outdoors, the materials shall be covered with polyethylene tarps or other suitable waterproof tarps.
- B. Prepare surfaces to accept roofing as recommended by the manufacturer. Install in strict accordance with manufacturer's instructions.
  - (1) Install shingles over Owens Corning WeatherLock Flex, flexible self sealing ice and water barrier, to be provided on the north and east roof slopes. Install shingles over 15# asphalt felt laid horizontally with a minimum 6" of lap, to be provided on the west and south roof slopes. Install felts in accordance with recommendations of the Asphalt Roofing Manufacturer's Association.
  - (2) Install each shingle with a minimum of four (4), nails each nail a minimum of 1-1/2" long, annular threaded, hot-dip galvanized, minimum 12 gauge or barbed shank roofing nails, with 3/8" diameter head, as recommended by the manufacturer.
  - (3) Do not install any material having defects, miss-colored, stained or otherwise not as new.

#### 7. Clean Up

- A. Roofing application will be kept neat and clean at all times. Clean up trash at each day's end and remove.

### **SECTION 7910 CAULKING AND SEALANTS**

#### 1. Scope of Work

##### A. Related Documents

- (1) The general provisions of the contract, including general and supplementary conditions and all other requirements apply to this work.

##### B. Description of Work

- (1) Furnish all labor, materials and related items necessary to complete the work indicated on the drawings and/or specified.
- (2) Items of work to be performed shall include, but are not limited to the following:
  - a. Joints between siding and brick walls.
  - b. Joints between brick walls, doors and window frames.
  - c. Control joints in exterior walls.
  - d. Joints between different interior surface materials.
  - e. Joints at protrusions through interior fire walls, etc.
  - f. Interior joints at vanity and cabinet top splashes.
  - g. Interior joints, vertical and horizontal at floor and ceiling.

h. All other required areas and joints – interior only.

C. Quality Assurance

- (1) Comply with all governing codes, requirements and recommendations of published standards (latest editions) and manufacturer's specifications. Comply with the following ASTM standards and these specifications.
  - a. Elastomeric Sealant: Comply with ASTM C 962.
  - b. Solvent-Release-Curing Sealant: Comply with ASTM C 804.
  - c. Latex Sealant: Comply with ASTM C 790.
  - d. Acoustical Sealant: Comply with ASTM C 919.
  - e. Fire-Stop Sealant: Comply with ASTM E 814.

Cl. Submittals

- (1) Contractor to submit 5 sets of manufacturer's product literature and specifications sheets, along with selected colors, type and product number.
- (2) Substitutions of product or "equal" shall be submitted by, Contractor for approval by Owner before use or application.

2. Materials

A. Sealing compound or sealant shall conform to Federal Specification TT-S-230c, Type II (polysulfide base, one part). Sealant shall be non-staining. Color shall be manufacturer's standard product selected by the Owner. Provide color selection chart to Owner.

- (1) Approved products.
  - a. Unicrylic sealant as manufactured by Pecora Corp., Harleysville, Pa.
  - b. Dow Corning 780 building sealant by Dow Corning Corp. Midland, Michigan.
  - c. "Mono" 1-part acrylic terpolymer by Tremco, Cleveland, Ohio.

B. Caulking compounds shall conform to Federal Specification TT-C-598c, Type I. Color shall be manufacturer's standard product selected by Owner. Provide color selection chart to Owner.

- (1) Approved Products.
  - a. 200R2 Architectural Caulking by Precora, Corp., Harleysville, Pa.
  - b. Architectural Grade Caulk by Dap, Inc., Dayton, Ohio.
  - c. Eternaflex Oil Base Caulk by Gibson-Homans Co., Cleveland, Ohio.

C. Interior sealants, shall be one-part Mildew-Resistant Silicone Sealant, Type S; Grade NS; Class 25, for sealing interior joints with nonporous substrates exposed to moisture.

- (1) Approved Products.
  - a. Pecora, 863 Silicone, and AC-20 + Silicone.
  - b. Dow Corning, 786 Mildew Resistant Silicone Sealant.

D. Fire-Stopping Sealant, shall be:

- (1) Approved products:
  - a. USG, Thermafiber Insulation and Firecode Compound.
  - b. IPC, Flamesafe systems.

3. Workmanship

A. Handle, store and apply sealant in accordance with the manufacturer's recommendations and instructions.

- (1) Clean joints and spaces to be caulked free of dust, dirt, loose yarn, dampness and any other material which will adversely affect adhesion of caulking compound to sides of joints.
- (2) Pack joints with yarn to form so as to provide caulking space depth not less than 1/2" or twice the width of joint whichever is greater, unless indicated otherwise.

- (3) Apply caulking compound with a pressure gun having a nozzle t fit the joints. Fill joints solidly and smoothly and without thin edges; remove excess compound; and leave adjoining surfaces clean. Joints shall be watertight. Do not caulk joints until they are substantially in accordance with details on the drawings and/or the applicable division of these specifications. Do not thin the caulking compound.
  - (4) Complete all the caulking before the final coat of paint is applied.
4. Clean Up
- A. Sealant and Caulking, shall be applied in a uniform manner as to width and depth of bead. All excess material, strings, smears, globs, finger prints and etc., shall be cleaned and removed immediately.
    - (1) The work area will be kept clean and neat at all times.
    - (2) Upon completion of the work, project will be thoroughly cleaned and the contractor will remove all equipment, material, and trash.

**DIVISION 8 - DOORS & WINDOWS**  
**SECTION 8200 DOORS AND FRAMES**

- 1. Scope of Work
  - A. Related Documents
    - (1) The general provisions of the contract, including General and Supplementary Conditions and all other requirements apply to this work.
  - B. Description of Work
    - (1) Furnish all labor, materials and related items necessary to complete the work indicated on the drawings and/or specified.
    - (2) Items of work to be performed shall include, but are not limited to the following.
      - a. Provide pre hung louvered bifold doors doors.
      - b. Finish doors to match existing doors and frames.
  - C. Quality Assurance
    - (1) Comply with all governing codes, requirements and recommendations of published standards (latest editions), concerning materials, placement and ASTM standards.
  - D. Submittals
    - (1) Submit five (5) copies of shop drawings, samples, color chips, and product data sheets.
    - (2) Shop drawings to include all necessary information to perform work of this section upon approval of the Owner & Owner.
    - (3) Provide copies of the standard warranty upon completion of the work.
- 2. Materials
  - A. Doors shall match their existing replacement unless otherwise described above.
- 3. Installation
  - A. Doors and Frames shall be individually packaged to prevent any damage to the door, veneer, the frame and/or the finish. Doors and Frames shall be stored upright under cover on wood sills, at the site to avoid warping, staining or any other type of damage.

- (1) Frames and Doors shall be installed immediately after completion of demolition of existing door. Fit and hang as required by Industry standards.
- (2) Skilled tradesman following manufacturer's recommendations shall install all doors.
- (3) Provide minimum 1/8 " clearance at sides, and heads of door, 1/4" over thresholds and 1/2" over floors.

4. Clean Up

- A. At the completion of each day's work, contractor shall clean up trash; rubbish and debris, created by his trade and remove from the work area.
- B. Upon completion of all work, contractor shall remove all equipment and excess material from the premises and clean up all trash, rubbish and debris from the work areas and remove from the premises.

SECTION 8710 - FINISH HARDWARE

1. Scope of Work

A. Related Documents

- (1) The General Provisions of the contract, including General and Supplementary Conditions and all other requirements apply to this work.

B. Description of Work

- (1) Furnish all labor, materials and related items necessary to complete the work indicated on the drawings and/or specified.
- (2) Items of work to be performed shall include, but are not limited to the following.

C. Provide all finished hardware as required by codes, industry standards, ADA regulations, and federal requirements.

D. If requested by the Owner, physical samples shall be submitted for each item. Such samples shall remain with the Owner until hardware installation is substantially completed. The samples may be installed on this project.

E. The supplier shall furnish schedules, templates, or any other pertinent information required to the door and frame manufacturer (s) within 10 days of receipt of the approved Finish Hardware Schedule. Any hardware to be applied by the door manufacturer shall be shipped prepaid by the hardware supplier to the manufacturer's plant. One copy of the door supplier's shop drawings

shall be available to the hardware supplier.

- d. No hardware shall be ordered or sent to the job until the Owner has approved the schedule. Approval of the schedule by the Owner does not relieve the hardware supplier of the meeting of all terms of the specification.
- e. Each item of hardware delivered to the job must be new, in the manufacturer's original package, and free from defects. It must be properly marked in accordance with the approved schedule.

C. Quality Assurance

- (1) Comply with all governing codes, requirements, and recommendations of



published standards (latest editions) concerning materials, placement, and ASTM standards and these specifications.

#### D. Product Performance Requirements

- (1) The Owner will require the following guarantees and performance:
  - a. A written guarantee of five years on all door closers and one year on all other finish hardware.
  - b. A binder that contains a finish hardware schedule, catalog cuts and maintenance and adjustment manuals for all hardware items supplied.

#### Hardware Materials

- A. 1-1/2 pair of hinges per door.
  - (1) Verify finish with Owner

#### 3. Clean Up

- A. As work progresses, daily cleanup work areas, removing empty cartons, trash and debris from the premises. Upon completion of all work, remove equipment, excess materials, trash, rubbish and debris from the premises.

END OF SECTION

## **DIVISION 9 – FINISHES**

### **SECTION 9250 GYPSUM DRYWALL**

#### 1. Scope of Work

##### A. Related Documents

- (1) The General Provisions of the contract, including General and Supplementary Conditions, and all other requirements apply to this work.

##### B. Description of Work

- (1) Furnish all labor, material and related items necessary to complete the work indicated on the drawings and/or specified. Patch any wall board areas as necessary to finish the walls were work was done.

##### C. Quality Assurance

- (1) Comply with all industry recommendations, specifications and published standards (latest editions).
- (2) Comply with all codes – Local, State and Federal.
- (3) Comply with all the current ASTM standards which include, but are not limited to, the following:
  - a. Gypsum Board Standard: ASTM C 840
  - b. Metal Support Standard: ASTM C 754

- c. Fire-Resistance Ratings: Provide gypsum drywall work with ratings indicated and conforming to assemblies tested and listed by recognized authorities.

## 2. Materials

### A. Gypsum Wallboard

- (1) All gypsum wallboard is subject to compliance with requirements.
  - a. Install ½” Gold Bond Durasan prefinished gypsum wall board. Verify the finish texture and color with the Housing Authority Director.
- (2) “T” style joints per mfr.
- (3) Corner trim per mfr.
- (4) Wallboard nails and other metal attachments as recommended by United States Gypsum Company.

## 3. Workmanship

- A. All materials stored on site shall be on pallets or blocks up off of floor, deck or grade and weather protected. Gyp. bd. is to be “pre-warped” per mfr. Also protect all materials from damage or loss.

### B. Application Gypsum Wallboard

- (1) Apply all gypsum wallboard horizontally or vertically tight joints all edges, and fields glued as specified by the mfr..
- (2) All penetration cuts shall be no larger than 1/4" over cut of penetrating object.
- (3) All wallboard edges are to have solid backing for attachment.
- (4) All cut to fit sections of wallboard shall be required minimum 1/8” gap tolerance.
- (5) In driving wallboard nails, Chicago rosettes shall be kept to a minimum, for convenience of finish.
- (6) In place, damaged wallboard, shall be replaced – not patched.
- (7) Tape and minimum 3 coats of joint compound, sanded between each new coat shall be required for joints, nail depressions, etc.
- (8) No shadow cast will be accepted on finished wallboard at joints, nail heads, ripples, bulges, bends, reliefs or depressions.
- (9) Plumb, level, straight and true tolerances shall be 1/8” over an 8-foot span, non-accumulative.
- (10) Finished wallboard shall be free of all abrasions, damage and defects.

## 4. Clean Up

- A. Clean up shall be on a day-to-day basis during gypsum wallboard application and finish work.
  - (1) Scrap, debris and gypsum dust shall be removed daily, and work area shall be kept clean.
  - (2) Clean up on a daily basis joint compound used in the finish process, that splatters to the floor and do not allow to dry.
  - (3) Upon completion of work remove all excess material, debris, scrap, packing material, etc., from the premises.

## SECTION 9900 PAINTING

### 1. Scope of Work

#### A. Related Documents

- (1) The General Provisions of the contract, including General and supplemental Conditions and all other requirements apply to this work.

#### B. Description of Work

- (1) Furnish all labor, materials and related items necessary to complete the work indicated on the drawings and/or specified.
- (2) The items of work to be performed shall include, but are not limited to the following:
  - a. Paint or stain all new interior wood surfaces per the Housing Authority Director.

#### C. Quality Assurance

- (1) The painting contractor shall examine the specifications for the various other trades and shall thoroughly familiarize herself/himself with all their provisions regarding their painting. All surfaces that are left unfinished by the requirements of other specifications shall be painted or finished as a part of this contract.
- (2) The painting contractor shall be responsible for inspecting the work of others prior to the application of any paint or finish material. If any surface to be finished cannot be put in proper condition for finishing by customary cleaning, sanding and putty operations, the painting contractor shall immediately notify the Construction Manager, Architect or Owner in writing – or assume responsibility for and rectify any unsatisfactory finish resulting.
- (3) Comply with all industry recommendations and published standards (latest editions).
- (4) Comply with all codes - Local, State, and Federal.

#### D. Guarantee

- (1) Painting contractor shall provide a one-year guarantee on labor, material, paint, stain, and finish products in typewritten form on the company's letterhead.

### 2. Materials

- A. The following products are approved, and their respective recommended painting, staining and finishing systems are approved.
  - (1) Diamond Vogel Paints
  - (2) Benjamin Moore Paints

- (3) Olympic Stain
- (4) Pittsburgh Paints
- (5) Pratt and Lambert Paints
- (6) Sherwin Williams
- (7) Sophia Morris

B. Contractor shall submit to Architect, name of paint product and manufacturer for approval. Submittal shall include manufacturer's catalog of colors and manufacturer's catalog of painting, staining, and finish systems' specifications for all manufactured products.

### 3. Workmanship

A. All materials used on the job shall be stored in a single place designated by the Construction Manager. Such storage space shall be kept neat and clean, and all damage thereto or its surroundings shall be made good. Any soiled or used rags, waste, etc., must be removed from the building every night, and every precaution must be taken to avoid the danger of fire.

- (1) Workmanship shall be of the best quality and only skilled mechanics shall be involved in product application.
- (2) The painting contractor shall secure color schedules for project before applying any paint or finish. All priming coats and undercoats shall be tinted to approximate shade of the final coat to assure uniformity of color in the finish.
- (3) Contractor shall protect work at all times, and all adjacent work and materials by suitably masking, covering or other recommended method.
- (4) Any and all stains, mars, or defects which are apparent on the finished product, i.e., trim, doors, cabinets, wood details, etc., which cannot be corrected through standard recommended procedures and are not acceptable to the Construction Manager, or Architect, that portion of the work shall be replaced.

### B. Application - Interior

- (1) Interior temperature and humidity shall be kept at levels recommended by the manufacturer.
- (2) All interior gypsum board walls shall receive minimum two full coats of flat latex paint.
- (3) The tinted first coat of all wall paint shall be approved by the Construction Manager or Architect, prior to the application of the second coat.
- (4) The two full coats of paint shall provide an overall smooth, consistent opaque appearance and be accepted by the Construction Manager and Architect.
- (5) Hi-spots, transparencies, and thinness of opaque coat shall require additional coats until consistency is achieved.

- C. Application - Trim, Doors, Interior Window Wood, Wood Details, Stairs, Walls
- (1) All woodwork to be stained shall be sanded smooth, eliminating absolutely all defects on the view areas.
  - (2) All woodwork shall receive scheduled stain as required for consistency; upon complete drying, the first coat of polyurethane shall be applied hi-gloss. Upon drying, all nail holes, cracks, protrusions, etc., shall be filled with matching stain wood filler. Wood filler shall be brought flush with the wood surface in a neat workmanlike manner. Upon wood filler drying, sand or rub all areas for a smooth, even consistency; light gauge sand paper shall accomplish this step. Upon completion of all areas, the second and final coat of polyurethane shall be applied, satin finish.
  - (3) The Construction Manager or Architect shall approve system used on woodwork.
  - (4) All trim and woodwork details to be located in damp or moist areas shall be back primed before installation, with an interior trim primer or oaken preservative as recommended by manufacturer.

D. Application - Casework

- (1) Architectural Woodwork Institute Guidelines shall be observed and followed for transparent finish of casework.
- (2) The catalyzed systems have been specified, as they are neutral in flame-spread contribution.
- (3) Tolerance used in inspecting finish surface of casework shall be specified by AWI, visual test for exposed surfaces, AWI grades premium and custom.
- (4) Finished work not passing these specifications shall be refinished or replaced.

4. Clean Up

- A. Clean up work areas on a daily basis and remove trash, debris, empty paint containers and packing cartons from the work area.
- B. Upon completion of the work, contractor shall remove all stain, polyurethane, lacquer and paint spots from all walls, glass and other surfaces. The Construction Manager shall inspect all areas of the work for approval, prior to accepting the work.
- C. Contractor shall remove from premises all rubbish, debris, equipment, etc., and leave the area in a clean, orderly, acceptable condition.
  - (1) Where practical, painting contractor shall provide sufficient amounts of each color of paint or stain used. This may come from excess paint supplies for Owner's future use as touch-up, etc.

**DIVISION 10 - SPECIALTIES**

Not required.

## **DIVISION 11 - EQUIPMENT**

Not required.

## **DIVISION 12 - FURNISHINGS**

Not required.

## **DIVISION 13 - SPECIAL CONSTRUCTION**

Not required.

## **DIVISION 14 - CONVEYING SYSTEMS**

Not required.

## **DIVISION 15 – MECHANICAL**

### **SECTION 15000 - GENERAL PROVISIONS**

#### **1. SCOPE OF WORK**

- A. This section is supplemental to the “General Conditions” as set forth in these specifications, and shall apply to all phases of work specified, shown on the drawings, or required to provide for a complete installation of the exhaust fan for this project. When at variance with the “General Conditions” the General Provisions – Mechanical shall have preference.
  
- B. The work covered by this specification shall include furnishing all labor, material, equipment and services to install a new exhaust fan in the kitchen, a new exhaust fan in the bathroom, a new bathtub, toilet and double bowl sink in the bathroom, washer and dryer hook ups, as shown on the drawings and specified herein. Also a new heating and cooling system with insulated ductwork in the attic as shown on the drawings and specified herein.

#### **2. CODES**

- A. All work shall be in accordance with applicable Federal, State, Local codes. All work shall comply with the rules and recommendations of manufacturers and all testing agencies.

#### **3. PERMITS AND FEES**

- A. The Contractor shall familiarize himself with all the requirements pertaining to permits, fees, codes and ordinances, etc., and arrange to comply with them. All permits, licenses, fees, inspections and arrangements required for the, work under this contract shall be obtained by the Contractor as his/her expense.

#### **4. GENERAL**

- A. All conditions set forth in Division 1 of these specifications are applicable to all Prime Contracts, which include the Plumbing, Heating, Ventilating, Outside Utility and Air Conditioning Contractors.

#### **5. INTERPRETATION OF DRAWINGS**

- A. Drawings supplied herewith are to be interpreted as diagrammatic only. The drawings are intended to show the apparatus in a general way. No attempt has been made to show every individual component. Such items are to be provided as specified, and all connections are to be made as specified.
- B. All work shall be executed in such a manner as to interfere as little as possible with the normal functioning of the existing services and with work being done by others. Public way shall be kept clear of materials etc. at all times, so there will be no interference with the usual traffic. Where necessary, on account of the new work, existing pipes are required to be cut, they shall be cut and capped at suitable places as to not interfere with the placement of the new equipment. Immediately contact the Owner or Architect if questions arise as to the location of the terminated items. No existing service shall be interrupted without prior approval of the Owner, and all arrangements for work which involve such interference shall be made in advance with the Owner so that same can be affected in a minimum of time and interference.

#### **6. MATERIALS AND EQUIPMENT**

- A. It is the intent of these specifications to establish quality standards of materials and equipment installed. Therefore, specific items are identified by the manufacturer, trade name or catalog designation. However, the Owner or Architect may approve items other than those specified for this project.
- B. All equipment and materials furnished and installed on this job by the Contractor shall be made, assembled and manufactured by companies of the USA.

#### **7. PROTECTION OF MATERIAL STORED ON SITE**

- A. All equipment and material to be stored on the jobsite for any period of time shall be protected from the weather in a manner that is acceptable to the Owner or Architect.
- B. All equipment and material shall be stored off the ground to insure that no dirt or debris can enter the equipment and material before installation. Failure to store materials correctly shall be just cause for the Architect to direct the Contractor to remove material from the jobsite and replace with new equipment and material.

## **8. CHANGE ORDERS**

- A. Any changes in the work, which result in additional cost or reduction in cost, shall be covered by an appropriate addition to or deduction from the contract sum. In submitting a breakdown for an addition to or reduction from the contract sum, for any price exceeding one hundred dollars, the Contractor shall submit a breakdown showing unit material price and unit labor price. This shall include total quantity of material and labor, etc., with unit price.

## **9. VISIT SITE**

- A. Bidders are advised to visit the site and inform themselves as to all conditions, and failure to do so will in no way relieve the successful bidder from the necessity of furnishing any material or performing any work that may be required to complete the work in accordance with the true intent and meaning of the drawings and specifications without additional cost to the Owner.

## **SECTION 15010 - GENERAL MECHANICAL REQUIREMENTS**

### **1. MATERIAL AND WORKMANSHIP**

- A. This specification and accompanying plans contemplate a complete high grade kitchen cabinet installation in which all workmanship shall be thoroughly first class and complete in both effectiveness and appearance, whether finally concealed or exposed, and shall be executed by none but experienced mechanics.
- B. The Contractor is responsible for all work installed by Contractor or Contractor's Sub-Contractor until Contractor's contract with Owner is complete.
- C. Contractor shall protect the work from injuring others. All temporary openings in piping and ducts shall be capped, plugged or otherwise protected to prevent any harm to any individual.
- D. Care shall be taken to see that all pipe and fittings are installed free from paint, dirt or grease. All finished work and all equipment shall be delivered to the Owner clean.

### **2. ORDINANCES AND UNDERWRITER'S REQUIREMENTS**

- A. The Contractor shall execute this work in strict accordance with the laws, regulations and ordinances of the City, County, State and Federal governments.
- B. The Contractor shall obtain and pay for all fees, permits and licenses required by law, regulations or ordinances as part of this bid price, and shall be held responsible for any violation of the law.



- C. The Contractor shall use all proper means for the safety of the public by installing and maintaining signal light, barriers, guards and warning signs.
- D. All work, as a minimum, shall be in accordance with the current following codes: National Fire Protection Association (NFPA) and the National Plumbing Code (NPC) and the American Society of Heating, Refrigerating & Air Conditioning Engineers, Inc. (ASHRAE).
- E. The Contractor shall become acquainted with the local codes, and in case of a discrepancy between plans or specifications and the local codes, the Contractor shall use the code requirements. The greater quantity of work and material and/or better quality shall be used for estimating, and the matter brought to the Owner's and Architect's attention for a written decision.

### **3. GUARANTEE**

- A. The Contractor, by the acceptance of this specification and signing of the contract, acknowledges their acquaintance with all requirements and guarantees that every part going to make up the system, as herein provided, will be of the best of its respective kind that can be obtained and will be erected in a most thorough and substantial manner by none but experienced labor.
- B. The Contractor guarantees that all piping as provided in this specification will be free from all obstructions to the circulation or flow of its content, and that all piping will be tight and drip free.
- C. The Contractor guarantees that any equipment and material will be successfully installed and will perform the work for which they are installed, and that each will operate smoothly and quietly up to its rated capacity.
- D. The Contractor guarantees that the entire system of ductwork will provide a free circulation of air without objectionable noise and draft.
- E. The Contractor guarantees that in the entire domestic water system, if altered, a continuous and noiseless circulation of water will be established to all fixtures, that water may be drawn from any fixture or equipment without hammering.
- F. The Contractor further guarantees their responsibility for any defects which may develop in any part of the entire system, including apparatus, piping, fixtures and appliances, as provided under this specification, due to faulty workmanship, design or materials and to replace and make good, without cost, and such faulty parts or construction which develop defects at any time within one (1) year from date of substantial completion. Any repairs or replacements required on account of defects, as outlined in this clause, shall be made promptly upon receipt of written notice from the Architect.
- G. The Contractor shall not make natural wear, accident or carelessness on the part of others, good.

#### **4. ADJUSTMENTS**

- A. All equipment furnished under this contract shall be adjusted to run, as intended by the specifications.
- B. Keep all motors and similar equipment covered until directed otherwise by the Architect, so as to keep same free from dirt, dust and moisture.

#### **5. OPERATING AND TESTING**

- A. When the project is completely finished, the Contractor will be required to operate all systems installed by the Contractor under this specification for a period of three (3) days during which time the system shall be fully blown out, and all dirt, sand, scale, grease, etc., removed there from. Before final acceptance and before turning over the work to the Owner, and Contractor shall have all parts tested and in good working order, Contractor shall furnish all tests that may be required to demonstrate the efficiency of different appliances as called for herein. The Contractor shall furnish all labor required for the test; the Owner will furnish electrical current, oil, steam, water or gas required for such test. The Contractor shall furnish sufficient oil and grease and keep all equipment and bearings, etc, filled while all preliminary tests are being run.
- B. All water piping, as required by this project, shall be tested with not less than 125 psi hydrostatic pressure for an interrupted period of not less than 24 hours. If the pressure loss is excessive, leaks shall be repaired as directed by the Engineer. All piping shall be tested as above outlined before any insulation is installed. All piping lines shall be drip tight; this applies to valve stems, etc., as well as pipe joints.
- C. The Owner's representative and the governing authorities' representative, if required, shall be notified 48 hours in advance of the test, and shall witness all tests.

#### **6. OPENINGS**

- A. The Contractor shall arrange for the necessary openings in the building to allow for the admittance of all apparatus furnished under this contract.

#### **7. LABOR**

- A. All labor employed on the work shall be such as will work harmoniously with all of the other trades. The Contractor shall be responsible for hiring the proper trades to perform the work hereinafter specified.

#### **8. CUTTING AND REPAIRING**

- A. The Contractor shall do all cutting of floors, walls and partitions, and do the entire fitting necessary for proper installation of their work. Before doing any cutting, the Contractor shall obtain permission from the Architect and follow the instructions as to the method of cutting. All holes shall be cut as small as possible to admit piping, ductwork, etc. and with as much care as possible. This shall include cutting of all floors that are poured where sleeves or openings are omitted. Repairing around holes shall be the responsibility of the Contractor.
- B. Avoid cutting insofar as possible by setting sleeves, frames, etc., or requesting openings in advance.
- C. If cutting of newly finished work is required by the Contractor, the Contractor is responsible for repairing the work to its original condition.
- D. In buildings where cutting of holes through reinforced concrete is necessary for the installation of piping, a rotary type drill shall cut such holes. The use of pneumatic hammer type drills, impact type electric drills and hand or manual hammer type drills will not be allowed, except as permitted by the Architect where required by limited working space. All holes shall be located so as not to affect structural sections such as ribs or beams. Holes shall be laid out in advance and drilling shall be done only after approval by the Architect.

- E. The Contractor shall prepare accurate drawings showing the location of all pipe sleeves, inserts and openings through or into the reinforced concrete construction. Location shall be selected to permit neat workmanship installations of piping systems and related equipment, and shall be arranged to avoid interferences and misalignment. The above drawings shall be prepared by the Contractor for hi/her own use at the earliest date for rapid and successful completion of the work.

**9. TRANSITION FITTINGS**

- A. Where transition occurs from sweated to threaded fittings as at connection to fixture supplies, etc., provide rigid anchorage so that no strain will be placed upon tubing. For this purpose, lugs shall be provided integral with the fitting or a screw plate shall be brazed to the fitting or some other means approved by the Architect.

**10. SHOP DRAWINGS**

- A. The Contractor shall submit not less than five (5) copies of manufacturer's shop drawings of plumbing fixtures, valves, fans, motors, coils, water heaters and all other equipment in this contract for approval.
- B. The Contractor shall submit for approval by the Architect not less than five (5) copies of shop drawings made to 1/4" equals 1'0" scale showing piping, ductwork and equipment location. These drawings should show all construction details and be accurately dimensioned to show piping, ductwork and equipment clearing all beams, columns, joists, walls, ceilings or other equipment.
- C. All machinery rooms and finished areas are shown on the drawings using specified equipment, and if the Contractor uses different approved equal equipment, all additional piping and cutwork or other changes as a result of using other equipment must not result in additional cost to the Owner.

**SECTION 15030 - ELECTRICAL PROVISIONS OF MECHANICAL WORK**

**1. PRE-ORDERED PRODUCTS**

- A. Pre-purchased material/equipment furnished by Owner to be unloaded, stored and installed by the Contractor is listed in Section 01010.
- B. Contract items negotiated by Owner and coordinated by Contractor for delivery and installation scheduling is listed in Section 01010.
- C. Standards: For electrical equipment and products, comply with applicable NEMA standards, and refer to NEMA standards for definition of terminology herein. Comply with National Electrical Code (NEC) for workmanship and installation requirements.

**SECTION 15060 PIPES AND PIPE FITTINGS**

**1. SCOPE OF WORK**

- A. Related Documents
  - (1) The General Provisions of the contract, including General and Supplementary Conditions and all other requirements apply to this work.
- B. Description of Work
  - (1) Furnish all labor, materials and related items necessary to complete the work indicated on the drawings and/or specified.
  - (2) Items of work to be performed shall include, but are not limited to the following:
    - a. New supply line and new shut off valve to new faucet.
    - b. New faucet.
    - c. New sink.
    - d. New sink drain trap.
- C. Quality Assurance

- (1) Comply with all Local, State and Federal codes and requirements published and implied.
  - (2) Comply with all published standards (latest editions) on recommendations, specifications and testing.
  - (3) Welding: Qualify procedures, welders and operators in accordance with ASTM B31, code for pressure piping and certify in accordance with NCPWB.
  - (4) Brazing: Certify procedures, braziers, and operators in accordance with ASME Boiler and Pressure Vessel code, Section IX.
  - (5) NSF Labels: Provide on plastic piping in contact with potable water.
- D. Submittals
- (1) Subcontractor shall submit five (5) copies of product data sheets, specifications and recommended installation requirements.
  - (2) Submit manufacturer's technical product data, and the installation instructions for each type of pipe and pipe fitting.
  - (3) Submit reports as required for welding and brazing certifications.
2. MATERIALS
- A. Piping Materials: Provide pipe and tube of type, joint type, grade, size and weight (wall thickness or class) as indicated or specified for each service. Where type, grade or class is not indicated, provide proper selection as required by industry standards.
- (1) Black Steel Pipe: ASTM A 53, A 106 and A 120
  - (2) Copper Tubing: ASTM B 88
  - (3) Polyvinyl Chloride Sewer Pipe (PVC): ASTM D 2729
  - (4) Polyvinyl Chloride Drain, Waste, and Vent piping (PVC): ASTM D 2665
- B. Pipe & Tube Fittings: Provide factory-fabricated fittings of type, materials, grade, class and pressure rating indicated for each service and pipe size. Provide sizes and types matching pipe, tube, and valve or equipment's connection in each case. Where not otherwise indicated, comply with governing regulations and industry standards for selections, and with pipe manufacturer's recommendations where applicable.
- (1) Pipe Nipples: Same piping material as connecting pipe. Schedule 80 for 1-1/2" unthreaded length, with pipe sizes less than 1-1/2" use no close nipples.
  - (2) Bronze Pipe Flanges and Fittings: ANSI B 16.24
  - (3) PVC Fittings:
    - a. DWV Socket: ASTM D 2665
    - b. Sewer Socket: ASTM D 2729
    - c. Solvent Cement: ASTM D 2564
    - d. Solvent Cement (join PVC to ABS): ASTM D 3138
    - e. Insert: ASTM D 2609
- C. Soldering Material: Provide the following best suited for each designated service.
- (1) Tin-Lead Solder: ASTM B 32, Grade 50A: for drainage piping and systems.
  - (2) Silver-Lead Solder: ASTM B 32, Grade 96TS: for refrigerant piping.
- D. Piping Connectors: Provide the following connectors as required, specified or best suited to complete the connection.
- (1) Gaskets for Flanged Joints: ANSI B 16.21; full-faced for cast-iron flanges; raised-face for steel flanges.
  - (2) Piping Connectors for Dissimilar Non-Pressure Pipe: Elastomeric annular ring insert, or Elastomeric flexible coupling secured at each end with stainless steel clamps, sized for exact fit to pipe ends and subject to approval by local plumbing code.
  - (3) Dissimilar Metal Piping Connection: All shall be connected with Dielectric Unions.
3. INSTALLATION

- A. General: Install pipes and pipe fittings in accordance with recognized industry practices, which achieve a permanently-leak proof piping system, capable of performing each indicated service without piping failure. Install each run with minimum joints and couplings, but with adequate and accessible unions for disassembly and maintenance/replacement of valves and equipment. Reduce size (where indicated) by use of reducing fittings. Align piping accurately at connections, plus or minus 1/16" tolerance. Comply with ASME B 31 Code for Pressure Piping.
- B. Locate Piping Runs: Except as otherwise indicated, vertically and horizontally (pitched to drain) and avoid diagonal runs wherever possible. Orient horizontal runs parallel with walls and column lines. Locate runs as shown or described by diagrams, details and notations or, if not otherwise indicated, run piping in shortest route which does not obstruct usable space or block access for servicing the building and its equipment. Hold piping close to walls, overhead construction, columns and other structural and permanent-enclosure elements of the building. Limit clearance to 1/2" where furring is shown for enclosure or concealment of piping, but allow for insulation thickness. Where possible, locate insulated piping for 1" clearance outside insulation.
- C. Electrical Equipment Spaces: Do not run piping through transformer vaults and/or other electrical or electronic equipment spaces and enclosures unless unavoidable. Install drip pans under piping that must run through electrical spaces.
- D. Joint Installation: (Supply)
  - (1) Thread pipe in accordance with ANSI B2.1. Apply pipe joint compound, or pipe joint tape (Teflon), on male threads and tighten joint to leave not more than three threads exposed.
  - (2) Solder Copper tube-and-fitting joints in accordance with applicable provisions of CDA "Copper Tube Handbook.
  - (3) Plastic Pipe and Tube Joints shall comply with the following:
    - a. Heat Joining of Thermoplastic Pipe, ASTM D 2657
    - b. Solvent Cemented Joints, ASTM D 2235, and ASTM F 402.
- E. Risers & Branches
  - (1) All risers and branches of soil and waste lines shall be of pipe fittings, as herein specified. All connections shall be made through drainage Y's with cleanouts properly located: elbows used to change from vertical to horizontal lines shall be pitched to the proper grade of horizontal lines. Risers shall be installed absolutely plumb and straight. Branches shall run in straight lines, and pitch uniformly with a grade of not less than 1/8" per foot. Risers and branches shall be concealed in construction except where otherwise shown. All exposed piping shall be as high in ceiling space and as near to walls, and run as inconspicuous as possible.
  - (2) The elbows or bends at the foot of all vertical lines wherever possible shall have a proper seat on the same to support the weight of the pipe above. This seat to rest on a wall bracket or a concrete pier furnished by the Mechanical Contractor.
  - (3) All drain, hot water, cold water, rainwater, soil and vent stacks, risers and other branches shall offset where required to miss ducts, beams, joists, or other obstructions. Provide suitable loops in piping as required to take care of expansion.
  - (4) All piping shall be supported at each level, and shall be arranged to take care of expansion.
  - (5) Prohibited Fittings: No double hub or double tee branch shall be used on soil or waste lines. The drilling and tapping of building drains, soil, waste, or vent pipes and the use of saddle hubs or bands are prohibited. Any fittings or connections which have an enlargement chamber or recess with a ledge, shoulder or reduction of the pipe area that offers an obstruction to the flow through the drain is prohibited.

- (6) Prohibited Connections: No fixtures, devices or construction shall be installed which will provide a backflow connection between a distribution system of water for drinking and domestic purposes to the drainage system, soil or waste pipe so as to permit or make possible the backflow of sewage or waste into water system.

F. Sanitary Sewer & Rainwater Lines

- (1) The Mechanical Contractor shall connect up all the plumbing fixtures, drains, roof drains, etc., as shown on the drawings or as required, and shall extend the cast iron sanitary sewer lines underground outside of the building at least 5 feet unless noted otherwise on the drawings.
- (2) Pipe shall be laid with bell ends pointing upgrade. Pipes shall be graded carefully so that when pipe is place, it shall be supported at its proper elevation and grade. Care shall be taken to secure firm and uniform support. Adjacent lengths of pipe shall be adjusted with reference to each other and blocking or wedging between hub and spigot will not be permitted. Spigots shall be adjusted in the bells so as to give a uniform space all around. If any pipe does not allow sufficient space for proper caulking, it shall be replaced by pipe of proper dimensions; open ends at the end of each day's work shall be closed temporarily with wood blocks. Pipe shall be graded not less than 1/8" per foot of fun, unless approved by architect.

G. Cleanouts

- (1) Cleanouts shall be of the same nominal size as the pipes to which they are connected up to 4" in diameter, and not less than 4" for larger pipes.
- (2) Cleanouts shall be provided at not more than 40 feet apart in horizontal drainage lines and at each floor in vertical risers.
- (3) Cleanouts shall be provided at each change of direction of the building drain when the angle of change is 90 degrees.
- (4) Cleanouts are provided at or near the base of each vertical stack.
- (5) Cleanouts shall be provided at the point where the building drains leave the building.
- (6) Cleanouts shall be installed so that the cleanout opens in a direction opposite the flow of the drainage line, or at right angle to the lines.

H. Joints: (Soil and Waste)

- (1) All joints and connections shall be made gas and watertight. Slip joints between the traps, etc. and will not be accepted.
- (2) All joints in cast iron soil pipe system above grade shall be made with the no hub system, as approved by the project manager.

4. INSPECTING AND TESTING

A. General: Clean exterior surfaces of installed piping systems of superfluous materials, and prepare for application of specified coatings. Flush out piping system with clean water before proceeding with required tests. Inspect each run of each system for completion of joints, supports and accessory items.

- (1) Inspect pressure piping in accordance with ASME B 31.
- (2) Disinfect water mains and water service piping in accordance with AWWA C 601.
- (3) Test pressure piping in accordance with ASME B 31.

B. Repair piping system sections which fail required piping test, by disassembly and re-installation, using new materials to repair failure. Do not use chemicals, stop-leak compounds, mastics, or other temporary repair methods.

**SECTION 15100 VALVES**

1. GENERAL

A. Provide factory-fabricated valves recommended by manufacturer for use in service indicated. Provide valves of types and pressure ratings indicated; provide proper selection as determined by Installer to comply with installation requirements. Provide end connections, which

properly mate with pipe, tube and equipment connections. Where more than one type is indicated, selection is Installer's option.

- (1) Sizes: Unless otherwise indicated, provide valves of same size as upstream pipe size.
- (2) Operators: Provide new ¼ turn shut off valve in all apartment and family units.

B. Gate Valves

- (1) Comply with the following standards:
  - a. Cast-Iron Valves: MSS SP-70
  - b. Bronze Valves: MSS SP-80
  - c. Steel Valves: ANSI B16.34
- (2) Gate Valves:
  - a. 2-1/2" and larger: 125 lb. SWP flanged iron body, bronze, mounted rising stem, OS & Y, solid wedge, bolted bonnet.
  - b. 2-1/2" and smaller: 125 lb. SWP soldered ends, bronze body, rising stem, solid wedge.
- (3) Manufacturer:
  - a. Crane
  - b. Grinnell
  - c. Jenkins
  - d. Milwaukee
  - e. Nibco

C. Globe Valves

- (1) Comply with the following standards:
  - a. Cast-Iron Valves: MSS SP-85
  - b. Bronze Valves: MSS SP-80
  - c. Steel Valves: ANSI B16.34

D. Check Valves

- (1) Comply with the following requirements:
  - a. 2-1/2" and larger: 125 lb. SWP flanged iron body, bronze mounted, horizontal swing, renewable seat and disc, bolted cap.
  - b. 2" and smaller: 125 SWP, soldered ends, bronze horizontal swing, renewable disc.

E. Drain Valves

- (1) Comply with the following standards:
  - a. Water Heater Drain Valves: ASSE 1005
  - b. Manufacturer: Lee; Nibco; or Tanner

F. Bail Valves

- (1) Comply with the following standards:
  - a. Cast-Iron Valves: MSS SP-72  
Steel Valves: ANSI B16.34
  - b. Manufacturer: Crane, Fairbanks; Hammond; Grinnell; Jamesbury; Jenkins; Nibco

2. VALVE FEATURES

A. General: Provide valves with features indicated and where not otherwise indicated, provide proper valve features as determined by Installer for installation requirements. Comply with ASME B31.9 for building services piping and ASME B31.1 for power piping.

- (1) Bypass: Comply with MSS SP-45, and except as otherwise indicated; provide manufacturer's standard bypass piping and valving.
- (2) Drain: Comply with MSS SP-45, and provide threaded pipe plugs.
- (3) Threaded: Valve ends complying with ANSI B2.1.
- (4) Solder-Joint: Valve ends complying with ANSI B16.18.

B. Installation

- (1) Install valves where required for proper operation of piping and equipment, including valves in branch lines where necessary to isolate sections of piping. Locate valves so as to be accessible and so that separate support can be provided when necessary.
- (2) Install valves with stems pointed up, in vertical position where possible, but in no case with stems pointed downward from horizontal unless unavoidable. Install valve drains with hose-end adapter for each valve that must be installed with stem below horizontal plane.
- (3) Install extended-stem valves, where insulation is indicated, arranged in proper manner to receive insulation.
- (4) Select and install valves with the following ends or types of pipe/tube connections:
  - a. Tube Size 2" and Smaller: Soldered-joint valves.
  - b. Pipe Size 2" and Smaller: Threaded valves.

**SECTION 15440 PLUMBING FIXTURES**

1. SCOPE OF WORK

- A. Provide the specified plumbing fixtures of manufacturer's standard materials and labor for a complete installation, as drawn, specified and for applications as required by city, state and federal regulations and codes

2. CODES

- A. See Section 15000, Item 2, Paragraph A.

3. PERMITS AND FEES

- A. See Section 15000, Item 3, Paragraph A.

4. COMPLIANCE

- A. Comply with the latest published requirements of each of the following agencies and industry published standards (latest editions):

- (1) Comply with all City, County, State and Federal codes and regulations, concerning plumbing fixture materials and the proper installation of fixtures.
- (2) Comply with Federal Specification WW-P-541 series section pertaining to plumbing fixtures, fitting, trim, metals and finishes.
- (3) ANSI: Construct and install barrier-free plumbing fixtures in accordance with ANSI A117.1.
- (4) ADA: Comply with the American with Disabilities Act.

5. SUBMITTALS

- A. Submit manufacturer's technical product data, including fixture catalog cuts, rough-in dimensions, installation instructions, and maintenance data for each type of plumbing fixture.

6. MATERIALS

- A. Provide factory-fabricated fixtures of type, style and materials indicated. Provide associated trim, seats, and valves as described by the published product information or as recommended by the manufacturer, and/or as required for a complete installation.

- (1) Provide fixtures with fine finished flatness and smoothness of surface. Exposed finished surfaces with pitting, seam marks, roller marks, foundry casting holes, stains, discoloration, or other surface imperfections on finished units are not acceptable, and will be rejected.
- (2) Faucets: As indicated locations where water is supplied by manual, automatic or remote control, provide commercial quality faucets, valves, or dispensing devices, of the type and size specified, and as required to operate as specified. Include manual shutoff valves and connecting stem pipes to permit fixture and faucet servicing without shutdown of service.
  - a. Faucets, fittings and trim shall be chrome or as otherwise indicated on the drawings or scheduled.



- b. Vacuum Breakers: Provide with flush valves where required by governing regulations, including locations where water outlets are equipped for hose attachment.
  - (3) Escutcheons: Where fixture supplies and drains penetrate walls in exposed locations, provide chrome-plated cast-brass or sheet metal escutcheons with setscrew or friction clips.
- 7. FIXTURE SCHEDULES
  - (1) The plumbing fixtures shall be provided as indicated on the plan.
- 8. INSTALLATION
  - A. Install plumbing fixtures where shown and at indicated heights; in accordance with fixture manufacturer's written instructions, roughing-in drawings, and with recognized industry practices. Ensure that the plumbing fixtures comply with requirements and serve intended purposes. Comply with applicable requirements of the State and Local Plumbing codes pertaining to installation of plumbing fixtures.
    - (1) Fasten plumbing fixtures securely to supports or the building structure; and ensure that fixtures are both level and plumb. Secure plumbing supplies behind or within wall construction so as to be rigid, and not subject to pull or push movement.
    - (2) Protect installed fixtures from damage during the remainder of construction, and up to final acceptance of the work.
  - B. Upon completion of installation, and after units are water pressurized, test fixtures to demonstrate capability and compliance with requirements. When possible, correct malfunctioning units at site, then retest, for compliance; otherwise, remove and replace faulty fixture with new unit and proceed with testing.
    - (1) Inspect each installed unit for damage to finish. If feasible, restore and match finish to original at site; otherwise, remove fixture and replace with a new unit. Remove all cracked and/or dented units and replace with new. Construction Manager to make final approval and acceptance of installed fixtures.
    - (2) Clean plumbing fixtures, trim, and strainers of dirt and debris upon completion of installation.
    - (3) Adjust water pressure at faucets, shower valves, and flush valves to provide proper flow and specified GPM.
    - (4) Adjust or replace washers to prevent leaks at faucets and stops.
    - (5) Furnish special wrenches and other devices for the servicing of plumbing fixtures and trim, to the Owner upon final acceptance. Furnish one device for every ten (10) units.

## **DIVISION 16 – ELECTRICAL**

### **SECTION 16000 GENERAL PROVISIONS**

- 1. Scope of Work
  - A. This section is supplemental to the "General Conditions" as set forth in this specification, and shall apply to all phases of work specified, shown on the drawings, or required to provide for a complete installation of the electrical systems for this project. When at variance with the "General Conditions" the General Provisions Section 16000 of these specifications shall overrule.
  - B. The work covered by this specification shall include furnishing all labor, materials, and services to install the electrical equipment as shown on the plans and specified within. Relocate and/or add new outlets and switches as required by the new layout. Provide all g.f.c.i. circuits / outlets as required per code. Contractor is responsible for site visit to determine that the existing electrical service is adequate to supply power to the new lights, exhaust fans, receptacles as shown on the plans. If Contractor determines the existing

electrical service is inadequate for the new electrical items, Contractor will provide labor, materials, equipment and services required to make the electrical service adequate. A change order will be submitted to the Owner from the Contractor for the additional work.

## 2. Codes

A. All work shall be in accordance with applicable Federal, State and Local Codes. All work shall comply with the rules and recommendations of the National Fire Protection Association, all requirements of local utility companies and the State Fire Inspector Bureau. These codes, rules, recommendations and requirements shall take precedence if the drawings and specifications are not in conformance therewith.

## 3. Permits & Fees

A. The Contractor shall familiarize himself with all the requirements pertaining to permits, fees, codes and ordinances, etc., and arrange to comply with them. The Contractor at his expense shall obtain all permits, licenses, fees, inspections, and arrangements required for the work under this contract.

## 4. Materials & Equipment

A. It is the intent of these specifications to establish quality standards of materials and equipment installed. Therefore, specific items are identified by the manufacturer, trade name or catalog designation. However, the Owner or Architect may approve items other than those specified for this project. See attached product cut sheets for the requested items.

- (1) If two or more different products are defined or indicated, or if plans and specifications differ in the type of work to be performed, use the product of greater quality and the greater amount of work for bidding purposes. Inform the Owner or Architect of the discrepancy immediately.
- (2) Should the Contractor propose to furnish materials and equipment other than those specified, as permitted by the "or approved equal" clauses, he shall submit complete shop drawings and descriptive catalog material with his bid proposal and shall indicate any addition or deduction to the contract price.
  - a. If no such material is submitted with the offered bid, the contractor shall furnish materials and equipment exactly as specified.
- (3) The Architect shall be the sole and final judge as to the equality of substitute materials and equipment.
- (4) Where such substitutions alter the design or space requirements indicated on the plans, the Contractor shall include all items of cost for the revised design and construction including cost of all allied trades involved.
- (5) In all cases where substitutions are permitted, the Contractor shall bear any extra cost of evaluating the equality of the materials and equipment to be installed.
- (6) All electrical products used on this project shall be listed and labeled by Underwriter's Laboratories, Inc. (UL and shall conform to the applicable standards of the National Electrical Manufacturers Association NEMA).
- (7) All materials and equipment shall be new and previously unused unless otherwise indicated on the drawings.
- (8) All materials and equipment, to include installation labor shall be covered by a one-year unconditional warranty. Warranty shall be in written form on the Company's stationary and submitted to Owner, upon Owner's acceptance of the building.
- (9) The outside surface of most electrical equipment such as metal-clad and metal-enclosed switchgear, motor control centers, switchboards and panels are finished at the factory and great care shall be exercised not to damage this original finish during the installation of the equipment and during construction work. If the factory finish is

damaged by the contractors, the damaged area shall be refinished, and the refinished surface shall be equivalent in every respect to the original surface including color, texture and smoothness of finish. Refinishing paint or lacquer, if furnished with equipment may be used; otherwise the paint or lacquer shall be obtained from the equipment manufacturer.

- (10) Where lighting panels, conduits, etc., are installed in finished areas, others will paint these under the painting specifications to match the rest of the wall finish. Care must be taken to insure that hinges, lock, etc., are not filled with paint that will cause, them to malfunction or chip the paint off the finished surface when operated.
  - (11) All disconnect switches and starters shall have identification of the equipment served neatly stenciled on the switch, or labeled with an embossed plastic tape. Tape shall be minimum 1/2" wide, black, and with white letters. Label shall have complete name of equipment, as well as its mark or number, such as "Air Handling Unit AH-1".
    - a. All main and sub disconnect switches shall be labeled the same as above.
    - b. All breaker panels and each individual breaker shall be labeled and identified as to each of the areas, and equipment it controls or disconnects.
    - c. All labels shall be mechanically made, and attached in such a fashion, as to remain in place for the life of the equipment.
    - d. A booklet listing all labeled equipment, panels, switches, breakers, and etc., shall be given to the owner upon acceptance of the system.
5. Coordination of Work
- A. The contract drawings indicate the extent and the general location and arrangement of equipment. The Contractor shall study Architectural plans and details so that the equipment will be properly located and readily accessible so as to avert possible installation conflicts. If concealed, access doors shall be provided. The ductless split system shall be located to avoid interference with mechanical or structural features. If any conflicts occur necessitating departures from the contract drawings, details of departures and reasons therefore shall be submitted as soon as practicable for written approval of the Architect.
    - (1) The location of all electrical equipment is approximate. The exact location of the electrical equipment shall be determined in the field to avoid interference with mechanical equipment and piping. When it becomes necessary to locate pipes above panels, an adequate drip shield shall be provided over the panel. All panels shall be located so as to be readily accessible by providing a minimum 36" clear space in the area directly in front of the panels.
    - (2) Discrepancies shown on different plans, or between plans and actual field conditions, or between plans and specifications, shall promptly be brought to the attention of the Architect for a prompt decision and/or correction.
    - (3) All installations and workmanship shall be of the very best quality and performed by experience and/or licensed personnel.
6. Fixtures & Equipment Furnished By Others
- A. Where the drawings indicate fixtures and equipment which are to be furnished and installed by others, and which require connections to the electrical system, the Electrical Contractor shall furnish and install all rough-ins and fittings, and shall make final connections to the fixtures and equipment. Rough-in locations shall be determined from the equipment itself or from the equipment manufacturer's shop drawings or product information drawings.
7. Cutting Floors, Walls & Ceilings
- A. Cutting, fitting, patching, repairing and finishing of carpentry work, metal work, or concrete work, etc., which may be required for this work shall be done by this contractor at his

- expense and shall be done by craftsmen skilled in their respective trades. When cutting is required, it shall be done in such a manner as not to weaken walls, partitions or floors; and holes required to be cut must be drilled without breaking out around the holes, on either side of the penetration.
- B. Sleeves through floors, and walls shall be black iron pipe, flush with walls, ceiling, or finished floors of a size to accommodate the raceway. Sleeves through outside walls shall be caulked with an approved caulking material.
  - C. The fire-resistant rating walls, partitions, ceilings, and floors shall be maintained by sealing or caulking around penetration with approved fire resistant materials or by the use of manufactured devices for this purpose. Poke through wiring will not be allowed as it violates all fire codes.
8. Position of Outlets & Switches
- A. Center all outlets with regard to the horizontal and vertical dimensions shown on the drawings. If dimensions are not shown, the following are standards:
    - (1) Light switch above finish floor 48"
    - (2) Outlet above finish floor 14"
    - (3) Light switch above finish counter 48"
    - (4) Outlet above finish counter 44"
  - B. Where several outlets occur in a room, they shall be symmetrically arranged. Outlets improperly located or installed shall be satisfactorily corrected.
  - C. Receptacles, switches, etc., shown on wood trim, cases, and cabinets, or other fixtures, shall be installed symmetrically; and where necessary, shall be installed with the long dimensions of the plate horizontally.
  - D. Cover plates for outlets, switches, etc., shall be set straight, plumb and cover all edges of the electrical box opening rough edges. The Contractor shall replace all damaged, cracked, chipped or unacceptable cover plates.
9. Protection of Apparatus etc.
- A. Take such precautions as necessary to properly protect all apparatus, fixtures, appliances, material and the installation work from damage of any kind. Failure to provide such protection to the satisfaction of the Architect shall be sufficient cause for the rejection of any particular piece or pieces of material, apparatus, equipment, etc., concerned.
10. Defective Work & Material
- A. Work or material not in accordance with the plans or specifications, or in any way defective, shall be removed at once on order of the Owner or Architect. The Contractor shall replace or rebuild, at his expense, with satisfactory material and in a workmanlike manner any work so removed and shall pay for any extra work of any other Contractor caused by the removal of the defective work. If the Contractor does not correct such condemned work and remove rejected materials within a reasonable time, fixed by written notice, the Owner or Architect may have them removed by others and charge the expense to the Contractor.
11. Cleaning
- A. The Contractor shall maintain all areas free from hazardous or obstructive rubbish and debris, due to installation of the electrical work, on a daily basis, during the construction.
  - B. When all electrical systems have been installed, the Contractor shall remove all rubbish and debris resulting from his work, from the building and site. All additional extra material and equipment shall also be removed from the building and site.

- C. Contractor shall remove all paint, splatter, and accumulated dust and dirt from all electrical equipment and fixtures. All lighting fixtures lenses, baffles, and etc., shall be cleaned and spotless at completion of work and acceptance of building by Owner.

12. Tests

- A. The Contractor shall furnish experienced personnel and all materials, equipment, and apparatus necessary for the adjusting and testing of all electrical equipment installed and/or connected under this contract. The responsibility of the Contractor shall include the tests for operation, short circuits, grounds and interlocking of control wiring of all equipment with and to the satisfaction of the Owner and Architect.

13. Symbols, Schedules & Details

- A. All symbols, schedules and details shall be shown on the contract drawings.

14. Shop Drawings

- A. Shop drawings and/or descriptive literature shall be submitted in accordance with these specifications for the equipment and materials as listed below.
  - (1) Five (5) sets of shop drawings and catalog cuts shall be submitted, except as otherwise stated.
  - (2) No work for which shop drawings are required shall begin until shop drawings are approved and in the contractor's possession.
  - (3) Upon completion of the project, the Contractor shall furnish directly to the Owner one complete set of the approved shop drawings, with red-lined as built corrections and drawings.
  - (4) The review of shop drawings will only be general in nature and shall in no way relieve the Contractor from responsibility for accuracy of the shop drawings or for proper fitting and construction of the work, nor from the necessity of furnishing and materials and workmanship required by the drawings and specifications which may not be indicated on the shop drawings when reviewed.

15. Site Visit

- A. Bidders are advised to visit the site and inform themselves as to all conditions, failure to do so will in no way relieve the successful bidder from the necessity of furnishing any material or performing any work that may be required to complete the work in accordance with the true intent and meaning of the drawings and specifications without additional cost to the Owner.

SECTION 16135 ELECTRICAL BOXES AND FITTINGS

1. Scope of Work

- A. Provide electrical boxes and fittings of manufacturers standard materials, and labor for a complete installation as drawn, and for applications as required by controlling authorities, and/or as specified.

2. Compliance

- A. Comply with the latest published requirements of each of the following agencies, for construction and installation of electrical boxes and fittings.
  - (1) NEC - Construction and installation.
  - (2) UL – UL Standards 50, 514-series and 886. Provide UL listed and labeled electrical boxes and fittings.

### 3. Materials & Equipment

#### A. Electrical Boxes

- (1) Outlet Boxes: Provide galvanized coated flat-rolled sheet-steel outlet wiring boxes, of shapes, cubic inch capacities, and sizes, including box depths as indicated, suitable for installation at respective locations.
  - a. Outlet Box Accessories: Provide outlet box accessories as required for each installation, including box supports, mounting ears and brackets, wallboard hangers, box extension rings, fixture studs, cable clamps and metal straps for supporting outlet boxes. Choice of accessories is electrician's code-compliance option.
- (2) Device Boxes: Provide galvanized coated flat-rolled sheet-steel non-gangable device boxes, of shapes, cubic inch capacities, and sizes, including box depths as indicated, suitable for installation at respective locations. Construct device boxes for flush mounting with mounting holes, and with cable-size knockout openings in bottom and ends, and with threaded screw holes in end plates for fastening devices. Provide cable clamps and corrosion-resistant screws for fastening cable clamps, and for equipment type grounding.
  - a. Device Box Accessories; Provide device box accessories as required for each installation, including mounting brackets, device box extensions, switch box supports, plaster ears, and plaster board expandable grip fasteners. Choice of accessories is electrician's code-compliance.

#### B. Electrical Box Manufacturers

- (1) The following manufacturers are approved to supply interior outlet and device boxes:
  - a. Adalet-PLM Div.; Scott Fetzer Co.
  - b. Appleton Electric; Emerson Electric, Co.
  - c. Bell Electric; Square D Co.
  - d. OZ/Gedney; General Signal, Co.
  - e. RACO Div.; Harvey Hubbell Inc.
  - f. Thomas & Betts Co.

#### C. Rain-Tight Outlet Boxes

- (1) Provide corrosion-resistant cast-metal rain-tight outlet wiring boxes, of type, shapes and sizes, including depth of boxes, with threaded conduit holes for fastening electrical conduit. Boxes to have cast-metal face plates with spring-hinged water-tight caps suitably configured for each application, including face plate gaskets and corrosion-resistant plugs and fasteners.

#### D. Rain-Tight Outlet Manufacturers

- (1) The following manufacturers are approved to supply rain-tight outlet boxes.
  - a. Appleton Electric; Emerson Electric, Co.
  - b. Arrow-Hart Div.; Crouse-Hinds, Co.
  - c. Bell Electric; Square D Co.
  - d. Harvey Hubbell, Inc.
  - e. OZ/Gedney; General Signal, Co.

#### E. Junction and Pull Boxes

- (1) Provide galvanized code-gauge sheet steel junction and pull boxes, with screw-on covers of types, shapes and sizes, to suite each respective location and installation.

F. Junction and Pull Box Manufacturers

- (1) The following manufacturers are approved to supply junction and pull boxes.
  - a. Adalet-PLM Div; Scott Fetzer Co.
  - b. Appleton Electric; Emerson electric Co.
  - c. Bell Electric; Square D Co.
  - d. Keystone Columbia, Inc.
  - e. OZ/Gedney Co.; General Signal Co.
  - f. Spring City Electrical Mfg., Co.

G. Busing, Knockout Closures and Locknuts

- (1) Provide corrosion-resistant box knockout closures, conduit locknuts and malleable iron conduit bushing, offset connectors, of types and sizes, to suit respective installation requirements and applications.

4. Installation

A. Install electrical boxes and fittings as drawn and specified in accordance with industry standards (latest editions) and manufacturer's recommendations, including requirements of NEC and NECA "Standard of Installation", to complete project requirements.

- (1) Coordinate installation of electrical boxes and fittings with wire/cable, wiring devices, and raceway installation work.
- (2) Provide weather-tight outlets for interior and exterior locations exposed to weather or moisture.
- (3) Install electrical boxes in those locations, which ensure ready accessibility to enclosed electrical wiring.
- (4) Avoid installing aluminum products in concrete.
- (5) Position recessed outlet boxes accurately to allow for surface finish thickness.
- (6) Fasten electrical boxes firmly and rigidly to the substrates, or structural surfaces to which attached, or solidly embed electrical boxes in concrete or masonry.
- (7) Provide electrical connections for installed boxes.
- (8) Ground electrical boxes properly upon completion of installation work and demonstrate compliance with all the requirements.

5. Clean Up

A. Work areas will be cleaned up at the end of each day's work and left clean of trash, scraps, and debris.

- (1) Materials for new work may be neatly stacked in the work area, in preparation for the next day's work.
- (2) Upon completion of all electrical box installation and fitting connections, areas will be thoroughly cleaned and all equipment, excess materials, debris, and scrap shall be removed from the premises.

**Pawnee City Housing Authority**

**Units 115/116 Conversion - 2020**

**SUBSTANTIAL COMPLETION**

AIA Document G704, Certificate of Substantial Completion. Contractors unfamiliar with the terms and requirements of this document will be furnished a copy upon request.

**AFFIDAVIT OF PAYMENT**

AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims. Contractors unfamiliar with the terms and requirements of this document will be furnished a copy upon request.

**FINAL PAYMENT**

AIA Document G707, Consent of Surety to Final Payment. Contractors unfamiliar with the terms and requirements of this document will be furnished a copy upon request.

**CERTIFICATE OF INSURANCE**

AIA Document G715, Supplemental Attachment for Accord Certificate of Insurance. Contractors unfamiliar with the terms and requirements of this document will be furnished a copy upon request.

**PROGRESS PAYMENT REQUEST**

AIA Document G702, Application and Certificate for Payment. Contractors unfamiliar with the terms and requirements of this document will be furnished a copy upon request.

**PERFORMANCE BOND AND PAYMENT BOND**

AIA Document A312, Performance Bond and Payment Bond. Contractors unfamiliar with the terms and requirements of this document will be furnished a copy upon request.



**Pawnee City Housing Authority**  
**Units 115/116 Conversion - 2020**

**NON - COLLUSIVE AFFIDAVIT**

(Prime Bidder)

State of)

s.s

County of \_\_\_\_\_)

\_\_\_\_\_, BEING FIRST duly sworn, deposes and says:

That he/she is \_\_\_\_\_  
(a partner or officer of the firm of, etc.)

the party making the foregoing proposal or bid, that such proposal or bid is genuine and not collusive or sham; that said bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any bidder or person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or of any other bidder, or to fix any overhead, profit or cost element for said bid price, or that of any other bidder, or to secure any advantage against the Housing Authority or any person interested in the proposed contract; and that all statements in said proposal or bid are true.

Signature of:

\_\_\_\_\_  
(Bidder, if bidder is an individual)

\_\_\_\_\_  
(Partner, if bidder is a partnership)

\_\_\_\_\_  
(Officer, if bidder is a corporation)

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
(Notary Public)

My commission expires \_\_\_\_\_, 20\_\_\_\_.

**STATEMENT OF BIDDER'S QUALIFICATIONS**

(To be submitted by any bidder who has not previously worked for the Housing Authority.)

All questions must be answered, and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets.

1. Name of Bidder.
2. Permanent main office address.
3. When organized.
4. If a corporation, where incorporated.
5. How many years have you been engaged in the contracting business under your present firm or trade name?
6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion.)
7. General character of work performed by company.
8. Have you ever failed to complete any work awarded to you? If so, where and why?
9. Have you ever defaulted on a contract? If so, where and why?
10. List the more important projects recently completed by your company, stating the approximate cost for each, and the month and year completed.
11. List your major equipment available for this contract.
12. Experience in construction work similar in importance to this project.
13. Background and experience of the principal members of your organization, including the officers.
14. Credit available: \$ \_\_\_\_\_.
15. Give Bank reference: \_\_\_\_\_.
16. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Housing Authority?
17. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Housing Authority.

Bidder's Qualifications. Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
(Bidder)

\_\_\_\_\_  
(By)

\_\_\_\_\_  
(Title)

State of \_\_\_\_\_)

ss.

County of \_\_\_\_\_)

\_\_\_\_\_ being duly sworn, deposes and says that he/she is

\_\_\_\_\_ of \_\_\_\_\_  
(Title) (Organization)

and that the answers to the foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn to before me this \_\_\_\_\_ day of, 20\_\_

Notary Public

My commission expires, 20\_\_

**Pawnee City Housing Authority**

**Units 115/116 Conversion - 2020**

**Attachment "A"**

**NOTICE TO PROCEED**

Notice Given To: \_\_\_\_\_ (Contractor Name) (Address)

Gentleman:

Pursuant to the terms of your contract, dated \_\_\_\_\_ for work on the project at the Pawnee City Housing Authority, you are hereby notified to commence work there at the start of business by \_\_\_\_\_. The "Time for Completion" set forth in the contract is **90 calendar days per unit**, including the starting day, which establishes \_\_\_\_\_ as the completion date.

Please note carefully and fulfill the requirements of the General Conditions relative to the submittal and approval of Workmen's Compensation and Manufacturers' and Contractors' public liability insurance.

You are informed that the Housing Authority Director has been appointed Contracting Officer and is duly authorized to administer your contract for, and in the name of, this Housing Authority.

Under separate cover, there is being forwarded to you one executed set of Contract Documents, consisting of the Contract, Specifications and Drawings.

You are instructed to submit for our approval a breakdown of your contract price and a construction schedule, without delay.

Notice Given By: \_\_\_\_\_ (Director, or Authorized Official) (Title) (Date)

Notice Accepted By: \_\_\_\_\_ (Name of Contractor) (Address of Contractor)

\_\_\_\_\_  
(Contractor Authorized Official) (Title) (Date)