HOUSING AUTHORITY OF NEW ORLEANS
PROCUREMENT AND CONTRACTS DEPARTMENT
RETURN AIR DUCT AND GRILLE CORRECTIVE AND REPLACEMENT WORK
AT THE FLORIDA HOUSING DEVELOPMENT

REQUEST FOR QUOTES #19-912-15

NON-COLLUSIVE AFFIDAVIT

(Prime Offeror)

STATE of _____________________________

City/County of ____________________________

_____________________________ Being duly sworn deposes and says:

(Name)

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 or affiant or any other bidder, or to fix any overhead profit or cost element of said bid price, or that any other bidder, or to secure any advantage against the Housing Authority of New Orleans or any personal interest in the proposed contracts; and that all statements in said proposal or bid are true.

Signature of

Bidder, if the Offeror is an individual

_____________________________

Partner, if the Offeror is a partnership

_____________________________

Officer, if the Offeror is a corporation

Subscribed and sworn to before me This ___________ day of ___________, 20_________

__________________________________________

Notary Public

My Commission Expires _____________________________, 20_________
Housing Authority of New Orleans
Procurement and Contracts Department
Return Air Duct and Grille Corrective and Replacement Work
At the Florida Housing Development

Request for Quotes #19-912-15

Statement of Bidder's Qualifications

Each business of a joint venture must submit this form. Complete all blanks by entering the requested information or ‘NA’ if it is not applicable to your business.

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<th>Business Name:</th>
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<thead>
<tr>
<th>Avg. Annual Sales (last 3 years):</th>
<th>Current Net Worth:</th>
<th>Date Business Started:</th>
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<tr>
<th>Parent Company (if affiliate):</th>
<th>Previous Business Name:</th>
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**Officers, Owners, or Partners**

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<th>Official Capacity</th>
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**Persons Authorized to Sign Offers and Contracts in Company Name**

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<th>Name</th>
<th>Official Capacity</th>
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**Bank Reference**

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<th>Contact Person:</th>
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STATEMENT OF BIDDER'S QUALIFICATIONS (CONT.) QUALITY ASSURANCE

A. Has the Bidder successfully completed three similar projects within the past five years?

B. Over the past five years, has the Bidder completed all of their projects within the contract time frame and budget?

C. Over the past five years, has the Bidder ever been Terminated for Default by any public entity?

D. Over the past five years, has the Bidder ever been issued a finding of non-compliance by HANO relative to DBE, WBE and Section 3 Employment and Contracting?

E. Over the past five years, has the Bidder ever been issued a finding of non-compliance relative to Davis Bacon Wage Requirements?

BUSINESS REFERENCES (Provide three existing or completed work activities by your business which are similar to or support your ability to successfully complete the scope of work.) Please attach additional pages if additional space is needed.

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<tr>
<th>AGENCY/COMPANY NAME:</th>
<th>ACTIVITY:</th>
<th>DOLLAR AMOUNT:</th>
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<td>DATE COMPLETED:</td>
<td>CONTACT PERSON:</td>
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The undersigned covenants and agrees to provide the Housing Authority of New Orleans current, complete, and accurate information regarding their business' status. The undersigned further agrees to permit examination of books, records, and files by authorized representatives of the Housing Authority of New Orleans or the U.S. Department of Housing and Urban Development. Any material misrepresentation may be grounds for terminating any contract which may be awarded and for initiating action under federal or state laws concerning false statements.

<table>
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<tr>
<th>SIGNATURE OF PRINCIPAL:</th>
<th>PRINTED NAME OF PRINCIPAL:</th>
<th>DATE SIGNED:</th>
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Designation of Construction Contractor as Agent of a Governmental Entity
Sales Tax Exemption Certificate

HOUSING AUTHORITY OF NEW ORLEANS

Legal Name of Governmental Entity
States government, or an agency, board, commission, or instrumentality of the State of Louisiana or its political subdivisions, including parishes, municipalities and school boards, does hereby designate the following contractor as its agent for the purpose of making sales tax exempt purchases on behalf of the governmental body:

Name of Contractor

Address

City State ZIP

This designation of agency shall be effective for purchases of component construction materials, taxable services and leases and rentals of tangible personal property for the following named construction project:

Construction Project
RETURN AIR DUCT & GRILLE CORRECTIVE AND REPLACEMENT WORK

Contract Number
19-912-15

This designation and acceptance of agency is effective for the period

Beginning Date (mm/dd/yyyy) End Date (mm/dd/yyyy)

Purchases for the named project during this period by the designated contractor shall be considered as the legal equivalent of purchases directly by the governmental body. Any materials purchased by this agent shall immediately, upon the vendor's delivery to the agent, become the property of this government entity. This government entity, as principal, assumes direct liability to the vendor for the payment of any property, services, leases, or rentals made by this designated agent. This agreement does not void or supersede the obligations of any party created under any construction contract related to this project, including specifically any contractual obligation of the construction contractor to submit payment to the vendors of materials or services for the project.

This contractor-agent is not authorized to delegate this purchasing agency to others; separate designations of agency by this governmental entity are required for each contractor or sub-contractor who is to purchase on behalf of this governmental entity. The undersigned hereby certify that this designation is the entirety of the agency designation agreement between them. In order for a purchase for an eligible governmental entity through a designated agent to be eligible for sales tax exemption, the designation of agency must be made, accepted, and disclosed to the vendor before or at the time of the purchase transaction.

Designation of Agency

Signature of Authorized Designator
Date (mm/dd/yyyy)

Acceptance of Agency

Signature of Contractor or Subcontractor Authorized to Accept
Date (mm/dd/yyyy)

Name of Authorized Designator
GREGG FORTNER

Name of Governmental Entity
HOUSING AUTHORITY OF NEW ORLEANS

Address
4100 TOURO STREET

City NEW ORLEANS State LA ZIP 70122

This designation of agency form, when properly executed by both the contractor and the governmental entity, shall serve as evidence of the sales tax exempt status that has been conferred onto the contractor. No other exemption certificate form is necessary to claim exemption from sales taxes. The agency agreement evidenced by this sales tax exemption certificate must be implemented at the time of contract execution with the governmental entity. The contract between the governmental entity and its agent must contain provisions to authenticate the conferment of agency.
SAMPLE

HOUSING AUTHORITY OF NEW ORLEANS
PROCUREMENT AND CONTRACTS DEPARTMENT
RETURN AIR DUCT AND GRILLE CORRECTIVE AND REPLACEMENT WORK
AT THE FLORIDA HOUSING DEVELOPMENT

REQUEST FOR QUOTES #19-912-15

REPRESENTATIONS AND WARRANTIES
as to
SALES TAX ON APPLICABLE MATERIALS AND EQUIPMENT

Contract #: ________________

WHEREAS, pursuant to the provisions of R.S. 47:301(8)(c) and due to the status of the Housing Authority of New Orleans as an agency or instrumentality of the State of Louisiana with exemption from payment of state and local sales or use taxes; and

WHEREAS, the parties hereto agree and commit themselves to interpret all agreements between them according to the laws of the State of Louisiana; and

WHEREAS, the parties hereto desire to enter into an agreement to allow the Owner to convey to its contractors, subcontractors, vendors, and suppliers its status as exempt from Louisiana state sales or use taxes, and local sales and use taxes as to transactions arising from a Contract for the construction of the Owner’s facilities which is the object of this Agreement;

NOW, THEREFORE, for the purpose of creating the requisite agency relationship with the Owner, the Contractor hereby makes the following representations and warranties which are a material part of this Contract and shall be binding as a part of any Contract resulting;

Contractor’s Representations and Warranties

A. Contractor hereby acknowledges receipt of a Form R-1020 of the Louisiana State Department of Revenue, and represents and warrants that the Contractor has completed the Contractors portion thereof, and submitted the Form so completed as a required prior to contract execution. By doing so, the Contractor hereby agrees to and accepts appointment as Owner’s agent for the limited purpose of purchasing applicable materials and equipment to be installed or affixed to Owner’s facilities built by the Contractor.

B. Contractor represents and warrants that all purchases of “applicable materials and equipment,” defined for all purposes, whether in this contract and notwithstanding any language therein to the contrary, as materials and equipment which are affixed and made a part of the real estate of the project or work, or which are permanently incorporated into the project or work, shall be made in compliance with this agreement, and that the contractor shall not pay any State of Louisiana sales or use taxes nor any sales or use taxes imposed by any other taxing authority located in Louisiana.

C. Contractor represents and warrants that the Contractor will comply with all requirements for sales tax exemption imposed by a local taxing authority, which compliance shall specifically include without limitation completing all forms, submitting all documents of organization and/or qualification to conduct business, obtaining all occupational licenses or other qualifications and/or arranging for invoicing direct to owner.
D. Contractor represents and warrants that any tax exemption obtained under this agreement shall be used only for the purchase of applicable materials and equipment for the construction of the Owner's facilities that are the object of the contract herein contemplated, and further, that the Contractor shall require any subcontractors to be bound by the same representation and warranty.

E. Contractor represents and warrants that in the event the Contractor's employees, agents, subcontractors or any other entity making purchases on Contractor's behalf shall abuse the tax exemption herein contemplated whether by omission (example: failure to comply with statutes and regulations) or commission (example: purchases not for use in Owner's work), then the Contractor shall indemnify and hold harmless the Owner from all consequences resulting from such omissions or commissions during the term of the construction of Owner's facilities and that this indemnification shall survive the term of the Contract herein contemplated.

F. Contractor represents and warrants that the responsibility for compliance with applicable procedures and laws and record keeping required by law or by Owner lies with the Contractor, and that the Contractor accepts and agrees to this duty.

IN WITNESS WHEREOF

Contractor now signs below:

Contractor:

Date: ______________
General Contract Conditions for Small Construction/Development Contracts

Applicability. The following contract clauses are applicable and must be inserted into small construction/development contracts, greater than $2,000 but not more than $150,000.

1. Definitions

Terms used in this form are the same as defined in form HUD-5370

2. Prohibition Against Liens

The Contractor is prohibited from placing a lien on the PHA's property. This prohibition shall apply to all subcontractors at any tier and all materials suppliers. The only liens on the PHA's property shall be the Declaration of Trust or other liens approved by HUD.

3. Disputes

(a) Except for disputes arising under the Labor Standards clauses, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.

(b) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the PHA against the Contractor shall be subject to a written decision by the Contracting Officer.

(c) The Contracting Officer shall, within 30 days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.

(d) The Contracting Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in the PHA in accordance with the PHA's policy and procedures, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within 30 days after receipt of the Contracting Officer's decision.

(e) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

4. Default

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with the diligence that will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete any work within the time specified in this contract, the Contractor may, by written notice to the Contractor, terminate the right to proceed with the work (or separable part of the work) that has been delayed. In the event, the PHA may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, equipment, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the PHA resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the PHA in completing the work.

(b) The Contractor's right to proceed shall not be terminated or the Contractor charged with damages under this clause if--

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor; and

(2) The Contractor, within 10 days from the beginning of such delay notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of the delay. If, in the judgment of the Contracting Officer, the findings of Fact warrant such action, time for completing the work shall be extended by written modification to the contract. The findings of the Contracting Officer shall be reduced to a written decision which shall be subject to the provisions of the Dispute clause of this contract.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been for convenience of the PHA.

5. Termination for Convenience

(a) The Contracting Officer may terminate this contract in whole, or in part, whenever the Contracting Officer determines that such termination is in the best interest of the PHA. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which the performance of the work under the contract is terminated, and the date upon which such termination becomes effective.

(b) If the performance of the work is terminated, either in whole or in part, the PHA shall be liable to the Contractor for reasonable and proper costs resulting from such termination upon the receipt by the PHA of a properly executed claim setting out in detail: (1) the total cost of the work performed to date of termination less the total amount of contract payments made to the Contractor; (2) the cost (including reasonable profit) of settling and paying claims under subcontracts and material orders for work performed and materials and supplies delivered to the site, payment for which has not been made by the PHA to the Contractor or by the Contractor to the subcontractor or supplier; (3) the cost of preserving and protecting the work already performed until the PHA or assignee takes possession thereof or assumes responsibility therefore; (4) the actual or estimated cost of legal and accounting services reasonably necessary to prepare and present the termination claim to the PHA; and (5) an amount constituting a reasonable profit on the value of the work performed by the Contractor.

(c) The Contracting Officer will act on the Contractor's claim within days (30 days unless otherwise indicated) of receipt of the Contractor's claim.

(d) Any disputes with regard to this clause are expressly made subject to the provisions of the Dispute clause of this contract.

6. Insurance

(a) Before commencing work, the Contractor and each subcontractor shall furnish the PHA with certificates of insurance showing the following insurance is in force and will insure all operations under the Contract:
(1) Workers’ Compensation, in accordance with state or Ter-
ritorial Workers’ Compensation laws.

(2) Commercial General Liability with a combined single limit
for bodily injury and property damage of not less than $ ______
[See Supplemental Conditions] per occurrence to protect the
Contractor and each subcontractor against claims for bodily injury
or death and damage to the property of others. This shall cover the
use of all equipment, hoists, and vehicles on the site(s) not covered
by Automobile Liability under (3) below. If the Contractor has a
"claims-made" policy, then the following additional requirements
apply: the policy must provide a "retroactive date" which must be
on or before the execution date of the Contract; and the extended
reporting period may not be less than five years following the
completion date of the Contract.

(3) Automobile Liability on owned and non-owned motor
vehicles used on the site(s) or in connection therewith for a
combined single limit for bodily injury and property damage of not
less than $ ______ [See Supplemental Conditions] per
occurrence.

(b) Before commencing work, the Contractor shall furnish the FHA
with a certificate of insurance evidencing that Builder’s Risk
(fire and extended coverage) Insurance on all work in place
and/or materials stored at the building site(s), including
foundations and building equipment, is in force. The Builder’s
Risk Insurance shall be for the benefit of the Contractor and the
FHA as their interests may appear and each shall be named in
the policy or policies as an insured. The Contractor in installing
equipment supplied by the FHA shall carry insurance on such
equipment from the time the Contractor takes possession thereof
until the Contract work is accepted by the FHA. The Builder’s
Risk Insurance need not be carried on excavations, piers,
footings, or foundations until such time as work on the super-
structure is started. It need not be carried on landscape work.
Policies shall furnish coverage at all times for the full cash value
of all completed construction, as well as materials in place
and/or stored at the site(s), whether or not partial payment has
been made by the FHA. The Contractor may terminate this
insurance on buildings as of the date taken over for occupancy
by the FHA. The Contractor is not required to carry Builder’s
Risk Insurance for modernization work which does not involve
structural alterations or additions and where the FHA’s existing
fire and extended coverage policy can be endorsed to include
such work.

(c) All insurance shall be carried with companies which are
financially responsible and admitted to do business in the State
in which the project is located. If any such insurance is due to
expire during the construction period, the Contractor (including
subcontractors, as applicable) shall not permit the coverage to
lapse and shall furnish evidence of coverage to the Contracting
Officer. All certificates of insurance, as evidence of coverage,
shall provide that no coverage may be canceled or non-renewed
by the insurance company until at least 30 days prior written
notice has been given to the Contracting Officer.

7. Contract Modifications

(a) Only the Contracting Officer has authority to modify any term
or condition of this contract. Any contract modification shall be
authorized in writing.

(b) The Contracting Officer may modify the contract unilaterally
(1) pursuant to a specific authorization stated in a contract
clause (e.g., Changes); or (2) for administrative matters which
do not change the rights or responsibilities of the parties (e.g.,
change in the FHA address). All other contract modifications
shall be in the form of supplemental agreements signed by the
Contractor and the Contracting Officer.

(c) When a proposed modification requires the approval of HUD
prior to its issuance (e.g., a change order that exceeds the FHA’s
approved threshold), such modification shall not be effective
until the required approval is received by the FHA.

8. Changes

(a) The Contracting Officer may, at any time, without notice to the
sureties, by written order designated or indicated to be a change
order, make changes in the work within the general scope of the
contract including changes:

(1) In the specifications (including drawings and designs);

(2) In the method or manner of performance of the work;

(3) FHA-furnished facilities, equipment, materials, services, or
site; or

(4) Directing the acceleration in the performance of the work.

(b) Any other written order or oral order (which, as used in this
paragraph (b), includes direction, instruction, interpretation, or
determination) from the Contracting Officer that causes a change
shall be treated as a change order under this clause; provided, that
the Contracting Officer gives the Contracting Officer written notice stating:

(1) the date, circumstances and source of the order and
(2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement or conduct
of the Contracting Officer shall be treated as a change under this
clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease
in the Contractor’s cost of, or the time required for the perfor-
ance of any part of the work under this contract, whether or not
changed by any such order, the Contracting Officer shall make
an equitable adjustment and modify the contract in writing.

However, except for a adjustment based on defective
specifications, no proposal for any change under paragraph (b)
above shall be allowed for any costs incurred more than 20 days
(5 days for oral orders) before the Contractor gives written
notice as required. In the case of defective specifications for
which the FHA is responsible, the equitable adjustment shall
include any increased cost reasonably incurred by the Contractor
in attempting to comply with the defective
specifications.

(e) The Contractor must assert its right to an adjustment under this
clause within 30 days after (1) receipt of a written change order
under paragraph (a) of this clause, or (2) the furnishing of a
written notice under paragraph (b) of this clause, by submitting a
written statement describing the general nature and the amount
of the proposal. If the facts justify it, the Contracting Officer
may extend the period for submission. The proposal may be
included in the notice required under paragraph (b) above. No
proposal by the Contractor for an equitable adjustment shall be
allowed if asserted after final payment under this
contract.

(f) The Contractor’s written proposal for equitable adjustment shall
be submitted in the form of a lump sum proposal supported with an
itemized breakdown of all increases and decreases in the
contract in at least the following details:

(1) Direct Costs. Materials (list individual items, the quantity
and unit cost of each, and the aggregate cost); Transporta-
tion and delivery costs associated with materials; Labor
breakdowns by hours or unit costs (identified with specific work to be performed); Construction equipment exclusively necessary for the change; Costs of preparation and/or revision to shop drawings resulting from the change; Worker's Compensation and Public Liability Insurance; Employment taxes under FICA and FUTA; and, Bond Costs - when size of change warrants revision.

2. Indirect Costs. Indirect costs may include overhead, general and administrative expenses, and fringe benefits not normally treated as direct costs.

3. Profit. The amount of profit shall be negotiated and may vary according to the nature, extent, and complexity of the work required by the change.

The allowability of the direct and indirect costs shall be determined in accordance with the Contract Cost Principles and Procedures for Commercial Firms in Part 31 of the Federal Acquisition Regulation (48 CFR 1-31), as implemented by HUD Handbook 2210.18, in effect on the date of this contract. The Contractor shall not be allowed a profit on the profit received by any subcontractor. Equitable adjustments for deleted work shall include a credit for profit and may include a credit for indirect costs. On proposals covering both increases and decreases in the amount of the contract, the application of indirect costs and profit shall be on the net-change in direct costs for the Contractor or subcontractor performing the work.

(a) The Contractor shall include in the proposal its request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.

(b) The Contracting Officer shall act on proposals within 30 days after their receipt, or notify the Contractor of the date when such action will be taken.

(f) Failure to reach an agreement on any proposal shall be a dispute under the clause entitled Disputes herein. Nothing in this clause, however, shall excuse the Contractor from proceeding with the contract as changed.

(g) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

9. Examination and Retention of Contractor's Records

The HA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until three years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

10. Rights in Data and Patent Rights (Ownership and Proprietary Interest)

The HA shall have exclusive ownership of, all proprietary interest in, and the right to full and exclusive possession of all information, materials, and documents discovered or produced by Contractor pursuant to the terms of this Contract, including but not limited to reports, memoranda or letters concerning the research and reporting tasks of this Contract.

11. Energy Efficiency

The Contractor shall comply with all mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163) for the State in which the work under this contract is performed.

12. Procurement of Recovered Materials

(a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the Contractor determines that such items: (1) are not reasonably available in a reasonable period of time; (2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or (3) are only available at an unreasonable price.

(b) Paragraph (a) of this clause shall apply to items purchased under this contract where: (1) the Contractor purchases in excess of $10,000 of the item under this contract; or (2) during the preceding Federal fiscal year, the Contractor: (i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and (ii) purchased a total of in excess of $10,000 of the item both under and outside that contract.

13. Training and Employment Opportunities for Residents in the Project Area (Section 3, HUD Act of 1968; 24 CFR 135)

(a) The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

(b) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.

(c) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the
qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

(d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

(e) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor’s obligations under 24 CFR Part 135.

(f) Noncompliance with HUD’s regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.


(a) Minimum Wages.

(1) All laborers and mechanics employed under this contract in the construction or development of the project(s) involved will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv), also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the regular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer’s payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conforming to 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(2) (i) Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met:

(a) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(b) The classification is utilized in the area by the construction industry; and

(c) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employee Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.

(iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendations of HUD or its designee, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a)(2)(ii) or (ii) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the amount as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part
of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(b) Withholding of Funds. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working in the construction or development of the project, all or part of the wages required by the contract, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.

(c) Payrolls and Basic Records.
   (1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under 29 CFR 5.5(e)(1)(iv), that the wages of any laborer or mechanic include the amount of costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

   (2) (i) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under subparagraph (c)(1) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1214-0149.)

   (ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

   (A) That the payroll for the payroll period contains the information required to be maintained under paragraph (c)(1) of this clause and that such information is correct and complete;

   (B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions set forth in 29 CFR Part 3; and

   (C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

   (iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirements for submission of the "Statement of Compliance" required by subparagraph (c)(1) of this clause.

   (iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

   (3) The Contractor or subcontractor shall make the records required under subparagraph (c)(1) available for inspection, copying, or transcription by authorized representatives of HUD or its designee, the Contracting Officer, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.
(d) Apprentices. Apprentices will be permitted to work at least at the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services (OATELS), or with a State Apprenticeship Agency recognized by OATELS, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(e) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(f) Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(g) Compliance with Copeland Act Requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(h) Contract Termination; Debarment. A breach of the labor standards clauses in this contract may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.

(i) Compliance with Davis-Bacon and related Act Requirements. All rulings and interpretations of the Davis-Bacon and related Acts contained in 29 CFR Parts 1, 3, and 5 are hereby incorporated by reference in this contract.

(j) Disputes Concerning Labor Standards. Disputes arising out of the labor standards provisions of this clause shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the PHA, HUD, the U.S. Department of Labor, or the employees or their representatives.

(k) Certification of Eligibility.

1. By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(g) of the Davis-Bacon Act or 29 CFR 5.12(e)(1).

2. No part of this contract shall be subcontracted to any person or firm ineligible for award of a United States Government...
contract by virtue of section 3(a) of the Davis-Bacon Act or 29 C.F.R. 5.12(a)(1).


(l) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this clause, and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all these provisions.

(m) Non-Federal Prevailing Wage Rates. Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under State law to be prevailing, with respect to any employee in any trade or position employed under the contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate exceeds:

(i) the applicable wage rate determined by the Secretary of Labor pursuant to the Davis-Bacon Act (40 U.S.C. 3141 et seq.) to be prevailing in the locality with respect to such trade;

(ii) an applicable apprentice wage rate based thereon specified in an apprenticeship program registered with the U.S. Department of Labor (DOL) or a DOL-recognized State Apprenticeship Agency; or

(iii) an applicable trainee wage rate based thereon specified in a DOL-certified trainee program.
HOUSING AUTHORITY OF NEW ORLEANS
PROCUREMENT AND CONTRACTS DEPARTMENT
RETURN AIR DUCT AND GRILLE CORRECTIVE AND REPLACEMENT WORK
AT THE FLORIDA HOUSING DEVELOPMENT

REQUEST FOR QUOTES #19-912-15

SUPPLEMENTAL CONDITIONS

The following supplements/modify the "General Conditions for Small Construction/Development Contracts" form HUD-5370-EZ.

CONTRACT PERIOD

The Contractor shall complete all work under this contract within One Hundred Fifty (150) calendar days upon issuance of the Notice to Proceed.

LIQUIDATED DAMAGES

(a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, as specified in the clause entitled Default of this contract, the Contractor shall pay to the PHA as liquidated damages, the sum of $159.00 for each day of delay. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed. To the extent that the Contractor's delay or nonperformance is excused under another clause in this contract, liquidated damages shall not be due the PHA. The Contractor remains liable for damages caused other than by delay.

(b) If the PHA terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the PHA in completing the work.

(c) If the PHA does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

CLAUSE 6 - INSURANCE

Add the following sentence to (a):

Evidence of insurance shall be provided by a producer using insurance companies with a minimum A- rating.

Add the following subparagraph to (1):

WORKER'S COMPENSATION/EMPLOYERS LIABILITY
  Statutory Benefits for State of Hire
  Employer's Liability - $500,000
  Alternate Employer Endorsement, OCS Endorsement
  Voluntary Compensation Endorsement

Add the following to subparagraph (2):

COMMERCIAL GENERAL LIABILITY/AUTO LIABILITY
  Bodily Injury and Property Damage limits of $500,000 (Combined Single Limit)
  Uninsured Motorist $500,000
Medical Payments $5,000
Thirty (30) Days Written Notice of Cancellation Coverage
Include owned, non-owned and hired vehicles

COMPREHENSIVE GENERAL LIABILITY
Bodily Injury and Property Damage limits of $500,000 (Combined Single Limit)
Products/Completed Operations limits of $500,000 per occurrence
General Aggregate limit of $1,000,000
Personal and Advertising Limits of $500,000 Aggregate
Fire Legal Liability $100,000
Medical Payments of $5,000 per person
CGL coverage must include the following:
Premises/Operations
Independent Contractors
Blanket Contractual covering all indemnities set forth in the agreement
Broad Form Property Damage

The Contractor shall furnish or have his insurer furnish a Certificate of Certificates or insurance evidencing such coverage and providing that The Housing Authority of New Orleans and its subsidiaries shall be given thirty (30) days advance written notice of any material changes in or cancellation of said policies.

CLAUSE 8 - CHANGES

1. Add the following subparagraph to (f)(2):

   (i) Indirect costs shall not exceed eight-percent (8%) of the Direct Costs.

2. Add the following subparagraph to (f)(3):

   (ii) Profit on changes shall not exceed six-percent (6%) of Direct Costs.

Upon award a contract, the Contractor shall provide a copy of its Taxpayer Number and Certification (W-9) at a time and date specified by the Owner.

CLAUSE 14 – LABOR STANDARDS – DAVIS BACON AND RELATED ACTS

1. Add new subparagraph to (2):

   (v) Payroll Reports submitted with “1099” in lieu of deductions must be accompanied by the proper documentation of the worker’s status as Independent Contractor, including, but not limited to: copy of the Independent Contractor’s business license, copy of written agreement between Independent Contractor and primary contractor, evidence of worker’s compensation insurance and all other applicable insurances. Issues may be referred to the LA Workforce Commission (http://www.laworks.net) and/or Department of Labor to ensure proper classification of workers.

SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK

The Contractor and the Owner shall use the latest data available from the National Weather Service, as of the date of release of the Request for Quotes, from which to assess typical weather conditions for New Orleans. The contractor shall anticipate the typical weather as specified by the National Weather Service data for schedule and work planning for this contract. The Owner will only consider requests for additional contract time related to severe or unusual weather when
the Contractor can clearly document (i) weather conditions more severe than typical weather for New Orleans as specified and supported by National Weather Service data, (ii) the unusually severe weather, in fact, prevented the Contractor from performing scheduled work, and (iii) work not able to be performed was work in the critical path of the approved construction progress schedule.

INVOICING

Invoices shall be submitted to the Finance Department with a copy to Modernization and Development Department. The invoice shall provide an invoice number, service dates, description of services provided and purchase order number. Invoices shall be submitted on the contractor’s own invoice.

PAYMENTS

(a) Applications for payment shall be made using the form HUD-51000 series of forms. Applications for payment shall be include, but not be limited to, the following.

(1) Contractor Invoice
(2) Contractor Payment Certification
(3) HUD-51000 Schedule of Amounts for Contract Payments
(4) HUD-51001 Periodic Estimate for Partial Payment
(5) HUD-51002 Schedule of Change Orders
(6) HUD-51003 Schedule of Materials Stored
(7) HUD-51004 Summary of Materials Stored
(8) Contractor Partial Waiver and Release of Lien
(9) Subcontractor/Supplier List
(10) Subcontractor Partial Waiver and Release of Lien
(11) Project Schedule
(12) Davis Bacon Payroll Reports
(13) ETC forms as required for payment

Failure to submit these documents will result in the invoice being returned to the Contractor for completion with no penalty to the Owner.

(b) Contractor shall make payments to its subcontractors, and suppliers within thirty (30) days following contractor’s receipt of each owner payment, unless otherwise agreed to in writing. Further, whenever a subcontractor receives payment from the contractor, the subcontractor shall promptly pay such monies receive to each sub-subcontractor and supplier in proportion to the work completed. If for any reason the contractor receives less than the full payment from the owner, then the contractor shall be obligated to disperse only the funds received on a prorated basis with the contractor, subcontractors, and suppliers.

(c) The Contractor shall not pay any state or local sales taxes, or state or local use taxes on materials and equipment which are affixed and made a part of the real estate of the project or work which is permanently incorporated into the project or work (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of the ("Owner"), a tax exempt agency of the State of Louisiana.
No state and local sales and use taxes are owed on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session-Louisiana Revised Statute 47:308(8)(c). Owner has herein furnished contractor a certificate on a form R-1020 supplied by the Louisiana Department of Revenue and Taxation which shall certify that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificates to all vendors or suppliers of the applicable materials and equipment. Owner agrees to cooperate with and assist Contractor, upon written request of the Contractor, in obtaining all necessary local certifications.

Provided the Contractor has complied with all provisions of the Contract, the Owner agrees to indemnify contractor against the payment of any state or local sales taxes which are required to be paid regarding the work or the project or any materials or equipment supplied or purchased by the contractor for the work under the contract.

(d) All vendor invoices are due on the 1st or 15th of the month. Invoice payments are as follows:

- *Invoices received on the 16th of the current month thru the 1st day of the next month will be paid on the 1st of the following month.*

- **Example:** An invoice received on August 27th will be processed commencing September 1st and paid on October 1st.

- *Invoices received on the 2nd of the current month thru the 15th of the current month will be paid on the 15th of the following month.*

- **Example:** An invoice received on August 4th will be processed commencing August 15th and paid on September 15th.

(e) The Contractor shall file the Form of Contract (Agreement between the Housing Authority of New Orleans and Contractor) and Payment and Performance Bond in Orleans Parish at the Office of the Recorder of Mortgages and shall provide written documentation of the contract recordation within 30 days of commencement of the work to be done and prior to the submission of the first payment application. The Contractor shall not receive any portion of the first payment application until the above requirement is satisfied.

(f) The Contractor shall file each change order with the Orleans Parish at the Office of the Recorder of Mortgages which adds an amount of ten percent or more of the original contract amount and which additional amount is at least ten thousand dollars, or all change orders to a contract aggregating to an amount of twenty percent or more of the original contract amount and which additional amount is at least ten thousand dollars.

(g) The Contractor shall file the Certificate of Substantial completion in Orleans Parish at the Office of the Recorder of Mortgages and shall provide a clear Lien and Privilege Certificate as a prerequisite to final payment.
RULES, REGULATIONS, AND LICENSING REQUIREMENTS

The successful Offeror shall possess all of the required State and Local licenses and certifications required to perform work of the type required by this contract in the City of New Orleans. In addition, the Offeror shall comply with all laws, ordinances and regulations applicable to the services contemplated herein. Offerors are presumed to be familiar with all federal, state and local laws, ordinances, codes, rules and regulations that may in any way affect the delivery of services.

INDEMNIFICATION

The successful Offeror will be required to protect, defend, indemnify, keep, save, and hold HANO, its officers, officials, employees and agents free and harmless from and against any and all liabilities, losses, penalties, damages, settlements, environmental liability, costs, charges, professional fees or other expenses or liabilities of every kind, nature and character arising out of or relating to any and all claims, liens, demands obligations, actions, suits, judgments or settlements, proceedings or causes of action of every kind, nature and character (collectively, "claims") in connection with or arising directly or indirectly out of the acts or omissions and/or the performance thereof by the successful Offeror, its officers, officials, agents, employees, and subcontractors, including, but not limited to, the enforcement of the indemnification provision. The successful Offeror will be further required to investigate, handle, respond to, provide defense for and defend all suits for any and all claims, at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims are considered groundless, false or fraudulent.

HANO will have the right, at its option and at its expense, to participate in the defense of any suit, without relieving the successful Offeror of any of its obligations under this indemnity provision. The indemnities to be set forth in the contract resulting from this RFQ will survive the expiration or termination of that contract.

RIGHTS, USE, AND OWNERSHIP OF ASSESSMENT MATERIALS

Assessment materials generated as a result of performing the Scope of Work contained in this contract shall be confidential and proprietary, and shall be for the exclusive use and ownership of the Housing Authority of New Orleans. Such materials shall include, but not be limited to data, cost estimates, and reports generated that contain descriptive and/or identifying information regarding individual properties owned by HANO and/or HANO's portfolio of properties. Such materials shall not be shared, signed, sold or disclosed to parties other than those named on the contract without the express written permission of the Housing Authority of New Orleans' Contracting Officer. Any violations of this provision shall be considered a breach of, and grounds for immediate termination in accordance with the General Contract Conditions, form HUD 5370-EZ, Clause 5, Termination for Convenience.

ETHICS POLICY

The selected Offeror shall abide by the applicable provisions of the Housing Authority of New Orleans' Ethics Policy and State of Louisiana Ethics Code.

RESPONDENT STATUS

The successful Offeror will be held to be an independent Contractor, and not an employee of HANO.
ASSIGNMENT

The successful respondent shall not enter into any subcontracts, retain consultants, or assign, transfer, convey, sublet, or otherwise delegate its obligations under the contract resulting from this RFQ, or any of its rights, title or interest therein, or its power to execute such contract to any person, company, or corporation without prior written consent and approval of HANO.

ADVERTISING

The successful Offeror shall not be permitted to advertise or promote the fact of their relationship with HANO in the course of marketing efforts, unless HANO provides express written approval prior to such advertising.

MEDIA RELATIONS

The successful Offeror shall not make public comment on HANO matters without express written approval from HANO’s Director of Communications. All media inquiries shall be referred to the Executive Director and to the Director of Communications.

PUBLIC ACCESS TO PROCUREMENT INFORMATION

Procurement information shall be a matter of public record to the extent provided for in La. R.S. 44:1 et. Seq., and will be made available upon request to the General Counsel, and as provided in that statute. A copy documentation charge may be assessed in an amount determined by HANO's Legal Department.

DRUG FREE WORKPLACE

The Offeror must comply with the federal requirements of the Drug Free Workplace Act including mandatory drug screening for applicants and employees, and drug treatment opportunities as needed.

END OF SECTION
General Decision Number: LA190001 03/22/2019 LA1

Superseded General Decision Number: LA20180001

State: Louisiana

Construction Type: Residential

Counties: Acadia, Ascension, Bossier, Caddo, Calcasieu, East Baton Rouge, Jefferson, Lafayette, Lafourche, Livingston, Orleans, Ouachita, Plaquemines, Rapides, St Bernard, St Charles, St James, St John the Baptist, St Landry, St Martin, St Tammany, Terrebonne, Webster and West Baton Rouge Counties in Louisiana.

RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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<th>Modification Number</th>
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<tbody>
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<td>01/18/2019</td>
</tr>
<tr>
<td>2</td>
<td>03/22/2019</td>
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</table>

ELEC0130-003 12/03/2018

JEFFERSON, LAFOURCHE, ORLEANS, PLAQUEMINES, ST. BERNARD, ST. CHARLES, ST. JAMES, ST. JOHN THE BAPTIST, ST. MARTIN (Southern Portion), and TERREBONNE PARISHES

Rates Fringes

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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<tbody>
<tr>
<td>ELECTRICIAN (including low voltage wiring and installation of fire alarms and security systems)</td>
<td>$ 30.93</td>
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<td>ELECO194-002 09/03/2018</td>
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BOSSIER, CADDIO, AND WEBSTER PARISHES

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<th>Fringes</th>
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<td>ELECTRICIAN (including low voltage wiring and installation of fire alarms and security systems)</td>
<td>$ 28.25</td>
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OUACHITA PARISH

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<tbody>
<tr>
<td>ELECTRICIAN (including low voltage wiring and installation of fire alarms and security systems)</td>
<td>$ 17.90</td>
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RAPIDES PARISH

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<th>Fringes</th>
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<tr>
<td>ELECTRICIAN (including low voltage wiring and installation of fire alarms and security systems)</td>
<td>$ 25.10</td>
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<tr>
<td>ELECO861-002 09/01/2018</td>
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ACADIA, CALCASIEU, LAFAYETTE, AND ST. MARTIN (Northern Portion) PARISHES

<table>
<thead>
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<th>Rates</th>
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</thead>
<tbody>
<tr>
<td>ELECTRICIAN (including low voltage wiring and installation of fire alarms and security systems)</td>
<td>$ 27.78</td>
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<tr>
<td>ELECO995-003 12/31/2018</td>
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</table>

ASCENSION, EAST BATON ROUGE, LIVINGSTON, ST. LANDRY, AND WEST BATON ROUGE PARISHES

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECTRICIAN (including low</td>
<td></td>
</tr>
</tbody>
</table>

voltage wiring and
installation of fire alarms
and security systems).........$ 26.08 11.15

ELEC1077-006 10/29/2018

<table>
<thead>
<tr>
<th>ST. TAMMANY PARISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rates</td>
</tr>
<tr>
<td>-------</td>
</tr>
</tbody>
</table>
| ELECTRICIAN (including low
voltage wiring and
installation of fire alarms
and security systems).........$ 24.53 3%+8.93 |

PLUMO0060-005 12/03/2018

JEFFERSON, LAFOURCHE, ORLEANS, PLAQUEMINES, ST. BERNARD, ST.
CHARLES, ST. JAMES (Southeastern Portion), ST. JOHN THE
BAPTIST, ST. TAMMANY, AND TERREBONNE PARISHES

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLUMBER (including HVAC pipe)....$ 29.40 12.39</td>
<td></td>
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</tbody>
</table>

PLUMO106-003 06/01/2014

ACADIA, CALCASIEU, LAFAYETTE, ST. LANDRY, and ST. MARTIN
(Western Portion) PARISHES

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLUMBER (including HVAC pipe)....$ 25.90 13.65</td>
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</tr>
</tbody>
</table>

* PLUMO141-003 08/01/2018

BOSSIER, CADDO, and WEBSTER PARISHES

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<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLUMBER (including HVAC pipe)....$ 26.82 13.43</td>
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</tbody>
</table>

PLUMO198-002 01/01/2016

ASCENSION, EAST BATON ROUGE, LIVINGSTON , ST. JAMES
(Northwestern Portion), ST. MARTIN (Eastern Portion), AND WEST
BATON ROUGE PARISHES

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLUMBER (including HVAC pipe)....$ 29.30 11.40</td>
<td></td>
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</tbody>
</table>

PLUMO247-004 05/01/2017

RAPIDES PARISH

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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</thead>
</table>
PLUMBER (including HVAC pipe)....$ 26.00 3.25%+11.54

PLUMD659-004 07/01/2015

OUACHITA PARISH

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<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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</thead>
<tbody>
<tr>
<td>PLUMBER (including HVAC pipe)....$ 26.33</td>
<td>8.97</td>
</tr>
</tbody>
</table>

SHEE0214-003 07/01/2009

Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist, St. Tammany, and Terrebonne Parishes

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHEET METAL WORKER (includes HVAC Duct)..................$ 24.54</td>
<td>9.65</td>
</tr>
</tbody>
</table>

SHEE0214-005 02/01/2009

Acadia, Ascension, Calcasieu, East Baton Rouge, Lafayette, Livingston, St. Landry, St. Martin, and West Baton Rouge Parishes

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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</thead>
<tbody>
<tr>
<td>SHEET METAL WORKER (includes HVAC Duct)..................$ 24.37</td>
<td>9.205</td>
</tr>
</tbody>
</table>

SHEE0361-004 07/01/2012

BOSSIER, CADDI, OUACHITA, RAPIDES, AND WEBSTER PARISHES

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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</thead>
<tbody>
<tr>
<td>Sheet Metal Worker (including HVAC duct)..................$ 26.09</td>
<td>10.22+3%</td>
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</table>

SULA2004-012 06/15/2004

<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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</thead>
<tbody>
<tr>
<td>CARPENTER (including drywall hanging, metal stud installation, and formbuilding/formsetting).......$ 11.78</td>
<td>0.00</td>
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<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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</thead>
<tbody>
<tr>
<td>Laborer, common..................$ 8.01</td>
<td>0.00</td>
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<table>
<thead>
<tr>
<th>Rates</th>
<th>Fringes</th>
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</thead>
<tbody>
<tr>
<td>PAINTER Brush, Roller, and Spray....$ 11.38</td>
<td>.83</td>
</tr>
<tr>
<td>Drywall Finishing.............$ 12.71</td>
<td>.78</td>
</tr>
</tbody>
</table>

Power Equipment Operator
Crane.......................$ 13.00 0.00
ROOFER.......................$ 10.11 2.01

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "Identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for this classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1,
2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. Example: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

---------------------------------------------------------------------

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour
Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION
INTRODUCTION

The original contractor installed 16-inch round flex return-air ductwork in lieu of the specified rectangular metal ductwork at the air-handler units in the attics in the residential units at the Florida Redevelopment project. Additionally, the original contractor installed 16"x20" return air grilles in lieu of the specified grille sizes. HANO is requesting a proposal to provide all material, labor, equipment, etc. as required to provide selective demolition to remove the designated existing return-air ductwork and grilles; and install new return-air ductwork and grilles as specified in the original Construction Documents, and as modified herein.

All Bidders must attend a Mandatory Pre-Bid Conference followed by a Mandatory Site Visit as noted in the Project Manual.

Access to the building(s) shall commence at the time designated in the Request for Quotes. HANO personnel will remain at the project site only as long as there are prospective respondents on site. Prospective bidders are encouraged to be on site at the designated time for the commencement of the site visit. Access to the buildings will not be guaranteed once HANO personnel leave the site. Additional visits will not be permitted, as these units are occupied.

SCOPE OF WORK

1. This Scope of Work applies only to the buildings as specified herein. Contractor shall assume that all units are occupied and Contractor shall take all measures necessary to protect the contents of the buildings and to mitigate any inconvenience to the residents.

2. Contractor parking shall be limited to legal street parking. Contractor vehicles that block drives will be subject to being towed at the expense of the Contractor.

3. Contractor shall coordinate all selective demolition and construction activities with the Property Manager. Property Management shall be notified a minimum of three (3) business days prior to beginning any work in any unit. Contact information:

   Ms. Maranda Scott
   2519 Independence Street
   (504) 915-4832

4. All materials shall be new, and in accordance with the Project Drawings and Specifications. All Work shall be performed in accordance with the Project Specifications noted in Exhibit B, and C, and in the Drawings (Exhibit D)

5. Upon issuance of the Notice to Proceed, Contractor shall schedule a site visit to each residential unit with Project Management so that all necessary measurements for ordering and/or fabricating materials may be determined. As the residential units are occupied, only one site visit will be allowed per residential unit for this purpose. Failure to take proper measurements will not be cause for an increase to the Contract Price and/or Time.
6. No work shall begin until all materials are available and ready for installation in any given unit.

7. Contractor shall protect existing finishes as necessary to prevent damage to floors, walls and ceilings and other building components prior to beginning any selective demolition of existing ductwork and grilles. Should the selective demolition and new installation work take more than one (1) day in an individual unit, protective measures shall be removed at the close of the work day to the extent possible as to not encumber the use of the unit by the resident(s).

8. Contractor shall perform selective demolition, which includes the removal of the existing return-air ductwork and grilles. Demolished materials shall be removed from the building the same day that they are removed from the attic. Demolished materials shall not be left in the attics nor stored on site except in approved dumpsters. Note: HANO has no interest in retaining any salvageable materials. (Note: Should the Contractor choose to salvage any materials, they shall not be sold on-site.)

9. Contractor shall coordinate the location of any dumpsters with Property Management. Contractor shall police its dumpsters and HANO assumes no responsibility for the misuse of these dumpsters by anyone.

10. Contractor shall leave the residential unit in a broom-swept condition at the end of each workday. Contractor shall perform a thorough “powder puff” cleaning at each unit upon completion of the work. Final cleanup work shall be performed by a professional cleaning service.

11. Should the selective demolition extend beyond one (1) day, Contractor shall immediately notify Property Management prior to 2:00 P.M. Contractor shall take all measurements to remove any potentially dangerous conditions and other elements that might cause a material inconvenience to the residents. All such measures shall be part of the contract Lump Sum price?

12. Contractor shall make its best effort to avoid damage to the existing drywall finish. Any required remedial work to the drywall and finish paint shall be by the Contractor.

13. Contractor shall be responsible for any and all damages to the building components and/or contents.

14. Contractor shall install new metal return-air duct to match the dimensions of the air handler unit, but not less than the dimensions specified in the Drawings. New return-air ductwork shall be in accordance with the original Project Specifications and Drawings except as modified herein. This includes, but is not necessarily limited to the following:

   a. All ductwork shall be constructed in accordance with the most current version of SMACNA Standards, including gauge of metal and reinforcement requirements.

   b. Duct connections to equipment shall be made with fire and mildew resistant flexible connections of canvas or other acceptable materials.

   c. New ductwork shall be supported in accordance with SMACNA standards.

   d. New ductwork shall be insulated in accordance with the Project Specifications.

   e. To the extent possible, prefabricate all ductwork in an effort to minimize the time required for the installations.
f. Refer to the Project Specifications for additional requirements.

g. Contractor shall provide product data submittals for ducts and grilles to HANO prior to fabrication of the ductwork. Allow a minimum of two (2) weeks for review by HANO.

15. Contractor shall rework existing wood framing as necessary to accommodate the new ceiling mounted grilles. Contractor shall install new return-air grilles sized to match the orientation of the existing grille and ceiling framing. Grille size shall be such that the airflow is no less than that provided by the specified grille sizes.

16. Contractor shall perform all drywall remedial work made necessary by the installation of the ductwork and grilles. Visible patches shall receive one primer coat and one finish coat of paint. Contractor shall apply one (1) finish coat of paint, color to match the existing color, from corner to corner in the affected area(s).

17. Schedule. Contractor shall provide a schedule for the Work at the Pre-construction Conference. The schedule shall include the following at a minimum:

   a. Contract Start Date

   b. Contract Completion Date

   c. Selective Demolition, HVAC and Cleanup Work as individual tasks per building.

   d. Schedule shall include the timeframes for notifying residents of a minimum three (3) business days. (Failure to properly notify residents in a timely fashion shall not be cause to add calendar days to the Contract Time of Completion.

18. Upon completion of the installation of the new ductwork and grilles, Contractor shall perform a thorough inspection of all aspects of the HVAC systems in all units, including the integrity of the condensate drains, to ensure that the systems are functioning properly. This review shall apply to all the HVAC systems, including those that did not receive ductwork replacement. The Base Bid shall include adding up to one pound of refrigerant to the system. Should additional refrigerate be required, the additional refrigerant will be paid for on a unit price basis. (Refer to Unit Prices below). Should any problems be noted with any of the HVAC systems that exceeds the Scope of Work, Contractor shall submit a written proposal for the corrective work to HANO for review and approval prior to performing any additional work.

THE CONTRACTOR SHALL NOT RECEIVE PAYMENT FOR ANY ADDITIONAL WORK PERFORMED WITHOUT PRIOR WRITTEN APPROVAL FROM HANO.

UNIT PRICE

Certain portions of the Work will be paid for based on the Unit Price provided by the Contractor. The unit price item is listed on the Louisiana Public Work Unit Price Form, located in the Project Manual. This is an estimated quantity.

Contractor shall use the estimated quantity in determining the Bid Amount for the unit price item, and shall include this amount in their TOTAL BASE BID. Payment will be made based on actual quantities, as verified by HANO. Contractor shall provide sufficient backup documentation supporting a request for payment.

The method(s) for verifying quantities will be determined at the Pre-Construction Conference.
ATTACHMENTS

Exhibit A:

SITE PLAN

EXHIBIT B: PROJECT SPECIFICATIONS – PEREZ, #01-11-1037-01

THE FOLLOWING PROJECT SPECIFICATIONS ARE PART OF THE SCOPE OF WORK:

- DIVISION 06 – WOOD AND PLASTICS
- DIVISION 09 – FINISHES
- DIVISION 23 - HVAC

Section 230500, GENERAL MECHANICAL
Section 230501, BASIC MECHANICAL MATERIALS AND METHODS
Section 233100, DUCTWORK, from the original Project Manual.
Section 237400, AIR OUTLETS AND INLETS

EXHIBIT C:

LIST OF AIR-HANDLING UNITS (AHU)

EXHIBIT D: DRAWINGS

THE FOLLOWING MECHANICAL DRAWINGS SHEETS ARE PART OF THE SCOPE OF WORK:

M1.00 - MECHANICAL AND PLUMBING SHEET
M1.01 - MECHANICAL FLOOR PLAN
M1.02 - MECHANICAL FLOOR PLAN
M1.03 - MECHANICAL FLOOR PLAN
M1.04 - MECHANICAL FLOOR PLAN
M2.01 - MECHANICAL DETAILS
M2.02 - MECHANICAL DETAILS AND SCHEDULES
M3.01 - MECHANICAL DETAILS
M3.02 - MECHANICAL DETAILS

[THIS SECTION LEFT BLANK INTENTIONALLY]
SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Framing with dimension lumber.
   2. Framing with engineered wood products.
   3. Rooftop equipment bases and support curbs.
   4. Wood blocking, cants, and nailers.
   5. Wood furring and grounds.
   6. Plywood backing panels.

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product:
   1. Include data for wood-preservative and fire-retardant treatment from chemical
treatment manufacturer and certification by-treating plant that treated materials
comply with requirements.

B. Material Certificates: For dimension lumber specified to comply with minimum allowable
indicate species and grade selected for each use and design values approved by the
American Lumber Standards Committee Board of Review.

C. Research/Evaluation Reports: For the following, showing compliance with building code
in effect for Project:
   1. Wood-preservative-treated wood.
   2. Fire-retardant-treated wood.
   3. Engineered wood products.
   5. Powder-actuated fasteners.
   7. Metal framing anchors.

1.3 QUALITY ASSURANCE
A. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":

1. Dimension lumber framing.
2. Laminated-veneer lumber.
4. Rim boards.
5. Miscellaneous lumber.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rule-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber intended to receive a stained or natural finish, mark grade stamp on end or back of each piece.
3. Provide dressed lumber, S4S, unless otherwise indicated.

B. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA C2, except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX).

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and
2.3 . . . FIRE-RETARDANT-TREATED MATERIALS

A. General: Comply with performance requirements in AWPA C20 (lumber) and AWPA C27 (plywood).

1. Use Exterior type for exterior locations and where indicated.

2. Use Interior Type A, High Temperature (HT) for enclosed roof framing, framing in attic spaces, and where indicated.

3. Use Interior Type A; unless otherwise indicated.

B. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.

C. Application: Treat all rough carpentry, unless otherwise indicated:

1. Framing for raised platforms.

2. Concealed blocking.

3. Framing for non-load-bearing partitions.


5. Roof construction.

6. Plywood backing panels.

2.4 DIMENSION LUMBER FRAMING

A. Maximum Moisture Content: 18 percent.

B. Non-Load-Bearing Interior Partitions: Construction or No. 2 grade of the following species:

1. Mixed Southern pine; SPIB

2.5 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
1. Blocking.

2. Nailers.

3. Rooftop equipment bases and support curbs.

4. Carts.

5. Furring.


B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of the following species:

   1. Mixed Southern pine; SPIB

C. For concealed boards, provide lumber with 15 percent maximum moisture content and any of the following species and grades:

   1. Mixed southern pine, No. 2 grade; SPIB.

2.6 PLYWOOD BACKING PANELS

A. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exposure 1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 1/2-inch nominal thickness.

2.7 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified.

   1. Where rough carpentry is exposed to weather, in ground contact, preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.


C. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

2.8 METAL FRAMING ANCHORS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Alpine Engineering Products, Inc.
2. Cleveland Steel Specialty Co.
3. Harlen Metal Products, Inc.
4. KC Metals Products, Inc.
5. Simpson Strong-Tie Co., Inc.
7. USP Structural Connectors

C. Basis-of-Design Products: Subject to compliance with requirements, provide products indicated on Drawings comparable products by one of the following:

D. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.9 MISCELLANEOUS MATERIALS

A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill "sealer; 1-inch nominal thickness, compressible to 1/32" inch; selected from manufacturer's standard widths to suit width of sill members indicated.

B. Basis-of-Design Products: Subject to compliance with requirements, provided indicated on Drawings comparable products by one of the following:

1. Alpine Engineering Products, Inc:
2. Cleveland Steel Specialty Co.
3. Harlen Metal Products, Inc.
4. KC Metals Products, Inc.
5. Simpson Strong-Tie Co., Inc.
7. USP Structural Connectors

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

B. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame ROUGH CARPENTRY"
Construction,* unless otherwise indicated.

C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

D. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.

E. Do not splice structural members between supports, unless otherwise indicated.

F. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

G. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. NES NER-272 for power-driven fasteners.
5. Table 2306.1, "Fastening Schedule," in SBCCI's Standard Building Code.
7. Table 602.3(1), "Fastener Schedule for Structural Members," and Table 602.3(2), "Alternate Attachments," in ICC's International One- and Two-Family Dwelling Code.

3.2 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution in compliance with EPA-registered product label.

END OF SECTION 061000

ROUGH CARPENTRY

061000 - 6
SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Interior gypsum board.
   2. Tile backing panels.

B. Related Requirements:
   1. Section 093000 "Tiling" for cementitious backer units installed as substrates for ceramic tile.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For the following products:
   1. Trim Accessories: Full-size Sample in 12-inch- (300-mm-) long length for each trim accessory indicated.

1.4 QUALITY ASSURANCE

A. Mockups: Before beginning gypsum board installation, install mockups of at least 100 sq. ft. (9 sq. m) in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Install mockups for the following:
   a. Each level of gypsum board finish indicated for use in exposed locations.

2. Apply or install final decoration indicated, including painting, on exposed surfaces for review of mockups.

3. Simulate finished lighting conditions for review of mockups.

4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
1.5 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.6 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
   1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
   2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

A. Regional Materials: Gypsum panel products shall be manufactured within 500 miles (800 km) of Project site.

B. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. American Gypsum.
   2. CertainTeed Corp.
   3. Georgia-Pacific Gypsum LLC.
B. Gypsum Board, Type X: ASTM C 1396/C 1396M.
   1. Thickness: 5/8 inch (15.9 mm).
   2. Long Edges: Tapered.

C. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
   1. Core: 5/8 inch (15.9 mm), Type X.
   2. Long Edges: Tapered.
   3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

D. Gypsum Shafliner Board, Moisture- and Mold-Resistant Type X: ASTM C 1395/C 1396M; manufacturer's proprietary fire-resistive liner panels with moisture- and mold-resistant core and surfaces.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. CertainTeed Corp.; ProRoc Moisture and Mold Resistant Shafliner.
      b. Georgia-Pacific Gypsum LLC, Subsidiary of Georgia Pacific; Dens-Glass Ultra Shafliner.
      c. Lafarge North America, Inc.; Firecheck Moldcheck Type X Shafliner.
      d. National Gypsum Company; Gold Bond Brand Fire-Shield Shafliner XP.
      e. PABCO Gypsum; Pabcore Mold Curb Shafliner Type X.
      f. Temple-Inland Inc.; Fire-Rated SilentGuard TS Mold-Resistant Gypsum Shafliner System.
      g. USG Corporation; Sheetrock Brand Mold Tough Gypsum Liner Panel.
   2. Thickness: 1 inch (25.4 mm).
   4. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.4 NON-LOAD-BEARING STEEL FRAMING

A. Steel Framing Members: Comply with ASTM C 645 requirements for metal unless otherwise indicated.

B. Provide shapes and sizes indicated in the drawings and per UL assembly requirements.

2.5 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.
   1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
   2. Shapes:
2.6 RATED 1 INCH GYPSUM BOARD ASSEMBLY AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with manufacturer's written recommendations.

B. Trim Accessories: Corner bead, edge trim, and control joints of material and shapes as required that comply with gypsum board shaft wall assembly manufacturer's written recommendations for application indicated and meet the requirements of the UL assembly.

C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.

D. Track Fasteners: Power-driven fasteners of size and material required to withstand loading conditions imposed on 1 inch gypsum board (shaft) wall assemblies without exceeding allowable design stress of track, fasteners, or structural substrates in which anchors are embedded.

2.7 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Board: Paper.

C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.

2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.

   a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use drying-type, all-purpose compound.

4. Finish Coat: For third coat, use setting-type, sandable topping compound.

2.8 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

1. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

C. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
1. **Fire-Resistance-Rated Assemblies:** Comply with mineral-fiber requirements of assembly.
2. **Recycled Content of Blankets:** Postconsumer recycled content plus one-half of preconsumer recycled content not less than 20 percent.

D. **Acoustical Joint Sealant:** Manufacturer's standard nontag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

1. **Products:** Subject to compliance with requirements, provide one of the following:

   a. Accumetric LLC; BOSS 824 Acoustical Sound Sealant
   b. Grabber Construction Products; Acoustical Sealant GSC
   c. Pecora Corporation; AC-20 FTR or AIS-919
   d. Specified Technologies, Inc.; Smoke N Sound Acoustical Sealant
   e. USG Corporation; SHEETROCK Acoustical Sealant

2. **Acoustical joint sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).**

E. **Thermal Insulation:** As specified in Section 072100 "Thermal Insulation."

F. **Vapor Retarder:** As specified in Section 072100 "Thermal Insulation."

**PART 3 - EXECUTION**

3.1 **EXAMINATION**

A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 **APPLYING AND FINISHING PANELS, GENERAL**

A. Comply with ASTM C 840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.

2. Fit gypsum panels around ducts, pipes, and conduits.

3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.

G. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.

1. Where the gypsum board is in a fire rated assembly; install gypsum panels per the requirements of the rated assembly.

H. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bed of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

I. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations:

1. Type X: Vertical surfaces and horizontal surfaces unless otherwise indicated.

2. Moisture- and Mold-Resistant Type: In kitchen, bath and toilet rooms and as indicated on Drawings.
   a. Where tile is to be installed use cementitious backer units as specified in the "Tiling" section.

B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.

2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
   a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
   b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.

3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
4. **Fastening Methods**: Apply gypsum panels to supports with steel drill screws.

**C. Multilayer Application:**

1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches (400 mm) minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.

2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.

3. On Z-furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.

4. **Fastening Methods**: Fasten base layers and face layers separately to supports with screws.

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**3.4 ONE INCH GYPSUM BOARD RATED WALL INSTALLATION**

A. **General**: Install one inch gypsum board shaft wall assemblies to comply with requirements of fire-resistance-rated assemblies indicated, manufacturer’s written installation instructions, and ASTM C 754 other than stud-spacing requirements.

B. Install supplementary framing in gypsum board shaft wall assemblies around openings and as required for blocking, bracing, and support of gravity and pullout loads of fixtures, equipment, services, heavy trim, furnishings, wall-mounted door stops, and similar items that cannot be supported directly by shaft wall assembly framing.

C. **Penetrations**: At penetrations in shaft wall, maintain fire-resistance rating of shaft wall assembly by installing supplementary steel framing around perimeter of penetration and fire protection behind boxes containing wiring devices, elevator call buttons, elevator floor indicators, and similar items.

D. Isolate perimeter of gypsum panels from building structure to prevent cracking of panels, while maintaining continuity of fire-rated construction.

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**3.5 INSTALLING TRIM ACCESSORIES**

A. **General**: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer’s written instructions.

B. **Control Joints**: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect unless locations are indicated on Drawings.

C. **Interior Trim**: Install in the following locations:

1. **Cornerbead**: Use at outside corners unless otherwise indicated.
3.6 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints, rounded or beveled edges, and damaged surface areas.

C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 4: All panel surfaces that will be exposed to view unless otherwise indicated, with light orange peel texture.

3.7 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that are wet, moisture damaged, and mold damaged.

   1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.

   2. Indications that panels are mold damaged include, but are not limited to, fuzzy or spotty surface contamination and discoloration.

END OF SECTION 092900
SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following interior substrates:

1. Wood.
2. Gypsum board.

B. Related Requirements:

1. Section 051200 "Structural Steel Framing" for shop priming of metal substrates with primers specified in this Section.
2. Section 099600 "High-Performance Coatings" for high-performance and special-use coatings.
3. Section 099113 "Exterior Painting" for surface preparation and the application of paint systems on exterior substrates.
4. Section 099300 "Staining and Transparent Finishing" for surface preparation and the application of wood stains and transparent finishes on interior wood substrates.

1.3 DEFINITIONS

A. Gloss Level 1 (Flat): Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. Gloss Level 3 (Eggshell): 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. Gloss Level 4 (Satin): 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

D. Gloss Level 5 (Eggshell): 35 to 70 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Qualifications: For testing and inspecting agency; to comply with MPI standards.
1.5 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
   a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
   b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.
   a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.
1.7 FIELD CONDITIONS

A. Apply paint only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

2. Benjamin Moore & Co.
3. Cloverdale Paint.
4. ICI Paints.
5. PPG Architectural Finishes, Inc.
7. Sherwin-Williams Company (The).
8. Zinsser.

2.2 PAINT, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 150 g/L.
3. Primers, Sealers, and Undercoaters: 200 g/L.
4. Anticorrosive and Antitrust Paints Applied to Ferrous Metals: 250 g/L.
6. Pretreatment Wash Primers: 420 g/L.
7. Floor Coatings: 100 g/L.
8. Shellacs, Clear: 730 g/L.
9. Shellacs, Pigmented: 550 g/L.
D. Colors: As selected by Architect from manufacturer’s full range.

2.3 BLOCK FILLERS

A. Block Filler, Latex, Interior/Exterior: MPI #4.

2.4 PRIMERS/SEALERS

A. Primer sealer, latex, interior, MPI #50.
B. Primer, Latex, for Interior Wood: MPI #39.
C. Wood-Knot Sealer: Sealer recommended in writing by topcoat manufacturer for use in paint systems indicated.

2.5 METAL PRIMERS

A. Primer, Alkyd, Anti-Corrosive, for Metal: MPI #79.
B. Primer, Galvanized, Water Based: MPI #134.

2.6 WATER-BASED PAINTS

A. Latex, Interior, (Gloss Level 3): MPI #52.
B. Latex, Interior, Semi-Gloss, (Gloss Level 5): MPI #54.

2.7 SOURCE QUALITY CONTROL

A. Testing of Coating Materials: Owner reserves the right to invoke the following procedure:

1. At Owner’s request, Contractor will engage the services of a qualified testing agency to sample coating materials. If coating materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying coating materials from Project site, pay for testing, and recoat surfaces coated with rejected materials. Contractor will be required to remove rejected materials from previously coated surfaces if, on recoating with complying materials, the two coatings are incompatible.
4. Cost of testing to be included in base bid and will submitted to the Owner as a credit if not invoked.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

- 1. Concrete: 12 percent.
- 2. Wood: 15 percent.

C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

E. Proceed with coating application only after unsatisfactory conditions have been corrected.

- 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.

- 1. Each coat is to be applied at the rate (mill thickness) specified in the manufacturer's written instructions and recommendations in "MPI Manual".

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

- 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

- 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

E. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:

- 1. SSPC-SP 2, "Hand Tool Cleaning."
F. Wood Substrates:

1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
2. Sand surfaces that will be exposed to view, and dust off.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged-items to match exposed surfaces.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

A. Wood Substrates: Including wood trim.

1. Latex System:
SECTION 230500 - GENERAL MECHANICAL

PART 1 - GENERAL CONDITIONS

1.1 WORK INCLUDED

A. The general conditions of the general specifications are made a part of these specifications and apply the same as if attached hereto. The contractor should, before bidding, read and thoroughly understand all general conditions, priority and scheduling.

1.2 SCOPE OF WORK

A. This section cells for the furnishing of labor, materials, equipment, and all the services, and of performing all operations required for the complete mechanical systems as hereinafter specified and/or shown on the accompanying drawings.

1.3 GENERAL REQUIREMENTS

A. Contractor shall install his work to meet the existing conditions as found at buildings and property, and to accommodate work of other trades. This contractor shall be responsible for timely placing of sleeves in forms before concrete is poured. Cooperate with the general contractor and place pipes and ducts in floors, walls, furred spaces, etc., so there will be no delay. Sheet metal or iron pipe sleeves shall be provided for pipes passing through floors, wall or partitions.

B. Contractor shall furnish and properly install materials, devices, equipment, insulation, controls, appurtenances, etc., mentioned in these specifications and/or shown on plans or required to make a complete and satisfactory installation in working order whether fully shown or not.

C. Contractor should visit the site and acquaint himself thoroughly with conditions governing installation of his work.

D. All other plans shall be checked in relation to these plans so that all conditions will be furnished and installed in this contract to provide complete and satisfactory systems.

1.4 LAWS, RULES, REGULATIONS, FEES, ETC.

A. The entire mechanical work shall comply with rules and regulations of the local and state authorities having jurisdiction including the State Fire Marshal, State Board of Health, and Department of Health and Hospitals. All modifications required by the said authorities at any time shall be made by the mechanical contractor without additional charge. In cases where alterations to or deviations from this specification and accompanying plans are required by the authorities, contractor shall report same to the Architect and obtain his approval before work is started.

1.5 DRAWINGS

A. Plans and detail sketches are submitted to limit, explain, and define structural conditions, specified requirements, pipe sizes, and manner of erecting work. Structural or other conditions may require certain deviations from manner of installation shown, and such deviations shall be made as required, but specified sizes and requirements necessary for satisfactory operation shall remain unchanged.

B. It may be necessary to shift or to change routing of ducts and or piping and this shall be done, but such changes must be referred to Architect for approval before proceeding. Extra charges will not be allowed for these changes.
C. Typical details are shown on plans, and in any cases where Contractor is not certain about the method of installation of this work, he shall ask for details, lack of details will not be an excuse for improper installation.

D. Contractor bidding on this portion of the work must be fully experienced in installations of equal size, complexity and quality. In bidding, he acknowledges that he fully understands the scope of the work and design and has the ability, for the contract price to assemble and install the equipment, piping, and ductwork shown or specified, so as to mold same into a satisfactory workable system and arrangement, without responsibility for capacities and sizes set by these documents.

E. Contractor shall recognize that the amount of information and detail that could be provided in Contract Documents is limitless and could extend into every minute detail, step, sequence, and operation to a point where only workmen would be required, without drawing on ability experience, and ingenuity of the Contractor.

1.6 MATERIALS

A. Where directed by the Architect, Contractor shall submit sample for approval before proceeding.

1.7 STANDARDS

A. In general, standards for products and workmanship shall be as described in each individual section.

B. The standards referred to, except as modified in these specifications shall have full force and effect as though printed in these specifications. These standards are not furnished to bidders for the reason that the manufacturers and trades involved are assumed to be familiar with their requirements. The Architect will furnish, upon request, information as to how copies of the standards referred to may be obtained.

C. Notwithstanding any reference in this section of the specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalogue number, such references shall be interpreted as establishing a standard of quality and shall not be construed limiting competition and the Contractor in such cases, may at his option, use any article, device, product, material, fixture, form or type of construction which in the judgment of the Architect, expressed in writing, is equal to that specified.

1.8 MATERIALS SPECIFIED OR SUBSTITUTED (Prior Approvals)

A. Refer to Instructions to Bidders.

1.9 SHOP DRAWINGS

A. Before proceeding with the work, contractor shall make complete shop and working drawings of such apparatus or connections as directed by the Architect and/or hereinafter specified. These drawings shall show construction details and dimensions of each piece of equipment so drawn.

B. Architects approval of shop drawings shall not relieve the Contractor from responsibility of incorrectly figured dimensions or any other errors in these drawings or specified even though approved by the Architect, shall not relieve this Contractor from furnishing and erecting same.

C. Ten (10) sets of prints of shop drawings shall be submitted to Architect. These prints shall be supplied as part of this contract. Submit all shop drawings at the same time or as soon as practical after award of the contract. No separate items will be accepted.
D. Where laws or local regulations provide that certain accessories such as gauges, thermometers, relief valves and parts be installed on equipment, it shall be understood that such accessories shall be furnished if no specific reference to them is made in the specifications.

1.10 CUTTING AND PATCHING

A. All cutting necessary for this work will be done by this Contractor at his own expense, but all patching shall be done by the General Contractor. No beams or joists shall be cut without prior approval of Architect. After initial resurfacing has been done any further cutting, patching or painting shall be done at the expense of this Contractor.

1.11 INTERFERENCES

A. The drawings are generally diagrammatic and this Contractor shall harmonize his work with that of the different trades so that interferences of the different equipment, piping, etc., shall be installed so as to function properly. In the case where interference develops, the Architect is to state which equipment, piping, etc., is to be relocated regardless of which item was first installed.

1.12 EXCAVATION AND BACKFILL

A. This Contractor shall do all excavating required to lay the specified services and after same have been laid, he shall do all backfilling to the satisfaction of all parties concerned and shall cart away from the premises all unnecessary dirt, rubbish, etc., as directed. Backfill shall be well tamped. All backfill shall be done according to the "Compaction And Backfill" section of these specifications.

1.13 SPACE REQUIREMENTS

A. Contractor shall check all plans pertaining to this job so as to be fully aware of the space limitations for all various items of equipment. Equipment is not to be bid on, submitted for preliminary approval nor placed on the job if it is so bulky and large that adequate access for proper maintenance and servicing cannot be achieved in the space provided.

1.14 FOUNDATIONS AND SUPPORTS

A. This contractor shall furnish and install foundations and supports of concrete or steel shapes for equipment requiring same, unless specifically indicated otherwise or specified.

B. All floor mounted mechanical equipment shall be mounted on 4" high concrete housekeeping pad unless specifically shown otherwise on plans. Refer to plans for special requirements for foundations and supports.

1.15 HANGERS, ESCUTCHEONS, ETC.

A. See Section 230529 – Supports and Anchors.

B. Mechanical Contractor shall furnish and install all thimbles, inserts and other requirements necessary for the support of his equipment and piping. Assist and cooperate with other trades in locating and placing these items.

1.16 CEILING AND WALL ACCESS PANEL

A. Factory made access doors and frames, prime coat finish, screw driver latch(s) of suitable size as required.

B. Access panels in rated ceiling to have same rating as ceiling.
C. Where valves, dampers, controls, fire dampers, smoke dampers, and detectors, reheat coils, etc. are concealed in walls or non-accessible ceilings, install factory made access doors and frames.

1.17 DUCTWORK ACCESS PANELS
A. Access panels in ductwork to be double wall type with insulation sandwiched in between, same insulation value as adjacent ductwork.

1.18 SIPHON PREVENTERS
A. Furnish and install approved type siphon preventors on all equipment and fixtures in such a manner as to prevent water being siphoned back into the water supply in the event the water supply is shut off.

1.19 FLAME SPREAD PROPERTIES OF MATERIALS
A. All materials and adhesives used for acoustical linings, jackets and insulation shall comply with requirements of NFPA 90A and 90B and UL guide # 40V 8.15. Products exceeding a flame spread rating of 25, or a smoke developed rating of 50, as determined by ASTM Test Method E-84 are prohibited. Adhesives and sealers shall be fire retardant and fire resistant when dry. Flame proofing treatments which are subject to decomposition, deterioration, or the effects of moisture are prohibited.

1.20 DOMESTIC AND FIRE WATER TIE-IN
A. Contractor shall provide any necessary meters and tap fees for domestic or fire water tie-ins to utility companies. All domestic and fire water taps shall have aboveground reduced pressure back flow preventors near the tie-in point. Coordinate with Engineer exact location.

B. All backflow preventors shall be heat traced and insulated with 1-1/2" fiberglass insulation with water tight aluminum jacket.

1.21 PROTECTION OF EQUIPMENT
A. See individual sections for protection of equipment.

B. This Contractor shall at all times take such precautions as may be necessary to properly protect his equipment from damage. Failure on the part of the Contractor to comply with the above the entire satisfaction of the Architect will be sufficient cause for the rejection of the particular piece of equipment in question.

1.22 TESTING
A. All pressure lines, unless elsewhere specified, shall be tested under 150# hydrostatic pressure unless rated pressure is less for a minimum of 5 hours. Contractor shall provide valve at farthest point in line to bleed off air and for inspection.

B. Notice shall be given the Architect before tests are made, the test is not to be drawn off pipes and pipes are not to be covered or insulated until filled pipes have been examined and testing approved by the Architect.

C. In case of defects, they shall be made good to the satisfaction of the Architect and work retested. All such work shall be done by the Contractor with no additional expense to the Owner.
D. Contractor shall make any other such tests as may be called for by the Architect, and all other tests so called for elsewhere in these specifications.

1.23 CLEANING AND ADJUSTING

A. Before receiving final approval from the Architect, the Contractor shall clean out all lines; adjust all valves, control equipment and other equipment. Clean all pipe and equipment and leave the entire installation in good working order. All heaters, fans, grilles, controls, etc., shall be adjusted to perform in correct and satisfactory manner, with sequences, etc., as called for in the specifications hereinafter specified and on plans.

1.25 MOTORS, MOTOR STARTERS AND ELECTRICAL WORK

A. Refer to Section 230513 - Motors.

B. Motors shall be suitable for voltage indicated on the plans, plus or minus 10% and be designed for constant operation at 40 degrees C ambient, 65 degrees C rise for class A, 90 degrees C rise for Class B, etc. Electrical equipment furnished under this contract shall meet standards as set forth by NEMA and NEC requirements. All electrical equipment shall be UL labeled.

1.26 PARTS LIST AND INSTRUCTION MANUAL

A. See individual sections for specific instructions.

B. This Contractor shall deliver to the Architect three (3) copies of printed instructions relating to operating, proper maintenance and repair parts list indicating the various parts by name, number and diagram for each piece of equipment installed. Test and balance report shall also be included in parts list and instruction manual.

C. The shop drawings, parts list, and maintenance and repair instructions shall be neatly bound in a canvas-covered notebook and turned over to the Architect before acceptance of the work.

1.28 GUARANTEE

A. Contractor shall guarantee materials, equipment and workmanship installed and performed under this contract for a period of one (1) year from date of the final completion and official acceptance of the contract unless otherwise stated.

B. He shall furnish free of charge to the Owner all materials and labor necessary to comply with the above guarantee, which shall be based on defective materials and/or workmanship, and on such basis shall be responsible if a deficiency is found, for any adjustment, replacement, or correction which may be necessary to replace the project to first class condition. This guarantee shall include refrigerant charges, but shall not include the changing of filters.

1.29 RECORD DRAWINGS

A. The Contractor shall maintain a set of record drawings on-site throughout the construction. The record drawings shall reflect accurate dimensional record of all underground, buried, above ceiling, or otherwise concealed work.

B. The Contractor shall maintain these record documents and keep them up-to-date daily.

END OF SECTION 230500
SECTION 230501 - BASIC MECHANICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Piping materials and installation instructions common to most piping systems.
2. Dielectric fittings.
3. Sleeves.
4. Escutcheons.
5. Grouf.
6. Equipment installation requirements common to equipment sections.
7. Concrete bases.
8. Supports and anchorages.

1.2 DEFINITIONS

A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in duct shafts.

E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

1.3 SUBMITTALS

A. Welding certificates.

1.4 QUALITY ASSURANCE

A. Steel Support Welding: Qualify processes and operators according to AWS D1.1, "Structural Welding Code—Steel."

B. Steel Pipe Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."

1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.

C. Electrical Characteristics for Mechanical Equipment: Equipment of higher electrical characteristics may be furnished provided such proposed equipment is approved in writing and connecting electrical services, circuit breakers, and conduit sizes are appropriately modified. If minimum energy ratings or efficiencies are specified, equipment shall comply with requirements.
PART 2 - PRODUCTS

2.1 PIPE, TUBE, AND FITTINGS

A. Refer to individual Division 15 piping Sections for pipe, tube, and fitting materials and joining methods.

B. Pipe Threads: ASME B1.20.1 for factory-threaded pipe and pipe fittings.

2.2 JOINING MATERIALS

A. Refer to individual Division 23 piping Sections for special joining materials not listed below.

B. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.


D. Solvent Cements for Joining Plastic Piping:
   1. PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.

2.3 DIELECTRIC FITTINGS

A. Description: Combination fitting of copper alloy and ferrous materials with threaded, solder-joint, plain, or weld-neck end connections that match piping system materials.

B. Insulating Material: Suitable for system fluid, pressure, and temperature.

C. Dielectric Unions: Factory-fabricated, union assembly, for 250-psig (1725-kPa) minimum working pressure at 180 deg F (82 deg C).

D. Dielectric Flanges: Factory-fabricated, companion-flange assembly, for 150- or 300-psig (1035- or 2070-kPa) minimum working pressure as required to suit system pressures.

E. Dielectric Couplings: Galvanized-steel coupling with inert and noncorrosive, thermoplastic lining; threaded ends; and 300-psig (2070-kPa) minimum working pressure at 225 deg F (107 deg C).

F. Dielectric Nipples: Electroplated steel nipple with inert and noncorrosive, thermoplastic lining; plain, threaded, or grooved ends; and 300-psig (2070-kPa) minimum working pressure at 225 deg F (107 deg C).

2.4 SLEEVES

A. Galvanized-Steel Sheet: 0.0239-inch (0.6-mm) minimum thickness; round tube closed with welded longitudinal joint.

B. Steel Pipe: ASTM A 53, Type E, Grade B, Schedule 40, galvanized, plain ends.

C. Cast Iron: Cast or fabricated "wall pipe" equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

D. Stack Sleeve Fittings: Manufactured, cast-iron sleeve with integral clamping flange. Include clamping ring and bolts and nuts for membrane flashing.
1. Underdeck Clamp: Clamping ring with set screws.

E. Molded PVC: Permanent, with nailing flange for attaching to wooden forms.


2.5 ESCUTCHEONS

A. Description: Manufactured wall and ceiling escutcheons and floor plates, with an ID to closely fit around pipe, tube, and insulation of insulated piping and an OD that completely covers opening.

B. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with polished chrome-plated finish.

C. One-Piece, Cast-Brass Type: With set screw.

1. Finish: Polished chrome-plated and rough brass.

2.6 GROUT

A. Description: ASTM C1107, Grade B, nonshrink and nonmetallic, dry hydraulic-cement grout.


2. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.


PART 3 - EXECUTION

3.1 PIPING SYSTEMS - COMMON REQUIREMENTS

A. Install piping according to the following requirements and Division 15 Sections specifying piping systems.

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

C. Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.

D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

F. Install piping to permit valve servicing.

G. Install piping at indicated slopes.

H. Install piping free of sags and bends.

I. Install fittings for changes in direction and branch connections.
J. Install piping to allow application of insulation.

K. Select system components with pressure rating equal to or greater than system operating pressure.

L. Install escutcheons for penetrations of walls, ceilings, and floors.

M. Install sleeves for pipes passing through concrete and masonry walls, gypsum-board partitions, and concrete floor and roof slabs.

N. Aboveground, Exterior-Wall Pipe Penetrations: Seal penetrations using sleeves. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.
   1. Install steel pipe for sleeves smaller than 6 inches (150 mm) in diameter.
   2. Install cast-iron "wall pipes" for sleeves 6 inches (150 mm) and larger in diameter.

O. Underground, Exterior-Wall Pipe Penetrations: Install cast-iron "wall pipes" for sleeves. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.

P. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Refer to Division 7 Section “Through-Penetration Firestop Systems” for materials.

Q. Verify final equipment locations for roughing-in.

R. Refer to equipment specifications in other Sections of these Specifications for roughing-in requirements.

3.2 PIPING JOINT CONSTRUCTION

A. Join pipe and fittings according to the following requirements and Division 15 Sections specifying piping systems.

B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

D. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.

E. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
   1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
   2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

F. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.
G. Plastic Piping Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
   1. Comply with ASTM F 402, for safe-handling practice of cleaners, primers, and solvent cements.
   2. PVC Nonpressure Piping: Join according to ASTM D 2855.

H. Plastic Nonpressure Piping Gasketed Joints: Join according to ASTM D 3212.

3.3 PIPING CONNECTIONS

A. Make connections according to the following, unless otherwise indicated:
   1. Install unions, in piping NPS 2 (DN 50) and smaller, adjacent to each valve and at final connection to each piece of equipment.
   2. Install flanges, in piping NPS 2-1/2 (DN 65) and larger, adjacent to flanged valves and at final connection to each piece of equipment.
   3. Dry Piping Systems: Install dielectric unions and flanges to connect piping materials of dissimilar metals.

3.4 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

A. Install equipment to allow maximum possible headroom unless specific mounting heights are not indicated.

B. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, unless otherwise indicated.

C. Install mechanical equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Extend grease fittings to accessible locations.

D. Install equipment to allow right of way for piping installed at required slope.

3.5 CONCRETE BASES

A. Concrete Bases: Anchor equipment to concrete base according to equipment manufacturer’s written instructions and according to seismic codes at Project.
   1. Construct concrete bases of dimensions indicated on structural drawings.
   2. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.
   3. Place and secure anchorage devices. Use supported equipment manufacturer’s setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   4. Install anchor bolts to elevations required for proper attachment to supported equipment.
   5. Install anchor bolts according to anchor-bolt manufacturer’s written instructions.
   6. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete and reinforcement.

3.6 ERECTION OF METAL SUPPORTS AND ANCHORAGES

A. Refer to Division 5 Section "Metal Fabrications" for structural steel.
B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor mechanical materials and equipment.

C. Field Welding: Comply with AWS D1.1.

3.7 ERECTION OF WOOD SUPPORTS AND ANCHORAGES

A. Cut, fit, and place wood grounds, nailers, blocking, and anchorages to support, and anchor mechanical materials and equipment.

B. Select fastener sizes that will not penetrate members if opposite side will be exposed to view or will receive finish materials. Tighten connections between members. Install fasteners without splitting wood members.

C. Attach to substrates as required to support applied loads.

3.8 GROUTING

A. Mix and install grout for mechanical equipment base bearing surfaces, pump and other equipment base plates, and anchors.

B. Clean surfaces that will come into contact with grout.

C. Provide forms as required for placement of grout.

D. Avoid air entrapment during placement of grout.

E. Place grout, completely filling equipment bases.

F. Place grout on concrete bases and provide smooth bearing surface for equipment.

G. Place grout around anchors.

H. Cure placed grout.

END OF SECTION 230501
SECTION 233100 - DUCTWORK

PART 1 - GENERAL

1.1 WORK INCLUDED
A. Low pressure duct.

1.2 RELATED WORK
A. Section 230523 - Supports and Anchors
B. Section 230700 - Piping and Equipment Insulation
C. Section 233700 - Air Inlets and Outlets
D. Section 230593 - Testing and Balance

1.3 REFERENCES
C. NFPA 90A, 90B.

1.4 DEFINITIONS
A. Duct sizes: All duct sizes are indicated on the plans as metal to metal.
B. Low Pressure: Three pressure classifications: 1/2" WG positive or negative static pressure and velocities less than 2,000 fpm, 1" WG positive or negative static pressure and velocities less than 2,500 fpm and 2" WG positive or

1.5 REGULATORY REQUIREMENTS
A. Construct ductwork to NFPA 90A and NFPA 90B Standards.
B. Store and protect products under provisions of Section 016000.

PART 2 - PRODUCTS

2.1 LOW PRESSURE DUCTWORK
A. Furnish and install all ducts for the air conditioning, heating and ventilating systems. Ductwork shall be complete with grilles, vanes splitters, flashings, hangers, flexible connections, manual dampers, fresh air inlet louvers, reinforcing angles, transitions to equipment, etc.
B. All low pressure ductwork (mean velocity less than 2,000 FPM and static pressure in duct 2" of water or less) shall be constructed as per SMACNA Standards, 1985 Edition, Chapter 1, and shall be of the gauge metal and reinforced as per SMACNA Standards, 1995 Edition.
C. Flashing shall be of the same material as specified under the roofing and flashing section of these specifications, or of 16-ounce sheet copper and shall be furnished and installed around all outside openings used for ducts or fans where required. Roof flashing shall extend at least 8" above roof. Cooperate with roofing contractor when installing flashing.

D. All duct connections to equipment shall be made with fire and mildew resistant flexible connections of canvas or other acceptable materials. Connections shall have suitable metal collar frames at each end and shall not be less than 4" long with at least 1" of slack in the connection. Flexible connections shall be heat resistant to 500 degrees F continuously.

E. Duct dimensions shown are metal sizes. All edges shall be straight and true.

F. All flexible connections, duct liner and adhesives shall be U.L. listed as having a maximum flame spread of 50, fuel contribution of 25 and smoke contribution of 25.

G. This Contractor shall furnish and install in ductwork all dampers, vanes splitters, etc., as shown on the drawings or necessary to make the system complete. Where dampers or splitters can not be accessed through lay in ceiling, Contractor shall provide lockable 24" x 24" access door. Contractor shall coordinate location with Architect.

H. Shafts shall be marked to show position of dampers, vanes, splitters, etc.

I. Ductwork shall be supported in accordance with SMACNA Plate No. 17 and No. 16, up to and including band iron hangers attached to duct by means of screws or rivets per hanger.

J. Access doors shall be provided in ductwork for all automatic dampers and each manual damper 3 square feet in area or larger, and shall be so located that damper can be completely serviced through the access door. Access door shall be provided with felt gaskets and suitable hinges and locks. Where access doors occur in insulated duct, double skin insulated doors shall be used.

K. Where square ducts are shown, provide single vane elbows as per Plate 22, Figure A, SMACNA Standards, 1995 Edition. For all ductwork over 18" provide double vane square elbow as shown in Figure C of the Plate.

L. All low pressure ductwork joints shall be sealed with hard cast "iron grip".

M. Flexible air duct for connections between low pressure rectangular duct and ceiling diffusers shall be pre-insulated and listed by Underwriters Laboratories under U.L. Standard 181 as a Class 1 flexible air duct and complying with NFPA Standards 90A and 90B.

N. All flex duct 45 degree and 90 degree turns shall be metal hard duct.

2.4 INSULATED ACOUSTICAL LOW PRESSURE FLEXIBLE DUCT

A. The duct shall be constructed of a CPE fabric supported by helical wound galvanized steel.

B. Provide where indicated on drawings Flexmaster Type 8M UL181 Class I Air Duct.

C. Fabric shall be mechanically locked to the steel helix without the use of adhesives or chemicals.

D. The internal working pressure rating shall be at least 6" w.g. positive and 4" w.g. negative with a bursting pressure of at least 2½ times the working pressure.

E. The duct shall be rated for a velocity of at least 4000 feet per minute.
The duct must be suitable for continuous operation at a temperature range of -20°F to +250°F.

G. Acoustical performance, when tested by an independent laboratory in accordance with the Air Diffusion Council’s Flexible Air Duct Test Code FD 72-R1, Section 3.0, Sound Properties, shall be as follows:

The insertion loss (dB) of a 10 foot length of straight duct when tested in accordance with ASTM 477, at a velocity of 2500 feet per minute, shall be at least:

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<th>Octave Band</th>
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<td>8&quot; diameter</td>
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The radiated noise reduction (dB) of a 10 foot length of straight duct when tested in accordance with ASTM E477, at a velocity of 2500 feet per minute, shall be at least:

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The self generated sound power levels (LW) dB re 10^-12 Watt of a 10 foot length of straight duct for an empty sheet metal duct when tested in accordance with ASTM E477, at a velocity of 1000 feet per minute, shall not exceed:

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<td>Hz.</td>
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<td>250</td>
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<tr>
<td>6&quot; diameter</td>
<td>42</td>
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<td>23</td>
<td>18</td>
<td>17</td>
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<tr>
<td>8&quot; diameter</td>
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<td>34</td>
<td>27</td>
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<tr>
<td>12&quot; diameter</td>
<td>54</td>
<td>45</td>
<td>38</td>
<td>31</td>
<td>27</td>
<td>23</td>
</tr>
</tbody>
</table>

Factory insulate the flexible duct with fiberglass insulation. The R value shall be at least 5.0 at a mean temperature of 75°F. (R-4.2 is not acceptable)

H. Cover the insulation with a fire retardant vapor barrier jacket reinforced with crosshatched scrim having a permeance of not greater than 0.05 perms when tested in accordance with ASTM E96, Procedure A.
I. Cover the insulation with a fire retardant metalized vapor barrier jacket reinforced with crosshatched scrim having a permeance of not greater than 0.05 perms when tested in accordance with ASTM E96, Procedure A.

J. Maximum length to be 6'-0'  
ALL FLEX CONNECTIONS TO CEILING DIFFUSERS MUST BE FACTORY DESIGNED TO HAVE NO DIMENSIONAL CONTOURATION WHEN CONNECTED TO THE DIFFUSER. A HARD METAL 90-DEGREE ELBOW OR A PLASTIC "CRUTCH" ELBOW IS REQUIRED FOR OTHER FLEX DUCTS THAT MAY BE SUPPLIED

2.2 SPIN TAPS

A. All round low pressure connections to rectangular ducts shall be made with a factory fabricated spin collar fitting constructed of minimum 26 ga galvanized steel.

B. Provide Flexmaster #FL, Dace #26 ga MS, or prior approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. See details of ductwork symbols and connections on drawing.

END OF SECTION 233100
SECTION 237400 - AIR OUTLETS AND INLETS

PART 1 - GENERAL

1.1 WORK INCLUDED
A. Diffuser boots.
B. Registers/grilles.
C. Louvers.

1.2 RELATED WORK
A. See Mechanical Plans for wall louvers.

1.3 REFERENCES
B. AMCA 500 - Test Method for Louvers, Dampers, and Shutters.
D. ARI 650 - Air Outlets and Inlets.
F. SMACNA - Low Pressure Duct Construction Standard.

1.4 QUALITY ASSURANCE
A. Test and rate performance of air outlets and inlets in accordance with ADC Equipment Test Code 1082 and ASHRAE 70.
B. Test and rate performance of louvers in accordance with AMCA 500.

1.5 REGULATORY REQUIREMENTS
A. Conform to ANSI/NFPA 90A.

1.6 SUBMITTALS
A. Submit shop drawings and product data under provisions of Section 01300.
B. Provide product data for items required for this project.
C. Submit schedule of outlets and inlets indicating type, size, application, and noise level.
D. Review requirements of outlets and inlets as to size, finish, and type of mounting prior to submitting product data and schedules of outlets and inlets.
E. Submit diffuser, grille and register color data to Architect for approval.

PART 2 - PRODUCTS
2.1 GENERAL

A. See mechanical schedules and drawings for diffuser types, sizes and configuration. See architectural plans - room finish schedules for type of ceiling and wall construction. Products listed in this section shall be used unless otherwise stated on plans or other specification section.

B. Substitutions: Under provisions of Instructions To Bidders.

2.2 ACCEPTABLE MANUFACTURERS - Ceiling Diffusers

A. Titus TMSA Series, Krueger Series 1400 Adjustable

B. All diffusers shall have opposed blade volume dampers and adjustable horizontal to vertical four way throw operable from face of grille. All diffusers must be aluminum.

2.3 ACCEPTABLE MANUFACTURERS - Ceiling Exhaust Grilles

A. Titus - Model 50F Code C 1/2" x 1/2" x 1" Cube Core, Krueger EGC-10, Nailor Industries Model 51EC

B. All exhaust registers shall have opposed blade dampers.

C. Grilles shall have baked enamel white finish.

D. All dampers shall be operable from grille face.

2.4 ACCEPTABLE MANUFACTURERS - Ceiling Return Air Grilles

A. Titus - 50F Code C, Krueger EGC-10, Nailor Industries

B. All return air shall have opposed blade dampers. See plans for filter backed grille requirements.

2.5 ACCEPTABLE MANUFACTURERS - Wall Supply Registers

A. Titus 1700 Series, Krueger ULTRA-FLO

B. All registers shall have adjustable blade dampers on all registers.

C. Furnish and install opposed blade damper on all registers.

D. Finish to be approved by Architect.

2.6 ACCEPTABLE MANUFACTURERS - DOOR RETURN GRILLES

A. Titus Model CT-700, Krueger Series 5600, Nailor Industries

B. Substitutions: Under provisions of Instructions To Bidders.

C. All aluminum construction & design.

D. Finish to be approved by Architect.

PART 3 - EXECUTION
3.1 INSTALLATION

A. Install items in accordance with manufacturer’s instructions.

B. Check location of outlets and inlets and make necessary adjustments in position to conform with architectural features, symmetry, and lighting arrangement. Refer to Section 09900/099100.

C. Install diffusers to ductwork with air tight connection.

D. Provide balancing dampers on duct take-off to diffusers, and grilles and register, regardless of whether dampers are specified as part of the diffuser, or grille and register assembly.

E. Furnish and install necessary frames, bucks, sponge rubber gasketed, etc. to make a neat setting job.

F. Diffusers shall be placed to insure that air does not blast against columns and lights.

G. All diffusers, registers, etc. shall have external volume controls and deflecting grids.

H. Ceilings in areas where plaster or gypsum board ceiling are used, shall be surface mounted.

END OF SECTION 237400
## LIST OF AIR-HANDLING UNITS

**FLORIDA DEVELOPMENT**

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<th>ITEM</th>
<th>TYPE</th>
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<th>AHU PER BUILDING</th>
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<th>COMMENTS</th>
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<td>3</td>
<td>C</td>
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<td>E-E1</td>
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**Exhibit D**