

2640 Fountain View Drive, Houston, Texas 77057 | 713.260.0600 | David A. Northern, Sr., **President & CEO**  
**Houston Housing Authority Board of Commissioners:** LaRence Snowden, *Chair* | Kristy M. Kirkendoll, *Vice Chair*  
Dr. Max Miller, Jr. | Stephanie Ballard | Andrea Hillard Cooksey | Kris Thomas | Guillermo "Will" Hernandez

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**INVITATION FOR BID  
("IFB") 23-30**

The Houston Housing Authority ("HHA"), is soliciting sealed bids for a contractor to perform all the necessary construction-related work needed to provide a turn-key bid for the replacement of heaters at Cuney Homes Apartments located: 3260 Truxillo St, Houston, TX 77004, in accordance with the requirements and terms and conditions specified herein.

Interested parties who wish to respond to this solicitation must submit the required documents in a sealed envelope to the below individual by **2 P.M. Central Standard Time ("CST"): August 25, 2023 to:**

**Houston Housing Authority  
Attn: Julinda Turner, J.D.  
Subject: IFB 23-30 Replacement Heaters at Cuney Homes Apartments  
DO NOT OPEN  
2640 Fountain View Drive, Houston, Texas 77057**

**All Interested Parties Are Highly Encouraged (But Not Required), To Participate in a Pre-Bid Conference Via In-Person or Zoom as Specified in Section 4.0 Procurement Schedule.**

**Interested parties are also highly encouraged to check HHA's website prior to the submission of their sealed response to ensure they are aware of any Amendment(s) that may affect this solicitation. They should also send an e-mail acknowledgment to [Purchasing@housingforhouston.com](mailto:Purchasing@housingforhouston.com), that they have downloaded this solicitation from HHA's website. Doing so will allow "HHA" to notify interested parties of any Amendments that may affect this solicitation.**

**Late submissions will be handled in accordance with Section 5 of Attachment H Instruction to Bidders for Contracts Public and Indian Housing Programs (HUD Form 5369).**

Interested parties who have questions about this solicitation, or who need additional information should send an e-mail (**preferably**) to [Purchasing@housingforhouston.com](mailto:Purchasing@housingforhouston.com) with **"IFB 23-30"** in the subject line by the date specified in Section 4.1. Any changes to the requirements specified herein will be done via an Amendment.

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**Julinda Turner, J.D.  
Contracts Administrator  
Houston Housing Authority**



*A Fair Housing and Equal Employment Opportunity Agency. For assistance: Individuals with disabilities may contact the 504/ADA Administrator at 713-280-0353, TTY 713-280-0574 or [504ADA@housingforhouston.com](mailto:504ADA@housingforhouston.com)*

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## **I. ORGANIZATION OVERVIEW**

### **1.0 PROFILE OF THE HOUSTON HOUSING AUTHORITY**

- 1.1 “HHA” is currently governed by the Housing Authorities Law, codified in the Texas Local Government Code. It is a unit of government and its functions are essential governmental functions. It operates and manages its housing developments to provide decent, safe, sanitary, and affordable housing to low-income families, the elderly, and the disabled, and implements various programs designed and funded by the U.S. Department of Housing and Urban Development (HUD). “HHA” is a Public Housing Agency.
- 1.2 The property of “HHA” is used for essential public and governmental purposes, and its property are exempt from all taxes, including sales tax on all its purchases of supplies and services.
- 1.3 “HHA” enters into and executes contracts and other instruments that are necessary and convenient to the exercise of its powers.
- 1.4 “HHA” maintains contractual arrangements with HUD to manage and operate its Low Rent Public Housing program and administers the Section 8 Housing Assistance Payments programs. HHA’s programs are federally funded, and its revenues are received from federal funds, administrative fees, development grants, and rental income.
- 1.5 “HHA” provides affordable homes and services to more than 60,000 low-income Houstonians, including over 17,000 families housed through the Housing Choice Voucher Program, 4,200 living in 19 public housing and tax credit developments, and an additional 716 in project-based voucher developments around the city.

**END OF SECTION I**

## II. SPECIAL TERMS AND CONDITIONS

### 2.0 INTENT

- 2.1 The intent of this solicitation is to establish a **fixed-price contract** with the lowest responsive and responsible bidder who can provide a turn-key construction solution to perform the work specified in Exhibit B: Scope of Work, incorporated into this solicitation.
- 2.2 The successful bidder for this project will provide a **turnkey service** including but, not limited to, taking included design documents and providing all necessary supplemental work (electrical re-wiring, sheetrock repair, clean-up, etc..) to complete the removal of existing and installation of new heaters at the Cuney Homes property.

### 3.0 PERIOD OF PERFORMANCE

- 3.1 Any contract issued as a result of this solicitation will have a Period of Performance of approximately ninety (90) days, and all work will be performed between the hours of 8:00 A.M and 5:00 P.M. Monday thru Friday.

### 4.0 PROCUREMENT SCHEDULE

- 4.1 The anticipated procurement schedule for this solicitation is as follows:

<u>EVENT</u>	<u>DATE</u>
<b>Date Solicitation Advertised</b>	<b>July 21, 2023</b>
<b>On-Site and Telephone Pre-bid Conference See Exhibit A</b>	<b>10:00 A.M. August 01, 2023</b>
<b>Round 1 Scheduled Site Visits</b>	<b>9:00 A.M. – 3:00 P.M. August 2-4, 2023</b>
<b>Deadline for the Receipt of Round 1 Written Questions to <a href="mailto:Purchasing@housingforhouston.com">Purchasing@housingforhouston.com</a></b>	<b>4:00 P.M. August 07, 2023</b>
<b>Deadline Answers to Round 1 Written Questions will be posted on <a href="http://HousingforHouston.com">HousingforHouston.com</a></b>	<b>5:00 P.M. August 09, 2023</b>
<b>Round 2 Scheduled Site Visits</b>	<b>9:00 A.M. – 3:00 PM August 10-11, 2023</b>
<b>Deadline for the Receipt of Round 2 Written Questions to <a href="mailto:Purchasing@housingforhouston.com">Purchasing@housingforhouston.com</a></b>	<b>4:00 P.M. August 14, 2023</b>
<b>Deadline Answers to Round 2 Written Questions will be posted on <a href="http://HousingforHouston.com">HousingforHouston.com</a></b>	<b>5:00 P.M. August 17, 2023</b>
<b>Deadline for the Receipt of Sealed Responses</b>	<b>2:00 P.M. August 29, 2023</b>

**NOTE: INTERESTED PARTIES ARE RESPONSIBLE FOR MONITORING HHA’S WEBSITE TO ENSURE THEY STAY INFORMED OF ANY AMENDMENTS THAT MAY AFFECT THIS SOLICITATION.**

4.2 Information provided at the pre-bid conference is not binding unless it has been incorporated into this solicitation via an Amendment.

4.2.1 **TWO (2) OPPORTUNITIES TO SCHEDULE SITE VISITS ARE AVAILABLE TO INTERESTED PARTIES.**

4.2.1.1 Interested parties must schedule a site visit and send an e-mail to the below e-mail addresses at least twenty-four (24) hours in advance of the day they wish to schedule the visit to the properties:

- **Diana Dmitriyeva: [DDmitriyeva@housingforhouston.com](mailto:DDmitriyeva@housingforhouston.com)**
- **Luis Montes DeOca at: [LMontesDeOca@housingforhouston.com](mailto:LMontesDeOca@housingforhouston.com)**
- **HHA Procurement Dept: [Purchasing@housingforhouston.com](mailto:Purchasing@housingforhouston.com)**

4.2.2 **INTERESTED PARTIES MUST CHECK-IN AT THE FRONT DESK WITH THE ON-SITE PROPERTY MANAGER, AND ARE REQUIRED TO LEAVE THEIR BUSINESS CARD(S).**

4.2.2.1 **QUESTIONS SHOULD NOT BE DIRECTED TO THE ON-SITE PROPERTY MANAGER, OR THIRD PARTIES, BUT MUST BE SENT TO [PURCHASING@HOUSINGFORHOUSTON.COM](mailto:PURCHASING@HOUSINGFORHOUSTON.COM) BY THE SPECIFIED DUE DATE IN THE PROCUREMENT SCHEDULE.**

**P.2.3 INTERESTED PARTIES SHALL PAY PARTICULAR ATTENTION TO SECTION 9.0 AMENDMENTS.**

4.2.4 **DUE TO COVID-19 PROTOCOLS, “HHA” REQUIRES ALL CONTRACTORS TO WEAR PROPER PPE UPON ENTERING ANY BUILDINGS AND WHILE INTERACTING WITH INDIVIDUALS.**

4.4 Posting of the Bid Tabulations

4.4.1 HHA’s Procurement Department will make a good faith effort to post the Initial Bid Tabulation on its [website](#) in a timely manner.

4.4.1.1 Subsequent to the bid opening, all responses will be analyzed and reviewed to determine the lowest responsive and responsible bidder.

## 5.0 **REGISTRATION**

- 5.1 Interested Parties are encouraged to **register** their company on HHA's newly redesigned website which will facilitate "HHA" contacting them regarding solicitations that match their company's profile.
- 5.2 Before registering your company, please access the **Bidder's List** to see if your company is already registered with "HHA". There is no need to re-register unless your company is making changes to its company profile.

## 6.0 **SCOPE OF WORK (SOW)**

- 6.1 See Exhibit B – Replacement of Heaters at Cuney Homes Apartments incorporated into this solicitation.
- 6.2 Build America, Buy America Act ("BABAA Act") - The Act requires the following Buy America preference:
- (1) All iron and steel used in the project are produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
  - (2) All manufactured products used in the project are produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation.
  - (3) All construction materials are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.

## 7.0 **SELECTION CRITERIA**

- 7.1 "HHA" intends to make an award to the lowest responsive and responsible bidder.

## 8.0 **SUBMITTALS**

- 8.1 All responses must conform to the requirements specified herein.
- 8.1.1 "HHA" is not responsible for any costs that may be incurred if "HHA" cancels this solicitation or any costs that may be incurred in the development or submittal of any response(s) to this solicitation.
- 8.1.2 All submissions will become a part of HHA's official files, and "HHA" is not obligated to return any submission(s) once it is in the possession of "HHA".
- 8.1.3 **THE CONTENTS AND ACCURACY OF THE SUBMITTALS SHOULD BE CHECKED BEFORE IT IS SUBMITTED TO "HHA".**

- 8.2 **One (1) original, hard-copy (provided in a three ring binder) and one (1) flash drive containing a copy of all documents provided,** the responses may be hand-delivered or mailed to the location specified on page 1. Each response must be tabbed, and contain the following:

**8.2.1 Cover Letter (“CL”)**

8.2.1.1 Acknowledge the receipt and review of this solicitation, and any Amendment(s) issued by HHA.

8.2.1.2 The “CL” must be on company letterhead, manually signed by an authorized official of the company (who can negotiate, and contractually bind the company to perform the services specified herein), along with their title, phone number, and e-mail address.

**8.2.2 Customer Reference List**

8.2.2.1 Provide the contact information of three (3) business references.

**8.2.3 Attachment A Declaration**

**8.2.4 Attachment B Non-Collusive Affidavit**

**8.2.5 Attachment C M/WBE Participation**

**8.2.6 Attachment D Section 3 Requirements and Commitment**

**8.2.7 Attachment E Conflict of Interest Questionnaire (CIQ)**

**8.2.8 Attachment F Representations, Certifications and Other Statements Public Housing Programs (Form HUD 5369-A)**

**8.2.9 Attachment G Previous Participation Certification (HUD-2530)**

8.2.9.1 Complete Attachment G Previous Participation Certification (HUD-2530)

**8.2.10 Price Sheet**

8.2.10.1 Complete Exhibit D: Price Sheet

**8.2.11 Bid Guarantee (See Section 9 of Attachment I HUD Form 5369)**

- 8.3 “HHA” may not evaluate responses that do not comply with the submittal requirements specified herein. Responses received after the specified date and time will be considered non-responsive.

**END OF SECTION II**

### III. GENERAL TERMS AND CONDITIONS

#### 9.0 **AMENDMENTS**

- 9.1 Any interpretation(s) affecting this solicitation will be issued by “HHA” via an Amendment before the due date specified on page 1.
- 9.2 “HHA” will not be bound by and is not responsible for any oral explanations, instructions, representations, or requirements unless it is issued by “HHA” via an Amendment.
- 9.3 **Any Amendment(s) issued by “HHA” shall be binding in the same way as if originally written in this solicitation.**

#### 10.0 **AVAILABILITY OF RECORDS**

- 10.1 The U. S. Department of Housing and Urban Development, the Inspector General of the United States, “HHA”, and any duly authorized representatives of each shall have access to, and the right to examine all pertinent books, records, documents, invoices, papers, and the like of the firm(s) office, that relates to any work that is performed as a result of this solicitation.

#### 11.0 **BASIS FOR AWARD**

- 11.1 See Section 7.0.
- 11.2 Interested parties are responsible for ensuring they have all documents referenced and incorporated in this solicitation, and are familiar with the contents of those documents. Failure to do so shall be at the sole risk of the interested party, and no relief shall be given for errors or omissions by the interested party.

#### 12.0 **CANCELLING THE SOLICITATION**

- 12.1 “HHA” may cancel this solicitation at any time, and when it is in its best interests to do so. (See Section 8.1.1)

#### 13.0 **ETHICAL BEHAVIOR**

- 13.1 Interested Firms shall not:
  - 13.1.1 Offer any gratuities, favors, or anything of monetary value to any official or employee of “HHA” that will influence their objective consideration and review of any response(s) to this solicitation; and,
  - 13.1.2 Engage in any practice which may restrict or eliminate competition (i.e., collusion), or otherwise restrain trade.
    - 13.1.2.1 The above is not intended to preclude joint ventures or subcontracts.

14.0 **FEDERAL REGULATIONS WITH REGARD TO NONDISCRIMINATION AND EQUAL OPPORTUNITY**

- 14.1 The requirements of Title VIII of the Civil Rights Act of 1968 and Title VI of the Civil Rights Act of 1964, relating to prohibitions against discrimination in housing and the benefits of federally funded programs because of race, color, religion, sex or national origin must be met by the successful firm(s).
- 14.2 The successful bidder(s)/proposer(s) will:
- 14.2.1 Adhere to federal regulations prohibiting discrimination based on age under the Age Discrimination Act of 1975, and prohibit discrimination against handicapped individuals under Section 504 of the Rehabilitation Act of 1973 and the Americans With Disabilities Act of 1990.
- 14.2.2 Meet the requirements of:
- 14.2.2.1 Section 3 of the Housing and Urban Development Act of 1968, relating to the training and employment of individuals and contracting for business opportunities in metropolitan areas in which federally funded programs are being operated.
- 14.2.2.2 Executive Orders (EO's):
- EO 11246 relating to equal employment opportunity in connection with federally funded programs; and,
  - EO's 11625, 12432, and 12138 relating to the use of minority and women's business enterprises in connection with federally funded programs.

15.0 **INFORMALITIES**

- 15.1 "HHA" reserves the right to waive any informality, and make an award that is in the best interest of "HHA".
- 15.1.1 Minor informalities are matters of form rather than substance. They are insignificant mistakes that can be waived or corrected without prejudice to the other proposers/bidders and have little or no effect on the price, quantity, quality, delivery, or contractual conditions.
- 15.1.2 Examples include failure to: return the number of signed bids required by the bid package; sign the bid, provided that the unsigned bid is accompanied by other documents indicating the bidder's intent to be bound (e.g., a signed cover letter or a bid guarantee); complete one or more certifications; or acknowledge receipt of an amendment or addendum, provided that it is clear from the bid that the bidder received the amendment/addendum and intended to be bound by its terms, or the amendment/addendum had a negligible effect on the price, quantity, quality, or delivery.

## 16.0 **INSURANCE**

- 16.1 “HHA” will specify the amount of insurance that will be required during the Period of Performance.

## 17.0 **MINORITY WOMEN BUSINESS ENTERPRISE (M/WBE) PARTICIPATION**

- 17.1 Refer to Attachment C for M/WBE Participation requirements.

## 18.0 **MISTAKES IN BIDS**

### 18.1 General

- 18.1.1 While proposers/bidders will be bound by their submittals (the “firm bid rule”), circumstances may arise where correction or withdrawal of their bid or proposal is proper and may be permitted. Correction or withdrawal of a bid or proposal will be done in a manner that will protect and maintain the integrity and fairness of the competitive solicitation process.

### 18.2 Mistakes Discovered Before Solicitations Are Opened

- 18.2.1 Interested parties may modify, or withdraw their bid.  
(Refer to Section 5 of Attachment I.)

### 18.3 Review of Mistakes

- 18.3.1 After the solicitations are opened, “HHA” will review all submittals to ensure there are no obvious mistakes, e.g., the sum of individual bid line items does not equal the total price. If a submittal appears to have a mistake, “HHA” will notify the interested of any apparent mistake(s) in his/her submittal, and request verification of the total price as submitted.

### 18.4 Mistakes After Solicitations Are Opened

- 18.4.1 If this solicitation is soliciting bids, then in general, bidders will not be permitted to change a bid after bid opening. In rare cases, “HHA” may permit the revision of a bid if the bidder is able to present clear and convincing evidence, acceptable to “HHA”, of a mistake and the intended bid price. Allowing changes to bids without appropriate evidence may compromise the integrity of the public bid process and serve to undermine public confidence in HHA’s bidding process. Therefore, “HHA” will request as much evidence as it deems necessary. Examples of evidence may include original work papers, bids from suppliers and subcontractors used to develop the bid, bonding or insurance evidence supporting a different bid price, etc. Failure or refusal by a bidder to provide adequate evidence shall result in the original bid remaining unchanged. Consultation with HHA’s Legal Dept. will occur before authorization is given to change a bid. If justified, a low bidder can be replaced with the next lowest bidder.



## 19.0 **PAYMENT**

- 19.1 “HHA” will process all invoices after the work has been approved by HHA’s Project Manager. Payment terms are net 30 days.

## 20.0 **PERMITS**

- 20.1 The successful bidder(s) shall obtain and pay (independent of “HHA”), all permits, certificates, and licenses required and necessary for the performance of the work specified herein. Furthermore, they shall post all notices required by law, and shall comply with all laws, ordinances, and regulations which may affect their performance.

## 21.0 **PROJECT MANAGER**

- 21.1 “HHA” may designate a Project Manager during the Period of Performance.

## 22.0 **QUESTIONS**

- 22.1 Interested parties must follow the instructions on page 1 should they have any questions about this solicitation.
- 22.2 Interested parties are prohibited from querying “HHA” personnel, or members of its Board of Commissioners regarding this solicitation except through written questions submitted in the manner and within the period indicated on page 1 of this solicitation.

## 23.0 **REMOVAL OF EMPLOYEES**

- 23.1 “HHA” may request the successful contractor(s) to remove immediately from the contract/project, any employee found unfit to perform their duties due to one or more of the following reasons, which includes, but is not limited to:
- 23.1.1 Negligence, being disorderly, using abusive or offensive language, quarreling or fighting, stealing, vandalizing property; and,
  - 23.1.2 Engaging in immoral or inappropriate behavior (e.g., being intoxicated, or under the influence of mind-altering substances), or pursuing criminal activity (e.g., selling, consuming, possessing or being under the influence of illegal substances).

## 24.0 **RESERVATION OF RIGHTS**

- 24.1 Depending upon the circumstance(s), HHA reserve the right to change, modify, or alter any Draft Contract associated with this solicitation.

## 25.0 **RULES, REGULATIONS AND LICENSING REQUIREMENTS**

- 25.1 The Offeror and staff must possess all necessary required license(s) to do business in Houston/Harris County and the State of Texas. Additionally, 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 services.

## 26.0 **STANDARDS OF CONDUCT**

- 26.1 During the period of performance, the employees of the successful bidder(s) or proposer(s) shall conduct themselves in a responsible and professional manner, and may be removed from the project if they display behavior that is unacceptable to HHA.

## 27.0 **SUBCONTRACTING**

- 27.1 Any contract issued as a result of this solicitation will not be assigned, transferred, or subcontracted (in whole, or in part) unless it has been previously approved by HHA in writing.

## 28.0 **TAXES**

- 28.1 HHA is exempt from State of Texas, and Local Taxes.

## 29.0 **TRAVEL AND REIMBURSEMENTS**

- 29.1 Any prices/fees mutually agreed upon shall include all necessary out-of-pocket expenses needed to perform the work specified herein. HHA will not issue any reimbursements for travel, lodging, meals, or other miscellaneous or ancillary expenses, unless it is defined in the final contract.

## 30.0 **VALIDITY OF RESPONSES**

- 30.1 Responses will not be unilaterally withdrawn or modified for a period of ninety (90) days after they have been received and opened by HHA.

## 31.0 **SUPPLEMENTS**

- 31.1 The following documents are considered part of this solicitation:

Attachment A: Declaration  
Attachment B: Non-Collusive Affidavit  
Attachment C: M/WBE Participation  
Attachment D: Section 3 Requirements and Commitment  
Attachment E: Conflict of Interest (CIQ) Form  
Attachment F: Representations, Certifications and Other Statements Public Housing Programs (Form HUD 5369-A)  
Attachment G: Previous Participation Certification (HUD-2530)  
Attachment H: Instructions to Bidders for Contracts Public and Indian Housing Programs (Form HUD-5369)

Attachment I:	General Conditions for Construction Contracts – Public Housing Programs (Form HUD 5370)
Attachment J:	Davis Bacon Wage Rates
Attachment K:	Schedule of Amounts for Contract Payments (Form HUD 51000)
Exhibit A:	Pre-Bid Conference/Teleconference Access Information
Exhibit B:	Scope of Work
Exhibit C:	Assessment Report
Exhibit D:	HUD Energy Efficient Measures
Exhibit E:	Price Sheet
Exhibit F:	Supplemental Price Sheet
Exhibit G:	Limited Asbestos Survey for Heater Replacement
Exhibit H:	Draft Contract

- 31.2 Interested parties are responsible for ensuring they have all documents referenced and incorporated in this solicitation, and are familiar with the contents of those documents. Failure to do so shall be at the sole risk of the offeror and no relief shall be given for errors or omissions by the offeror.

### **END OF SECTION III**

## **ATTACHMENT A**

### **DECLARATION**

The undersigned declares the following:

- This response is being submitted in good faith and without collusion or fraud
- The only person(s) interested in the aforementioned solicitation is listed below, and this response is being submitted without connection or arrangement with any other person
- They have complied with the requirements of the aforementioned solicitation, have read all addenda (if any), and is satisfied that they fully understand the intent of the aforementioned solicitation and the terms and conditions that will govern any award issued by “HHA” as a result of this solicitation
- They agree to execute an agreement with “HHA” based on the latter accepting the submittals required by the aforementioned solicitation

Persons Interested in this Response:

Name

Identity of Interest

1.

2.

3.

---

**NAME OF CONTRACTOR/OFFEROR/FIRM/INDIVIDUAL/CORPORATION**

---

**MANUAL OR E-SIGNATURE**

---

**TITLE**

---

**E-MAIL ADDRESS**

---

**PHONE NUMBER / FAX NUMBER**

---

**ADDRESS, CITY, STATE, ZIP**

---

**SUBMITTAL DATE**

**ATTACHMENT B**

**NON-COLLUSIVE AFFIDAVIT**

STATE OF TEXAS

COUNTY OF HARRIS

\_\_\_\_\_, being first duly sworn, deposes and says that he 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 manner, directly or indirectly, sought by agreement or collusion, or communication or conference with any person to fix the bid price or affiant or of any other bidder, or to fix any overhead, profit, or cost element of said bid price, or of that of any other bidder, or to secure any advantage against

THE HOUSTON HOUSING AUTHORITY

of any person interested in the proposed Contract; and that all statements in said proposal or bid are true.

\_\_\_\_\_  
Signature of Bidder, if Bidder is an Individual

\_\_\_\_\_  
Signature of Bidder, if Bidder is a Partnership

\_\_\_\_\_  
Signature of Officer, if Bidder is a Corporation

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

\_\_\_\_\_  
**Notary Public**

My Commission expires \_\_\_\_\_

## ATTACHMENT C

### **REQUIREMENTS FOR SUBCONTRACTING WITH SMALL BUSINESSES AND MINORITY BUSINESSES, WOMEN BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS.**

#### **I. INSTRUCTIONS.**

Any Prime Contractor awarded a contract pursuant to this procurement must agree to comply with the subcontracting requirements set forth below. Please note that the capitalized terms used in this document are defined below in § VII.

**(1) Please read this document carefully; (2) sign the acknowledgment; and (3) complete and sign the attached “Bidder’s Proposed M/WBE Participation Form.”**

#### **II. OVERVIEW.**

Any contract resulting from this procurement must comply with: (1) the requirements in the Houston Housing Authority’s Procurement Policy (the “Policy”) and the Code of Federal Regulations (the “Code”) regarding Subcontracting with small and minority-owned businesses, women business enterprises, and labor surplus area firms (the “Policy Requirements”); and (2) the Houston Housing Authority’s goal regarding Subcontracting with minority business enterprises and women business enterprises (the “HHA’s Goal”). Any person or firm that receives an award pursuant to this procurement must take affirmative steps to comply with the Policy Requirements and must use their best efforts to meet “HHA’s Goal”. The Policy Requirements and HHA’s Goal are described in detail below.

#### **III. THE POLICY REQUIREMENTS.**

Pursuant to the Policy, at § 15, and the Code, at 2 CFR § 200.321, if a Prime Contractor awarded a contract pursuant to this procurement lets Subcontracts, then the Prime Contractor must take affirmative steps to assure that, when possible, Subcontracts are let to Small Business Enterprises (“SBEs”), Minority Businesses Enterprises (“MBEs”), Women Business Enterprises (“WBEs”), and Labor Area Surplus Firms (“LASFs”). The affirmative steps a Prime Contractor who lets Subcontracts must take are:

- Placing SBEs, MBEs, and WBEs, on solicitation lists;
- Assuring that SBEs, MBEs, and WBEs, are directly solicited for bids or proposals whenever such entities are potential sources to perform Subcontracts;
- Dividing total job requirements, whenever economically feasible, into smaller tasks or quantifies to permit maximum participation by SBEs, MBEs, and WBEs, in a given project;
- Establishing delivery schedules, when the requirement permits, that encourage participation by SBEs, MBEs, and WBEs;
- Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the U.S. Department of Commerce; and,

- Including in Subcontracts, to the greatest extent feasible, a clause that requires Subcontractors to provide opportunities for training and employment for lower-income persons who reside in the project area.

The affirmative steps listed above shall remain in effect for the duration of the Prime Contract awarded pursuant to this procurement. “HHA” encourages Prime Contractors to implement these steps when acquiring the materials, they need to perform their obligations under the Prime Contract.

#### IV. HHA’S GOAL.

##### A. Overview of HHA’s Goal and related requirements.

In addition to taking the affirmative steps outlined above in § III, a Prime Contractor who anticipates using Subcontracts to complete any work associated with this procurement must use its best efforts to satisfy “HHA’s Goal” regarding the participation of MBEs and WBEs in work under contracts awarded by “HHA”. “HHA’s Goal” as adopted by its Board of Commissioners, is that when Subcontracts are being let, at least 30% of the Prime Contract’s total dollar amount is subcontracted to MBEs or WBEs, with at least 15% of the Prime Contract’s total dollar amount being subcontracted to MBEs, and at least 15% being subcontracted to WBEs.

In furtherance of “HHA’s Goal”, a Prime Contractor awarded a contract under this procurement who intends to let Subcontracts must use its best efforts to Subcontract with MBEs and WBEs. **Specifically, a Prime Contractor letting Subcontracts must use its best efforts (1) to Subcontract at least 15% of the Prime Contract’s total dollar amount to MBEs, and (2) to Subcontract at least 15% of the Prime Contract’s total dollar amount to WBEs. A Prime Contractor’s obligation to use its best efforts to subcontract with MBEs and WBEs in accordance with “HHA’s Goal” shall remain in effect for the duration of the Prime Contract, shall apply in any instance that the Prime Contractor lets Subcontracts, and shall apply equally to all Prime Contractors letting Subcontracts, regardless of whether the Prime Contractor is itself an MBE or WBE.**

- A Prime Contractor must document its use of best efforts to meet “HHA’s Goal”. Generally, written evidence of a Prime Contractor’s attempts to Subcontract with MBEs and WBEs shall suffice to document a Prime Contractor’s best efforts. Written evidence may include, but is not necessarily limited to, emails, phone logs, or correspondence showing that a Prime Contractor attempted to Subcontract with MBEs and WBEs by, at a minimum, soliciting bids or quotes. Contractors may access a list of designated MBEs and WBEs at:

1. State of Texas Website: <https://comptroller.texas.gov/purchasing/vendor/hub/>
2. Houston Housing Authority (“HHA”) Website: [Bidder Registration/Bidder's List - Houston Housing Authority \(housingforhouston.com\)](http://Bidder.Registration/Bidder's.List-Houston.Housing.Authority(housingforhouston.com))

Note: below is the path to the above referenced-website:

- HousingforHouston.com
- Doing Business with “HHA”
- Bidder’s Registration / Bidder’s List

In addition, upon request, “HHA” may assist contractors in identifying MBEs and WBEs (but, requesting such assistance, standing alone, is not sufficient to show best efforts).

A Prime Contractor's duty to document its best efforts to meet "HHA's Goal" shall remain in effect for the duration of the Prime Contract and shall apply to all Prime Contractors awarded a contract pursuant to this procurement. "HHA" encourages Prime Contractors to use their best efforts to procure from MBEs and WBEs the materials necessary for the Prime Contractor to perform its obligations under the Prime Contract.

**V. CONTRACTOR'S AGREEMENT TO COMPLETE REQUIRED FORMS AND TO COOPERATE WITH HHA REGARDING THE POLICY REQUIREMENTS AND HHA GOAL.**

**All respondents to this procurement who anticipate letting subcontracts must complete and return the attached "Bidders Proposed M/WBE Participation Form" (the "Form").** Respondents should include the Form in their response to this procurement; in addition, information documenting the respondent's use of best efforts to subcontract with MBEs and WBEs should accompany the Form. If it does not anticipate letting subcontracts, a respondent must, along with its response, inform "HHA" of same, and provide a brief explanation of why no subcontracts will be let. "HHA" will consider as non-responsive any response that fails to include a completed Form; "HHA" will, however, allow respondents an opportunity to cure a failure to include the Form with a response.

In addition to completing and submitting the Form to "HHA", any entity awarded a contract by "HHA" pursuant to this procurement must provide "M/WBE Confirmation of Payment Form(s)," as necessary or as requested by "HHA". Prime Contractor must also to submit proof of payments to SBEs, MBEs, WBEs, and LASFs, as requested by "HHA", or as otherwise is required by law.

**VI. CONSEQUENCES FOR FAILING TO TAKE THE AFFIRMATIVE STEPS MANDATED BY THE POLICY REQUIREMENTS OR USING BEST EFFORTS TO MEET HHA'S GOALS.**

If a Prime Contractor letting subcontracts does not take the affirmative steps mandated by the Policy Requirements, use its best efforts to meet "HHA's Goal", or cooperate with "HHA" with respect to the requirements set forth herein, "HHA" reserves the right to refuse to award a contract to the Prime Contractor, to deem the Prime Contractor's response to a solicitation non-responsive, to terminate an existing contract with the Prime Contractor, and to bar the Prime Contractor from being awarded any future contracts by "HHA".

**VII. DEFINITIONS.**

- "Code" means the Code of Federal Regulations.
- "Form" means the "Bidders Proposed M/WBE Participation Form" included with this procurement.
- "HHA" means the Houston Housing Authority, and, for the purposes of the requirements set forth herein, HHA's affiliates and any property management company procuring work or services for the benefit of a property owned by "HHA" or its affiliates.
- "HHA's Goal" shall have the meaning set forth above in § 3.
- "LASFs" refers to Labor Area Surplus Firms. Labor Area Surplus Firms are businesses that will expend more than fifty percent of the cost of performing a contract in areas of concentrated unemployment or underemployment, as defined by the Department of Labor and promulgated at 20 CFR Part 654.



- “MBE(s)” refers to minority business enterprises. Minority business enterprises are businesses that are at least fifty-one percent owned by one or more minority group members, or, in the case of a publically owned business, a business where at least fifty-one percent of the business’s voting stock is owned by one or more minority group members and whose management and daily operations are controlled by one or more such individuals. Minority group members include, but are not necessarily limited to: (a) Black Americans; (b) Hispanic Americans; (c) Native Americans; (d) Asian-Pacific Americans; (e) Asian-Indian Americans; and (f) Hasidic Jewish Americans.
- “Policy” means the Houston Housing Authority’s Procurement Policy.
- “Policy Requirements” shall have the meaning set forth in § II above.
- “Prime Contract(s)” means the contract awarded pursuant to this procurement that is between a respondent to the solicitation and “HHA”. For all purposes herein, the term is inclusive of all change orders or amendments to the initial contractor entered between the Prime Contractor and “HHA”.
- “Prime Contractor(s)” means the person or entity who responds to this procurement and is awarded a contract by “HHA”.
- “SBEs” refers to small business enterprises. Small business enterprises are businesses that are independently owned, not dominant in their field of operation and not an affiliate or subsidiary of a business that is dominant in its field of operation.
- “Subcontract(s)” means the contract between the Prime Contractor and a Subcontractor entered to accomplish all or a part of the Prime Contractor’s obligations under its contract with “HHA” that results from this procurement.
- “Subcontractor(s)” means a person or entity who the Prime Contractor contracts with to perform a part or all of the Prime Contractor’s obligations under the Prime Contractor’s contract with “HHA” that results from this procurement.
- “WBEs” refers to women business enterprises. Women business enterprises are businesses that are at least fifty-one percent owned by a woman who is a United States citizen, or by women who are United States citizens and who control and operate the business.

## **VIII. ACKNOWLEDGEMENT.**

The undersigned has read the foregoing “Requirements for Subcontracting with Small Businesses, Minority Businesses, Women Business Enterprises, and Labor Area Surplus Firm,” and understands and accepts the requirements and obligations set forth therein. When Subcontracting any portion of the work associated with this procurement, the undersigned agrees to take the affirmative steps stated in § III above, and agrees to use its best efforts to meet “HHA’s Goal” as stated in § IV above. The undersigned understands and acknowledges that failure to comply the requirements set forth herein may result in “HHA” refusing to award a contract to the undersigned or the termination of an existing contract.

---

**Name of Firm**

---

**Complete Address**

---

**Name of Individual Completing this Form**

---

**Title**

---

**Direct Phone Number / Cell Phone Number**

---

**Direct Fax Number**

---

**E-Mail Address**

---

**Date**

---

**Manual or E-Signature**

## Bidder's Proposed M/WBE Participation Form

### Instructions

- “HHA” requires bidders (Prime Contractors) who let Subcontracts to use their best efforts to Subcontract at least 30% of a Prime Contract’s total dollar amount to Minority Business Enterprises (“MBEs”) or Women Business Enterprises (“WBEs”).
- It is “HHA’s Goal” that Prime Contractors letting Subcontracts award at least 15% of the Prime Contract’s total amount to MBEs **and** at least 15% of the Prime Contract’s total amount to WBEs.
- The requirement that Prime Contractors letting Subcontracts use their best efforts to Subcontract with MBEs and WBEs applies to all Prime Contractors, regardless of their own status as an MBE or WBE.
- Please complete and sign the form below indicating firm Subcontracting commitments from MBEs and WBEs. Use additional pages, if necessary.
- For detailed information on HHA’s MBE and WBE Subcontracting requirements, see Attachment C.

MBEs	Name of MBE Subcontractor	Certification(s)	Amount of Subcontract	Percent of Contract Total
		<b>Total</b>		

**Note: Attach additional sheets if necessary.**

WBEs	Name of WBE Subcontractor	Certification(s)	Amount of Subcontract	Percent of Contract Total
		<b>Total</b>		

**Note: Attach additional sheets if necessary.**

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Manual or E-Signature

**ATTACHMENT D**

**HOUSTON HOUSING AUTHORITY  
SECTION 3 BIDDER'S REQUIREMENTS & COMMITMENT**

<b>Company Name:</b>	
<b>Name of Contact Person for Section 3 Commitment:</b>	
<b>Title:</b>	<b>Contact Number:</b>
<b>Contact Person E-Mail:</b>	
<b>Solicitation Title: Replacement Heaters @ Cuney Homes</b>	<b>Solicitation #: RFP 23-30</b>

- I. **Background** - Section 3 of the Housing & Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (hereinafter "Section 3") requires the Houston Housing Authority ("HHA"), to the greatest extent feasible, to provide employment and contracting opportunities to low to very low-income individuals, within the City of Houston. These opportunities are created by contracts funded, directly or indirectly, by "HHA".
- II. **Benchmarks & Goals** - Success of Section 3 activities will be measured by the achievement of the following benchmarks, annually:
- 1) Data demonstrating at least 20% of the total number of labor hours worked by all workers (employed by an employer) were worked by Section 3 Workers that are defined as Low Income Individuals or Youth Build per <https://www.huduser.gov/portal/datasets/il.html> , OR
  - 2) Data demonstrating at least 5% of the total number of labor hours worked by all workers (employed by an employer) were worked by Targeted Section 3 Workers (Public Housing residents, Section 8 participants & Youth Build).
- III. **Solicitation Requirements** - Interested parties responding to a HHA solicitation are required to include in their submission, this form (Section 3 Requirements & Commitment), which describes efforts that will be taken to engage Section 3 Participants."
- IV. **Acceptable Section 3 Activities** - Viable Section 3 opportunities are:
1. Hire Section 3 Workers to fill a minimum of 20% of the labor hours needed to honor contractual duties with HHA. (Note: Section 3 Workers can be existing/new personnel who are deemed as low to very low-income individuals, in accordance to HUD's guidelines).
  2. Provide paid on-the-job training (apprenticeship) for Section 3 Workers to enhance job skills in core duties/services related to a bidder's contractual duties with HHA.
  3. Offer subcontracting opportunities preferably to Section 3 Business Concern or other disadvantaged businesses to fulfill contractual duties with the HHA
  4. Bidder self-certify they meet at least one criterion to be a Section 3 Business Concerns; when responding to a HHA solicitation:
    - a) At least 51% is owned and controlled by low- or very-low-income person; OR
    - b) Business has at least 75% of its' labor hours performed (over the most recent 3-month period) by Section 3 Workers; OR
    - c) At least 51% is owned and controlled by a Public Housing/Section 8 Participant.
- V. **Exemption from Section 3 Activities** - Bidders submitting solicitations for any of the following goods and/or services are exempt from fulfilling any Section 3 commitments:
- 1) Contracts for "material only" and do not require the hiring of new or expanded labor (office/janitorial supply contracts, etc.).
  - 2) Contracts for Section 8 Project-based Vouchers and Project-based Rental Assistance
  - 3) Professional Service contracts requiring advanced degrees or professional licensing (engineers, architects, accountants, consultants, etc.)

- VI. **Section 3 Commitment** - Bidders shall identify what efforts will be taken during contractual terms to comply with HHA's Section 3 Requirements to the greatest extent feasible. All bidders are required to select at least one (1) of the following options:

OPTIONS	QUANTIFIABLE COMMITMENT
<input type="checkbox"/> <b><u>OPTION 1 - Exempt</u></b>	Bidder is exempt due any one of the following options: <ul style="list-style-type: none"> <li>○ Contracts for "material only" and do not require the hiring of new or expanded labor (office/janitorial supply contracts, etc.).</li> <li>○ Contracts for Section 8 Project-based Vouchers and Project-based Rental Assistance</li> <li>○ Professional Service contracts requiring advanced degrees or professional licensing (engineers, architects, accountants, consultants, etc.)</li> </ul>
<input type="checkbox"/> <b><u>OPTION 2 - Jobs</u></b>	Title: _____ # of Positions: _____ Pay _____ Work Hours _____ Location _____ Skills to be Acquired : _____ Qualifications: _____
<input type="checkbox"/> <b><u>OPTION 3 – Paid Training or Apprenticeship</u></b>	Title: _____ # of Positions: _____ Pay _____ Work Hours _____ Location _____ Skills to be Acquired : _____ Qualifications: _____
<input type="checkbox"/> <b><u>OPTION 4 – Sub-Contracting with Section 3 Business Concerns</u></b>	Company Name _____ Contract Amount \$ _____ % of Contract: _____ Summary of Duties: _____
<input type="checkbox"/> <b><u>OPTION 5 -Existing Section 3 Business Concern</u></b>	Bidder self-certifies they meet at least one of the following criteria to be recognized as a Section 3 Business Concern: <ul style="list-style-type: none"> <li>○ At least 51% is owned and controlled by low- or very-low-income person;</li> <li>○ Over 75% of the labor hours performed for the business (over a 3-month period) are performed by Section 3 Workers;</li> <li>○ At least 51% of the business is owned and controlled by current Public Housing resident or Section 8 Assisted participant.</li> </ul>

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Printed Name of Authorized Individual

\_\_\_\_\_  
Date

\_\_\_\_\_  
Manual/E-signature of Authorized Individual

A Fair Housing and Equal Employment Opportunity Agency. For assistance: Individuals with disabilities may contact the 504/ADA Administrator at 713-280-0353, TTY 713-280-0547 or [504ADA@housingforhouston.com](mailto:504ADA@housingforhouston.com)

**HHA**  
**SECTION 3 COMPLIANCE REPORT**

Submission Date:	Reporting Period:
_____ Primary Contractor	_____ Subcontractor
Company Name:	
Person completing invoice	
Project Name:	RFP #:
Amount of Contract	Amount of Current Invoice:

# participants hired					

Training Commitment	# Trained this Report Period	YTD Trained during Contract	List Individuals Employed		
			Name	Training Title	Stipend Amount Paid
# of participants engaged in training/ apprenticeship					

Section 3 Business Concerns	Company Name	Contract Amount Provided
Indicate how at least 25% was subcontracted to Section 3 business(es)		\$
		\$
		\$

\_\_\_\_\_  
**Print Name of Person Completing Report**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature of Person Completing Report**

\_\_\_\_\_  
**Date**

**CONFLICT OF INTEREST QUESTIONNAIRE****FORM CIQ****For vendor doing business with local governmental entity****This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.**

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

**OFFICE USE ONLY**

Date Received

**1 Name of vendor who has a business relationship with local governmental entity.**

**2** ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

**3 Name of local government officer about whom the information is being disclosed.**

\_\_\_\_\_  
Name of Officer

**4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes

☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes

☐ No

**5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

**6** ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

**7**

\_\_\_\_\_  
Signature of vendor doing business with the governmental entity

\_\_\_\_\_  
Date

## **CONFLICT OF INTEREST QUESTIONNAIRE**

### **For vendor doing business with local governmental entity**

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

**Local Government Code § 176.001(1-a):** "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

**Local Government Code § 176.003(a)(2)(A) and (B):**

- (a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

\*\*\*

- (2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed;  
or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

**Local Government Code § 176.006(a) and (a-1)**

- (a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

- (a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

- (1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

- (2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.



Attachment F IFB 23-30  
**U.S. Department of Housing  
and Urban Development**  
Office of Public and Indian Housing

**Representations, Certifications,  
and Other Statements of Bidders**  
**Public and Indian Housing Programs**

# Representations, Certifications, and Other Statements of Bidders

## Public and Indian Housing Programs

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### 1. Certificate of Independent Price Determination

#### (a) The bidder certifies that--

(1) The prices in this bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to (i) those prices, (ii) the intention to submit a bid, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this bid have not been and will not be knowingly disclosed by the bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a competitive proposal solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the bidder to induce any other concern to submit or not to submit a bid for the purpose of restricting competition.

(b) Each signature on the bid is considered to be a certification by the signatory that the signatory--

(1) Is the person in the bidder's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

[insert full name of person(s) in the bidder's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the bidder's organization];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the bidder deletes or modifies subparagraph (a)2 above, the bidder must furnish with its bid a signed statement setting forth in detail the circumstances of the disclosure.

[ ] [Contracting Officer check if following paragraph is applicable]

(d) Non-collusive affidavit. (applicable to contracts for construction and equipment exceeding \$50,000)

(1) Each bidder shall execute, in the form provided by the PHA/IHA, an affidavit to the effect that he/she has not colluded with any other person, firm or corporation in regard to any bid submitted in response to this solicitation. If the successful bidder did not submit the affidavit with his/her bid, he/she must submit it within three (3) working days of bid opening. Failure to submit the affidavit by that date may render the bid nonresponsive. No contract award will be made without a properly executed affidavit.

(2) A fully executed "Non-collusive Affidavit" [ ] is, [ ] is not included with the bid.

### 2. Contingent Fee Representation and Agreement

#### (a) Definitions. As used in this provision:

"Bona fide employee" means a person, employed by a bidder and subject to the bidder's supervision and control as to time, place, and manner of performance, who neither exerts, nor proposes to exert improper influence to solicit or obtain contracts nor holds out as being able to obtain any contract(s) through improper influence.

"Improper influence" means any influence that induces or tends to induce a PHA/IHA employee or officer to give consideration or to act regarding a PHA/IHA contract on any basis other than the merits of the matter.

(b) The bidder represents and certifies as part of its bid that, except for full-time bona fide employees working solely for the bidder, the bidder:

(1) [ ] has, [ ] has not employed or retained any person or company to solicit or obtain this contract; and

(2) [ ] has, [ ] has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(c) If the answer to either (a)(1) or (a)(2) above is affirmative, the bidder shall make an immediate and full written disclosure to the PHA/IHA Contracting Officer.

(d) Any misrepresentation by the bidder shall give the PHA/IHA the right to (1) terminate the contract; (2) at its discretion, deduct from contract payments the amount of any commission, percentage, brokerage, or other contingent fee; or (3) take other remedy pursuant to the contract.

### 3. Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions (applicable to contracts exceeding \$100,000)

(a) The definitions and prohibitions contained in Section 1352 of title 31, United States Code, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The bidder, by signing its bid, hereby certifies to the best of his or her knowledge and belief as of December 23, 1989 that:

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of a contract resulting from this solicitation;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the bidder shall complete and submit, with its bid, OMB standard form LLL, "Disclosure of Lobbying Activities;" and

(3) He or she will include the language of this certification in all subcontracts at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(d) Indian tribes (except those chartered by States) and Indian organizations as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) are exempt from the requirements of this provision.

#### 4. Organizational Conflicts of Interest Certification

The bidder certifies that to the best of its knowledge and belief and except as otherwise disclosed, he or she does not have any organizational conflict of interest which is defined as a situation in which the nature of work to be performed under this proposed contract and the bidder's organizational, financial, contractual, or other interests may, without some restriction on future activities:

- (a) Result in an unfair competitive advantage to the bidder; or,
- (b) Impair the bidder's objectivity in performing the contract work.

[ ] In the absence of any actual or apparent conflict, I hereby certify that to the best of my knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement.

#### 5. Bidder's Certification of Eligibility

(a) By the submission of this bid, the bidder certifies that to the best of its knowledge and belief, neither it, nor any person or firm which has an interest in the bidder's firm, nor any of the bidder's subcontractors, is ineligible to:

(1) Be awarded contracts by any agency of the United States Government, HUD, or the State in which this contract is to be performed; or,

(2) Participate in HUD programs pursuant to 24 CFR Part 24.

(b) The certification in paragraph (a) above is a material representation of fact upon which reliance was placed when making award. If it is later determined that the bidder knowingly rendered an erroneous certification, the contract may be terminated for default, and the bidder may be debarred or suspended from participation in HUD programs and other Federal contract programs.

#### 6. Minimum Bid Acceptance Period

(a) "Acceptance period," as used in this provision, means the number of calendar days available to the PHA/IHA for awarding a contract from the date specified in this solicitation for receipt of bids.

(b) This provision supersedes any language pertaining to the acceptance period that may appear elsewhere in this solicitation.

(c) The PHA/IHA requires a minimum acceptance period of [Contracting Officer insert time period] calendar days.

(d) In the space provided immediately below, bidders may specify a longer acceptance period than the PHA's/IHA's minimum requirement. The bidder allows the following acceptance period: calendar days.

(e) A bid allowing less than the PHA's/IHA's minimum acceptance period will be rejected.

(f) The bidder agrees to execute all that it has undertaken to do, in compliance with its bid, if that bid is accepted in writing within (1) the acceptance period stated in paragraph (c) above or (2) any longer acceptance period stated in paragraph (d) above.

#### 7. Small, Minority, Women-Owned Business Concern Representation

The bidder represents and certifies as part of its bid/ offer that it --

(a) [ ] is, [ ] is not a small business concern. "Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR 121.

(b) [ ] is, [ ] is not a women-owned business enterprise. "Women-owned business enterprise," as used in this provision, means a business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

(c) [ ] is, [ ] is not a minority business enterprise. "Minority business enterprise," as used in this provision, means a business which is at least 51 percent owned or controlled by one or more minority group members or, in the case of a publicly owned business, at least 51 percent of its voting stock is owned by one or more minority group members, and whose management and daily operations are controlled by one or more such individuals. For the purpose of this definition, minority group members are:

(Check the block applicable to you)

- |                        |                              |
|------------------------|------------------------------|
| [ ] Black Americans    | [ ] Asian Pacific Americans  |
| [ ] Hispanic Americans | [ ] Asian Indian Americans   |
| [ ] Native Americans   | [ ] Hasidic Jewish Americans |

#### 8. Indian-Owned Economic Enterprise and Indian Organization Representation (applicable only if this solicitation is for a contract to be performed on a project for an Indian Housing Authority)

The bidder represents and certifies that it:

(a) [ ] is, [ ] is not an Indian-owned economic enterprise. "Economic enterprise," as used in this provision, means any commercial, industrial, or business activity established or organized for the purpose of profit, which is at least 51 percent Indian owned. "Indian," as used in this provision, means any person who is a member of any tribe, band, group, pueblo, or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs and any "Native" as defined in the Alaska Native Claims Settlement Act.

(b) [ ] is, [ ] is not an Indian organization. "Indian organization," as used in this provision, means the governing body of any Indian tribe or entity established or recognized by such governing body. Indian "tribe" means any Indian tribe, band, group, pueblo, or

community including Native villages and Native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs.

**9. Certification of Eligibility Under the Davis-Bacon Act** (applicable to construction contracts exceeding \$2,000)

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

(b) No part of the contract resulting from this solicitation shall be subcontracted to any person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(c) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

**10. Certification of Nonsegregated Facilities** (applicable to contracts exceeding \$10,000)

(a) The bidder's attention is called to the clause entitled **Equal Employment Opportunity** of the General Conditions of the Contract for Construction.

(b) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(c) By the submission of this bid, the bidder certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The bidder agrees that a breach of this certification is a violation of the Equal Employment Opportunity clause in the contract.

(d) The bidder further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) prior to entering into subcontracts which exceed \$10,000 and are not exempt from the requirements of the Equal Employment Opportunity clause, it will:

(1) Obtain identical certifications from the proposed subcontractors;

(2) Retain the certifications in its files; and

(3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

**Notice to Prospective Subcontractors of Requirement for Certifications of Nonsegregated Facilities**

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Employment Opportunity clause of the prime contract. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

**Note:** The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

**11. Clean Air and Water Certification** (applicable to contracts exceeding \$100,000)

The bidder certifies that:

(a) Any facility to be used in the performance of this contract [ ] is, [ ] is not listed on the Environmental Protection Agency List of Violating Facilities:

(b) The bidder will immediately notify the PHA/IHA Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the bidder proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and,

(c) The bidder will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

**12. Previous Participation Certificate** (applicable to construction and equipment contracts exceeding \$50,000)

(a) The bidder shall complete and submit with his/her bid the Form HUD-2530, "Previous Participation Certificate." If the successful bidder does not submit the certificate with his/her bid, he/she must submit it within three (3) working days of bid opening. Failure to submit the certificate by that date may render the bid nonresponsive. No contract award will be made without a properly executed certificate.

(b) A fully executed "Previous Participation Certificate" [ ] is, [ ] is not included with the bid.

**13. Bidder's Signature**

The bidder hereby certifies that the information contained in these certifications and representations is accurate, complete, and current.

\_\_\_\_\_  
(Signature and Date)

\_\_\_\_\_  
(Typed or Printed Name)

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

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Company Address)

**US Department of Housing and Urban Development**  
Office of Housing/Federal Housing Commissioner

**US Department of Agriculture**  
Farmers Home Administration

<b>Part I to be completed by Controlling Participant(s) of Covered Projects</b> (See instructions) Reason for submission:		<b>For HUD HQ/FmHA use only</b>	
1. Agency name and City where the application is filed		2. Project Name, Project Number, City and Zip Code	
3. Loan or Contract amount \$	4. Number of Units or Beds	5. Section of Act	6. Type of Project (check one) <input type="checkbox"/> Existing <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Proposed (New)

**7. List all proposed Controlling Participants and attach complete organization chart for all organizations showing ownership %**

Name and address ( Last, First, Middle Initial) of controlling participant(s) proposing to participate	8 Role of Each Principal in Project	9. SSN or IRS Employer Number (TIN)

Certifications: The controlling participants(s) listed above hereby apply to HUD or USDA FmHA, as the case maybe, for approval to participate as controlling participant(s) in the role(s) and project listed above. The controlling participant(s) certify that the information provided on this form and in any accompanying documentation is true and accurate. I/we acknowledge that making, presenting, or submitting a false, fictitious, or fraudulent statement, representation, or certification may result in criminal, civil, and/or administrative sanctions, including fines, penalties, and imprisonment. The controlling participants(s) further certify to the truth and accuracy of the following:

- Schedule A contains a listing, for the last ten years, of every project assisted or insured by HUD, USDA FmHA and/or State and local government housing finance agencies in which the controlling participant(s) have participated or are now participating.
- For the period beginning 10 years prior to the date of this certification, and except as shown on the certification:
  - No mortgage on a project listed has ever been in default, assigned to the Government or foreclosed, nor has it received mortgage relief from the mortgagee;
  - The controlling participants have no defaults or noncompliance under any Conventional Contract or Turnkey Contract of Sale in connection with a public housing project;
  - There are no known unresolved findings as a result of HUD audits, management reviews or other Governmental investigations concerning the controlling participants or their projects;
  - There has not been a suspension or termination of payments under any HUD assistance contract due to the controlling participant's fault or negligence;
  - The controlling participants have not been convicted of a felony and are not presently the subject of a complaint or indictment charging a felony. (A felony is defined as any offense punishable by imprisonment for a term exceeding one year, but does not include any offense classified as a misdemeanor under the laws of a State and punishable by imprisonment of two years or less);
  - The controlling participants have not been suspended, debarred or otherwise restricted by any Department or Agency of the Federal Government or of a State Government from doing business with such Department or Agency;
  - The controlling participants have not defaulted on an obligation covered by a surety or performance bond and have not been the subject of a claim under an employee fidelity bond;
- All the names of the controlling participants who propose to participate in this project are listed above.
- None of the controlling participants is a HUD/FmHA employee or a member of a HUD/FmHA employee's immediate household as defined in Standards of Ethical Conduct for Employees of the Executive Branch in 5 C.F.R. Part 2635 (57 FR 35006) and HUD's Standard of Conduct in 24 C.F.R. Part 0 and USDA's Standard of Conduct in 7 C.F.R. Part 0 Subpart B.
- None of the controlling participants is a participant in an assisted or insured project as of this date on which construction has stopped for a period in excess of 20 days or which has been substantially completed for more than 90 days and documents for closing, including final cost certification, have not been filed with HUD or FmHA.
- None of the controlling participants have been found by HUD or FmHA to be in noncompliance with any applicable fair housing and civil rights requirements in 24 CFR 5.105(a). (If any controlling participants have been found to be in noncompliance with any requirements, attach a signed statement explaining the relevant facts, circumstances, and resolution, if any).
- None of the controlling participants is a Member of Congress or a Resident Commissioner nor otherwise prohibited or limited by law from contracting with the Government of the United States of America.
- Statements above (if any) to which the controlling participant(s) cannot certify have been deleted by striking through the words with a pen, and the controlling participant(s) have initialed each deletion (if any) and have attached a true and accurate signed statement (if applicable) to explain the facts and circumstances.

<b>Name of Controlling Participant</b>	<b>Signature of Controlling Participant</b>	<b>Certification Date (mm/dd/yyyy)</b>	<b>Area Code and Tel. No.</b>
<b>This form prepared by (print name)</b>		<b>Area Code and Tel. No.</b>	

**Schedule A: List of Previous Projects and Section 8 Contracts.** Below is a complete list of the controlling participants' previous participation projects and participation history in covered projects as per 24 CFR, part 200 §200.214 and multifamily Housing programs of FmHA, State and local Housing Finance Agencies, if applicable. **Note:** Read and follow the instruction sheet carefully. Make full disclosure. Add extra sheets if you need more space. Double check for accuracy. If no previous projects, write by your name, **"No previous participation, First Experience"**.

1. Controlling Participants' Name (Last, First)	2. List of previous projects (Project name, project ID and, Govt. agency involved)	3. List Participants' Role(s) (indicate dates participated, and if fee or identity of interest participant)	4. Status of loan (current, defaulted, assigned, foreclosed)	5. Was the Project ever in default during your participation <b>Yes No If yes, explain</b>		6. Last MOR rating and Physical Insp. Score and date

### Part II- For HUD Internal Processing Only

Received and checked by me for accuracy and completeness; recommend approval or refer to Headquarters after checking appropriate box.

Date (mm/dd/yyyy)	Tel No. and area code	<input type="checkbox"/> A. No adverse information; form HUD-2530 approval recommended. <input type="checkbox"/> B. Name match in system <input type="checkbox"/> C. Disclosure or Certification problem <input type="checkbox"/> D. Other (attach memorandum)
Staff	Processing and Control	
Signature of authorized reviewer		Signature of authorized reviewer Approved <input type="checkbox"/> Yes <input type="checkbox"/> No
		Date (mm/dd/yyyy)

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## Instructions for Completing the Previous Participation Certificate, form HUD-2530

Carefully read these instructions and the applicable regulations. A copy of the regulations published at 24 C.F.R. part 200, subpart H, § 200.210-200.222 can be obtained on-line at [www.gpo.gov](http://www.gpo.gov) and from the Account Executive at any HUD Office. Type or print neatly in ink when filling out this form. Incomplete form will be returned to the applicant.

Attach extra sheets as you need them. Be sure to indicate "Continued on Attachments" wherever appropriate. Sign each additional page that you attach if it refers to you or your record. **Carefully read the certification before you sign it.** Any questions regarding the form or how to complete it can be answered by your HUD Account Executive.

**Purpose:** This form provides HUD/USDA FmHA with a certified report of all previous participation in relevant HUD/USDA programs by those parties submitting the application. The information requested in this form is used by HUD/USDA to determine if you meet the standards established to ensure that all controlling participants in HUD/USDA projects will honor their legal, financial and contractual obligations and are of acceptable risks from the underwriting standpoint of an insurer, lender or governmental agency. HUD requires that you certify and submit your record of previous participation, in relevant projects, by completing and signing this form, before your participation can be approved.

*HUD approval of your certification is a necessary precondition for your participation in the project and in the capacity that you propose. If you do not file this certification, do not furnish the information requested accurately, or do not meet established standards, HUD will not approve your certification.*

*Note that approval of your certification does not obligate HUD to approve your project application, and it does not satisfy all other HUD program requirements relative to your qualifications.*

**Who Must Sign and File Form HUD-2530:** Form HUD-2530 must be completed and signed by all Controlling Participants of Covered Projects, as such terms are defined in 24 CFR part 200 §200.212, and as further clarified by the Processing Guide (HUD notice H 2016-15) referenced in 24 CFR §200.210(b) and available on the HUD website at: [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/housing/mfh/prevparticipation](http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/mfh/prevparticipation).

**Where and When Form HUD-2530 Must Be Filed:** The original of this form must be submitted to the HUD Office where your project application will be processed at the same time you file your initial project application. This form must be filed with applications for projects listed in 24 CFR §200.214 and for the Triggering Events listed at 24 CFR §200.218.

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**Review of Adverse Determination:** If approval of your participation in a HUD project is denied, withheld, or conditionally granted on the basis of your record of previous participation, you will be notified by the HUD Office. You may request reconsideration in accordance with 24 CFR §200.222 and further clarified by the Processing Guide. Request must be made in writing within 30 days from your receipt of the notice of determination.

The Department of Housing and Urban Development (HUD) is authorized to collect this information by law 42 U.S.C. 3535(d) and by regulation at 24 CFR 200.210. This information is needed so that principals applying to participate in multifamily programs can become HUD-approved controlling participants. The information you provide will enable HUD to evaluate your record with respect to established standards of performance, responsibility and eligibility. Without prior approval, a controlling participant may not participate in a proposed or existing multifamily or healthcare project. HUD uses this information to evaluate whether or not controlling participants pose an unsatisfactory underwriting risk. The information is used to evaluate the potential controlling participants and approve only individuals and organizations that will honor their legal, financial and contractual obligations.

**Privacy Act Statement:** The Housing and Community Development Act of 1987, 42 U.S.C. 3543 requires persons applying for a Federally-insured or guaranteed loan to furnish his/her Social Security Number (SSN). HUD must have your SSN for identification of your records. HUD may use your SSN for automated processing of your records and to make requests for information about you and your previous records with other public agencies and private sector sources. HUD may disclose certain information to Federal, State and local agencies when relevant to civil, criminal, or regulatory investigations and prosecutions. It will not be otherwise disclosed or released outside of HUD, except as required and permitted by law. You must provide all of the information requested in this application, including your SSN.

**Public reporting burden** for this collection of information is estimated to average three hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not collect this information, and you are not required to complete this form, unless it displays a currently valid OMB control number.

A response is mandatory. Failure to provide any of the information will result in your disapproval of participation in this HUD program.



Attachment H IFB 23-30  
**U.S. Department of Housing and  
Urban Development**  
Office of Public and Indian Housing

**Instructions to Bidders for Contracts  
Public and Indian Housing Programs**

# Instructions to Bidders for Contracts

## Public and Indian Housing Programs

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### 1. Bid Preparation and Submission

(a) Bidders are expected to examine the specifications, drawings, all instructions, and, if applicable, the construction site (see also the contract clause entitled **Site Investigation and Conditions Affecting the Work** of the *General Conditions of the Contract for Construction*). Failure to do so will be at the bidders' risk.

(b) All bids must be submitted on the forms provided by the Public Housing Agency/Indian Housing Authority (PHA/IHA). Bidders shall furnish all the information required by the solicitation. Bids must be signed and the bidder's name typed or printed on the bid sheet and each continuation sheet which requires the entry of information by the bidder. Erasures or other changes must be initialed by the person signing the bid. Bids signed by an agent shall be accompanied by evidence of that agent's authority. (Bidders should retain a copy of their bid for their records.)

(c) Bidders must submit as part of their bid a completed form HUD-5369-A, "Representations, Certifications, and Other Statements of Bidders."

(d) All bid documents shall be sealed in an envelope which shall be clearly marked with the words "Bid Documents," the Invitation for Bids (IFB) number, any project or other identifying number, the bidder's name, and the date and time for receipt of bids.

(e) If this solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "No Bid" in the space provided for any item on which no price is submitted.

(f) Unless expressly authorized elsewhere in this solicitation, alternate bids will not be considered.

(g) Unless expressly authorized elsewhere in this solicitation, bids submitted by telegraph or facsimile (fax) machines will not be considered.

(h) If the proposed contract is for a Mutual Help project (as described in 24 CFR Part 905, Subpart E) that involves Mutual Help contributions of work, material, or equipment, supplemental information regarding the bid advertisement is provided as an attachment to this solicitation.

### 2. Explanations and Interpretations to Prospective Bidders

(a) Any prospective bidder desiring an explanation or interpretation of the solicitation, specifications, drawings, etc., must request it at least 7 days before the scheduled time for bid opening. Requests may be oral or written. Oral requests must be confirmed in writing. The only oral clarifications that will be provided will be those clearly related to solicitation procedures, i.e., not substantive technical information. No other oral explanation or interpretation will be provided. Any information given a prospective bidder concerning this solicitation will be furnished promptly to all other prospective bidders as a written amendment to the solicitation, if that information is necessary in submitting bids, or if the lack of it would be prejudicial to other prospective bidders.

(b) Any information obtained by, or provided to, a bidder other than by formal amendment to the solicitation shall not constitute a change to the solicitation.

### 3. Amendments to Invitations for Bids

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Bidders shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date on the bid form, or (3) by letter, telegram, or facsimile, if those methods are authorized in the solicitation. The PHA/IHA must receive acknowledgement by the time and at the place specified for receipt of bids. Bids which fail to acknowledge the bidder's receipt of any amendment will result in the rejection of the bid if the amendment(s) contained information which substantively changed the PHA's/IHA's requirements.

(c) Amendments will be on file in the offices of the PHA/IHA and the Architect at least 7 days before bid opening.

### 4. Responsibility of Prospective Contractor

(a) The PHA/IHA will award contracts only to responsible prospective contractors who have the ability to perform successfully under the terms and conditions of the proposed contract. In determining the responsibility of a bidder, the PHA/IHA will consider such matters as the bidder's:

- (1) Integrity;
- (2) Compliance with public policy;
- (3) Record of past performance; and
- (4) Financial and technical resources (including construction and technical equipment).

(b) Before a bid is considered for award, the bidder may be requested by the PHA/IHA to submit a statement or other documentation regarding any of the items in paragraph (a) above. Failure by the bidder to provide such additional information shall render the bidder nonresponsible and ineligible for award.

## 5. Late Submissions, Modifications, and Withdrawal of Bids

(a) Any bid received at the place designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and it:

(1) Was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);

(2) Was sent by mail, or if authorized by the solicitation, was sent by telegram or via facsimile, and it is determined by the PHA/IHA that the late receipt was due solely to mishandling by the PHA/IHA after receipt at the PHA/IHA; or

(3) Was sent by U.S. Postal Service Express Mail Next Day Service - Post Office to Addressee, not later than 5:00 p.m. at the place of mailing two working days prior to the date specified for receipt of proposals. The term "working days" excludes weekends and observed holidays.

(b) Any modification or withdrawal of a bid is subject to the same conditions as in paragraph (a) of this provision.

(c) The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt from the U.S. or Canadian Postal Service. Both postmarks must show a legible date or the bid, modification, or withdrawal shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, bidders should request the postal clerk to place a hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.

(d) The only acceptable evidence to establish the time of receipt at the PHA/IHA is the time/date stamp of PHA/IHA on the proposal wrapper or other documentary evidence of receipt maintained by the PHA/IHA.

(e) The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent by Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph (c) of this provision, excluding postmarks of the Canadian Postal Service. Therefore, bidders should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and Failure by a bidder to acknowledge receipt of the envelope or wrapper.

(f) Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful bid that makes its terms more favorable to the PHA/IHA will be considered at any time it is received and may be accepted.

(g) Bids may be withdrawn by written notice, or if authorized by this solicitation, by telegram (including mailgram) or facsimile machine transmission received at any time before the exact time set for opening of bids; provided that written confirmation of telegraphic or facsimile withdrawals over the signature of the bidder is mailed and postmarked prior to the specified bid opening time. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for opening of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

## 6. Bid Opening

All bids received by the date and time of receipt specified in the solicitation will be publicly opened and read. The time and place of opening will be as specified in the solicitation. Bidders and other interested persons may be present.

## 7. Service of Protest

(a) Definitions. As used in this provision:

"Interested party" means an actual or prospective bidder whose direct economic interest would be affected by the award of the contract.

"Protest" means a written objection by an interested party to this solicitation or to a proposed or actual award of a contract pursuant to this solicitation.

(b) Protests shall be served on the Contracting Officer by obtaining written and dated acknowledgement from —

**Procurement Manager  
Houston Housing Authority  
2640 Fountain View Drive  
Houston, Texas 77057**

[Contracting Officer designate the official or location where a protest may be served on the Contracting Officer]

(c) All protests shall be resolved in accordance with the PHA's/IHA's protest policy and procedures, copies of which are maintained at the PHA/IHA.

## 8. Contract Award

(a) The PHA/IHA will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the PHA/IHA considering only price and any price-related factors specified in the solicitation.

(b) If the apparent low bid received in response to this solicitation exceeds the PHA's/IHA's available funding for the proposed contract work, the PHA/IHA may either accept separately priced items (see 8(e) below) or use the following procedure to determine contract award. The PHA/IHA shall apply in turn to each bid (proceeding in order from the apparent low bid to the high bid) each of the separately priced bid deductible items, if any, in their priority order set forth in this solicitation. If upon the application of the first deductible item to all initial bids, a new low bid is within the PHA's/IHA's available funding, then award shall be made to that bidder. If no bid is within the available funding amount, then the PHA/IHA shall apply the second deductible item. The PHA/IHA shall continue this process until an evaluated low bid, if any, is within the PHA's/IHA's available funding. If upon the application of all deductibles, no bid is within the PHA's/IHA's available funding, or if the solicitation does not request separately priced deductibles, the PHA/IHA shall follow its written policy and procedures in making any award under this solicitation.

(c) In the case of tie low bids, award shall be made in accordance with the PHA's/IHA's written policy and procedures.

(d) The PHA/IHA may reject any and all bids, accept other than the lowest bid (e.g., the apparent low bid is unreasonably low), and waive informalities or minor irregularities in bids received, in accordance with the PHA's/IHA's written policy and procedures.

(e) Unless precluded elsewhere in the solicitation, the PHA/IHA may accept any item or combination of items bid.

(f) The PHA/IHA may reject any bid as nonresponsive if it is materially unbalanced as to the prices for the various items of work to be performed. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

(g) A written award shall be furnished to the successful bidder within the period for acceptance specified in the bid and shall result in a binding contract without further action by either party.

#### **9. Bid Guarantee (applicable to construction and equipment contracts exceeding \$25,000)**

All bids must be accompanied by a negotiable bid guarantee which shall not be less than five percent (5%) of the amount of the bid. The bid guarantee may be a certified check, bank draft, U.S. Government Bonds at par value, or a bid bond secured by a surety company acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. In the case where the work under the contract will be performed on an Indian reservation area, the bid guarantee may also be an irrevocable Letter of Credit (see provision 10, Assurance of Completion, below). Certified checks and bank drafts must be made payable to the order of the PHA/IHA. The bid guarantee shall insure the execution of the contract and the furnishing of a method of assurance of completion by the successful bidder as required by the solicitation. Failure to submit a bid guarantee with the bid shall result in the rejection of the bid. Bid guarantees submitted by unsuccessful bidders will be returned as soon as practicable after bid opening.

#### **10. Assurance of Completion**

(a) Unless otherwise provided in State law, the successful bidder shall furnish an assurance of completion prior to the execution of any contract under this solicitation. This assurance may be [Contracting Officer check applicable items] —

☒ (1) a performance and payment bond in a penal sum of 100 percent of the contract price; or, as may be required or permitted by State law;

☐ (2) separate performance and payment bonds, each for 50 percent or more of the contract price;

☐ (3) a 20 percent cash escrow;

☐ (4) a 25 percent irrevocable letter of credit; or,

☐ (5) an irrevocable letter of credit for 10 percent of the total contract price with a monitoring and disbursements agreement with the IHA (applicable only to contracts awarded by an IHA under the Indian Housing Program).

(b) Bonds must be obtained from guarantee or surety companies acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. Individual sureties will not be considered. U.S. Treasury Circular Number 570, published annually in the Federal Register, lists companies approved to act as sureties on bonds securing Government contracts, the maximum underwriting limits on each contract bonded, and the States in which the company is licensed to do business. Use of companies listed in this circular is mandatory. Copies of the circular may be downloaded on the U.S. Department of Treasury website <http://www.fms.treas.gov/c570/index.html>, or ordered for a minimum fee by contacting the Government Printing Office at (202) 512-2168.

(c) Each bond shall clearly state the rate of premium and the total amount of premium charged. The current power of attorney for the person who signs for the surety company must be attached to the bond. The effective date of the power of attorney shall not precede the date of the bond. The effective date of the bond shall be on or after the execution date of the contract.

(d) Failure by the successful bidder to obtain the required assurance of completion within the time specified, or within such extended period as the PHA/IHA may grant based upon reasons determined adequate by the PHA/IHA, shall render the bidder ineligible for award. The PHA/IHA may then either award the contract to the next lowest responsible bidder or solicit new bids. The PHA/IHA may retain the ineligible bidder's bid guarantee.

#### **11. Preconstruction Conference (applicable to construction contracts)**

After award of a contract under this solicitation and prior to the start of work, the successful bidder will be required to attend a preconstruction conference with representatives of the PHA/IHA and its architect/engineer, and other interested parties convened by the PHA/IHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract (e.g., Equal Employment Opportunity, Labor Standards). The PHA/IHA will provide the successful bidder with the date, time, and place of the conference.

#### **12. Indian Preference Requirements (applicable only if this solicitation is for a contract to be performed on a project for an Indian Housing Authority)**

(a) HUD has determined that the contract awarded under this solicitation is subject to the requirements of section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e(b)). Section 7(b) requires that any contract or subcontract entered into for the benefit of Indians shall require that, to the greatest extent feasible

(1) Preferences and opportunities for training and employment (other than core crew positions; see paragraph (h) below) in connection with the administration of such contracts or subcontracts be given to qualified "Indians." The Act defines "Indians" to mean persons who are members of an Indian tribe and defines "Indian tribe" to mean any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians; and,

(2) Preference in the award of contracts or subcontracts in connection with the administration of contracts be given to Indian organizations and to Indian-owned economic enterprises, as defined in section 3 of the Indian Financing Act of 1974 (25 U.S.C. 1452). That Act defines "economic enterprise" to mean any Indian-owned commercial, industrial, or business activity established or organized for the purpose of profit, except that the Indian ownership must constitute not less than 51 percent of the enterprise; "Indian organization" to mean the governing body of any Indian tribe or entity established or recognized by such governing body; "Indian" to mean any person who is a member of any tribe, band, group, pueblo, or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs and any "Native" as defined in the Alaska Native Claims Settlement Act; and Indian "tribe" to mean any Indian tribe, band, group, pueblo, or community including Native villages and Native groups (including

corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs.

(b) (1) The successful Contractor under this solicitation shall comply with the requirements of this provision in awarding all subcontracts under the contract and in providing training and employment opportunities.

(2) A finding by the IHA that the contractor, either (i) awarded a subcontract without using the procedure required by the IHA, (ii) falsely represented that subcontracts would be awarded to Indian enterprises or organizations; or, (iii) failed to comply with the contractor's employment and training preference bid statement shall be grounds for termination of the contract or for the assessment of penalties or other remedies.

(c) If specified elsewhere in this solicitation, the IHA may restrict the solicitation to qualified Indian-owned enterprises and Indian organizations. If two or more (or a greater number as specified elsewhere in the solicitation) qualified Indian-owned enterprises or organizations submit responsive bids, award shall be made to the qualified enterprise or organization with the lowest responsive bid. If fewer than the minimum required number of qualified Indian-owned enterprises or organizations submit responsive bids, the IHA shall reject all bids and readvertise the solicitation in accordance with paragraph (d) below.

(d) If the IHA prefers not to restrict the solicitation as described in paragraph (c) above, or if after having restricted a solicitation an insufficient number of qualified Indian enterprises or organizations submit bids, the IHA may advertise for bids from non-Indian as well as Indian-owned enterprises and Indian organizations. Award shall be made to the qualified Indian enterprise or organization with the lowest responsive bid if that bid is -

(1) Within the maximum HUD-approved budget amount established for the specific project or activity for which bids are being solicited; and

(2) No more than the percentage specified in 24 CFR 905.175(c) higher than the total bid price of the lowest responsive bid from any qualified bidder. If no responsive bid by a qualified Indian-owned economic enterprise or organization is within the stated range of the total bid price of the lowest responsive bid from any qualified enterprise, award shall be made to the bidder with the lowest bid.

(e) Bidders seeking to qualify for preference in contracting or subcontracting shall submit proof of Indian ownership with their bids. Proof of Indian ownership shall include but not be limited to:

(1) Certification by a tribe or other evidence that the bidder is an Indian. The IHA shall accept the certification of a tribe that an individual is a member.

(2) Evidence such as stock ownership, structure, management, control, financing and salary or profit sharing arrangements of the enterprise.

(f) (1) All bidders must submit with their bids a statement describing how they will provide Indian preference in the award of subcontracts. The specific requirements of that statement and the factors to be used by the IHA in determining the statement's adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement shall be rejected as nonresponsive. The IHA may require that comparable statements be provided by subcontractors to the successful Contractor, and may require the Contractor to reject any bid or proposal by a subcontractor that fails to include the statement.

(2) Bidders and prospective subcontractors shall submit a certification (supported by credible evidence) to the IHA in any instance where the bidder or subcontractor believes it is infeasible to provide Indian preference in subcontracting. The acceptance or rejection by the IHA of the certification shall be final. Rejection shall disqualify the bid from further consideration.

(g) All bidders must submit with their bids a statement detailing their employment and training opportunities and their plans to provide preference to Indians in implementing the contract; and the number or percentage of Indians anticipated to be employed and trained. Comparable statements from all proposed subcontractors must be submitted. The criteria to be used by the IHA in determining the statement(s)'s adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement(s), or that includes a statement that does not meet minimum standards required by the IHA shall be rejected as nonresponsive.

(h) Core crew employees. A core crew employee is an individual who is a bona fide employee of the contractor at the time the bid is submitted; or an individual who was not employed by the bidder at the time the bid was submitted, but who is regularly employed by the bidder in a supervisory or other key skilled position when work is available. Bidders shall submit with their bids a list of all core crew employees.

(i) Preference in contracting, subcontracting, employment, and training shall apply not only on-site, on the reservation, or within the IHA's jurisdiction, but also to contracts with firms that operate outside these areas (e.g., employment in modular or manufactured housing construction facilities).

(j) Bidders should contact the IHA to determine if any additional local preference requirements are applicable to this solicitation.

(k) The IHA [ ] does [X] does not [Contracting Officer check applicable box] maintain lists of Indian-owned economic enterprises and Indian organizations by specialty (e.g., plumbing, electrical, foundations), which are available to bidders to assist them in meeting their responsibility to provide preference in connection with the administration of contracts and subcontracts.

# General Conditions for Construction Contracts - Public Housing Programs

U.S. Department of Housing and Urban  
Development  
Office of Public and Indian Housing  
OMB Approval No. 2577-0157 (exp. 11/30/2023)

**Applicability. This form is applicable to any  
construction/development contract greater than \$250,000.**

Public reporting burden for this collection of information is estimated to average 1 hour. This includes the time for collecting, reviewing, and reporting the data. The information requested is required to obtain a benefit. This form includes those clauses required by OMB's common rule on grantee procurement, implemented at HUD in 2 CFR 200, and those requirements set forth in Section 3 of the Housing and Urban Development Act of 1968 and its amendment by the Housing and Community Development Act of 1992, implemented by HUD at 24 CFR Part 75. The form is required for construction contracts awarded by Public Housing Agencies (PHAs). The form is used by Housing Authorities in solicitations to provide necessary contract clauses. If the form were not used, PHAs would be unable to enforce their contracts. There are no assurances of confidentiality. HUD may not conduct or sponsor, and an applicant is not required to respond to a collection of information unless it displays a currently valid OMB control number.

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## 1. Definitions

- (a) "Architect" means the person or other entity engaged by the PHA to perform architectural, engineering, design, and other services related to the work as provided for in the contract. When a PHA uses an engineer to act in this capacity, the terms "architect" and "engineer" shall be synonymous. The Architect shall serve as a technical representative of the Contracting Officer. The Architect's authority is as set forth elsewhere in this contract.
- (b) "Contract" means the contract entered into between the PHA and the Contractor. It includes the forms of Bid, the Bid Bond, the Performance and Payment Bond or Bonds or other assurance of completion, the Certifications, Representations, and Other Statements of Bidders (form HUD-5370), these General Conditions of the Contract for Construction (form HUD-5370), the applicable wage rate determinations from the U.S. Department of Labor, any special conditions included elsewhere in the contract, the specifications, and drawings. It includes all formal changes to any of those documents by addendum, change order, or other modification.
- (c) "Contracting Officer" means the person delegated the authority by the PHA to enter into, administer, and/or terminate this contract and designated as such in writing to the Contractor. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer also designated in writing. The Contracting Officer shall be deemed the authorized agent of the PHA in all dealings with the Contractor.
- (d) "Contractor" means the person or other entity entering into the contract with the PHA to perform all of the work required under the contract.
- (e) "Drawings" means the drawings enumerated in the schedule of drawings contained in the Specifications and as described in the contract clause entitled Specifications and Drawings for Construction herein.
- (f) "HUD" means the United States of America acting through the Department of Housing and Urban Development including the Secretary, or any other person designated to act on its behalf. HUD has agreed, subject to the provisions of an Annual Contributions Terms and Conditions (ACC), to provide financial assistance to the PHA, which includes assistance in financing the work to be performed under this contract. As defined elsewhere in these General Conditions or the contract documents, the determination of HUD may be required to authorize changes in the work or for release of funds to the PHA for payment to the Contractor. Notwithstanding HUD's role, nothing in this contract shall be construed to create any contractual relationship between the Contractor and HUD.
- (g) "Project" means the entire project, whether construction or rehabilitation, the work for which is provided for in whole or in part under this contract.
- (h) "PHA" means the Public Housing Agency organized under applicable state laws which is a party to this contract.
- (j) "Specifications" means the written description of the technical requirements for construction and includes the criteria and tests for determining whether the requirements are met.
- (l) "Work" means materials, workmanship, and manufacture and fabrication of components.

## 2. Contractor's Responsibility for Work

- (a) The Contractor shall furnish all necessary labor, materials, tools, equipment, and transportation necessary for performance of the work. The Contractor shall also furnish all necessary water, heat, light, and power not made available to the Contractor by the PHA pursuant to the clause entitled Availability and Use of Utility Services herein.
- (b) The Contractor shall perform on the site, and with its own organization, work equivalent to at least [ ] (12 percent unless otherwise indicated) of the total amount of work to be performed under the order. This percentage may be reduced by a supplemental agreement to this order if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the PHA.
- (c) At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.
- (d) The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall hold and save the PHA, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.
- (e) The Contractor shall lay out the work from base lines and bench marks indicated on the drawings and be responsible for all lines, levels, and measurements of all work executed under the contract. The Contractor shall verify the figures before laying out the work and will be held responsible for any error resulting from its failure to do so.
- (f) The Contractor shall confine all operations (including storage of materials) on PHA premises to areas authorized or approved by the Contracting Officer.
- (g) The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. After completing the work and before final inspection, the Contractor shall (1) remove from the premises all scaffolding, equipment, tools, and materials (including rejected materials) that are not the property of the PHA and all rubbish caused by its work; (2) leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer; (3) perform all specified tests; and, (4) deliver the installation in complete and operating condition.
- (h) The Contractor's responsibility will terminate when all work has been completed, the final inspection made, and the work accepted by the Contracting Officer. The Contractor will then be released from further obligation except as required by the warranties specified elsewhere in the contract.

## 3. Architect's Duties, Responsibilities, and Authority

- (a) The Architect for this contract, and any successor, shall be designated in writing by the Contracting Officer.

- (b) The Architect shall serve as the Contracting Officer's technical representative with respect to architectural, **Schedule** engineering, and design matters related to the work performed under the contract. The Architect may provide direction on contract performance. Such direction shall be within the scope of the contract and may not be of a nature which: (1) institutes additional work outside the scope of the contract; (2) constitutes a change as defined in the Changes clause herein; (3) causes an increase or decrease in the cost of the contract; (4) alters the Construction Progress Schedule; or (5) changes any of the other express terms or conditions of the contract.
- (c) The Architect's duties and responsibilities may include but shall not be limited to:
- (1) Making periodic visits to the work site, and on the basis of his/her on-site inspections, issuing written reports to the PHA which shall include all observed deficiencies. The Architect shall file a copy of the report with the Contractor's designated representative at the site;
  - (2) Making modifications in drawings and technical specifications and assisting the Contracting Officer in the preparation of change orders and other contract modifications for issuance by the Contracting Officer;
  - (3) Reviewing and making recommendations with respect to - (i) the Contractor's construction progress schedules; (ii) the Contractor's shop and detailed drawings; (iii) the machinery, mechanical and other equipment and materials or other articles proposed for use by the Contractor; and, (iv) the Contractor's price breakdown and progress payment estimates; and,
  - (4) Assisting in inspections, signing Certificates of Completion, and making recommendations with respect to acceptance of work completed under the contract.

#### 4. Other Contracts

The PHA may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with PHA employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by PHA employees

### Construction Requirements

#### 5. Pre-construction Conference and Notice to Proceed

of the work, and that it has investigated and satisfied itself

- (a) Within ten calendar days of contract execution, and prior to the commencement of work, the Contractor shall attend a preconstruction conference with representatives of the PHA, its Architect, and other interested parties convened by the PHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract. The PHA will provide the Contractor with the date, time, and place of the conference.
- (b) The contractor shall begin work upon receipt of a written Notice to Proceed from the Contracting Officer or designee. The Contractor shall not begin work prior to receiving such notice.

#### 6. Construction Progress

- (a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring labor, materials, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments or take other remedies under the contract until the Contractor submits the required schedule.
- (b) The Contractor shall enter the actual progress on the chart as required by the Contracting Officer, and immediately deliver three copies of the annotated schedule to the Contracting Officer. If the Contracting Officer determines, upon the basis of inspection conducted pursuant to the clause entitled Inspection and Acceptance of Construction, herein that the Contractor is not meeting the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the PHA. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.
- (c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the Default clause of this contract.

#### 7. Site Investigation and Conditions Affecting the Work

- (a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location as to the general and local conditions which can affect the work or its cost, including but not limited to, (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is



reasonably ascertainable from an inspection of the site, including all exploratory work done by the PHA, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the PHA.

- (b) The PHA assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the PHA. Nor does the PHA assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

## 8. Differing Site Conditions

- (a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site(s), of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

- (b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. Work shall not proceed at the affected site, except at the

Contractor's risk, until the Contracting Officer has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, the Contractor shall file a claim in writing to the PHA within ten days after receipt of such instructions and, in any event, before proceeding with the work. An equitable adjustment in the contract price, the delivery schedule, or both shall be made under this clause and the contract modified in writing accordingly.

- (c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

- (d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

## 9. Specifications and Drawings for Construction

- (a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be

promptly submitted to the Contracting Officer, who shall

promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

- (b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

- (c) Where "as shown" "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place" that is "furnished and installed".

- (d) "Shop drawings" means drawings, submitted to the PHA by the Contractor, subcontractor, or any lower tier subcontractor, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials of equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract. The PHA may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

- (e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with other contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the PHA's reasons therefore. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

- (f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect approves any such variation and the Contracting Officer concurs, the Contracting Officer shall issue an appropriate modification to the contract, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

- (g) It shall be the responsibility of the Contractor to make timely requests of the PHA for such large scale and full size drawings, color schemes, and other additional information, not already in his possession, which shall be

required in the planning and production of the work. Such requests may be submitted as the need arises, but each such request shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay.

- (h) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the PHA and one set will be returned to the Contractor. As required by the Contracting Officer, the Contractor, upon completing the work under this contract, shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted.
- (i) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all shop drawings prepared by subcontractors are submitted to the Contracting Officer.

#### 10. As-Built Drawings

- (a) "As-built drawings," as used in this clause, means drawings submitted by the Contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract. "As-built drawings" shall be synonymous with "Record drawings."
- (b) As required by the Contracting Officer, the Contractor shall provide the Contracting Officer accurate information to be used in the preparation of permanent as-built drawings. For this purpose, the Contractor shall record on one set of contract drawings all changes from the installations originally indicated, and record final locations of underground lines by depth from finish grade and by accurate horizontal offset distances to permanent surface improvements such as buildings, curbs, or edges of walks.
- (c) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all as-built drawings prepared by subcontractors are submitted to the Contracting Officer.

#### 11. Material and Workmanship

- (a) All equipment, material, and articles furnished under this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the contract to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of, and as approved by the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.
- (b) Approval of equipment and materials.
- (1) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the

machinery and mechanical and other equipment.

When required by this contract or by the Contracting Officer, the Contractor shall also obtain the

Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting

approval, the Contractor shall provide full information concerning the material or articles. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

- (2) When required by the specifications or the Contracting Officer, the Contractor shall submit appropriately marked samples (and certificates related to them) for approval at the Contractor's expense, with all shipping charges prepaid. The Contractor shall label, or otherwise properly mark on the container, the material or product represented, its place of origin, the name of the producer, the Contractor's name, and the identification of the construction project for which the material or product is intended to be used.
- (3) Certificates shall be submitted in triplicate, describing each sample submitted for approval and certifying that the material, equipment or accessory complies with contract requirements. The certificates shall include the name and brand of the product, name of manufacturer, and the location where produced.
- (4) Approval of a sample shall not constitute a waiver of the PHA right to demand full compliance with contract requirements. Materials, equipment and accessories may be rejected for cause even though samples have been approved.
- (5) Wherever materials are required to comply with recognized standards or specifications, such specifications shall be accepted as establishing the technical qualities and testing methods, but shall not govern the number of tests required to be made nor modify other contract requirements. The Contracting Officer may require laboratory test reports on items submitted for approval or may approve materials on the basis of data submitted in certificates with samples. Check tests will be made on materials delivered for use only as frequently as the Contracting Officer determines necessary to insure compliance of materials with the specifications. The Contractor will assume all costs of retesting materials which fail to meet contract requirements and/or testing materials offered in substitution for those found deficient.
- (6) After approval, samples will be kept in the Project office until completion of work. They may be built into the work after a substantial quantity of the materials they represent has been built in and accepted.
- (c) Requirements concerning lead-based paint. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35.

#### 12. Permits and Codes

- (a) The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. Notwithstanding the requirement of the Contractor to comply with the drawings and specifications in the contract, all work installed shall comply with all applicable codes and regulations as amended by any

waivers. Before installing the work, the Contractor shall examine the drawings and the specifications for compliance with applicable codes and regulations bearing on the work and shall immediately report any discrepancy it may discover to the Contracting Officer.

Where the requirements of the drawings and specifications fail to comply with the applicable code or regulation, the Contracting Officer shall modify the contract by change order pursuant to the clause entitled Changes herein to conform to the code or regulation.

- (b) The Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work. Where the PHA can arrange for the issuance of all or part of these permits, fees and licenses, without cost to the Contractor, the contract amount shall be reduced accordingly.

### 13. Health, Safety, and Accident Prevention

- (a) In performing this contract, the Contractor shall:

- (1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
- (2) Protect the lives, health, and safety of other persons;
- (3) Prevent damage to property, materials, supplies, and equipment; and,
- (4) Avoid work interruptions.

- (b) For these purposes, the Contractor shall:

- (1) Comply with regulations and standards issued by the Secretary of Labor at 29 CFR Part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96), 40 U.S.C. 3701 et seq.; and
  - (2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.
- (c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 CFR Part 1904.
- (d) The Contracting Officer shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.
- (e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as the PHA, the Secretary of Housing and Urban Development, or the Secretary of Labor shall direct as a means of enforcing such provisions.

### 14. Temporary Heating

The Contractor shall provide and pay for temporary heating, covering, and enclosures necessary to properly protect all work and materials against damage by dampness and cold, to dry out the work, and to facilitate the completion of the work. Any permanent heating equipment used shall be turned over to the PHA in the condition and at the time required by the specifications.

### 15. Availability and Use of Utility Services

- (a) The PHA shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the PHA or, where the utility is produced by the PHA, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.
- (b) The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the PHA, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

### 16. Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements

- (a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed under this contract, and which do not unreasonably interfere with the work required under this contract.
- (b) The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this contract, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
- (c) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. Prior to disturbing the ground at the construction site, the Contractor shall ensure that all underground utility lines are clearly marked.
- (d) The Contractor shall shore up, brace, underpin, secure, and protect as necessary all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be affected by the excavations or other operations connected with the construction of the project.
- (e) Any equipment temporarily removed as a result of work under this contract shall be protected, cleaned, and replaced in the same condition as at the time of award of this contract.

- (f) New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the specifications.
- (g) No structural members shall be altered or in any way weakened without the written authorization of the Contracting Officer, unless such work is clearly specified in the plans or specifications.
- (h) If the removal of the existing work exposes discolored or unfinished surfaces, or work out of alignment, such surfaces shall be refinished, or the material replaced as necessary to make the continuous work uniform and harmonious. This, however, shall not be construed to require the refinishing or reconstruction of dissimilar finishes previously exposed, or finished surfaces in good condition, but in different planes or on different levels **Construction** when brought together by the removal of intervening work, unless such refinishing or reconstruction is specified in the plans or specifications.
- (i) The Contractor shall give all required notices to any adjoining or adjacent property owner or other party before the commencement of any work.
- (j) The Contractor shall indemnify and save harmless the PHA from any damages on account of settlement or the loss of lateral support of adjoining property, any damages from changes in topography affecting drainage, and from all loss or expense and all damages for which the PHA may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.
- (k) The Contractor shall repair any damage to vegetation, structures, equipment, utilities, or improvements, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

## 17. Temporary Buildings and Transportation of Materials

- (a) Temporary buildings (e.g., storage sheds, shops, offices, sanitary facilities) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the PHA. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
- (b) The Contractor shall, as directed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any federal, state, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

## 18. Clean Air and Water

The contractor shall comply with the Clean Air Act, as amended, 42 USC 7401 et seq., the Federal Water Pollution Control Water Act, as amended, 33 U.S.C. 1251 et seq., and standards issued pursuant thereto in the facilities in which this contract is to be performed.

## 19. Energy Efficiency

The Contractor shall comply with 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 the contract is performed.

## 20. Inspection and Acceptance of

- (a) Definitions. As used in this clause -
  - (1) "Acceptance" means the act of an authorized representative of the PHA by which the PHA approves and assumes ownership of the work performed under this contract. Acceptance may be partial or complete.
  - (2) "Inspection" means examining and testing the work performed under the contract (including, when appropriate, raw materials, equipment, components, and intermediate assemblies) to determine whether it conforms to contract requirements.
  - (3) "Testing" means that element of inspection that determines the properties or elements, including functional operation of materials, equipment, or their components, by the application of established scientific principles and procedures.
- (b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. All work is subject to PHA inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.
- (c) PHA inspections and tests are for the sole benefit of the PHA and do not: (1) relieve the Contractor of responsibility for providing adequate quality control measures; (2) relieve the Contractor of responsibility for loss or damage of the material before acceptance; (3) constitute or imply acceptance; or, (4) affect the continuing rights of the PHA after acceptance of the completed work under paragraph (j) below.
- (d) The presence or absence of the PHA inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specifications without the Contracting Officer's written authorization. All instructions and approvals with respect to the work shall be given to the Contractor by the Contracting Officer.
- (e) The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The PHA may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The PHA shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

- (f) The PHA may conduct routine inspections of the construction site on a daily basis.
- (g) The Contractor shall, without charge, replace or correct work found by the PHA not to conform to contract requirements, unless the PHA decides that it is in its interest to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.
- (h) If the Contractor does not promptly replace or correct rejected work, the PHA may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor, or (2) terminate for default the Contractor's right to proceed.
- (i) If any work requiring inspection is covered up without approval of the PHA, it must, if requested by the Contracting Officer, be uncovered at the expense of the Contractor. If at any time before final acceptance of the entire work, the **Construction PHA** considers it necessary or advisable, to examine work already completed by removing or tearing it out, the Contractor, shall on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray all the expenses of the examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the Contracting Officer shall make an equitable adjustment to cover the cost of the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.
- (j) The Contractor shall notify the Contracting Officer, in writing, as to the date when in its opinion all or a designated portion of the work will be substantially completed and ready for inspection. If the Architect determines that the state of preparedness is as represented, the PHA will promptly arrange for the inspection. Unless otherwise specified in the contract, the PHA shall accept, as soon as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines and designates can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the PHA's right under any warranty or guarantee.

## 21. Use and Possession Prior to Completion

- (a) The PHA shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the PHA intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The PHA's possession or use shall not be deemed an acceptance of any work under the contract.
- (b) While the PHA has such possession or use, the Contractor shall be relieved of the responsibility for (1) the loss of or damage to the work resulting from the PHA's possession or use, notwithstanding the terms of the clause entitled Permits and Codes herein; (2) all maintenance costs on the areas occupied; and, (3) furnishing heat, light, power, and water used in the areas

occupied without proper remuneration therefore. If prior possession or use by the PHA delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

## 22. Warranty of Title

The Contractor warrants good title to all materials, supplies, and equipment incorporated in the work and agrees to deliver the premises together with all improvements thereon free from any claims, liens or charges, and agrees further that neither it nor any other person, firm or corporation shall have any right to a lien upon the premises or anything appurtenant thereto.

## 23. Warranty of

- (a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (j) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of \_\_\_\_\_ (one year unless otherwise indicated) from the date of final acceptance of the work. If the PHA takes possession of any part of the work before final acceptance, this warranty shall continue for a period of (one year unless otherwise indicated) from the date that the PHA takes possession.
- (b) The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to PHA-owned or controlled real or personal property when the damage is the result of—
- (1) The Contractor's failure to conform to contract requirements; or
  - (2) Any defects of equipment, material, workmanship or design furnished by the Contractor.
- (c) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for (one year unless otherwise indicated) from the date of repair or replacement.
- (d) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.
- (e) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the PHA shall have the right to replace, repair or otherwise remedy the failure, defect, or damage at the Contractor's expense.
- (f) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:
- (1) Obtain all warranties that would be given in normal commercial practice;
  - (2) Require all warranties to be executed in writing, for the benefit of the PHA; and,
  - (3) Enforce all warranties for the benefit of the PHA.
- (g) In the event the Contractor's warranty under paragraph (a) of this clause has expired, the PHA may bring suit at its own expense to enforce a subcontractor's, manufacturer's or supplier's warranty.

- (h) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defect of material or design furnished by the PHA nor for the repair of any damage that results from any defect in PHA furnished material or design.
- (i) Notwithstanding any provisions herein to the contrary, the establishment of the time periods in paragraphs (a) and (c) above relate only to the specific obligation of the Contractor to correct the work, and have no relationship to the time within which its obligation to comply with the contract may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to its obligation other than specifically to correct the work.
- (j) This warranty shall not limit the PHA's rights under the Inspection and Acceptance of Construction clause of this contract with respect to latent defects, gross mistakes or fraud.

#### 24. 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.

#### Administrative Requirements

#### 25. Contract Period

this contract within \_\_\_\_\_ calendar days of the effective date of the contract, or within the time schedule established in the notice to proceed issued by the Contracting Officer.

#### 26. Order of Provisions

accordance with the terms and conditions of the

In the event of a conflict between these General Conditions and the Specifications, the General Conditions shall prevail. In the event of a conflict between the contract and any applicable state or local law or regulation, the state or local law or regulation shall prevail; provided that such state or local law or regulation does not conflict with, or is less restrictive than applicable federal law, regulation, or Executive Order. In the event of such a conflict, applicable federal law, regulation, and Executive Order shall prevail.

#### 27. Payments

retain ten (10) percent of the amount of progress

- (a) The PHA shall pay the Contractor the price as provided in this contract.
- (b) The PHA shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. The PHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.
- (c) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a

basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to HUD. If the contract covers more than one project, the Contractor shall furnish a separate breakdown for each. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.

- (d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved

submitted not later than \_\_\_\_\_ days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.

- (e) Along with each request for progress payments and the required estimates, the Contractor shall furnish the following certification, or payment shall not be made: I hereby certify, to the best of my knowledge and belief, that:

- (1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
- (2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements; and,
- (3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in subcontract.

**Name:**

**Title:**

**Date:**

- (f) Except as otherwise provided in State law, the PHA shall

payments until completion and acceptance of all work under the contract; except, that if upon completion of 50 percent of the work, the Contracting Officer, after consulting with the Architect, determines that the Contractor's performance and progress are satisfactory, the PHA may make the remaining payments in full for the work subsequently completed. If the Contracting Officer subsequently determines that the Contractor's performance and progress are unsatisfactory, the PHA shall reinstate the ten (10) percent (or other percentage as provided in State law) retainage until such time as the Contracting Officer determines that performance and progress are satisfactory.

- (g) The Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration when computing progress payments.

Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that (1) it has acquired title to such material; (2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer; (3) the material is insured to cover its full value; and (4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of the PHA's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the PHA.

- (h) All material and work covered by progress payments made shall, at the time of payment become the sole property of the PHA, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of the PHA to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of the PHA in the course of their employment, the Contractor shall restore such damaged work without cost to the PHA and to seek redress for its damage only from those who directly caused it.
- (i) The PHA shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against the PHA arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.
- (j) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.
- (k) The PHA shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of the PHA to withhold moneys from the Contractor shall in nowise impair the obligations of any surety or sureties under any bonds furnished under this contract.

## 28. 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 PHA 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 PHA's approved threshold), such modification shall not be effective until the required approval is received by the PHA.

## 29. 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) PHA-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 Contractor 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 performance 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 PHA 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); Transportation 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.
- (g) 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.
- (h) 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.
- (i) 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.
- (j) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

### 30. Suspension of Work

- (a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the PHA.
- (b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified (or within a reasonable time if not specified) in this contract an adjustment shall be made for any increase in the cost of performance of the contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have

been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or for which any equitable adjustment is provided for or excluded under any other provision of this contract.

- (c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and, (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

### 31. Disputes

- (a) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- (b) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, 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.
- (c) 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.
- (d) The Contracting Officer shall, within 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.
- (e) 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 unless otherwise indicated) days after receipt of the Contracting Officer's decision.
- (f) 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.

### 32. 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 said work within this time, the Contracting Officer 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 this 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 **Convenience** 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. Examples of such causes include (i) acts of God, or of the public enemy, (ii) acts of the PHA or other governmental entity in either its sovereign or contractual capacity, (iii) acts of another contractor in the performance of a contract with the PHA, (iv) fires, (v) floods, (vi) epidemics, (vii) quarantine restrictions, (viii) strikes, (ix) freight embargoes, (x) unusually severe weather, or (xi) delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and
- (2) The Contractor, within days (10 days unless otherwise indicated) from the beginning of such delay (unless extended by the Contracting Officer) 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 Disputes 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.

### 33. 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 \$ \_\_\_\_\_ [Contracting Officer insert amount] 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.

### 34. Termination for

- (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 presented 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 (60 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 Disputes clause of this contract.

### 35. Assignment of Contract

The Contractor shall not assign or transfer any interest in this contract; except that claims for monies due or to become due from the PHA under the contract may be assigned to a bank, trust company, or other financial institution. Such assignments of claims shall only be made with the written concurrence of the Contracting Officer. If the Contractor is a partnership, this contract shall inure to the benefit of the surviving or remaining member(s) of such partnership as approved by the Contracting Officer.

### 36. 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 Territorial Workers' Compensation laws.
- (2) Commercial General Liability with a combined single limit for bodily injury and property damage of not less than \$ \_\_\_\_\_ [Contracting Officer insert amount]

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 \$ \_\_\_\_\_

[Contracting Officer insert amount] per occurrence.

- (b) Before commencing work, the Contractor shall furnish the PHA 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 PHA 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 PHA shall carry insurance on such equipment from the time the Contractor takes possession thereof until the Contract work is accepted by the PHA. The Builder's Risk Insurance need not be carried on excavations, piers, footings, or foundations until such time as work on the superstructure 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 PHA. The Contractor may terminate this insurance on buildings as of the date taken over for occupancy by the PHA. 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 PHA'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.

### 37. Subcontracts

- (a) Definitions. As used in this contract -

(1) "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime contract or a subcontract.

(2) "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another subcontractor.

- (b) The Contractor shall not enter into any subcontract with any subcontractor who has been temporarily denied participation in a HUD program or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or of the state in which the work under this contract is to be performed.
- (c) The Contractor shall be as fully responsible for the acts or omissions of its subcontractors, and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Contractor.
- (d) The Contractor shall insert appropriate clauses in all subcontracts to bind subcontractors to the terms and conditions of this contract insofar as they are applicable to the work of subcontractors.
- (e) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the PHA or between the subcontractor and HUD.

### 38. Subcontracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms

The Contractor shall take the following steps to ensure that, whenever possible, subcontracts are awarded to small business firms, minority firms, women's business enterprises, and labor surplus area firms:

- (a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (b) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;
- (c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;
- (d) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises; and
- (e) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies.

### 39. Equal Employment Opportunity

During the performance of this contract, the Contractor/Seller agrees as follows:

- (a) The Contractor/Seller shall not discriminate against any employee or applicant for employment because of race color, religion, sex, sexual orientation, gender identity, disability, or national origin.
- (b) The Contractor/Seller shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, disability, or national origin. Such action shall include, but not be limited to, (1) employment, (2) upgrading demotion, (4) transfer, (5) recruitment or recruitment advertising, (6) layoff or termination, (7) rates of pay or other forms of compensation, and (8) selection for training, including apprenticeship

(c) The Contractor/Seller agrees to post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(d) The Contractor/Seller shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor/Seller, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(e) The Contractor/Seller shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(f) The Contractor/Seller shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(g) The Contractor/Seller shall furnish all information and reports required by Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor/Seller shall permit

access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(h) In the event of a that the Contractor/Seller is in noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor/seller may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(i) The contractor/seller will include the provisions of paragraphs (a) through (h) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each sub[contractor/seller] or vendor. The [contractor/seller] will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the [contractor/seller] becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the [contractor/seller] may request the United States to enter into such litigation to protect the interests of the United States.

(j) Compliance with the requirements of this clause shall be to the maximum extent consistent with, but not in derogation of, compliance with section 7(b) of the Indian Self-Determination and Education Assistance Act and the Indian Preference clause of this contract.

#### **40. Employment, Training, and Contracting Opportunities for Low-Income Persons, Section 3 of the Housing and Urban Development Act of 1968.**

(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 75, 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 75 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 prioritization requirements and shall state the minimum percentages of labor hour requirements established in the Benchmark Notice (FR-6085-N-04).

(d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 75, 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 75. 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 75.

(e) Noncompliance with HUD's regulations in 24 CFR Part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

(f) Contracts, subcontracts, grants, or subgrants subject to Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 5307(b)) or subject to tribal preference requirements as authorized under 101(k) of the Native American Housing Assistance and Self-Determination Act (25 U.S.C. 4111(k)) must provide preferences in employment, training, and business opportunities to Indians and Indian organizations, and are therefore not subject to the requirements of 24 CFR Part 75.

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#### 41. Interest of Members of Congress

No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this contract or to any benefit that may arise therefrom.

#### 42. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the PHA, no member of the governing body of the locality in which the project is situated, no member of the governing body of the locality in which the PHA was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

#### 43. Limitations on Payments made to Influence Certain Federal Financial Transactions

- (a) The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of **Acts** Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.
- (b) The Contractor further agrees to comply with the requirement of the Act to furnish a disclosure (OMB Standard Form LLL, Disclosure of Lobbying Activities) if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

#### 44. Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall save the PHA harmless from loss on account thereof; except that the PHA shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified and the Contractor has no reason to believe that the specified design, process, or product is an infringement. If, however, the Contractor has reason to believe that any design, process or product specified is an infringement of a patent, the Contractor shall promptly notify the Contracting Officer. Failure to give such notice shall make the Contractor responsible for resultant loss.

#### 45. Examination and Retention of Contractor's Records

- (a) The PHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until 3 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.
- (b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding \$10,000.
- (c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the Disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the PHA, HUD, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

#### 46. Labor Standards - Davis-Bacon and Related

If the total amount of this contract exceeds \$2,000, the Federal labor standards set forth in the clause below shall apply to the development or construction work to be performed under the contract.

- (a) Minimum Wages.
  - (1) All laborers and mechanics employed under this contract in the development or construction 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 conformed under 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 taken 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 recommendation 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 (iii) 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 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 benefit 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(a)(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 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 as 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)(2)(ii) 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) (1) Apprentices. Apprentices will be permitted to work at less than 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 and 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.

(2) 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.

- (3) 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.
- (e) 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.
- (f) Contract termination; debarment. A breach of this contract clause may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.
- (g) 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 herein incorporated by reference in this contract.
- (h) 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.
- (i) 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(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(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 CFR 5.12(a)(1).
- (3) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.
- (j) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.
  - (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.
  - (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in subparagraph (j)(1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic (including watchmen and guards) employed in violation of the provisions set forth in subparagraph (j)(1) of this clause, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in subparagraph (j)(1) of this clause. DOL posts current fines at: <https://www.dol.gov/whd/govcontracts/cwhssa.htm#cmp>
  - (3) Withholding for unpaid wages and liquidated damages. 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 any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in subparagraph (j)(2) of this clause.
- (k) 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.

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#### 47. Non-Federal Prevailing Wage Rates

(a) Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under State or tribal 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:

(1) 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;

(b) 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

(c) An applicable trainee wage rate based thereon specified in a DOL-certified trainee program.

#### 48. 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.

( ) 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.



Superseded General Decision Number: TX20220067

State: Texas

Construction Type: Residential

County: Harris County in Texas.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none"> <li>. Executive Order 14026 generally applies to the contract.</li> <li>. The contractor must pay all covered workers at least \$16.20 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 2023.</li> </ul>
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none"> <li>. Executive Order 13658 generally applies to the contract.</li> <li>. The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.</li> </ul>

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	01/27/2023

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 49.15	37.335+a+b

Footnotes:

A. 6% under 5 years based on regular hourly rate for all hours worked. 8% over 5 years based on regular hourly rate for all hours worked.

B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day.

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 \* SFTX0669-001 01/01/2023

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 33.11	23.30

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 SHEE0054-008 04/01/2020

	Rates	Fringes
Sheetmetal Worker (Excluding HVAC Work).....	\$ 29.70	13.85

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 \* SUTX2005-030 12/15/2005

	Rates	Fringes
Bricklayer.....	\$ 15.00 **	
Plasterer.....	\$ 16.60	
Tile setter.....	\$ 14.08 **	
Acoustical Ceiling Installer.....	\$ 12.50 **	
Carpenter (Includes Batt/Blown Insulation, Formwork & Overhead Door Installation).....	\$ 12.06 **	1.41
Carport Structural Supports Installer.....	\$ 11.46 **	2.61
Cement Manson/Concrete Finisher.....	\$ 13.68 **	.75
Drywall Finishers.....	\$ 12.00 **	
Drywall Hanger.....	\$ 12.71 **	
Electrician(Incl. Low Voltage Wiring and Installation of Alarms).....	\$ 17.05	6.32
Gutter and Siding Installer.....	\$ 18.59	1.41
HVAC MECHANIC (Pipe & System Installation Only).....	\$ 12.82 **	

Ironworker

Ornamental.....	\$ 16.29	
Reinforcing.....	\$ 11.25	** 2.35
Structural.....	\$ 17.21	

Laborers:

Common.....	\$ 8.88	** 1.10
Landscape and Irrigation....	\$ 9.02	**
Mason Tender Brick.....	\$ 9.97	** .68
Mason Tender Cement.....	\$ 9.46	** .68
Pipelayer.....	\$ 10.06	**
Plaster Tender.....	\$ 11.10	**

Painter:

Brush, Roller, and Spray....	\$ 11.41	**
Parking Lot Striping.....	\$ 14.21	**

Plumbers (Excluding HVAC Pipe)...	\$ 17.96	1.15
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Power Equipment Operator

Backhoe.....	\$ 13.55	** .69
Bulldozer.....	\$ 12.67	** .69
Forklift.....	\$ 12.54	**
Front End Loader.....	\$ 12.00	** .69
Grader.....	\$ 13.67	**

Roofers.....	\$ 10.00	**
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Sheet Metal Worker (HVAC Duct Only).....	\$ 12.76	** 1.95
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Soft Floor Layers, Carpet and Vinyl.....	\$ 14.50	**
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Truck drivers.....	\$ 13.43	**
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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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\*\* Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

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 <https://www.dol.gov/agencies/whd/government-contracts>.

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)).

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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 that 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.

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#### 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 National Office because National Office has 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.

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END OF GENERAL DECISIO"

Attachment K IFB 23-30  
**Schedule of Amounts  
for Contract Payments**

**U.S. Department of Housing  
and Urban Development**  
Office of Public and Indian Housing

OMB Approval No. 2577-0157  
(Exp. 3/31/2020)

No progress payments shall be made to the contractor unless a schedule of amounts for contract payments in accordance with the construction contract is received.

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless that collection displays a valid OMB control number.

Construction practices and HUD administrative requirements establish the need that HAs maintain certain records or submit certain documents in conjunction with the oversight of the award of construction contracts for the construction of new low-income housing developments or modernization of existing developments. These forms are used by HAs to provide information on the construction progress schedule and schedule of amounts for contract payments. Responses to the collection of information are required to obtain a benefit or to retain a benefit. The information requested does not lend itself to confidentiality.

Project Name and Location	Project Number
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Name, Address, and Zip Code of Contractor
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Nature of Contract	Contract Number
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Approved for Contractor by	Title	Date (mm/dd/yyyy)
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Approved for Architect by	Title	Date (mm/dd/yyyy)
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Approved for Owner by	Title	Date (mm/dd/yyyy)
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Item No. (1)	Description of Item (2)	Quantity (3)	Unit of Measure (4)	Unit Price in Place (5)	Amount of Sub-Item (6)	Amount of Principal Item (7)

**Total Amount of Contract or Carried Forward**

\$

To the best of my knowledge, all the information stated herein, as well as any information provided in the accompaniment herewith, is true and accurate. **Warning:** HUD will prosecute false claims and statements. Conviction may result in criminal and/or civil penalties. (18 U.S.C. 1001, 1010, 1012; 31 U.S.C. 3729, 3802)

Signature of authorized representative	Date signed (mm/dd/yyyy)
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## Instructions for Preparation of form HUD-51000

1. A separate breakdown is required for each project and prime contract instructions for preparation are given below.
  - a. **Heading.** Enter all identifying information required for both forms.
  - b. **Columns 1 and 2.** In column 1, enter the item numbers starting with No. 1, and in column 2 enter each principal division of work incorporated in the contract work.
    - (1) **Master List.** The Master list contains the basic items into which any construction contract may be subdivided for the purpose of preparing the Construction Progress Schedule and the Periodical Estimates for Partial Payments. Only those items shall be selected which apply to the particular contract. To ensure uniformity, no change shall be made in the item numbers. Generally, about 25 to 40 major items appear in a contract.
    - (2) **Items Subdivided.** In the Contractor's breakdown, against which all periodical estimates will be checked prior to payment, each major item must be subdivided into sub-items pertinent to the project involved and in agreement with the Contractor's intended basis for requesting monthly payments.
  - c. **Column 3.** Enter the total quantity for each sub-item of each principal division of work listed in the breakdown.
  - d. **Column 4.** Enter the appropriate unit of measure for each sub-item of work opposite the quantities described in column 3, such as "sq. ft.," "yd.," "tons," "lb.," "lumber per M/BM," "brickwork per M," etc., applicable to the particular sub-item. Items shown on "lump sum" or equivalent basis will be paid for only on completion of the whole item and not on a percentage of completion basis.
  - e. **Column 5.** Enter the unit price, in place, of each sub-item of work.
  - f. **Column 6.** Enter the amount of each sub-item obtained by multiplying the quantities in column 3 by the corresponding unit prices in column 5.
  - g. **Column 7.** Enter the amount of principal item only, obtained by adding the amounts of all sub-items of each principal division of work listed in column 6. Continue with the breakdown on form HUD-51000.
  - h. The "Schedule of Amounts for Contract Payments" shall be signed and dated in the space provided at the bottom of each sheet of the form by the individual who prepared the breakdown for the Contractor.
2. The minimum number of copies required for each submission for approval is an original and two copies. When approved, one fully approved copy will be returned to the Contractor.

### Master List of Items

Item No.	Division of Work	Item No.	Division of Work	Item No.	Division of Work
	Bond	20	Rough Carpentry		<b>Site Improvements</b>
21	General Conditions \1	21	Metal Bucks	44	Retaining Walls
	Demolition & Clearing	22	Caulking	45	Storm Sewers
	<b>Structures</b>	23	Weatherstripping	46	Sanitary Sewers
	General Excavation	24	Lath & Plastering-Drywall	47	Water Distribution System
	Footing Excavation	25	Stucco	48	Gas Distribution System
	Backfill	26	Finish Carpentry	49	Electrical Distribution System
	Foundation Piles & Caissons	27	Finish Hardware	50	Street & Yard Lighting Fire &
	Concrete Foundations	28	Glass & Glazing	51	Police Alarm System Fire
	Concrete Superstructures	29	Metal Doors	52	Protection System Street
	Reinforcing Steel	30	Metal Base & Trim	53	Work
	Waterproofing & Dampproofing	31	Toilet Partitions	54	Yard Work
26	Spandrel Waterproofing	32	Floors	55	(Other)
	Structural Steel	33	Painting & Decorating	56	(Other)
	Masonry	34	Screens		<b>Equipment</b>
	Stonework	35	Plumbing	57	Shades & Drapery Rods
	Miscellaneous & Ornamental Metal	36	Heating	58	Ranges
1	Metal Windows	37	Ventilating System	59	Refrigerators
	Roofing	38	Electrical	60	Kitchen Cabinets & Work Tables
	Sheet Metal	39	Elevators	61	Laundry Equipment
		40	Elevator Enclosures—Metal	62	(Other)
		41	Incinerators—Masonry & Parts		<b>Punch List \2</b>
		42	(Other)	63	Lawns & Planting
		43	(Other)	64	

1 General Conditions should be 3% to 5% of contract amount.

2 Punch List should be approximately 1/2 of 1% or \$30 per dwelling unit, whichever is greater.



## **EXHIBT A**

### **Pre-Bid Teleconference Information**

**Date:** August 01, 2023

**Time:** 10:000 A.M. Central Daylight Time (“CDT”)

You are encouraged to send an e-mail to [Purchasing@housingforhouston.com](mailto:Purchasing@housingforhouston.com) that you attended the Pre-Bid Teleconference associated with: IFB 23-30 Replacement of Heaters at Cuney Homes Apartments.

#### **In-Person**

You can attend the Pre-Bid Conference in person at Cuney Homes Apartments located 3260 Truxillo Street, Houston Texas 77004. All in-person participants will have the opportunity to walk the site after the pre-bid conference.

#### **Zoom**

**Step 1: Using a phone Dial 1-346-248-7799**

**Step 2: When prompted enter code 817 3108 8174**

**Step 3: Press # a second time to enter the meeting**

**Step 4: When prompted enter Passcode 993821**

**Step 5: Join Zoom Meeting via computer:** [IFB 23-30 Replacement of Heaters at Cuney Homes Apartments](#)

#### **Meeting Instructions**

- Your phone will be automatically muted when you access the meeting, and will stay muted until HHA’s meeting facilitator has unmuted it.
- Press \*9 on your phone during the meeting to ask a question.
- Questions will be acknowledged by HHA’s meeting facilitator in the order they are received.
- You will be allowed to ask your question (which will be heard by all attendees), once HHA’s meeting facilitator identifies you by the last four (4) numbers of your phone number.
- After you have asked your question, HHA’s meeting facilitator will re-mute your phone.
- There will be a slight pause between the Sections of the solicitation that are being discussed to give bidders an opportunity to ask questions.
- Any statements made by HHA during the pre-bid conference, and during any site visits are not binding, unless they are incorporated into the above referenced solicitation via an Amendment.

## **PRE-BID CONFERENCE AGENDA**

**IFB 23-30 Replacement of Heaters at Cuney Homes Apartment  
3260 Truxillo Street, Houston, Texas 77004**

**Time and Date: 10:00 A.M. Central Daylight Time (“CDT”) August 01, 2023**

1. Welcome
2. Introductions
3. General
  - 3.1 Please send an email to [purchasing@housingforhouston.com](mailto:purchasing@housingforhouston.com) stating that you attended this meeting.
  - 3.2 Please review Exhibit A of the solicitation for instructions and call-in information for the Zoom Meeting.
  - 3.3 This Teleconference is being recorded.
  - 3.4 Note that this meeting utilizes the Zoom Software and that we may experience technical difficulties beyond our control. If you miss something or cannot hear something being said please hit \*9 or the hand icon to request clarification
4. Pre-Bid Format
  - 4.1 Oral statements made by HHA, or anyone else is not binding, unless they are incorporated into the above solicitation via an Amendment
  - 4.2 Monitor HHA’s website for Amendments to the above solicitation.
5. Review Solicitation
  - 5.1 Overview of Administrative / Submittal Requirements
    - Questions must be sent to [Purchasing@housingforhouston.com](mailto:Purchasing@housingforhouston.com)
    - Pay attention to Section 4.0 Procurement Schedule, and Section 8.0 Submittals
  - 5.2 Overview of Project / Technical Requirements
6. Recap Procurement Schedule
7. Adjourn

## **Exhibit B**

### **Scope of Work (SOW)**

#### **Replace Heaters at Cuney Homes**

The successful bidder for this project will provide a turnkey service including but, not limited to, taking included design documents and providing all necessary supplemental work (electrical re-wiring, sheetrock repair, clean-up, etc..) to complete the removal of existing and installation of new heaters at the Cuney Homes property.

In addition, the successful bidder is to provide all necessary licenses, permits, design, labor, personnel, supervision, transportation, materials, tools, supplies, equipment, machinery, signage, warning tape, barricades, lights, insurance, and any other ancillary item(s) or resource(s) needed.

#### **General Contractor Requirements**

##### **1. Ensure:**

###### **1.1. Any**

- 1.1.1. Materials used and/or required to perform the work are to be stored away from excessive rain, daylight, and other exterior elements. Any damaged material installed will have to be removed and remediated to the satisfaction of HHA at contractor's expense.
- 1.1.2. Discrepancy or misinterpretation in this SOW must be brought to the attention of HHA prior to commencement of work. Any work performed prior to HHA approval will not be authorized as a change order and will be at the contractor's expense.

###### **1.2. All**

- 1.2.1. Work will be performed on schedule and in compliance with all Local, State, and Federal Building and Environmental Safety Codes.
- 1.2.2. Debris on the jobsite will be properly disposed of at the end of each work day. Maintain an accessible site and do not interrupt the use of the property.
  - 1.2.2.1. Heaters and materials removed from the units will be disposed of in accordance with environmental safety guidelines.
- 1.2.3. Materials and finishes: wall /ceiling texture and paint are to match existing. Any deviation must be brought to HHA's attention before commencement of work that may result in non-matching finishing. Material and finishes deviations will not be considered as a change order and will be at the contractor's expense.
- 1.2.4. Notify HHA immediately if the presence of any mold or asbestos is detected during the removal of existing heaters and materials.

- 1.2.4.1. HHA will be responsible for the cost to remediate any mold or asbestos detected during the removal of existing heaters and materials
- 1.2.5. Field verify existing condition.
- 1.2.6. A Superintendent or Manager representing the General Contractor will be available and on-site during working hours and through the duration of the Project.
- 1.2.7. A one (1) year warranty is provided upon completion of all work.

**Walk-through**

- 2. Units to be professionally cleaned upon completion.
- 3. Contractor to notify HHA Project Manager as units near completion to arrange walk-through.
- 4. HHA representative to sign-off on unit as complete if;
  - 4.1. All work designated for the unit has been completed free of defects; and
  - 4.2. Meets HHA standards.



**JONES ENGINEERS, L.P.**  
*Consulting Mechanical/Electrical/Plumbing Engineers*

Exhibit C: IFB 23-30

## **ASSESSMENT REPORT**

**HHA CUNEY HOMES HEATER REPLACEMENT PROJECT**  
Houston, Texas

- Prepared by -



**JONES ENGINEERS, L.P.**  
*Consulting Mechanical/Electrical/Plumbing Engineers*

**N. CURTIS JONES, P.E.**  
TEXAS PROFESSIONAL ENGINEER #58428  
**JONES ENGINEERS, LP**  
**9820 Whithorn Drive**  
**Houston, Texas 77095**  
TEXAS REGISTERED ENGINEERING FIRM #F-3811

**March 28, 2022**  
**Project No. 4798**

## SUMMARY

We were asked to observe the existing heaters and present recommendation about replacement of the existing wall heaters in Cuney Homes, Houston, Texas. On Friday, February 15, 2022, we visited the site to observe the existing systems. The following describes our observations and comments.

### General Description

The building appears to have been built in the 1970's. There are 120 buildings. The building is masonry construction with a flat roof.

### HVAC

The existing HVAC Systems include one wall mounted furnace for each residential unit. Some of the units have 2 wall heaters. Each unit installed is 65 ¾" x 16" x 6" William, Model Number 3509622A and 35,000 BTU unit size. The units are gas wall furnaces equipped with single stage heating. The gas connection to the unit is ½". Some of the units have fans to direct air into the room, others utilize convection.

Each furnace is connected to a gas flue that goes up through the roof. Each furnace has a thermostat, Williams Model #P322016.

## Observations

The following include observations and comments on the systems described above:

- The building was built in 1975 before the existence of the energy code. The building is of masonry construction. It appears that all heaters weren't performing up to standards. Several of the units have been replaced but many have exceeded their useful life.

## Scope of Work

- We investigated the possibility of using heaters without blower, but it would not properly circulate air and result in uneven temperature in the space. We suggest adding blower fan as an optional accessory for the units that don't have an existing fan in it. This will cost a little more in operational energy but improve comfort drastically.
- Old unit heaters shall be discarded in a lawfully and environmentally friendly manner especially with the presence of asbestos in insulation.
- See attached drawing for construction requirements.
- See attached cut sheet and installation manual for manufacture's installation instruction

- We suggest investigating each flue to verify its integrity.

## Electrical

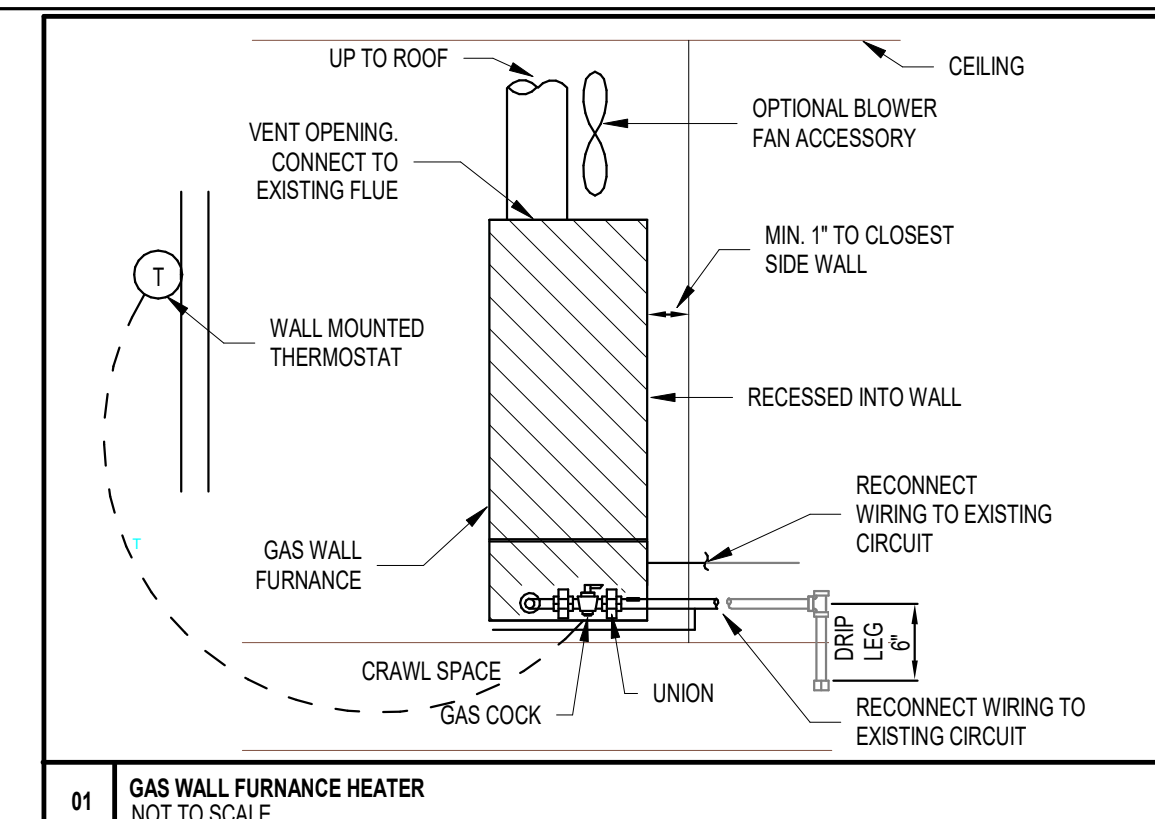
- Heater units shall be reconnected to existing circuits.



GAS-FIRED UNIT HEATER SCHEDULE														
MARK	MANUFACTURER	MODEL	LOCATION	AREA(S) SERVED	GAS HEATING					ELECTRICAL				NOTES
					HEATING AIRFLOW	ESP (IN W.C.)	INPUT (MBH)	GAS OUTPUT (MBH)	V	PH	HZ	MOTOR HP	FLA	
HEATER	WILLIAMS	UHEC-0010C00	WALL RECESSED	HOME	0	0	35	23.7	120	1	60	0	0	WALL GAS FURNACE
NOTES:														
1. PROVIDE WITH BLOWER FAN WITH AUTOMATIC OPERATION TO IMPROVE AIR CIRCULATION. 2. PROVIDE WITH OSHA FAN GUARD, DISCONNECT SWITCH, LIGHT DUTY SINGLE-STATE THERMOSTAT WITH SUBBASE AND LOCKING COVER, CONCENTRIC VENTING KIT AS REQUIRED, MANUFACTURERS RECOMMENDED SUSPENSION KIT, BLOWER ENCLOSURE, MANUFACTURERS RECOMMENDED CONDENSATE PUMP, PUMP SUSPENSION, AND CONDENSATE TREATMENT KIT. 3. UNIT SHALL BE INSTALLED IN STRICT ACCORDANCE TO MANUFACTURERS RECOMMENDATIONS AND ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES (CURRENT EDITION)														

**GENERAL NOTES:**

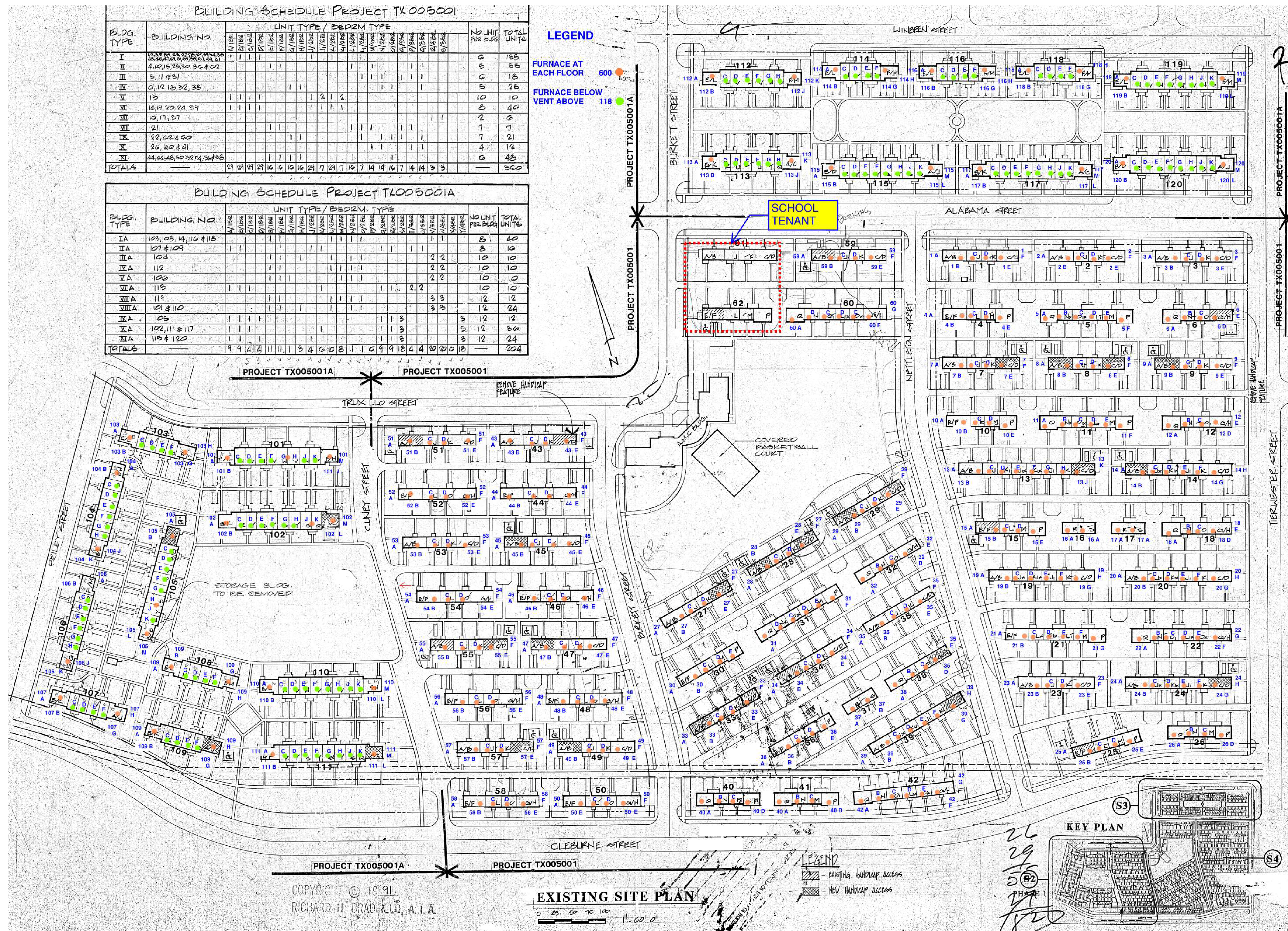
- F. FOR EACH UNIT HOME, REMOVE EXISTING HEATER AND THERMOSTAT. ANY TRASH OR REFUSE EXCEPT ASBESTOS TO BE LAWFULLY DISCARDED IN AN ENVIRONMENTALLY FRIENDLY MANNER.
- G. FOR EACH UNIT HOME, INSTALL NEW HEATER, WILLIAMS MODEL NUMBER 800-000-070 (UNIT SIZE 50 SQ FT) AND THERMOSTAT #196000 (WILLIAMS #P22216 ACCESSORY) PER MANUFACTURER'S INSTALLATION MANUAL. ENSURE THE NEW INSTALLED HEATERS AND THERMOSTATS ARE FULLY FUNCTIONAL AND OPERATING.
- H. FOR EACH UNIT HOME, UNIT SHALL RECEIVE PROFESSIONAL AIR SEALING. AIR SEALING SHALL BE VERIFIED BY BLOWER DOOR TESTING, AND FOLLOW UP INDOOR AIR QUALITY (IAQ CARBON MONOXIDE TESTING).
- I. FOR EACH UNIT HOME, SEAL ALL DUCT WITH AIR TIGHT COILS AND MASTIC AND/OR U-LB1 TAPE. INSULATE ALL DUCTWORK LOCATED IN UNCONDITIONED SPACE TO AT LEAST R-6 AND CONDITIONED SPACE DUCTWORK TO BE R-4.
- J. VERIFY INTEGRITY OF THE GAS FLUE. IF DEFICIENCIES ARE FOUND NOTIFY

[illegible]

BUILDING SCHEDULE PROJECT TK005001A																									
BLDG. TYPE	BUILDING NO.	UNIT TYPE / BEDRM. TYPE																NO UNIT PER BLDG	TOT. UNITS						
		1/10A	1/10B	1/10C	1/10D	1/10E	1/10F	1/10G	1/10H	1/10I	1/10J	1/10K	1/10L	1/10M	1/10N	1/10O	1/10P								
IA	103, 105, 114, 116 & 115																	5	40						
IIA	127 & 129																	8	10						
IIIA	104																	10	10						
IVA	112																	10	10						
IVB	106																	10	10						
VIA	113																	10	10						
VIIA	119																	12	12						
VIIIA	101 & 110																	12	24						
IXA	105																	3	12						
XA	102, 111 & 117																	5	30						
XIA	115 & 120																	3	12						
TOTALS	—	9	9	4	4	11	11	3	4	6	10	3	11	11	0	9	9	15	4	20	20	0	15	—	204

FURNACE AT EACH FLOOR 600

FURNACE BELOW VENT ABOVE 118



DESIGNER PROJECT No.:  
PROJECT STATUS:

## REVISIONS

No.	DESCRIPTION	DATE	BY
	DRAWN BY:		JE
	CHECKED BY:		JE
	ISSUE DATE:	03/28/22	JE
	APPROVED BY:		JE
	APPROVAL DATE:	03/22/2022	

DESIGN BY:	JE
DRAWN BY:	JE
CHECKED BY:	JE
ISSUE DATE:	03/28/22
APPROVED BY:	JE
APPROVAL DATE:	03/22/2022

Review/Approval Category

**IFP**

ISSUED FOR BIDDING

INTERIM REVIEW ONLY  
Document Incomplete: Not intended for permit or construction.  
Engineer: N. Curt Jones, P.E.  
P.E. Serial No.: 58428  
Date: 03 March 2022



**JONES ENGINEERS, L.P.**  
Consulting Mechanical/Electrical/Plumbing Engineering  
9820 Whithorn Dr. Houston, Texas 77095 (713)222-7766  
Texas Resident Engineer/Inspector #E 3811

SHEET NAME: \_\_\_\_\_

SHEET No.	MED1 00	SCALE:	As indicated
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**SHEET SIZE: 30"x42" ARCH E1**



# Monterey Home Furnaces

Model Number		Btu/hr. Input	Btu/hr. Output	Efficiency Percentages		Dimensions (Inches)			Thermostat	Shipping Weight (lbs.)
Natural	Propane			Thermal	AFUE	Width	Depth	Height		
Single-Sided Furnaces						Conversaion Kits Available				
2509622A	2509621A	25,000	17,870	72	67	16	6	65¾	Millivolt	83
3509622A	3509621A	35,000	23,000	68	66	16	6	65¾	Millivolt	83
Double-Sided Furnaces						Conversion Kits Available				
5009622A	5009621A	50,000	36,900	74	67	16	6 EACH SIDE	65¾	Millivolt	137

\* Elevation rating from sea level to 2,000'

Higher altitude models are available

1/2" Gas Connection

## FEATURES

### "Matchless" Pilot Igniter

All models include a "matchless" pilot igniter that assures convenient pilot lighting without matches.

### Automatic Thermostat

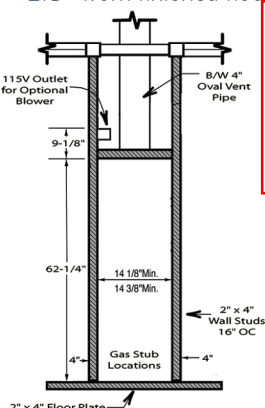
No Electricity Required - All models are equipped with a self-generating millivolt thermostat that may be wall- or cabinet-mounted. All models feature resettable vent-limit safety switch as standard equipment.

### Contemporary Finish

Soft-white, powder-coat, heat-resistant finish to compliment any décor.

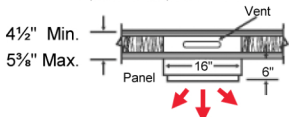
### Interior Furnace Clearances

- 1" from an intersecting wall.
- 16" from the top of the appliance to the ceiling or other obstructions.
- 48" from the furnace front to draperies, furniture or other combustibles.
- 2 1/2" from finished floor.



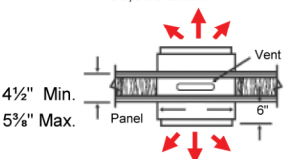
#### Top-View Single-Sided Models

25,000 &amp; 35,000 Btu/hr.



#### Top-View Double-Sided Models

50,000 Btu/hr.



## ACCESSORIES

**Blower** - attaches to top of the Monterey Furnaces with ON/OFF switch or automatic operation. Improves circulation of warm air and reduces temperature differences in the room. Optional deluxe blower for increased airflow. Two blowers may be used on 50,000 Btu/hr. units.

Model 2901 - 100 CFM, shipping weight 9 lbs.

Model 2907 - 125 CFM, shipping weight 9 lbs.



**Rear-Outlet Register** - Chain operated damper with register flush on rear wall, adjusts amount of heat delivered through rear register. Motorized rear-outlet register for increased airflow also available.

Model 6901 - Standard model, shipping weight 4 lbs.

Model 6919 - Motorized model for recessed installation.

Model 6920 - Motorized model for surface-mounted installation. Shipping weight - 6919 and 6920, 10 lbs.



**Conversion Kits** - Natural gas to LP or LP to Natural gas selections available.

**Oval-Vent Starter Kit** - contains hold down plate, oval-to-round adapter, spacer plates and two pieces of 2-foot lengths of oval pipe.

Model 9929 - USA

Model 9930 - Canada

Shipping weight 9 lbs.



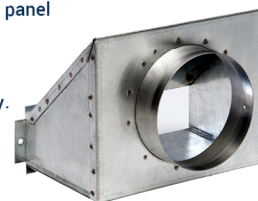
**Replacement Face Panel** - soft-white powder-coat face panel  
Model 4915, shipping weight 30 lbs.

**Vent Adapter** - Surface-mounted furnace installations only.

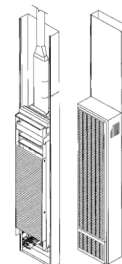
Model 9902, without optional blower installed.

Model 9910, with optional blower installed.

Shipping weight 3 Lbs.



**Free-standing Kit** - Allows single-sided furnaces to be surface-mounted instead of recessed. Ideal for remodeling in existing masonry construction or when studs are substandard. (furnace and face panel not included),  
Model 4901 - shipping weight 23 lbs.



Scan for more  
information on  
Williams' products

## IMPORTANT

- Read owner's manual before using/installing.
  - Photographs are representative only.
  - Check local codes and ordinances for permitted uses.
  - Consult installation manual for clearances prior to installation.
  - We reserve the right to amend product specifications without notice.
  - Installation and servicing recommended by a qualified service person.
  - Please read the warranty for any limitations of disclaimers.
- Combustion chamber carries a 10-year limited warranty. All other parts carry a one-year limited warranty.
- Venting must comply with the "Venting and Chimney Requirements" section of the instruction manual.
  - Massachusetts Approval G3-0816-23.

**WILLIAMS**  
Comfort Products

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youtube.com/user/WilliamsProducts

250 West Laurel Street  
Colton, California 92324 USA  
T | 909.825.0993  
F | 909.824.8009





# Owner's Manual

Save this manual for future reference.

## Top-Vent Gravity Wall Furnace

### Model Numbers:

2509622A; 2519622A; 2539622A; 2559622A; 3509622A;  
3519622A; 3539622A; 3559622A; 5009622A; 5019622A;  
5039622A; 5059622A

FOR USE WITH NATURAL GAS ONLY

### Model Numbers:

2509621A; 2519621A; 2539621A; 2559621A; 3509621A;  
3519621A; 3539621A; 3559621A; 5009621A; 5019621A;  
5039621A; 5059621A

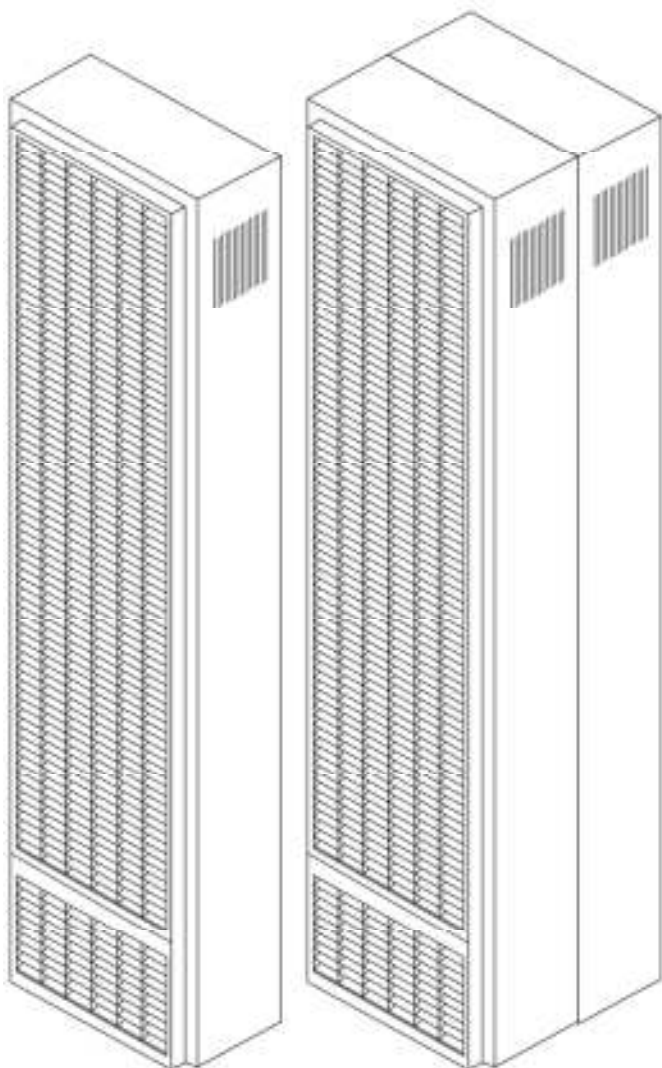
FOR USE WITH PROPANE GAS ONLY

READ THIS OWNER'S MANUAL CAREFULLY BEFORE YOU  
INSTALL YOUR NEW WILLIAMS WALL FURNACE.

**⚠ WARNING:** If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS:**
  - Open all windows.
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone or cell phone in your building.
  - Extinguish any open flame.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach the gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

**WARNING:** Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or for additional information consult a qualified installer, service agency or the gas supplier.



25,000 and 35,000  
Btu/hr. Model

50,000  
Btu/hr. Model



# Warranty

The manufacturer, Williams Furnace Co., warrants this wall furnace or heater to the original purchaser under the following conditions:

## LIMITED ONE-YEAR WARRANTY

1. Any part thereof which proves to be defective in material or workmanship within one year from date of original purchase for use will be replaced at the Manufacturer's option, FOB to its factory.
2. No liability is assumed by the Manufacturer for removal or installation labor costs, nor for freight or delivery charges.

## LIMITED EXTENDED WARRANTY

1. In addition to the above limited one-year warranty on the complete unit, any combustion chamber which burns out or rusts under normal installation, use and service conditions during a period of nine years following expiration of the one-year warranty period will be exchanged for a like or functionally similar part.
2. No liability is assumed by the Manufacturer for removal or installation labor costs, nor for freight or delivery charges.

## LIMITATIONS

1. THIS LIMITED WARRANTY IS THE ONLY WARRANTY MADE BY THE MANUFACTURER, IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE LIMITED TO THE SAME ONE YEAR TERM AS THE EXPRESS WARRANTY. UNDER NO CIRCUMSTANCES SHALL THE MANUFACTURER BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL OR CONTINGENT DAMAGES OR EXPENSES ARISING DIRECTLY OR INDIRECTLY FROM ANY DEFECT IN THE PRODUCT OR ANY COMPONENT OR FROM THE USE THEREOF. THE REMEDIES SET FORTH HEREIN ARE THE EXCLUSIVE REMEDIES AVAILABLE TO THE USER AND ARE IN LIEU OF ALL OTHER REMEDIES.

Some states do not allow limitation on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

2. This warranty does not include any charge for labor or installation.
3. This warranty does not extend to painted surfaces or to damage or defects resulting from accident, alteration, misuses or abuse or improper installation.
4. This warranty does not cover claims which do not involve defective workmanship or materials.

## DUTIES OF THE CONSUMER

1. The heating equipment must be installed by a qualified installer and operated in accordance with the installation and homeowner's instructions furnished with the equipment.
2. Any travel, diagnostic costs, service labor, and labor to repair the defective unit will be the responsibility of the owner.
3. A bill of sale, cancelled check, payment record or permit should be kept to verify purchase date to establish the warranty period.
4. Have the installer enter the requested information in the space below.

## GENERAL

1. The manufacturer neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with said equipment.
2. Service under this warranty should be obtained by contacting your dealer. Provide the dealer with the model number, serial number, and purchase date verification.
3. If, within a reasonable time after contacting your dealer, satisfactory service has not been received, contact: Customer Service Department, 250 West Laurel Street, Colton, CA 92324 for assistance.
4. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

# Installation Record

Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_

Original Purchaser \_\_\_\_\_

Address \_\_\_\_\_

City and State \_\_\_\_\_ Zip \_\_\_\_\_

Dealer \_\_\_\_\_

Address \_\_\_\_\_

City and State \_\_\_\_\_ Zip \_\_\_\_\_

Installation Date \_\_\_\_\_ Name \_\_\_\_\_ Signature \_\_\_\_\_

(Dealer or authorized representative who certifies that this appliance is installed in accordance with Manufacturer's instructions and local codes.)

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## **Quick Reference:** Here's how to...

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Caring for Your Furnace .....	24-25
Learn how to keep your new Williams Furnace operating.	

# Safety Rules

**WARNING:** Read these rules and the instructions carefully. Failure to follow these rules and instructions could cause a malfunction of the furnace. This could result in death, serious bodily injury and/or property damage.

INSTALLATION MUST CONFORM TO LOCAL CODES. IN THE ABSENCE OF LOCAL CODES, INSTALLATION MUST CONFORM TO THE NATIONAL FUEL GAS CODE, ANSI Z223.1. THE APPLIANCE, WHEN INSTALLED MUST BE ELECTRICALLY CONNECTED AND GROUNDED IN ACCORDANCE WITH LOCAL CODES OR, IN THE ABSENCE OF LOCAL CODES, WITH THE CURRENT NATIONAL ELECTRICAL CODE ANSI/NFPA NO. 70.

**IN CANADA:** Installation must conform to local codes or, in the absence of local codes, the current CAN/CGA B149 Installation code.

The appliance, when installed, must be grounded in accordance with local codes, with the current CSA C22.1 Canadian Electrical Code.

Reference is made in this manual regarding gas type as L.P.G. Be advised that L.P.G. is not available in Canada; refer to Propane/L.P. Gas.

**WARNING:** Do not use this furnace if any part has been under water. Immediately call a qualified service technician to inspect the furnace and to replace any part of the control system and any gas control which has been under water.

1. Use only manufacturer's replacement parts. Use of any other parts could cause injury or death.
2. DO NOT install the furnace where it could be isolated by closing doors to the heated space.
3. DO NOT install these furnaces in a travel trailer, recreational vehicle or mobile home.
4. MAINTAIN all clearances specified in section "Locating Wall Furnace and Thermostat" and "Vent Installation."
5. BE SURE the furnace is for type of gas being used. Check the nameplate by the gas valve in the lower cabinet. Do not change it to use other gases without the proper manufacturer's gas conversion kit.
6. For natural gas, the minimum inlet gas supply pressure for the purpose of input adjustment is 5" water column. The maximum inlet gas supply pressure is 7" water column. For L.P. gas, the minimum inlet gas supply pressure for the purpose of input adjustment is 11" water column. The maximum inlet gas supply pressure is 13" water column.
7. Any safety screen, guard or parts removed for servicing this appliance must be replaced prior to operating the appliance to avoid property damage, bodily injury or death.

8. Vent the furnace directly to the outdoors, so that harmful gases will not collect inside the building. Follow the venting instructions for your type installation exactly. Use only the type and size of vent pipe and fittings specified.
9. Provide for adequate combustion and ventilation air. See page 7. The flow of this air to the furnace must not be blocked.
10. NEVER vent flue gases into another room, a fireplace or any space inside a building. This could cause property damage, bodily injury or death.
11. NEVER test for gas leaks with an open flame. Use a soap solution to check all gas connections. This will avoid the possibility of fire or explosions.
12. ALLOW furnace to cool before servicing. Always shut off electricity and gas to furnace when working on it. This will prevent any electrical shocks or burns.
13. DUE TO HIGH TEMPERATURES, locate the furnace out of traffic and away from furniture and draperies.
14. ALERT children and adults to the hazards of high surface temperatures and warn them to keep away to avoid burns or clothing ignition.
15. CAREFULLY supervise young children when they are in the same room with the furnace.
16. DO NOT place clothing or other flammable material on or near furnace.
17. INSTALLATION and REPAIR must be done by a qualified service person. The appliance should be inspected before use and at least annually by a professional service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that control compartments, burners and circulating air passages be kept clean.
18. BEFORE INSTALLING: To avoid electrical shock, turn off electrical circuits that pass through the wall where you are going to install the furnace.
19. BE AWARE of good safety practices by wearing personal protective equipment such as gloves and safety glasses to avoid being injured by sharp metal edges in or around the furnace while cutting or drilling holes in wood and/or sheet metal.
20. CAUTION: Label all wires prior to disconnection when servicing controls.
21. DO NOT store or use gasoline or other flammable liquids or vapors near the furnace.

**WARNING:** Do not install any of these furnaces (Natural or L.P. Gas) in mobile homes, trailers or recreational vehicles.

# Introduction

---

The following steps are all needed for proper installation and safe operation of your furnace. If you have any doubts as to any requirements, check with local authorities. Obtain professional help where needed. All of the checks and adjustments in the Start-Up Procedures are vital to the proper and safe operation of the furnace. Please read the instructions before you install and use your furnace. This will help you obtain the full value from this furnace. It could also help you avoid needless service costs if the answer to the problem is found within this instruction manual.

Always consult your local heating or plumbing inspector, building department or gas utility company regarding regulations codes or ordinances which apply to the installation of a vented wall furnace.

Check the furnace nameplate, located in the burner compartment, to make sure your furnace is equipped to operate on the type of gas available (either natural or L.P. gas). DO NOT convert the furnace from natural gas to L.P. gas or from L.P. gas to natural gas without the proper manufacturer's gas conversion kit.

Combustion air is drawn in from the room where the furnace is located and is vented out of the top of the furnace vertically through vent piping in the stud space to a roof vent top. Vent material is not supplied with the furnace.

This furnace is equipped with a vent safety shutoff system designed to protect against improper venting of combustion products. Operation of this wall furnace when not connected to a properly installed and maintained venting system or tampering with the vent safety shutoff system can result in carbon monoxide (CO) poisoning and possible death.

The efficiency rating of this furnace is a product thermal efficiency rating determined under continuous operating conditions and was determined independent of any installed system.

## Basic Materials Needed

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Pipe and fittings to make gas connections to the furnace.

Pipe Joint Compound resistant to L.P. Gases.

Vertical venting materials. See page 14, Figure 8.

Electrical wiring supplies as needed. Minimum wire size is #14 gauge copper.

## Basic Tools Needed

---

Hand drill or properly grounded electric drill  
Expansion bit 1/2" to 1-5/8" or 1/2" and 1-1/2" blade bits  
1/8" and 3/16" drill bit (metal)  
6 ft. folding rule or tape measure  
Screwdriver (medium blade)  
Screwdriver (Phillips head)  
Pliers (wire cutting)

Hammer  
Stud Locator or small finishing nails  
Tin Snips  
8" adjustable wrench  
12" adjustable wrench  
Two, 10" or 12" pipe wrenches  
Gloves and safety glasses

## Helpful Installation Information

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The following booklets will help you in making the installation:

ANSI/NFPA 70, or current edition "National Electrical Code". In Canada: CSA C22.1 Canadian Electrical Code.

American National Standard Z223.1 or current edition of the "National Fuel Gas Code."

Obtain from the American National Standard Institute, Inc., 1430 Broadway, New York, NY 10018. In Canada, CAN/CGA B149.

## Optional Accessories

---

**Blower Accessories 2901, 2907** - May be used on all models and mounts on top of a furnace. This blower increases circulation of warm air through the heated space. A 115V outlet adjacent to the furnace is required.

**Trim Strip Kit 4701** - Provides a finished edge for sides of the wall furnace.

**Free Standing Accessory 4901** - May be used with single-sided models. This accessory allows the furnace to be mounted on the surface of a wall.

**Vent Adapter Kit 9902, 9910** - Optional vent adapter, typically used when the furnace is vented into a properly lined chimney.

**Rear Outlet Registers 6901, 6919, 6920** - May be used with single-sided models when recessed into a standard 2x4 inch interior stud partition. This accessory directs some of the heated air into the room opposite the one in which the furnace is installed.

**Oval B/W Vent Kit 9929** - This U.L. listed B/W vent kit contains four feet of oval, double-walled vent pipe, plate spacers and base or hold-down plate that starts the venting from the top of furnace. See Vent Installation on page 14 for additional items you will need.

**Plaster Ground Kit 6905** - Used for 6901 or 6919 Rear Outlet Registers.

**Gas Conversion Kits** - See page 16. **Thermostat** - See page 6.



# Installing Your Furnace

The following steps are needed for proper installation and safe operation of your furnace. If you have any doubts as to any requirements, obtain professional help. Remember to ALWAYS consult your local heating or plumbing inspector, building department or gas utility company regarding regulations, codes, or ordinances which apply to the installation and location of a vented wall furnace.

## IMPORTANT

For satisfactory and trouble-free operation, be sure to:

1. Locate the furnace properly within the space to be heated.

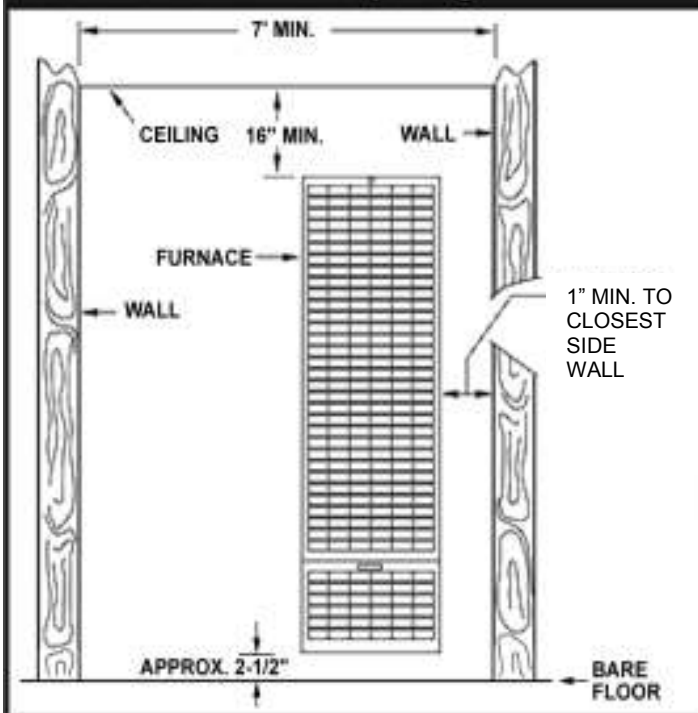
## Locating Wall Furnace & Thermostat

The furnace is installed between 2x4 inch wall studs spaced on 16-inch centers or a stud space that can be framed in to 16-inches.

Consider the following points before attempting to install the furnace:

**CAUTION:** Do not make cutouts in the wall or ceiling before checking in the attic for ceiling joist locations and proposed venting.

**FIGURE 1 – Minimum Spacing**



1. Locate the furnace near the center of the space to be heated for good air circulation. Do not put it behind a door or draperies. Do not install the furnace where it could be isolated by closing doors to the heated space. Do not locate the furnace where a door could swing over the front panel or where circulation could be retarded by furniture or cabinets.
2. Check the minimum spacing needs as shown in Figure 1.
3. The top of the furnace must be at least 16-inches from the ceiling.

2. Install the furnace in accordance with local codes or ordinances and instructions provided. In the absence of local codes or ordinances, install the furnace to conform with the current edition of the National Fuel Gas Code, NFPA 54, ANSI Z223.1/Canadian Installation Code, CAN/CGA B149.
3. Maintain minimum clearances: Floor 2½-inches, ceiling 16-inches, side wall 1-inch.
4. Provide enough combustion and ventilation air.

4. When the furnace is properly installed with legs resting on the floor plate, it sets the dimension from the face panel to the bare floor. (Approximately 2½-inches depending on the thickness of floor plate).
5. A protective barrier (metal or wood), cut to match the width and depth of the furnace, should be used to cover over any floor coverings such as carpet or vinyl under the furnace. At no time should the dimension from the bottom of the face panel to the protective barrier be less than 1½-inches.
6. In the space to be heated, the side of the furnace may be as close as 1-inch to an intersecting wall. The recessed portion may have 0-inches clearance to combustible material.
7. Select a location that will provide adequate accessibility clearance for servicing and proper operation.
8. After picking a location, inspect the wall, floor, attic and roof areas. Make sure there are no pipes, wiring, bracing, etc., that will interfere with furnace or vent installation. If required, move them or pick a new installation location.
9. Be sure that gas piping and electrical wiring can be brought to the location. Electrical wiring is required for optional blower accessory.
10. If installing the thermostat (optional) on the wall, locate the thermostat approximately 5-feet above the floor on an inside wall where it will sense the average room temperature.

The thermostat should be sensing average room temperature; avoid the following:

<b>HOT SPOTS:</b>	<b>COLD SPOTS:</b>
Concealed pipes or ducts	Concealed pipes or ducts
Fireplaces	Stairwells – drafts
Registers	Doors – drafts
TV sets	Unheated rooms on other side of wall
Radios	
Lamps	<b>DEAD SPOTS</b>
Direct sunlight	Behind doors
Kitchen	Corners and alcoves

After picking a location that meets the requirements, check the walls, attic and roof to make sure there are no obstructions such as pipes, electrical wiring, etc., which could interfere with the installation of the furnace or vent pipe. If required, move them or pick a new location.

**WARNING:** Danger of property damage, bodily injury or loss of life. Do not install the furnace in any area where oxygen is in use.

# Installing Your Furnace

## Combustion & Ventilation Air

When an existing category I heater is removed or replaced, the original venting system may no longer be sized to properly vent the attached appliances.

### **WARNING:**

#### **CARBON MONOXIDE POISONING HAZARD**

Failure to follow the steps outlined below for each appliance connected to the venting system being placed into operation could result in carbon monoxide poisoning or death.

The following steps shall be followed for each appliance connected to the venting system being placed into operation, while all other appliances connected to the venting system are not in operation:

1. Seal any unused openings in the venting system.
2. Inspect the venting system for proper size and horizontal pitch, as required in the National Fuel Gas Code, ANSI Z223.1/NFPA 54 or the Natural Gas and Propane Installation Code, CSA 8149.1 and these instructions. Determine that there is no blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition.
3. As far as practical, close all building doors and windows and all doors between the space in which the appliance(s) connected to the venting system are located and other spaces of the building.
4. Close fireplace dampers.
5. Turn on clothes dryers and any appliance not connected to the venting system. Turn on any exhaust fans, such as range hoods and bathroom exhausts, so they are operating at maximum speed. Do not operate a summer exhaust fan.
6. Follow the lighting instructions. Place the appliance being inspected into operation. Adjust the thermostat so appliance is operating continuously.
7. Test for spillage from draft hood equipped appliances at the draft hood relief opening after 5 minutes of main burner operation. Use the flame of a match or candle.
8. If improper venting is observed during any of the above tests, the venting system must be corrected in accordance with the National Fuel Gas Code, ANSI Z223.1/NFPA 54 and/or Natural Gas and Propane Installation Code, CSA 8149.1
9. After it has been determined that each appliance connected to the venting system properly vents when tested as outlined above, return doors, windows, exhaust fans, fireplace dampers and any other gashed burning appliance to their previous conditions of use.

**WARNING:** Danger of property damage, bodily injury or loss of life. The furnace and any other fuel-burning appliances must be provided with enough fresh air for proper combustion and ventilation of flue gases. Most homes will require that outside air be supplied into the heated area.

The high cost of energy for home heating has brought about new materials and methods used to construct or remodel most current homes. The improved construction and additional insulation has reduced the heat loss and made these homes much tighter around windows and doors so that infiltrated air is minimal. This creates a problem to supply combustion and ventilation air for

gas-fired or other fuel burning appliances. Any use of appliances that pull air out of the house (clothes dryers, exhaust fans, fireplaces, etc.) increases this problem and appliances could be starving for air.

The combination of a tight energy efficient home with the use of exhaust fans, fireplaces, clothes dryers, and gas appliances result in more and more air being drawn from the house until fresh air may be sucked back into the house down a furnace flue or fireplace chimney. Carbon monoxide can be the result. Carbon monoxide (CO) is a colorless, odorless gas produced when fuel is not burned completely or when the flame does not receive sufficient oxygen. Automobiles, charcoal, wood fires and improperly vented or air-starved coal, oil and gas furnaces or other appliances can produce carbon monoxide.

Do not install furnace in the same room or near a wood solid fuel burning fireplace.

### **BE AWARE OF THESE AIR-STARVATION SIGNALS:**

1. Headaches, nausea, dizziness.
2. Excessive humidity shown by heavily frosted windows or a moist "clammy" sensation.
3. Fireplace smoke fills the room or will not draw.
4. Furnace flue backs up.

### **AIR REQUIREMENTS**

The requirements for providing air for combustion and ventilation are listed in the National Fuel Gas Code NFPA 54/ANSI Z223.1 (in Canada: CAN/CGA B149). Most homes will require that outside air be supplied to the heated area by means of ventilation grilles or ducts connecting directly to the outside or spaces open to the outdoors such as attic or crawl space. The only exception is when the heated area meets the requirements and definitions for an unconfined space with adequate air infiltration.

All air openings and connecting ducts must comply with the following:

If the furnace is installed in an area with another gas appliance(s), the total input rating of all appliances must be considered when determining the free area requirements for combustion and ventilation air openings.

Ducts must have the same cross-sectional area as the free area of the openings to which they connect. The minimum dimension of rectangular air ducts must not be less than 3-inches in length or height.

**WARNING:** Danger of property damage, bodily injury or loss of life. Even when a house meets requirements for unconfined space with adequate air infiltration, it is recommended that a fresh air intake be installed to lessen the possible dangers from any future changes on the home



# Installing Your Furnace

## Combustion & Ventilation Air (continued)

### LOUVERS / GRILLES AND SCREENS COVERING FREE AREA OPENINGS

If a screen is used to cover the opening(s), it must not be smaller than 1/4-inch mesh. Use the free area of a louver or grille to determine the size opening required to provide the free area specified. If the free area is not known, assume a 20% free area for wood and a 60% free area for metal louvers or grilles.

### INFILTRATION AIR

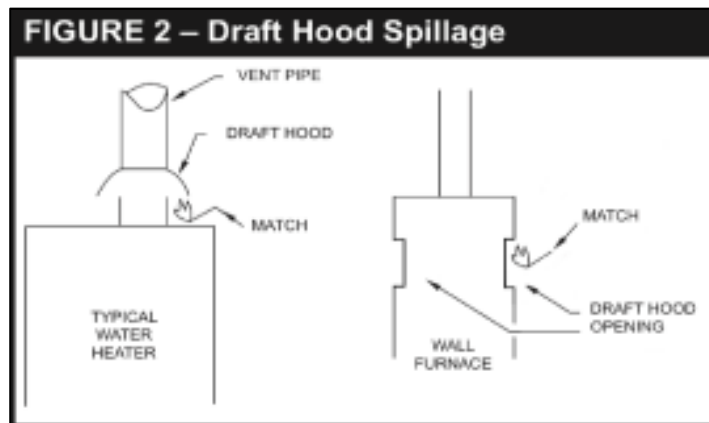
If your furnace is in an open area (unconfined space), the air that leaks through the cracks around doors and windows may be enough for combustion and ventilation air. The doors should not fit tightly. The cracks around windows should not be caulked or weather stripped.

Spillage means air starvation. A fresh air duct or air intake opening must be installed to provide air directly to the furnace or other gas appliances.

If spillage exists or when the furnace is in a building of tight construction where the windows and doors are weather stripped, air for combustion and ventilation must be obtained from outdoors or space open to the outdoors.

To determine if infiltration air is adequate, perform the following checks:

1. Close all doors and windows. If you have a fireplace, start a fire and wait until flames are burning vigorously.
2. Turn on all exhausting devices, i.e., kitchen and bathroom exhaust fans; water heaters (gas and electric).
3. Turn on all vented gas appliances, i.e., heating equipment (includes any room heaters), water heaters.
4. Wait ten (10) minutes for drafts to settle.
5. Check for draft hood spillage at each appliance. Hold a lit match two-inches from the draft opening. (Figure 2).



#### A. No Spillage

If the match flame pulls toward draft hood, this indicates sufficient infiltration air. Return exhausting devices and appliances to the condition you found them.

#### B. Draft Hood Spills

If there is spillage at a draft hood (match goes out or flame wavers away from draft hood), check for plugged flue connectors and chimneys. Repair blockage and test again.

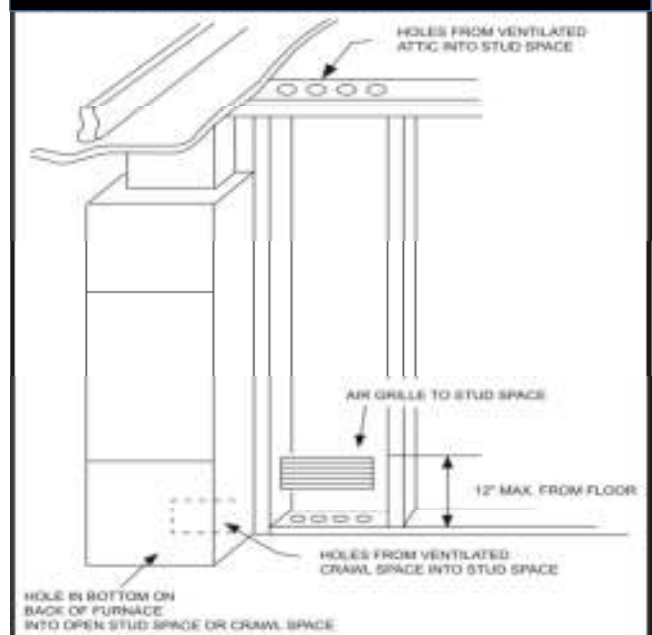
If you have a fireplace, open a window or door near the fireplace and then check for spillage. If spillage stops, do not use the fireplace without a nearby window or door open until you can supply fresh air by a permanent duct.

If you have kitchen and bathroom exhaust fans, turn them off and check for spillage. If spillage stops, do not use exhaust fans (circuit breakers for fans should be turned off) until you can supply fresh air by a permanent duct.

Provide opening(s) having a total free area of one-square-inch per 4,000 Btu/hr. of the total combined input ratings for all appliances in the area. The required free area is shown in Figure 3. This fresh air opening or duct must terminate at a point not more than one-foot above the floor. It must have at least one-square inch of free area for each 4,000 Btu/hr. of input of all appliances in area.

FIGURE 3 – Free Area				
Free Area in Square inches. Each Opening is Based on One Square inch per 4000 Btu/hr.				
Btu/hr. input	Square inches of Opening	Required Number of Holes Sill or Header Plates		
		1-1/2"	2"	3"
30,000	7.50	7	4	2
35,000	8.75	8	5	2
40,000	10.00	9	5	3
45,000	11.25	10	6	3
50,000	12.50	11	6	3
60,000	15.00	13	8	4

### Hole Placement - Example



**Combustion & Ventilation Air (continued)**

An unconfined space must have a volume of a minimum 50 cubic feet per 1,000 Btu/hr. of the total combined input of all appliances in the area. Adjoining rooms may be included only if there are no doors between the rooms or if special provisions are made such as ventilation grilles installed between connecting rooms. Figure 4 outlines the minimum area in square feet, based on 8-foot ceiling heights for various Btu/hr. input ratings.

4,000 Btu/hr. per Square Inch Opening		Max. Btu/hr. Input	*Unconfined Space Min. Area in Sq. Ft. 8' Ceiling Height
Round Duct Dia.	Rectangular/Square Duct Size		
4"	3" x 3"	30,000	188
4"	3" x 3"	35,000	219
4"	3" x 4"	40,000	250
4"	3" x 4"	45,000	281
4"	3" x 5"	50,000	312
4-1/2"	3" x 5"	60,000	375

\*Can be two or more rooms joined by ventilation grilles.

If a furnace is installed in a confined space, it must be provided with free air for proper combustion and ventilation of flue gases by one of the following methods:

[illegible]

If the confined space adjoins an unconfined space, provide two permanent openings. One within 12-inches of the top and another within 12-inches of the bottom of the room directly connected to the unconfined space. Each opening must have a free area of at least 100-square inches or 1-square inch per 1,000 Btu/hr. of input for all appliances combined.

If confined space does not adjoin an unconfined space, then air must be provided from outdoors or spaces open to the outdoors such as an attic or crawl spaces.

Provide two permanent openings, one within 12-inches of the top and bottom of the room connecting directly to, or by using ducts, with the outdoors or areas open to fresh air.

If the opening connects directly to, or with vertical ducts, the free area of each opening must be at least 1-square inch per 4,000 Btu/hr. of the combined input of all appliances in the area.

If horizontal ducts are used, the free area of each opening must be at least 1-square inch per 2,000 Btu/hr. of the combined input of all appliances in the area.

**WARNING:** Danger of illness, bodily injury or death. Draft hood spillage, with unobstructed vents, indicates that additional air must be brought into the structure from the outside. Keep a window open (minimum 2-inches) near the appliance until a permanent air duct is installed.

CHIMNEY OR GAS VENT

OUTLET AIR

VENTILATED ATTIC

INLET AIR

OPTIONAL INLET AIR 1 NO. INCH PER 4000 BTUH

1 IN INCH PER 4000 BTUH

100 SQ INCHES EACH

WALL FURN

TO ATTIC

10 CRAWL SPACE

MAX 12

INLET AIR

VENTILATED CRAWL SPACE

# Installing Your Furnace

## Recessed Wall Mount Installation

On models 2509621A, 2519621A, 2539621A, 2559621A, 2509622A, 2519622A, 2539622A, 2559622A, 3509621A, 3519621A, 3539621A, 3559621A, 3509622A, 3519622A, 3539622A, and 3559622A, the maximum recess depth from rear of furnace forward is 4½-inches.

### FIND THE STUDS AND CEILING JOINTS

Use a stud locator or small finishing nails. Repeatedly drive and remove a nail into the wall in the area of the stud until it is located. Then find the inside edge of the stud. Leave the nail at this location.

The other stud should be about 14½-inches from the one found. Drive finishing nails on the inside of this stud. Draw wall cutout to required size as shown in Figure 5. If wall studs are not on 16-inch centers. See "CLOSE OFF STUD SPACE." (Figure 6).

### CUT WALL OPENING

Cut wall opening 14⅜-inches wide and 66⅞-inches high measured from the top of the floor plate. (Figure 5). All corners must be square.

### INSTALLATION OF REAR OUTLET REGISTER

The optional rear outlet register may be installed when the furnace is recessed into the wall. In new construction, install the rear outlet plaster ground at the same time you install the header plate. For existing construction, make the necessary cutout and install the plaster ground before you install the furnace. See instructions packed with accessory and Figure 5.

Do not allow wall finish material to project into the furnace recess.

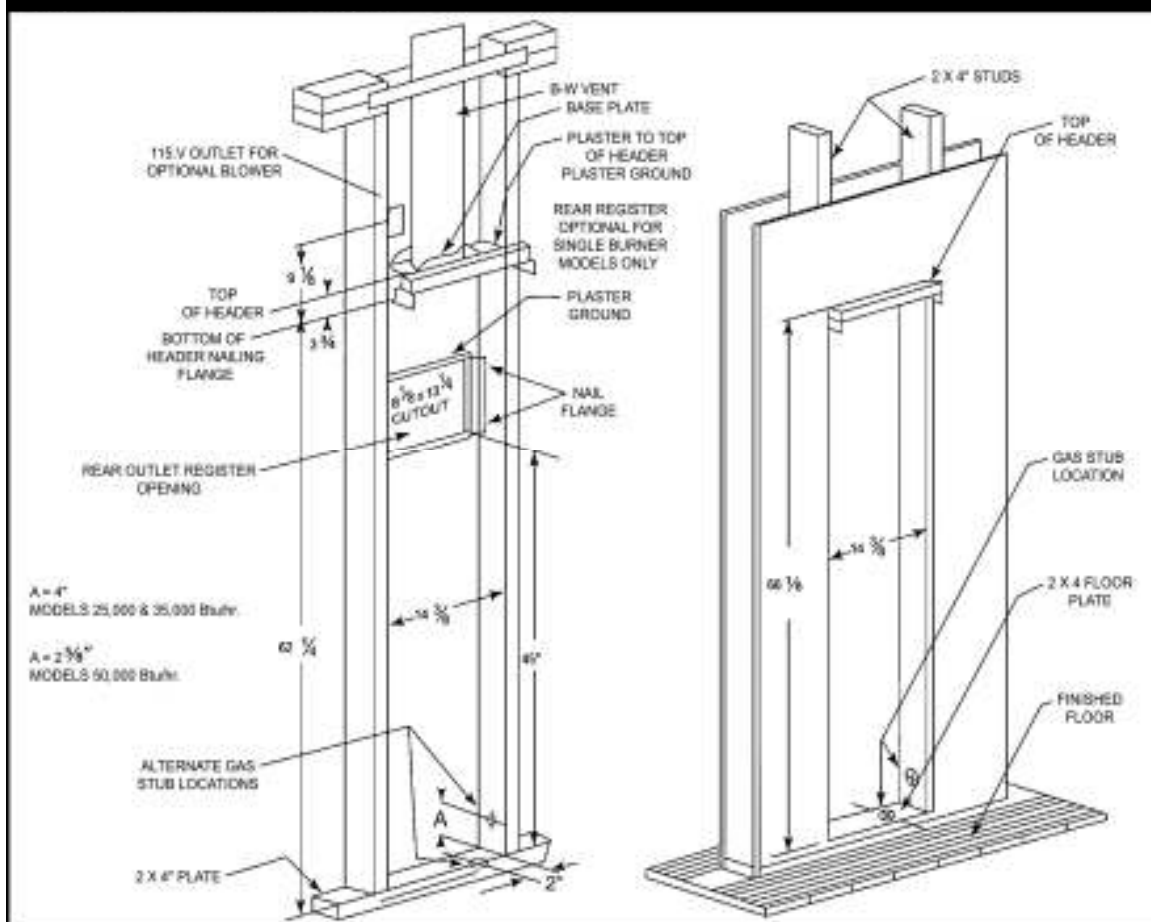
Do not install rear outlet register where grille may be blocked by a door, curtains or any other obstruction.

### GAS SUPPLY OPENING

A hole must be drilled for the gas line. Decide whether the gas line will come through the floor or wall. Drill a 1½-inch hole through the floor or wall as needed. (Figure 5).

**CAUTION:** Be careful not to damage any furnace components while making any alternate hole.

**FIGURE 5 – Recessed Wall Mount Installation**



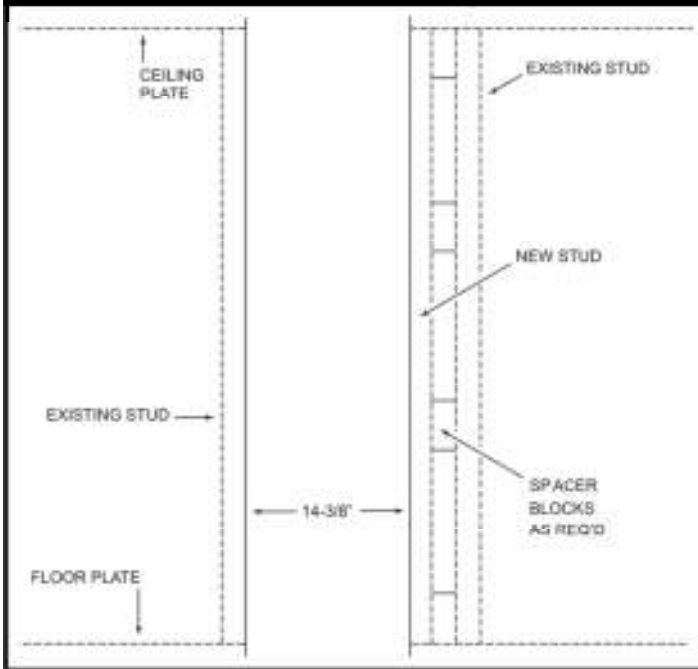
# Installing Your Furnace

## Recessed Wall Mount Installation (continued)

### CLOSE OFF STUD SPACE (If Required)

If studs are not on 16-inch centers, cut the hole for the furnace next to an existing stud and frame in the other side using a 2x4 and spacer blocks as required. (Figure 6).

**FIGURE 6 – Close Off Stud Space**



### CEILING PLATE OPENING

Cut away the ceiling plate between the studs where the furnace is to be installed. Work from the top in the attic. If there is no access to the top, remove the wall covering between the two wall studs all the way to the ceiling. Work through this opening. Cut out the entire plate so the plate edges will be even with the inner face of the 2x4 studs. (Figure 7).

### INSTALL VENT BASE PLATE (HOLD-DOWN PLATE)

Position base plate on top of header plate and fasten with screws. Note: **Hold down plate is not included.**

### HEADER PLATE (VENT SUPPORT)

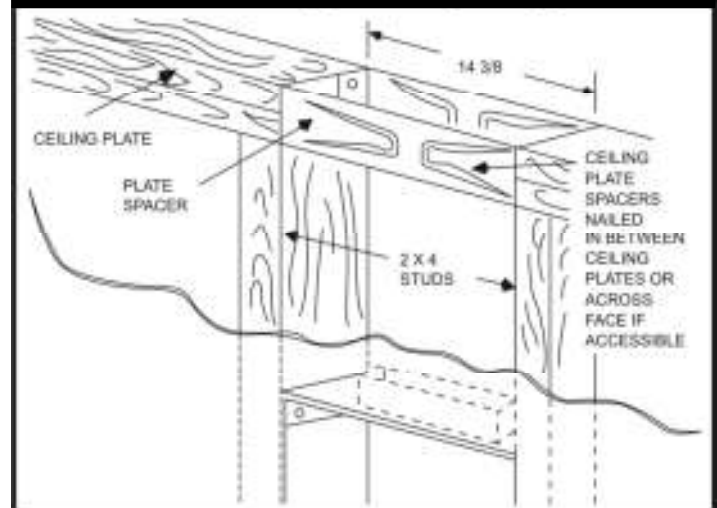
Measure upward 62 1/4-inches from the top of the floor plate. Place a mark on each stud at this distance. (Figure 5). Place the header plate between the studs with the lower edges even with marks on the studs. Make sure header plate is level.

Locate rear edge of nailing tabs at back of the header. Nail header plate to the 2x4 studs which will center the vent collar in the wall. (Figure 5).

### INSTALL CEILING PLATE SPACER

Nail the ceiling plate spacers either across or in between the cut out section of ceiling plate. If nailed between, ends must be bent at 90 degrees. They must be fastened along each long edge of the ceiling plate hole to hold the oval vent pipe in the center of the hole. Ceiling plate spacers preserve structural strength and position oval vent pipe in the center of the cut out opening. **Ceiling plate spacers are not included.** (Figure 7).

**FIGURE 7 – Ceiling Plate Opening**



# Installing Your Furnace

## Surface Mount Installation

The use of the optional Free Standing Accessory No. 4901 allows single-sided furnaces to be surface mounted instead of recessed into a wall. This is ideal for remodeling existing masonry wall construction or when studing is substandard. This kit drastically cuts installation time and eliminates the expense of cutting into the walls and ceiling plates. Be sure this accessory is of the type and design required for the use with your furnace.

**NOTE:** After picking a location that meets the requirements, check the wall, attic, and roof to make sure there are no obstructions such as pipes, electrical wiring, etc., which could interfere with the installation of the furnace or vent pipe. If required, move them or pick a new location.

### FIND THE WALL STUDS OR CEILING JOISTS

Find two studs or joists at the spot where the furnace is to be located. Use a stud locator or small finishing nails. Repeatedly drive and remove a nail into the wall or ceiling in the area of the stud or joist until you find it. Then find the its side and leave the nail there. Drive another nail just on the other side other the same stud or joist.

The inside of the next stud or joist should be about 14½ inches from the first one found. Drive a nail on the inside of this stud or joist.

Using the nails as a guide, draw two lines down the side of the wall from the ceiling to locate the furnace and ceiling hole cutout for venting.

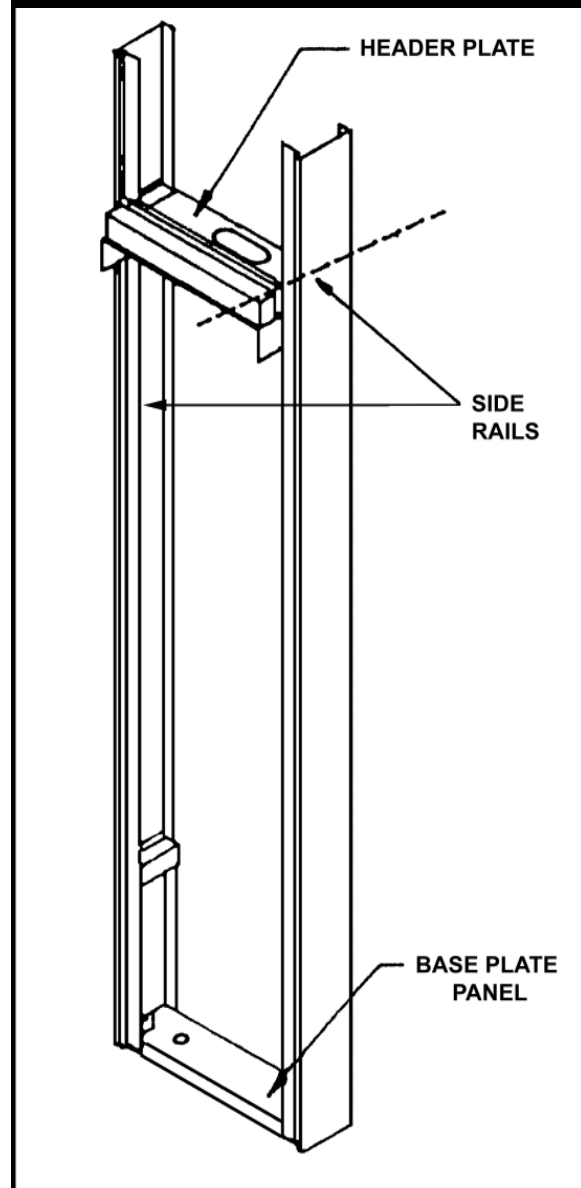
### FREE STANDING ACCESSORY ASSEMBLY & INSTALLATION

1. Attach the base plate panel as shown in Figure A to the bottom of the side rails with four (4) # 6, ¾" screws.
2. Attach the header plate, (included with the furnace), to the side rails using four (4) #8, ¾" screws. Flanges of the header plate go against the wall. (Figure A).
3. Install extension side rails as shown in Figure A, by telescoping them inside the lower side rails. Adjust the extension side rails by sliding them up or down to ceiling height. Maximum: 8 feet 9 inches, Minimum: 7 feet 9 inches.
4. If the wall has a baseboard, cut the baseboard out to fit against the side rails. Stand the side rails against the wall and fasten them to the wall securely with screws or bolts in the holes provided. Use a level to assure the enclosure is plumb. **Screws and bolts for wall fastening are not included.**
5. After positioning the enclosure, cut a 3½ X 14 inch hole in the ceiling, centered between the studs or joists as shown in Figure B.
6. Cut ¼ inch off each end of the ceiling spacer plate. Place the ceiling spacer plate to the back of the wall and centered in the enclosure as shown in Figure C.
7. Install Type B/W vent though the roof and studs or joists in accordance with the installation instructions packed with the furnace and local codes. **See Vent Installation, page 14.**
8. Set the furnace body into position. (Figure 9), page 15. The furnace legs will rest on the bottom of the base plate panel.

Utilizing the holes provided in the furnace legs, secure the furnace to the brackets attached to the bottom panel with two (2) #10, ¾" screws.

9. Install the vent enclosure panel, fastening it to the side rails with six (6) #6, ¾" screws. Trim the bottom of the panel to fit the header plate.
10. Install gas inlet through the back wall or one of the two holes provided in the bottom base plate panel. (Figure D.) Connect gas line to furnace. **See Gas supply and Piping, page 17.**
11. Install furnace face panel. **See Front Panel Installation, page 18.** NOTE: The panel recesses ¼-inch between the vertical edges of the enclosure.

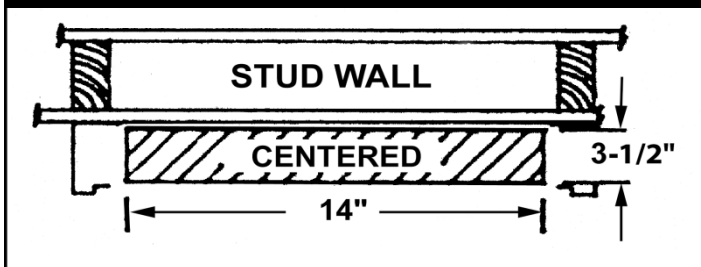
**FIGURE A**



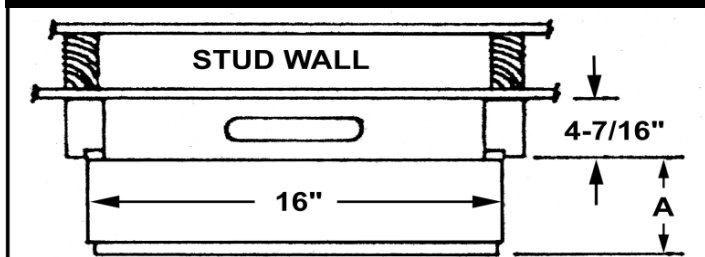
# Installing Your Furnace

## Surface Mount Installation (continued)

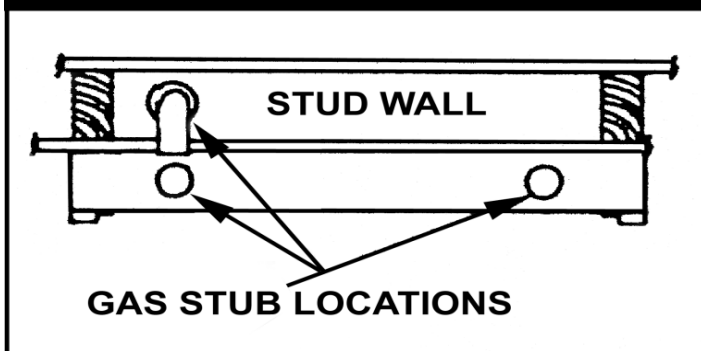
**FIGURE B**



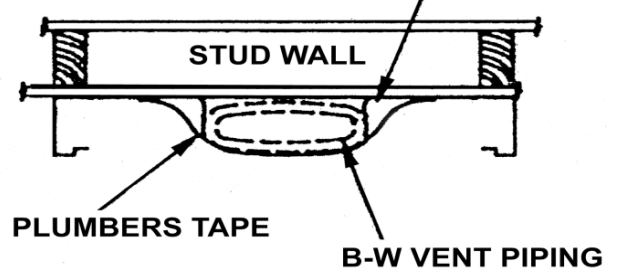
**FIGURE C**



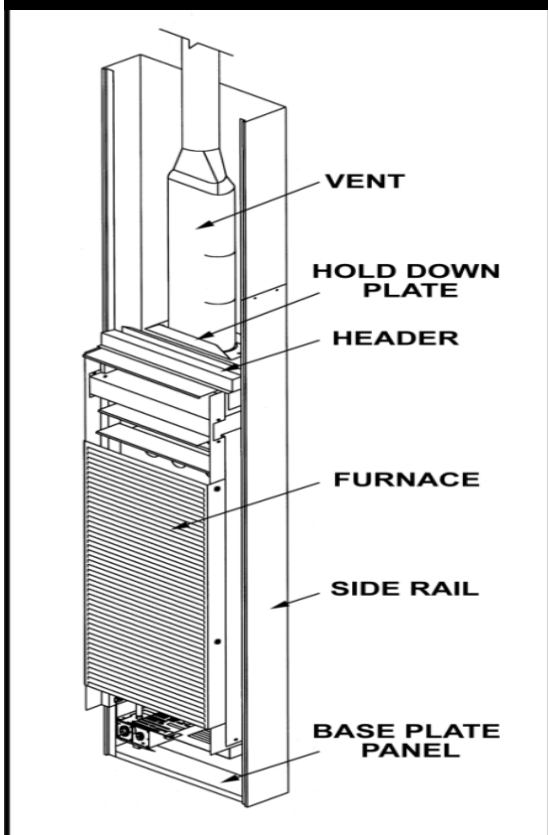
**FIGURE D**



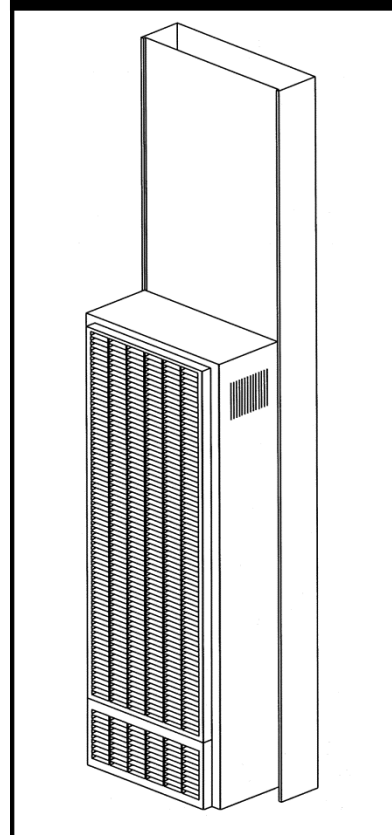
**CEILING PLATE SPACER**



**Vent Installed**



**Front panel installed**



# Installing Your Furnace

## Vent Installation

The vent installation must comply with all local codes and ordinances. If in doubt, consult your local codes or inspector.

The furnace vent must be directed to the outdoors so that harmful combustion gases will not collect inside the building.

This furnace must not be connected to a chimney flue serving a separate solid-fuel burning appliance.

This product is design certified to ANSI Z21.86. It must be installed with a U.L. tested and listed type "B" approved vent and type "B/W" approved vent (Figure 8). Older style terra-cotta, transite, clay, concrete or masonry type vent pipe cannot be used with this appliance. These types of vent pipe will not heat fast enough to establish a draft, which will result in improper venting of combustion products. Consequently, this could cause the vent safety control system to shut down the furnace.

The area above header within the stud space **MUST** be kept clear of any attic insulation to allow the free circulation of air around the oval vent piping. In some areas the building code requires the use of an attic shield.

The B/W vent must extend through the ceiling and roof terminating at least 12-feet above the finished floor on which the furnace rests.

### INSTALL FURNACE VENT

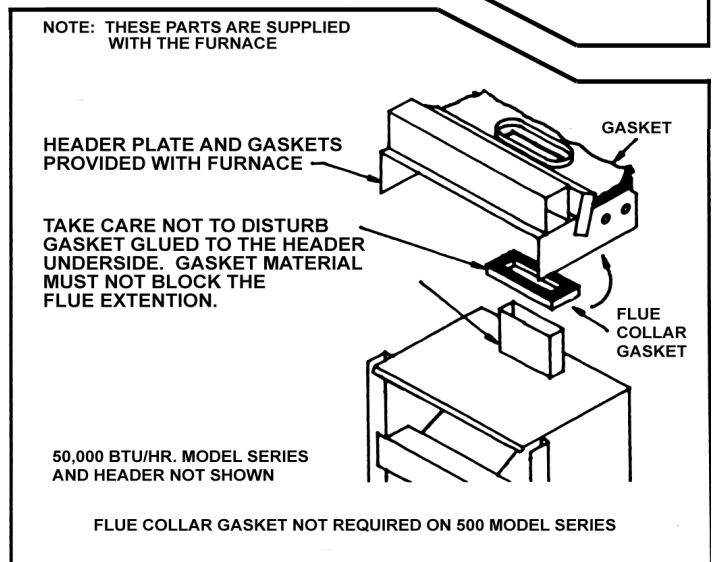
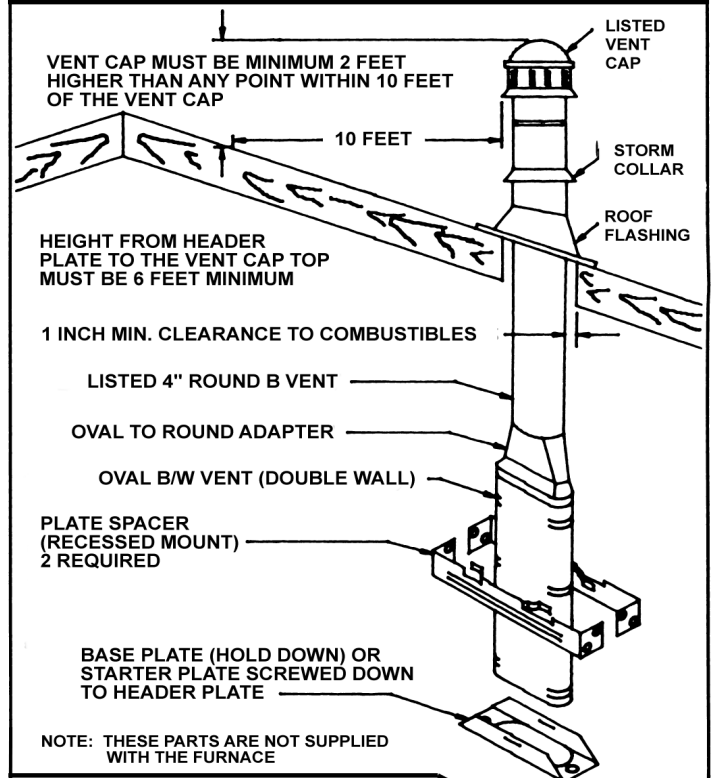
Attach a 4-foot length of oval, double-wall vent pipe through the plate spacers to the hold-down plate. Push the vent pipe into the hold-down plate until it is completely seated. The hold-down cleat will engage the groove in the vent pipe.

### COMPLETE THE VENTING

Type B/W gas vent shall extend from the header plate of the furnace to a point above the highest ceiling plate within the stud space through which the vent passes, without any offsets or crossovers. The first vent pipe offset, (if required), may not be any closer than 2-feet from the header and needs to extend past the ceiling plate. After a type B/W gas vent passes through the highest ceiling plate within a stud space above the furnace to which it serves, the vent system may be completed with a Type B gas vent, from the **SAME** manufacturer (do not mix brands of pipe). Offsets cannot be greater than 45 degrees from vertical. Refer to The Uniform Mechanical Code.

Install the oval-to-round adapter. Complete the piping extending it through the roof. Use a 4-inch round, double-wall (Type B) vent pipe, roof flashing, storm collar and vent cap as shown. The vent cap must be at least 2-feet higher than any point that is within 10-feet of the vent cap. There must be at least a 1-inch clearance between the vent pipe and any combustible material.

**Figure 8 – Typical Vent Installation**



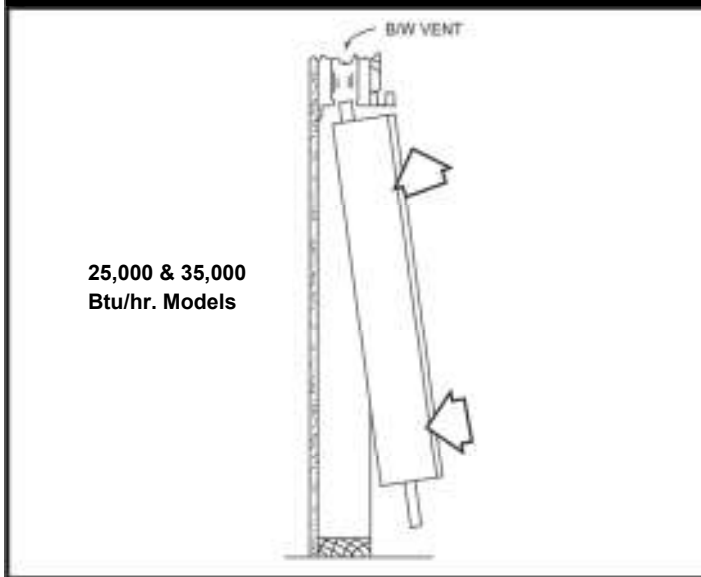
**CAUTION:** To avoid damage to wiring, be sure to route the wires away from the path of the furnace vent.

# Installing Your Furnace

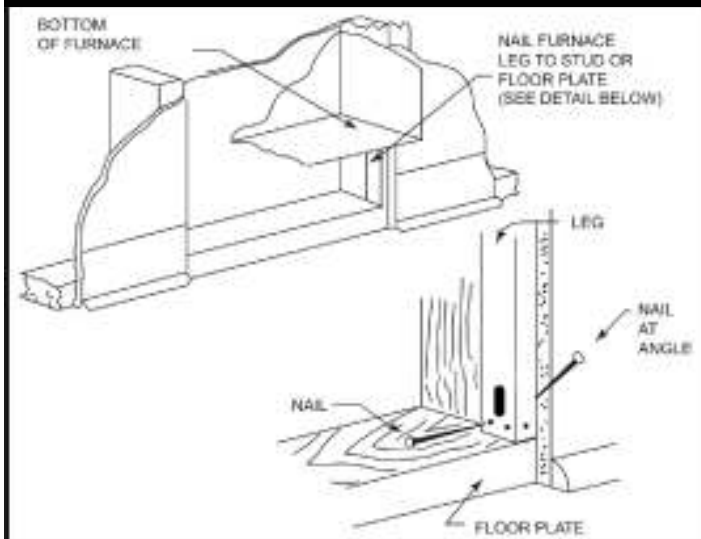
## Attaching Your Furnace

Clear the wall recess of all debris, remove any wood or plaster. Stand the furnace in front of recess, holding the furnace body at an angle. Insert flue collar into the opening in the header plate and raise furnace carefully (Figure 9). Swing bottom of furnace into wall recess with front edges of legs flush with 2x4 floor plate. In the holes provided, nail through the legs into studs or floor plate (Figure 10).

**FIGURE 9 – Insert Furnace**



**FIGURE 10 – Nail Placement**



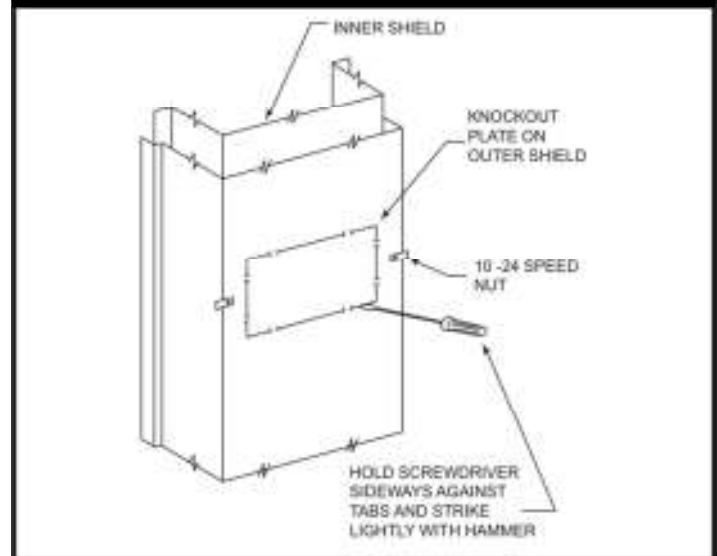
Do not damage gasket glued to underside of header plate when placing furnace in wall. Avoid nailing the legs so tightly that it disturbs the inner furnace casing. Do not try to force the furnace into a smaller-than-specified recess.

## REAR OUTLET KIT INSTALLATION (OPTIONAL)

If a Rear Outlet Register Accessory is used, the following procedure must be completed before placing furnace body into wall recess. (Figure 11). Attach speed nuts to outer shield and remove knockout plates from both the outer and inner shields as follows:

1. Punch in the lower corners with a screwdriver blade.
2. Break the knockout side and bottom connecting tabs by holding a screwdriver blade sideways against the tab and striking the head of the screwdriver lightly with a hammer.
3. Swing the plate outward; bend it back and forth to break the top tabs. Use caution when handling sharp metal edges.

**FIGURE 11- Remove Knockout Plates**



**CAUTION:** Do not install rear outlet kit where grille may be blocked by a door, curtains, or any other obstruction.

**WARNING:** Never shear or cut the furnace legs.

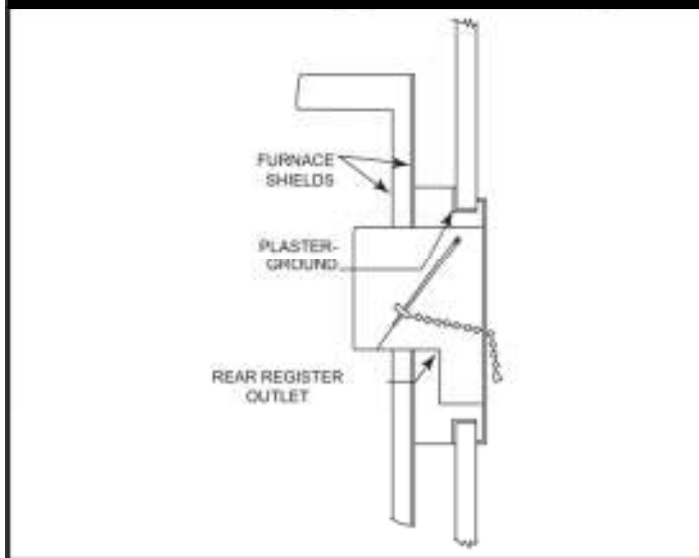


# Installing Your Furnace

## Attaching Your Furnace (continued)

After furnace is in position, install rear outlet register as shown in Figure 12. Have damper in open position when inserting the assembly. Secure the rear outlet register to speed nuts with the machine screws furnished.

**FIGURE 12 – Mounting Rear Outlet Register**



## Gas Supply and Piping

The gas control valve, in the furnace, is shipped with a seal over the gas inlet tapping. Do not remove the seal until ready to connect the piping.

**WARNING:** Danger of property damage, bodily injury or death. Make sure the furnace is equipped to operate on the type of gas available. Models designed as natural gas are to be used with natural gas only. Models designed for use with liquefied petroleum (L.P.) gas have orifices sized for commercially pure propane gas. They cannot be used with butane or a mixture of butane and propane.

### Furnace Technical Information

Model Number	Gas Type	Input Rating Btu/hr.	Heating Capacity Rating Btu/hr.	Main Burner Orifice		
				Drill	Decimal	Quantity
2509622A	Nat.	25,000	18,935	#43	0.089	1
2509621A	L.P.	25,000	19,759	.057"		1
3509622A	Nat.	35,000	24,496	#36	0.106	1
3509621A	L.P.	35,000	25,588	.069"		1
5009622A	Nat.	50,000	38,490	.091"		2
5009621A	L.P.	50,000	39,827	.058"		2

### GAS SUPPLY

For L.P. gas, the minimum inlet gas supply pressure for the purpose of input adjustment is 11-inches water column. The maximum inlet gas supply pressure is 13-inches water column.

For natural gas, the minimum inlet gas supply pressure for the purpose of input adjustment is 5-inches water column. The maximum inlet gas supply pressure is 7-inches water column.

Gas pressure and input to the burners must not exceed the rated input and pressure shown on the nameplate. The natural gas manifold pressure should be 4-inches water column. The manifold pressure should be 10-inches water column for L.P. gas. For operation in elevations above 2,000 feet, a burner orifice change may be required to suit the gas supplied. Check with your local gas supplier.

### ORIFICE SIZES

The efficiency rating of this appliance is a product thermal efficiency rating determined under continuous operating conditions and was determined independently of any installed system. For elevations above 2,000 feet, reduce ratings 4% for each 1,000 feet above sea level.

### Gas Conversion Kits

#### Natural Gas to L.P. Gas

Model	Description
8913	25096A Series with Williams Brand Gas Valve
8914	35096A Series with Williams Brand Gas Valve
8909	50098 Series with Williams Brand Gas Valve

### Gas Conversion kits

#### L.P. Gas to Natural Gas

Model	Description
8915	25096A Series with Williams Brand Gas Valve
8916	35096A Series with Williams Brand Gas Valve
8912	50098 Series with Williams Brand Gas Valve

# Installing Your Furnace

## Gas Supply and Piping (continued)

### GAS PIPING

The gas supply line must be of adequate size to handle the Btu/hr. requirements and length of the run for the unit being installed.

Determine the minimum pipe size from Figure 13, based on the length of the run from the gas meter to the unit.

**FIGURE 13 – Pipe Capacity**

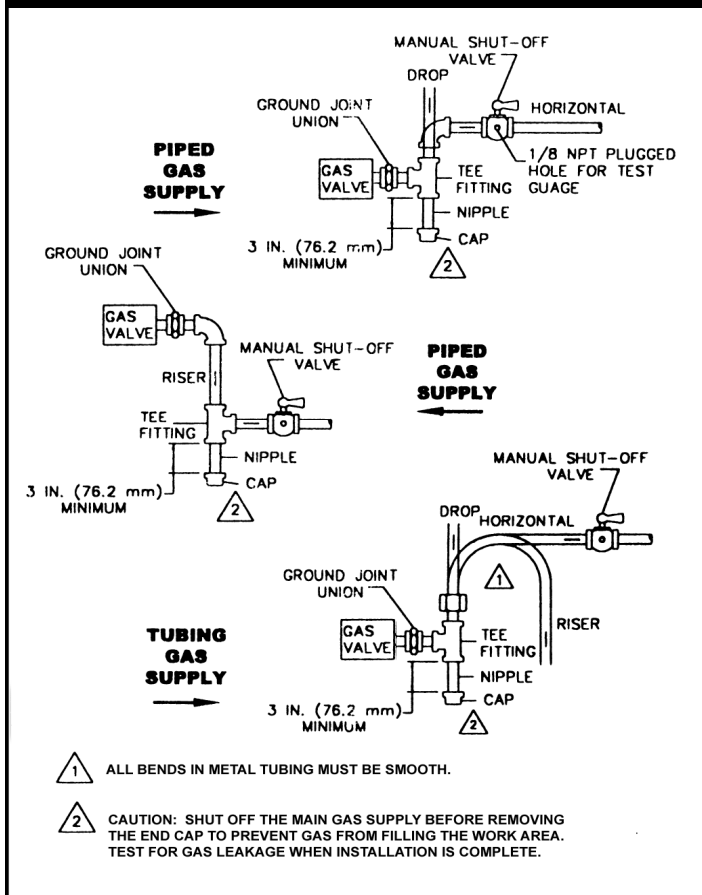
Natural Gas			
Length of Pipe-Ft	Pipe Size		
	1/2"	3/4"	1"
20	92,000	100,000	350,000
40	63,000	130,000	245,000
60	50,000	105,000	195,000
L.P. Gas			
Length of Pipe-Ft	Pipe Size		
	1/2"	3/4"	1"
20	188,000	383,000	732,000
40	129,000	267,000	504,000
60	103,000	217,000	409,000

All piping must comply with local codes and ordinances or with the National Fuel Gas Code (ANSI Z223.1 NFPA No. 54), whichever applies. (In Canada: CAN/C.GA B149). Refer to FIGURE 14 for the general layout of the unit. It shows the basic fittings needed.

The following rules apply:

1. Use new, properly reamed steel or black iron pipe and fittings free of metal chips and debris that are approved by local codes. Metal chips and debris can damage the valve.
2. Do not thread pipe too far. Valve distortion or malfunction may result from excess pipe within the gas control valve. Apply a moderate amount of good quality dope to the pipe only. Leave the two end threads bare. (Figure 15). L.P. gas installations require a dope compound resistant to the action of liquefied petroleum gases. Excess dope going into the valve may cause it malfunction.
3. Use ground joint unions.
4. Install a drip leg (sediment trap) to trap dirt and moisture before it can enter the gas valve. The nipple must be a minimum of 3-inches long.
5. Install a manual shutoff valve.
6. Provide a 1/8" NPT test gauge connection immediately before the gas supply connection to the furnace.

**FIGURE 14 – Gas Piping**



### GAS CONNECTION

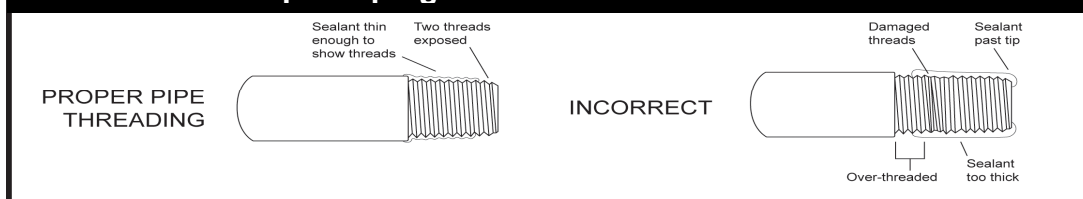
If the installation is for L.P. gas, have the L.P. installer use a two stage regulator and make all the connections from the storage tank.

Use two pipe wrenches when making the connection to the valve to prevent turning and/or damage to the valve.

Connections between the manual shutoff valve and burner control assembly can be made with an A.G.A./C.G.A. design certified flexible connector if allowed by local codes. Drip leg and ground joint unions are still required.

Tighten all joints securely.

**FIGURE 15 – Proper Piping Practice**



# Installing Your Furnace

## Gas Supply and Piping (continued)

### CHECKING THE GAS PIPING

Test all piping for leaks. When checking gas piping to the furnace with gas pressure less than 1/2 PSI, shut off manual gas valve to the furnace. If gas piping is to be checked with the pressure at or above 1/2 PSI, the furnace and manual shutoff valve must be disconnected during testing. (SEE WARNING). Apply soap solution (or a liquid detergent) to each joint. Bubbles forming indicate a leak. Correct even the slightest leak at once.

**WARNING:** Danger of property damage, bodily injury or death. Never use a match or open flame to test for leaks. Never exceed specified pressures for testing. Higher pressures may damage the gas valve and cause over-firing which may result in component(s) failure. L.P. gas is heavier than air and may settle in any low area, including open depressions and it will remain there unless the area is ventilated.

Never attempt start-up of unit before thoroughly ventilating the area and smelling near the floor for gas odor.

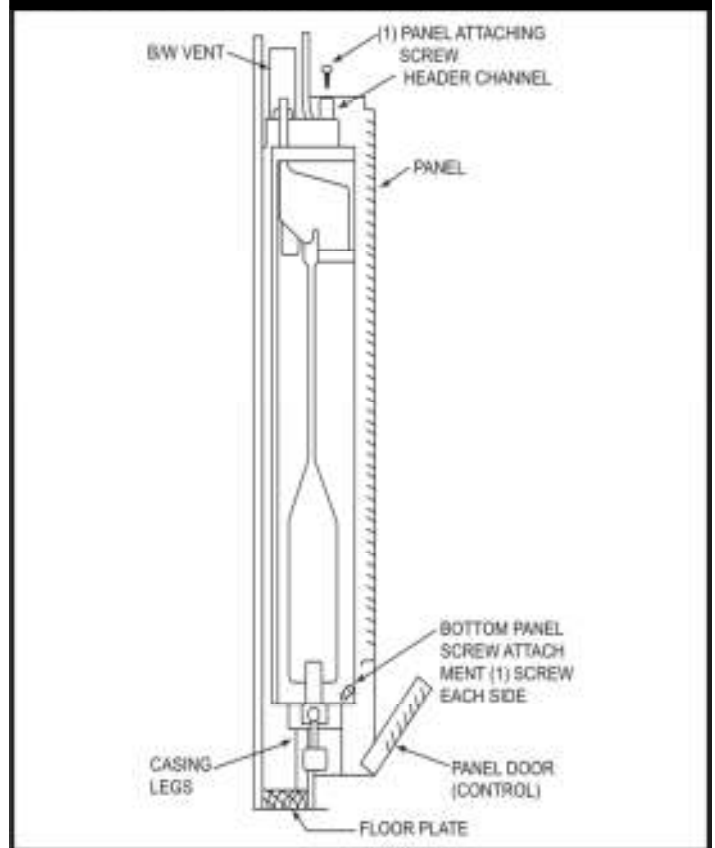
### Front Panel Installation

Place the front panel top over the channel on the header plate, as shown in Figure 16. Press the panel tight against wall, and secure it to the header channel with the screw provided in final assembly package. Open the control door at bottom of panel and fasten the panel at each side through slots in flanges with screws provided.

Attach handle to the front panel door with the screw provided.

Install the second face panel in same manner for 500 Series models.

**FIGURE 16 – Panel Placement**



# Installing Your Furnace

## Thermostat Installation (Sold Separately)

Use Williams thermostat P322016 or any millivolt thermostat. Current to the thermostat is supplied by the pilot generator. Do not connect it to electricity. Anticipator settings are not required.

1. Use of existing wire is acceptable if it is in a satisfactory location and the wire is in good condition. When in doubt, use new wiring.
2. If a new location is chosen or if this is a new installation, thermostat wire must first be run to the location selected. All wiring must agree with local codes and ordinances. These instructions cover bringing the wire down from the attic but it may be run from a basement or crawl space using similar methods.
3. Before drilling a hole in the wall at the selected location, drive a small finish nail through the ceiling in the corner of the wall and ceiling above the thermostat location. Pull the nail out and push a small, stiff wire through the hole so it can be found in the attic. Drill a 1/2-inch hole through the ceiling wall plate.
4. Probe for obstructions in the partition. Then, drill a 1/2-inch hole through the wall at the selected location for the thermostat.
5. From the attic, feed the thermostat wire through the wall until even with the thermostat location.
6. Snag the thermostat wire through the hole and pull the wire through the hole in the wall so that 6-inches of the wire protrude.
7. Route wires to the furnace.
8. Never use nails or staples across the thermostat wires.

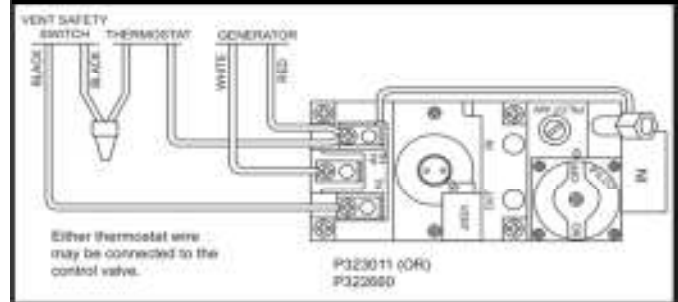
**CAUTION:** Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing. Refer to installation instructions packed in the thermostat carton if you have any doubt about the above procedures.

### WALL-MOUNTED THERMOSTAT INSTALLATION

1. To remove the thermostat cover, squeeze both sides and lift.
2. Connect the thermostat wires to the terminal screws on the base of thermostat.
3. Push any excess wire back through hole in the wall and plug hole with insulation to prevent drafts from affecting thermostat operation.
4. Be sure to level the thermostat for best appearance. Fasten thermostat base to the wall through mounting holes with screws provided.
5. Replace the thermostat cover.
6. Do not run wire in any location where it might be damaged. Avoid splicing the thermostat wires unless the spliced wires are properly cleaned, soldered and taped.

7. Use the 18-gauge wire as supplied for a maximum length of 20-feet. If a longer length is needed, use 16-gauge wire to a maximum length of 25-feet.
8. Connect the thermostat wires to the control valve as shown in Figure 17.

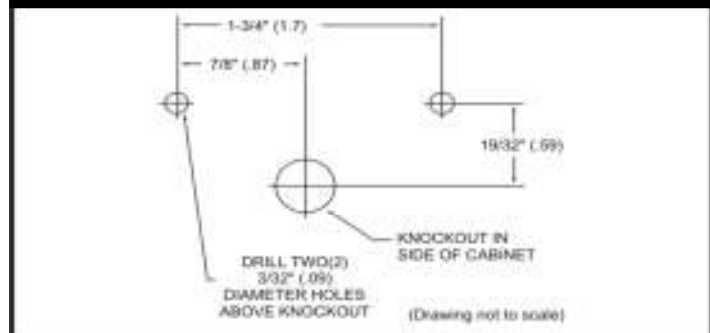
FIGURE 17 – Thermostat Wiring



### FACE PANEL-MOUNTED THERMOSTAT INSTALLATION

1. Before removing the face panel, disconnect the thermostat wires at the gas valve.
2. Locate the knockout on the right side of the furnace to mount the thermostat. Remove the knockout by tapping it lightly with a screwdriver (Figure 18). It will also be necessary to cut a 1/2-inch hole in the inside panel insulation for clearance to the knockout.
3. Cut the thermostat wire to 56 inches.
4. Connect the thermostat wires to terminal screws on the thermostat base.
5. Feed the thermostat wires through the knockout and route them through the metal clip to the gas valve.
6. Mount the thermostat to the side of the cabinet with screws provided.
7. Replace the thermostat cover.
8. Connect the thermostat wires to the control valve as shown in Figure 17.

FIGURE 18 Knockout Holes



**IMPORTANT:** Keep the thermostat wires away from the combustion chamber.

# Installing Your Furnace

## Start-Up Procedure

**WARNING:** Danger of property damage, bodily injury or loss of life. Liquefied Petroleum (L.P.) Gas is heavier than air and may settle in any low area, including open depressions and may remain there unless area is ventilated. Never attempt start-up of unit before thoroughly ventilating the area.

Check the furnace operation as outlined in the following instructions. If any sparking, odors or unusual noises are encountered, shut off electric power immediately. Recheck for wiring errors or obstructions in or near fan motor (if equipped).

**WARNING:** Natural gas heating value (Btu per cubic foot) can vary significantly. Therefore, it is the installer's responsibility to see that Btu/hr. input to the furnace is adjusted properly. Failure to do so could cause combustion chamber failure, asphyxiation, fire or explosion resulting in damage, bodily injury or death. Refer to the National Fuel Gas Code (NFPA 54) to be sure the furnace is burning fuel at the proper rate.

### CHECK GAS INPUT AND PRESSURES

For furnaces located at elevations between sea level and 2,000 feet, the measured input must not be greater than the input shown on the nameplate of the furnace. For elevations above 2,000 feet, the measured input must not exceed the input on the nameplate reduced by 4 percent for each 1,000 feet that the furnace is above sea level.

Gas supply pressure and manifold pressure with the burner(s) operating must also be as specified on the nameplate.

Rated input will be obtained on a heating value of 2,500 Btu/hr. for propane at 10-inches manifold pressure with factory-sized orifices. If L.P. gas having a different heating value is supplied, orifices must be changed by a qualified service technician before the furnace is operated.

Type of Gas	Manifold Pressure, In. W.C.
Natural	4.0
L.P.	10.0

### CHECK THE MANIFOLD GAS PRESSURE

A tapped opening is provided in the gas valve to facilitate measuring manifold gas pressure. A water column manometer having a scale range from 0 to 12-inches of water column should be used for this measurement. The manifold pressure must be measured with the burner and pilot operating. Any major changes in the flow must be made by changing the size of the burner orifice.

### CHECK THE GAS INPUT (NATURAL GAS ONLY)

Under firing could cause inadequate heat, excessive condensation or ignition problems. Over firing could cause shooting flame impingement or overheating of the combustion chamber. Before starting natural gas input check, obtain the heating value of gas (Btu per cubic foot) at standard conditions from your local gas supplier.

To measure the input, using the gas meter, proceed as follows:

1. Turn off gas supply to all other appliances except the furnace.
2. With the furnace operating, time the smallest dial on the meter for one complete revolution. If this is a 2-cubic-foot dial, divide the seconds by 2. If it is a 1-cubic-foot dial, use the time in seconds as is. This gives the seconds per cubic foot of gas being delivered to the furnace.
3. Assuming natural gas with a heating value of 1,000 Btu per cubic foot and 34-seconds per cubic foot used as determined by step (2), then:

Seconds per hour = 3,600

Input =  $1,000 \times 3,600 / 34 = 106,000$  Btu/hr.

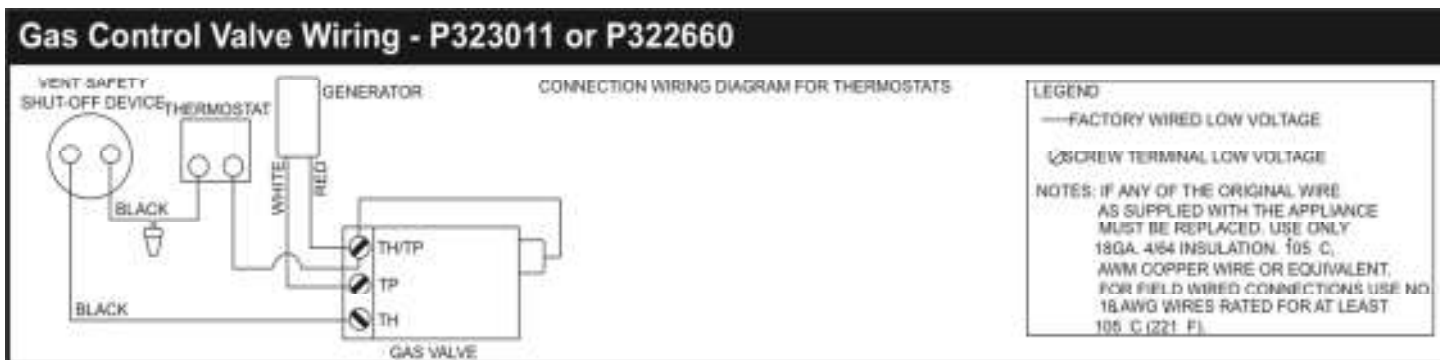
This measured input must not be greater than the input indicated on the nameplate of the furnace.

4. Relight all other appliances turned off in Step 1 above. Be sure all pilots are operating.

### CHECK THERMOSTAT

Check thermostat operation. When set above room temperature shown on the thermostat, the main burner should light. Make certain the thermostat turns off the furnace when the room temperature reaches the selected setting and starts the furnace when room temperature falls a few degrees below the thermostat setting.

### CHECK GAS CONTROL VALVE WIRE CONNECTIONS



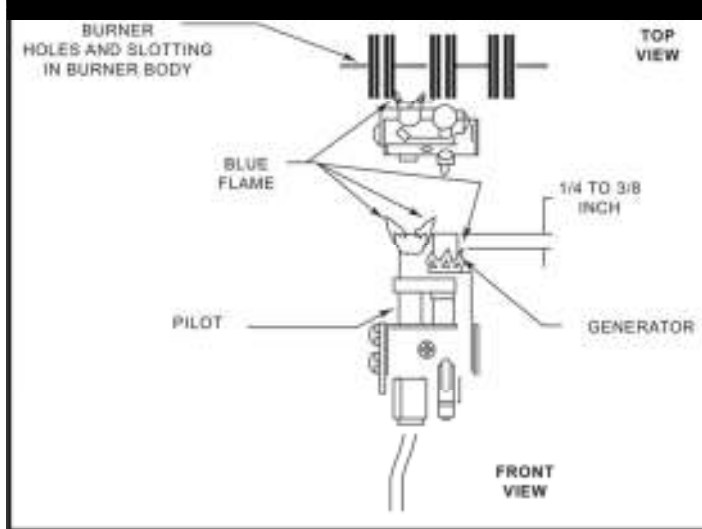
# Operating Your Furnace

## Start-Up Procedure (continued)

### CHECK PILOT BURNER

The pilot flame must surround the generator tip from 1/4 to 3/8-inches. Pilot flame is preset at the factory, so ordinarily it does not require field adjustment. (Figure 19). On new installations, the gas lines will be filled with air and may take several minutes to establish a pilot flame.

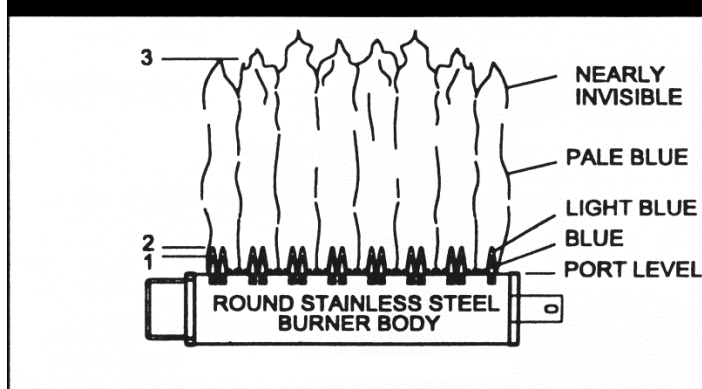
**FIGURE 19 – Check Pilot Burner**



### BURNER FLAME CHARACTERISTICS

Start the furnace and let it operate at least ten minutes. Open the access door to view the burner flame. Limit your movements near the furnace a few more minutes before making your final observations. The flame may look yellow due to dust particles in the room air. The flame should change to a nice blue color with firm inner and secondary cones. An occasional flash of orange might be seen as dust particles burn in the flame. This is normal. No burner adjustment is provided, or is necessary. (Figure 20).

**FIGURE 20 – Burner Flame Characteristics**



### NORMAL APPEARANCE

#### Natural Gas:

1. Inner cone—blue in color—3/8 to 5/8-inches above ports.
2. Secondary inner cone—light blue in color—1 to 2-inches above ports.
3. Total flame—from blue in color to nearly invisible—approximately 6-inches above ports.

#### L.P Gas:

1. Inner cone—blue in color—1/2 to 3/4-inches above ports.
2. Secondary inner cone—light blue in color—1 to 2-inches above ports.
3. Total flame—from blue in color to nearly invisible—approximately 6-inches above ports.

### ABNORMAL APPEARANCE

#### Lazy Flame:

Long, soft yellow cones moving around in the combustion chamber lifting from ports (insufficient air).

#### Extremely Fast Flame:

Flame will not hold to ports—entire cone sections blow off from noisy ports (too much pressure).

**WARNING:** If flame appears abnormal, contact the gas company or a qualified service technician immediately.

# Operating Your Furnace

## FOR YOUR SAFETY, READ BEFORE LIGHTING THE PILOT

**WARNING:** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

### LIGHTING THE PILOT

- A. This appliance has a pilot which may be lit by hand. When lighting the pilot, follow these instructions exactly.
- B. BEFORE LIGHTING smell around the appliance area for gas. Be sure to smell next to the floor because some gases are heavier than air and will settle on the floor.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempts to repair may result in a fire or explosion.

- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

### E. WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance or strike a match.
- Do not touch any electrical switch; do not use any phone or cell phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

### IMPORTANT:

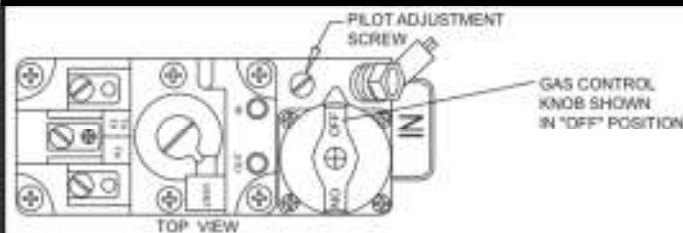
KEEP BURNER AND CONTROL COMPARTMENT CLEAN.

## OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information above.
2. Set the thermostat to lowest setting.
3. If applicable, turn off all electric power to the appliance.
4. Open control access panel.
5. Push in gas control knob slightly and turn clockwise to "OFF". (Figure 21).



**FIGURE 21 – Gas Control Knob**

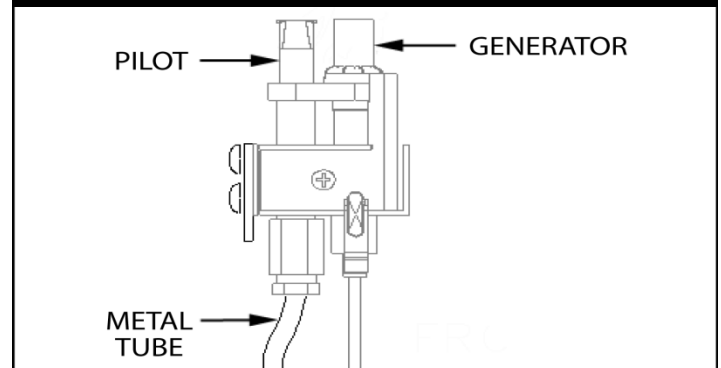


6. Wait five (5) minutes to clear out any gas, then smell for gas, including near the floor. If you then smell gas, **STOP!** Follow "E" in the safety information above. If you don't smell gas, go to the next step.
7. Loosen wing nut and open the pilot observation door (if equipped).
8. To find the pilot, follow metal tube from the gas control. The pilot is mounted on the side of the burner. (Figure 22).

9. Turn knob on the gas control counterclockwise to "PILOT".



**FIGURE 22 – Pilot and Generator**



10. Push in the control knob all the way and hold in. Immediately light the pilot. Continue to hold the control knob in for about one (1) minute after the pilot is lit. Release the knob and the pilot flame will pop back up. The pilot should remain lit. If it goes out, repeat Steps 5 through 10.
  - If knob does not pop up when released, stop and immediately call your service technician or gas supplier.
  - If the pilot will not stay lit after several tries, turn the gas control knob "OFF" and call your service technician or gas supplier.
11. Close pilot observation door, tighten wing nut (if equipped).
12. Turn gas control knob counterclockwise to "ON".
13. Close control access panel.
14. Turn on all electric power to the appliance (if applicable).
15. Set thermostat to desired setting.




# Operating Your Furnace

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## FOR YOUR SAFETY, READ BEFORE LIGHTING THE PILOT (continued)

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### TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed (if applicable).
3. Remove control access panel.
4. Push in gas control knob slightly and turn clockwise  to "OFF". Do not Force.
5. Replace control access panel.

**IMPORTANT:**

KEEP BURNER AND CONTROL COMPARTMENT CLEAN.

**WARNING:** Due to high surface temperatures, keep children, clothing, furniture or any combustible material away from the furnace.

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### OPERATION OF YOUR FURNACE

#### THE FURNACE OPERATES IN THE FOLLOWING SEQUENCE:

1. Thermostat turns on the main burner.
2. Heat builds up in the furnace and starts the fan (if equipped). The heated air comes out the front panel louvers.
3. When the thermostat setting is reached, it shuts off the main burner.
4. The fan runs until the heat is removed from the furnace, then it turns off (if equipped).

Your furnace is equipped with a 100% safety pilot that will shut off the gas supply in case the pilot is not burning or functioning properly. Make sure the pilot is adjusted properly and that the pilot generator connection at the control valve is tight. If the furnace will not stay lit, call your local gas utility or a qualified service person.

If furnace is equipped with a manual spark igniter, follow these steps:

1. Review the pilot lighting instructions.
2. When instructed to "Light the Pilot," depress the red button located on the burner pan for pilot ignition. If necessary, depress the red button vigorously several times for pilot ignition.
3. If pilot fails to ignite or a spark is not present while actuating the red button or by using a match, repeat steps 5 through 10 listed in "Lighting the Pilot."

**WARNING:** The surface of the furnace is hot during operation. Keep children, clothing, furniture, and flammable material away from it. Keep all access doors and panels in place except for inspection and maintenance. On new installations, the gas lines will be filled with air and it may take several minutes to establish the pilot flame.

**WARNING:** Danger of property damage, bodily injury or death. If the furnace overheats or fails to shut off, close manual shutoff gas valve to the furnace before turning off electrical power to the accessory fan.

**WARNING:** Protect your eyes against the danger of ignition flash and eye injury or blindness. Never attempt to light the pilot with the gas control valve knob in the "ON" position. Flashback could occur.



# Caring for Your Furnace

## How to Care for Your Furnace

**WARNING:** Danger of bodily injury or death. Turn off electric power supply at disconnect switch, fuse box or service panel before removing any doors or access service panels from unit.

### ANNUAL UPKEEP NEEDED

It is recommended that a qualified service technician perform these maintenance checks at the beginning of each heating season.

### CABINET FINISH

Clean cabinet with damp cloth. Never use abrasive cleaners. Cabinets are finished with heat resistant powder paint. Never refinish or paint.

### FURNACE AREA

Keep the area near the furnace clear and free from combustible materials, gasoline and other flammable liquids and vapors.

### COMBUSTION AND VENTILATION AIR

The combustion and ventilation air supply must not be blocked. Do not put anything in or on the furnace cabinet. For better circulation and more effective heating, do not place obstructions, furniture or other items closer than four-feet in front of the furnace or two-feet from each side of the furnace.

### CLEANING BLOWER (IF APPLICABLE)

Shut off electricity. Clean any lint or dirt from fan blades, fan motor and exposed air passages.

### BURNER CLEANING

If cleaning is required, contact a qualified service technician to clean and service burner. To remove burner(s):

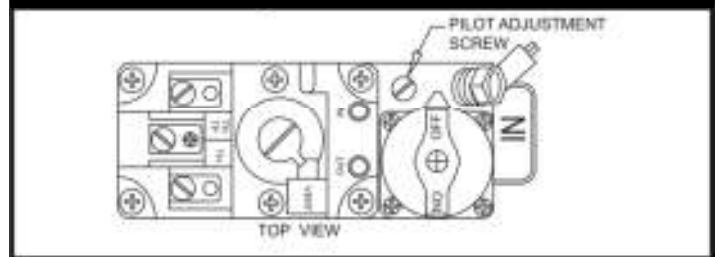
1. Open burner compartment door.
2. Shut off gas supply to furnace.
3. Disconnect gas line inside cabinet at ground joint union fitting. (Figure 24).
4. Remove (2) screws securing burner pan assembly to inner liner.
5. Pull burner pan assembly forward approximately 1/2-inch and drop down to expose the top of the burner.
6. Clean all foreign materials from the top of the burner.
7. After cleaning, replace burner pan assembly by reversing above procedure.

### PILOT BURNER

Using the instructions in "Lighting the Pilot", leave thermostat at its lowest setting. Pilot flame should surround the generator tip 1/4 to 3/8-inches. If flame needs adjusting, do so as follows:

1. Insert small screwdriver into the pilot adjusting screw (Figure 23). Adjust flame as needed. Turn screw counterclockwise to increase flame, clockwise to decrease.
2. Turn thermostat to highest setting. Main burner should light quickly and smoothly. Turn thermostat to lowest setting. Main burner should go out. Pilot should remain lit.

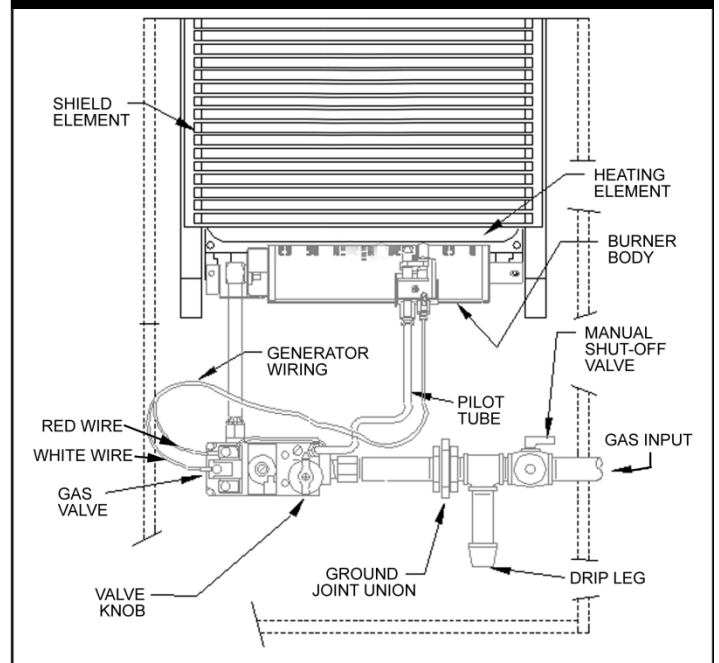
**FIGURE 23 – Adjusting the Pilot**



### VENT SYSTEM

Make sure that no parts of the venting system are blocked or rusted. Clean or replace before using the furnace.

**FIGURE 24 – Disconnecting Gas Line**



# Caring for Your Furnace

## How to Care for Your Furnace (continued)

### CLEANING THE BURNER COMPARTMENT

Because cold air is attracted to the flame during furnace operation, a buildup of lint from carpeting, bedding, dust, etc. in the burner area will occur. It is necessary to clean this area regularly. Use a vacuum cleaner with a narrow attachment to reach small areas. Be careful in and around the pilot. A change in its adjustment could be made if moved during cleaning. A properly adjusted burner with nearly all gases will produce a flame which has clear blue cone having a bluish-red or bluish-violet outer mantle.

**DANGER:** The build-up of any dust, lint or foreign material in the primary air opening of the burner can interfere with the proper air gas mixture and can result in a yellow flame which can produce carbon monoxide and soot. This condition, if allowed to develop, can lead to bodily injury including death. It is imperative that the burner be kept clean.

# Installing Your Blower Accessory

## Blower Accessory 2901 and 2907

This blower accessory is installed on the furnace top and increases circulation of warm air through the heated space. A 115V electrical outlet adjacent to the furnace is required. For automatic setting, you must select the "HI" or "LOW" fan switch position. When the furnace heats up, the automatic fan switch will be activated and the fan will operate. The blower accessory will not operate if the fan switch is set in the "OFF" (center) position. Be sure this accessory is of the type and design required for use with your furnace.

1. Turn off electric power supply at the disconnect switch, fuse box or service panel before installation or service to the blower accessory.
2. Label all wires prior to disconnection when servicing. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.
3. Install a 115V electrical outlet as shown in Figure A.
4. Remove the two (2) screws securing the blower grille and remove the blower grille as shown in Figure B.
5. Remove the two (2) screws securing the junction box cover. Remove the cover to gain access to the knockout located in the junction box.
6. Locate the knockout and remove it using a hammer and screwdriver. Use caution when handling sharp metal edges.
7. Place the blower body on furnace top as shown in Figure B.
8. Route 115V wiring into the junction box through the knockout.
9. Make wiring connections inside the junction box as shown in Figures C and D. Follow applicable local and national electrical codes. All electrical work must conform to your local codes and ordinances or in their absence, with National Electrical Code, NFPA 70/ANSI. If you are not

familiar with wiring codes in general, have a competent electrician do this job.

Drill a 1/8-inch diameter hole in each side of the furnace face panel through the holes located on the sides of the fan cabinet. Secure the blower to the furnace with the two screws provided.

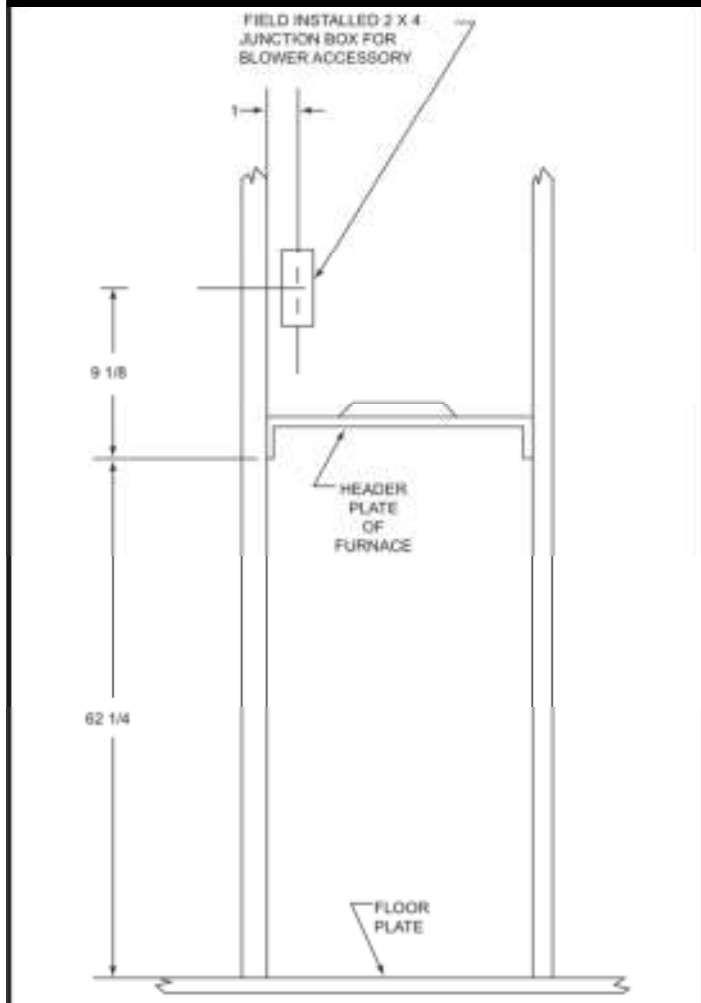
10. Replace the junction box cover, securing it with the screws previously removed
11. Replace the blower grille, securing it with the screws previously removed.
12. Set the switch to the desired position. If left in "HI" or "LOW" position during the summer months, the blower could be activated by heat. If this is undesirable, set the switch to the "OFF" position.

**CAUTION:** Danger of property damage, bodily injury or death. Turn off electric power supply at the disconnect switch, fuse box or service panel before removing or working on the fan cabinet.

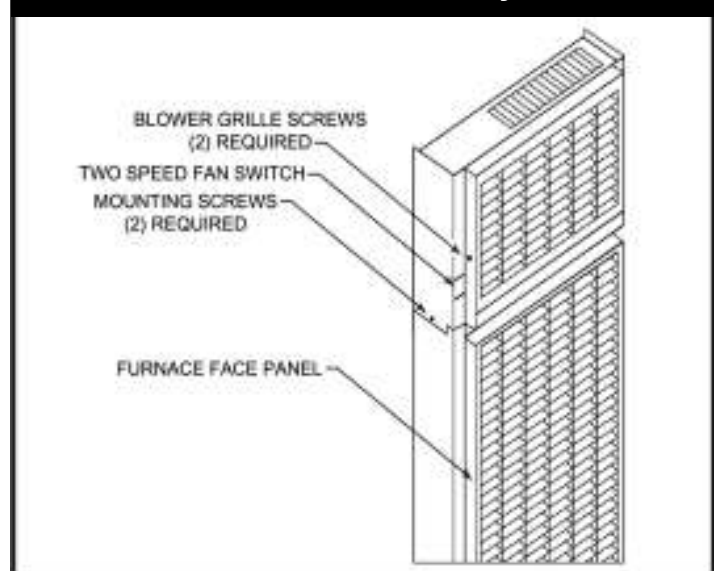
# Installing Your Blower Accessory

## Blower Accessory 2901 and 2907 (continued)

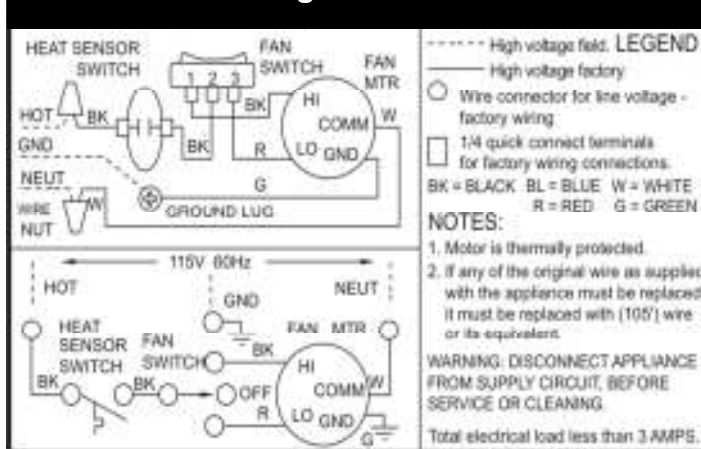
**FIGURE A – Install Electrical Outlet**



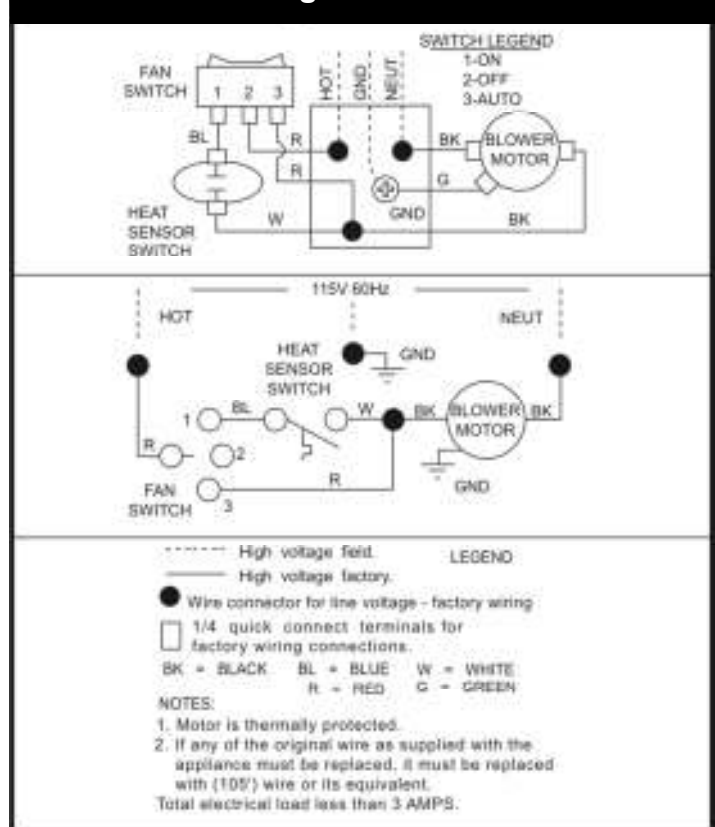
**FIGURE B – Install Blower Body**



**FIGURE C – Wiring for Model 2901**

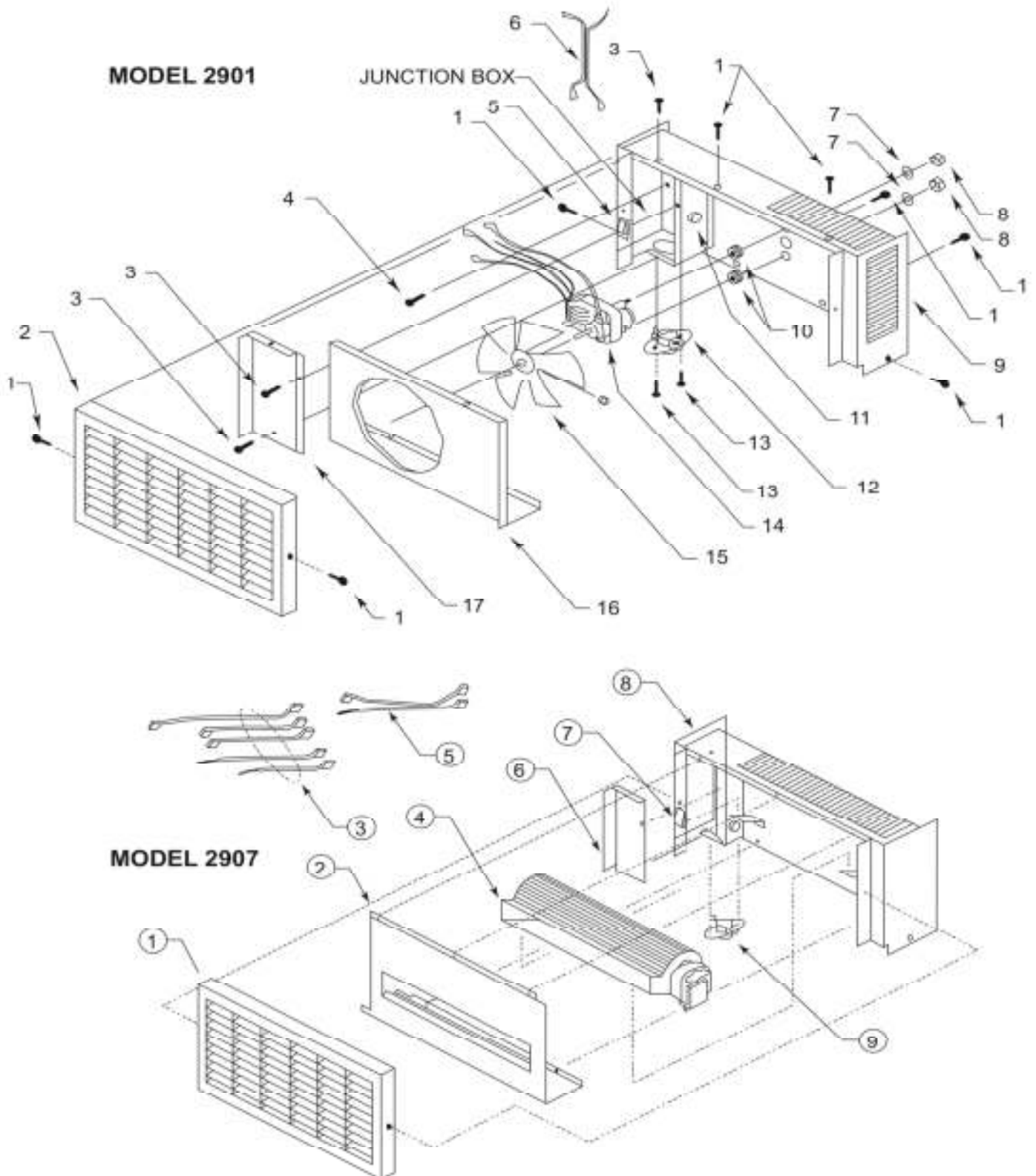


**FIGURE D – Wiring for Model 2907**



# Blower Accessory Replacement Parts

## BLOWER ACCESSORY 2901 and 2907



# Blower Accessory Replacement Parts

## Blower Accessory 2901 and 2907 (continued)

### BLOWER ACCESSORY PARTS - MODEL 2901

Ref. No.	Description	Part No.
1	Screw - #8Ax 3/8 (8)	P013200
2	Blower Grille	9C99
3	Screw - #8Ax 3/8 (8)	P093200
4	Screw - #10 x 1/2	P141000
5	Toggle Switch	P320911A
6	Wire Bridle	P320912
7	Flat Washer - #10-31 (2)	P127300
8	Machine Nut - #8-32 w/Washer (2)	P041100
9	Blower Body	9C102
10	Motor Mount Grommet (2)	P321078
11	Strain Relief Bushing	P012900
12	Fan Switch	P323097
13	Screw - #8-18 x 1/2"	P138200
14	Motor	P320905
15	Fan Blade	9B99
16	Orifice Plate	9D12-1
17	Junction Box Cover	9B161

### BLOWER ACCESSORY PARTS – MODEL 2907

Ref. No.	Description	Part No.
1	Blower Grille	9C99
2	Orifice Plate	9B246
3	Wire Assemblies	P323085/P323086/P323377
4	Blower and Motor	P323423
5	Heat Sensor Wire Assemblies	P274202/P109600
6	Junction Box Cover	9A483
7	Fan Switch	P323080
8	Blower Body	9B249
9	Heat Sensor Switch	P323097

Use only manufacturer's authorized parts.

**NOTE:** Nuts, bolts, screws, and washers are standard hardware items and may be purchased locally.

# Installing Your Motorized Rear Outlet Accessory

## Motorized Rear Outlet Register 6919 and 6920

**WARNING:** Danger of property damage, bodily injury or death. Turn off all electrical power supply at disconnect switch, fuse box or service panel before removing or working on fan. For your protection against shock hazard, this appliance is equipped with a three-prong (grounding) plug and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the prong. All electrical work must conform to your local codes and ordinances or in their absence, with National Electrical Code ANSI/NFPA 70. In Canada, use the Canadian Electrical Code C22.1. If you are not familiar with the wiring codes in general, have a competent electrician do this job.

4. Attach speed nuts to the outer shield (Figure B). After the furnace is in position, insert the outlet register into the opening as shown in Figures C, D and E. Install machine screws through the register housing and into the speed nut clips on the furnace outer shield. Do not over tighten the screws.
5. After the register has been either wired, (Figure F), or plugged in, set the fan switch to the desired blower operation.

**CAUTION:** Do not install this kit where the outlet grille may be blocked or covered by a door, curtains or any other obstructions.

### MOTORIZED REAR OUTLET REGISTER 6919 AND 6920

This Rear Outlet Register directs some of the heated air into the room opposite the one in which the furnace is installed. Read these instructions carefully and familiarize yourself with the installation before you begin. Use gloves to protect your hands from sharp metal edges.

### BLOWER SETTINGS

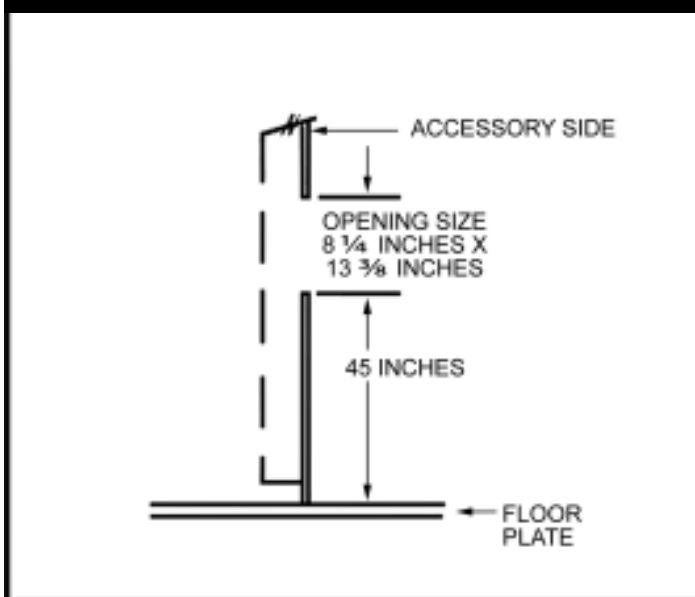
You must select "ON" for continuous blower operation or "AUTO" for automatic setting. If the blower is set on "AUTO" when the furnace heats up, the heat sensor switch is activated and the blower will operate until the furnace cools down, then the blower will turn off. The blower will not operate if fan switch is set in the "OFF" (center) position.

### LOCATION WARNING

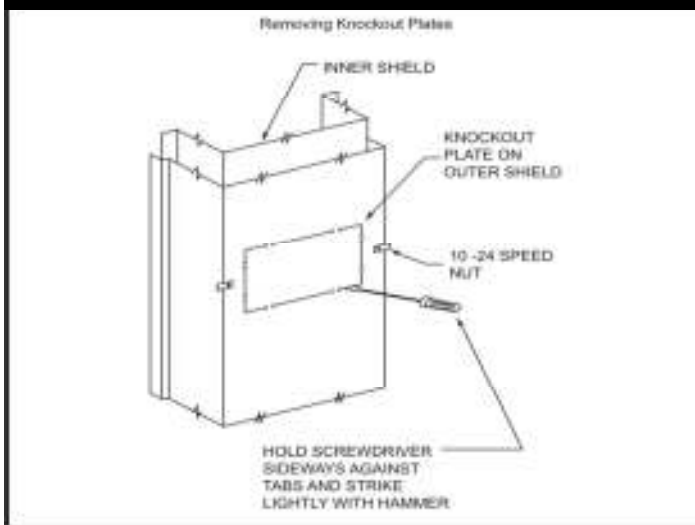
This register must be centered between studs and aligned with the furnace for proper engagement. Make sure the furnace is centered between the same studs before you cut any wall openings for the register.

1. Measure and mark wall for opening as shown in Figure A. Check the wall for any electrical wiring present before cutting the opening. Reroute existing electrical if necessary.
2. If recessed-mounted installation, place the plaster ground in the opening and attach to the 2x4 studs.
3. An embossed knockout plate is located on the rear of the outer shield and another is located directly behind it on the inner shield. (Figure B). Remove the knockout plates on the furnace by punching in the lower corners of the plate with a screwdriver blade. Then, holding the screwdriver blade sideways against the side and bottom connecting tabs, strike the head of the screwdriver lightly with a hammer to break the tabs. Swing the plate outward and bend it back and forth to break the top tabs. Both knockout plates must be removed in order to attach the register assembly properly. If the inner shield knockout is not embossed deep enough to be removed easily, mark an outline using the existing opening as a guide. Use tin snips to cut the area away. A pilot hole may be needed to begin the first cut. Take care not to damage the combustion chamber directly behind the inner shield when making a pilot hole.

**FIGURE A- Recessed & Surface Installation**



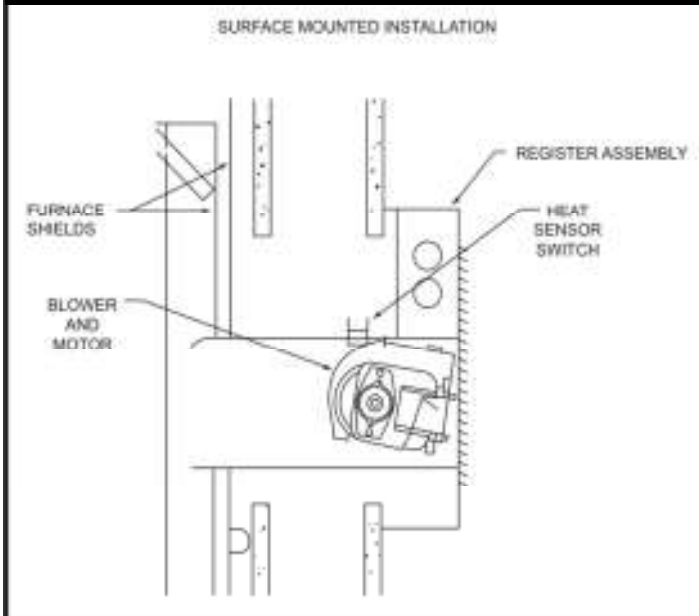
**FIGURE B – Removing Knockout plates**



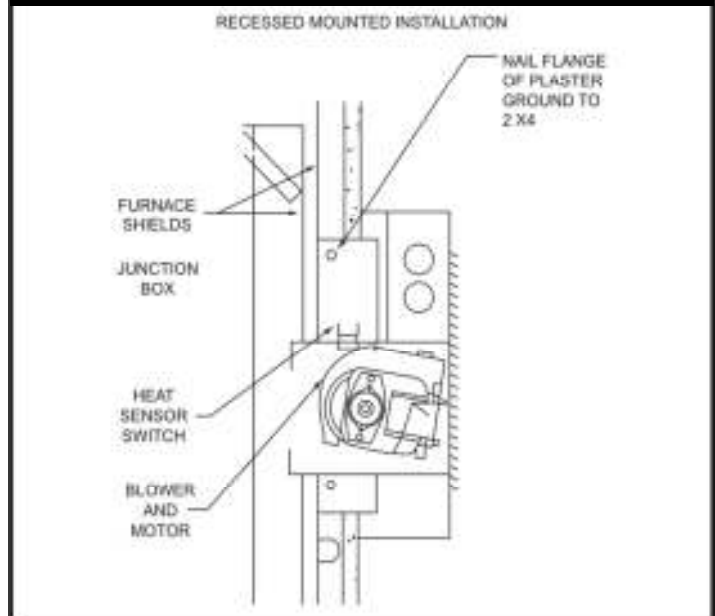
# Installing Your Motorized Rear Outlet Accessory

## Motorized Rear Outlet Register 6919 and 6920 (continued)

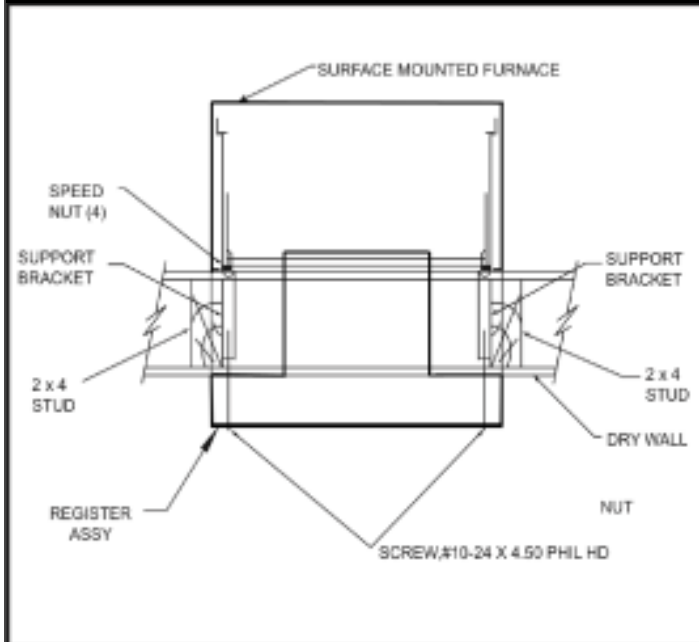
**FIGURE C – Surfaced Mounted Installation**



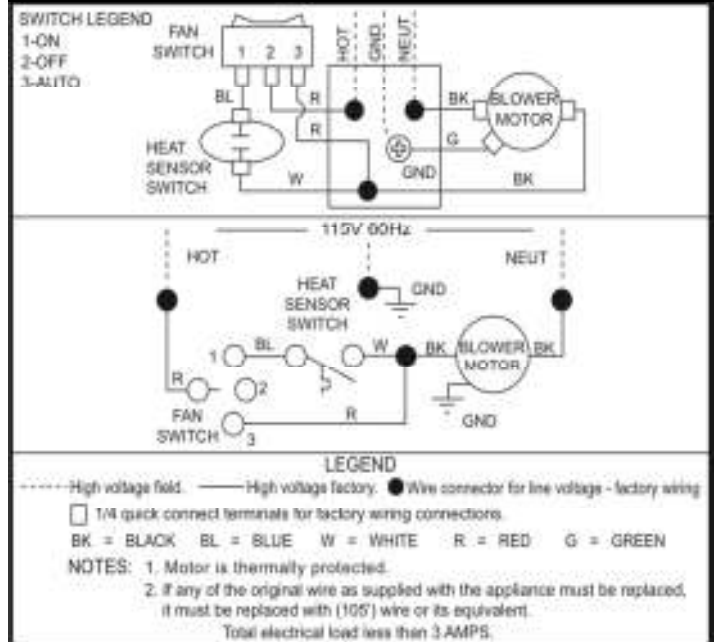
**FIGURE D – Recessed Mounted Installation**



**FIGURE E – Surface Mounted Installation**



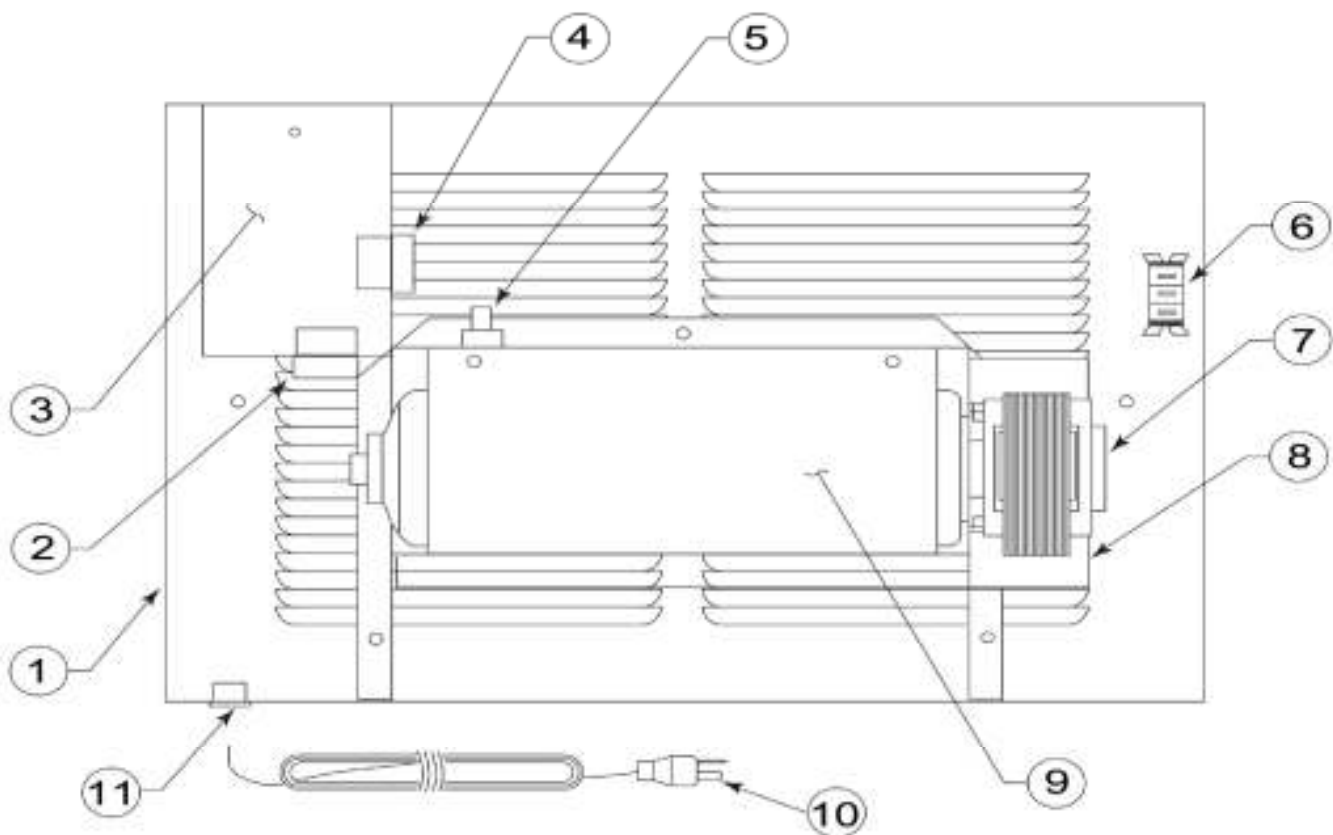
**FIGURE F - Wiring**





# Motorized Rear Outlet Replacement Parts

## Motorized Rear Outlet – Models 6919 and 6920





# Motorized Rear Outlet Replacement Parts

## Motorized Rear Outlet Replacement Parts (continued)

### Motorized Rear Outlet Replacement Parts List – Models 6919 and 6920

Ref. No.	Description	Part No.	
		6919	6920
1	Register Assembly	9B269	9B285
2	Strain Relief Bushing	P500185	P500185
3	J-Box Cover	9A427	9A427
4	Strain Relief Bushing	P603108	P603108
5	Heat Sensor Switch	P323172	P323172
6	Fan Switch	P323080	P323080
7	Motor and Blower	P323423	P323423
8	Motor cover	9A435	9A462
9	Motor Housing Back Plate	9B266	9B284
10	Cord and Plug	P323081	P323081
11	Bushing	P323084	P323084

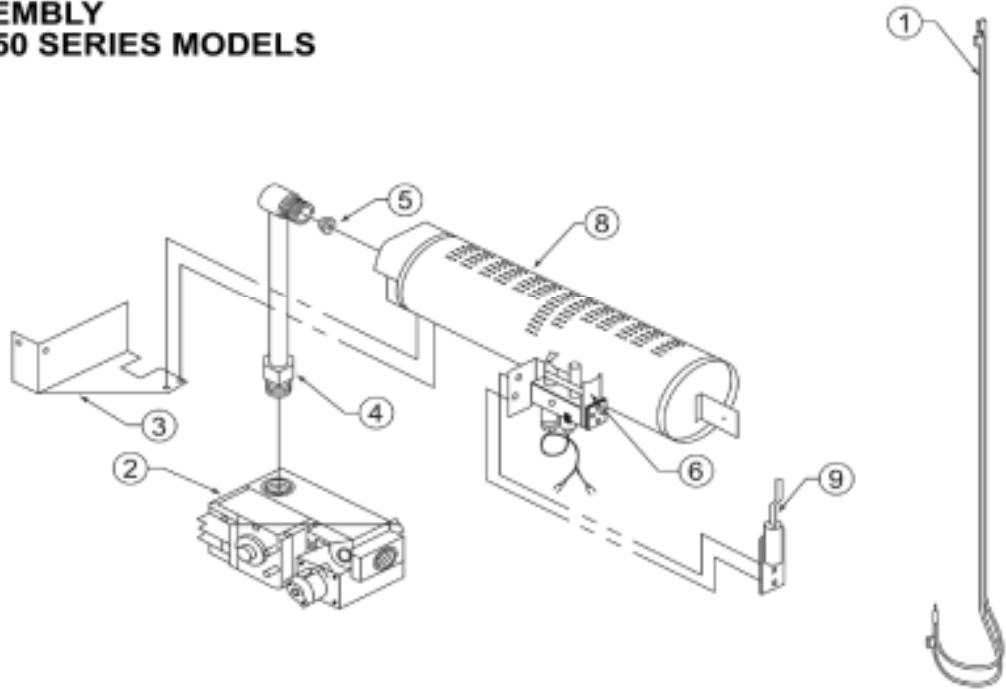
Use only manufacturer's authorized parts.

**NOTE:** Nuts, bolts, screws, and washers are standard hardware items and may be purchased locally.

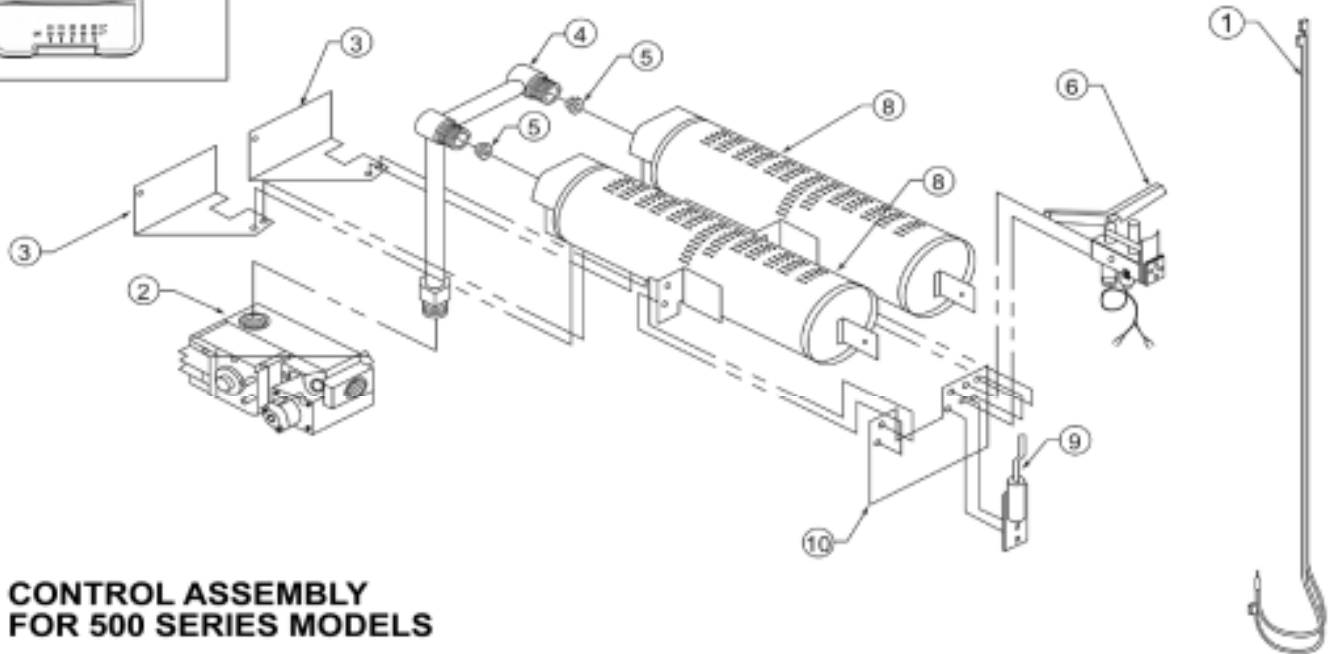
# Furnace Replacement Parts

## Control Assembly – 250, 350, and 500 Series

### CONTROL ASSEMBLY FOR 250 AND 350 SERIES MODELS



USE ONLY MANUFACTURER'S  
AUTHORIZED PARTS  
SEE PARTS LIST



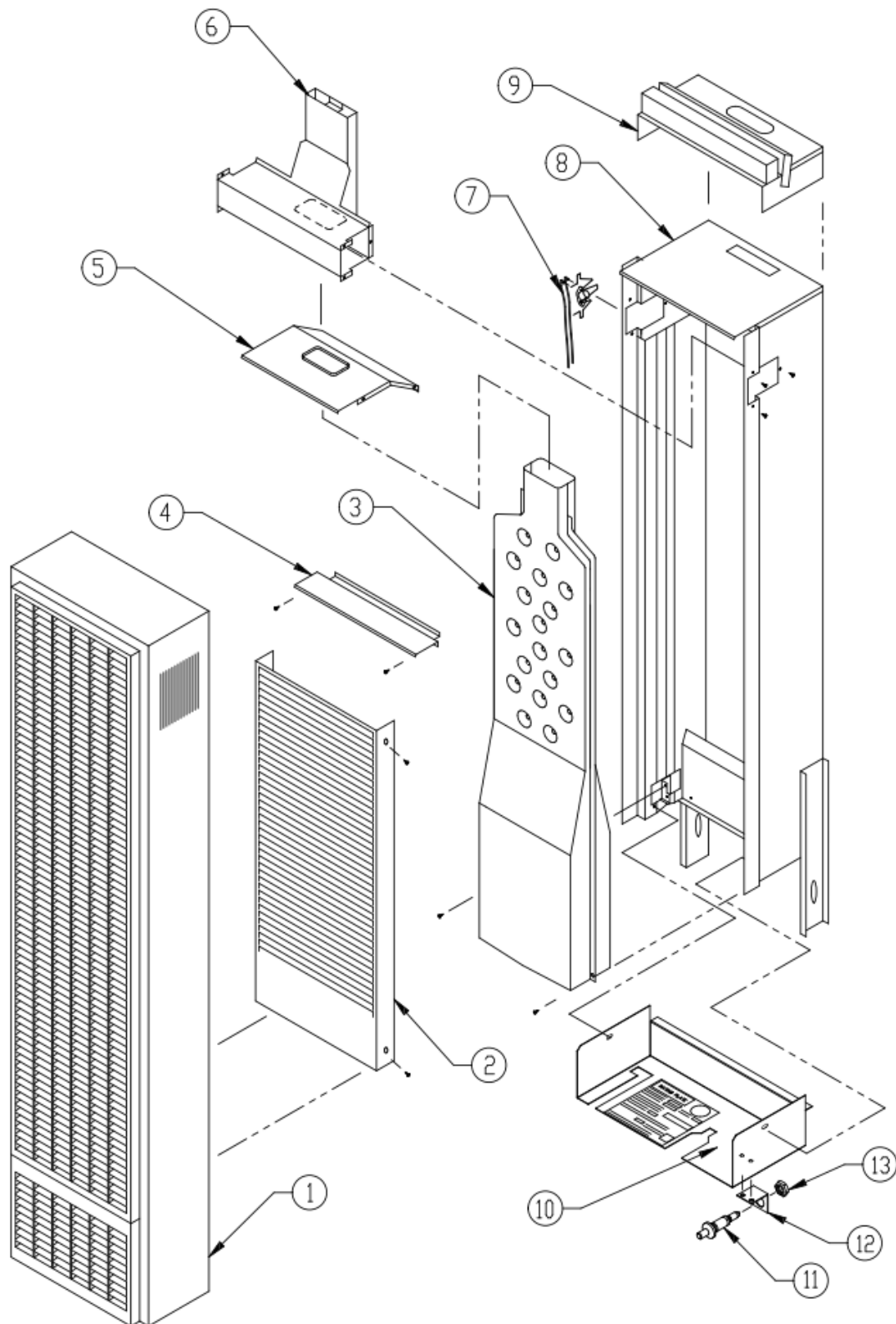
### CONTROL ASSEMBLY FOR 500 SERIES MODELS

NOTE: Nuts, bolts, screws, and washers are standard hardware items and may be purchased locally.

# Furnace Replacement Parts

## Furnace Replacement Parts (continued)

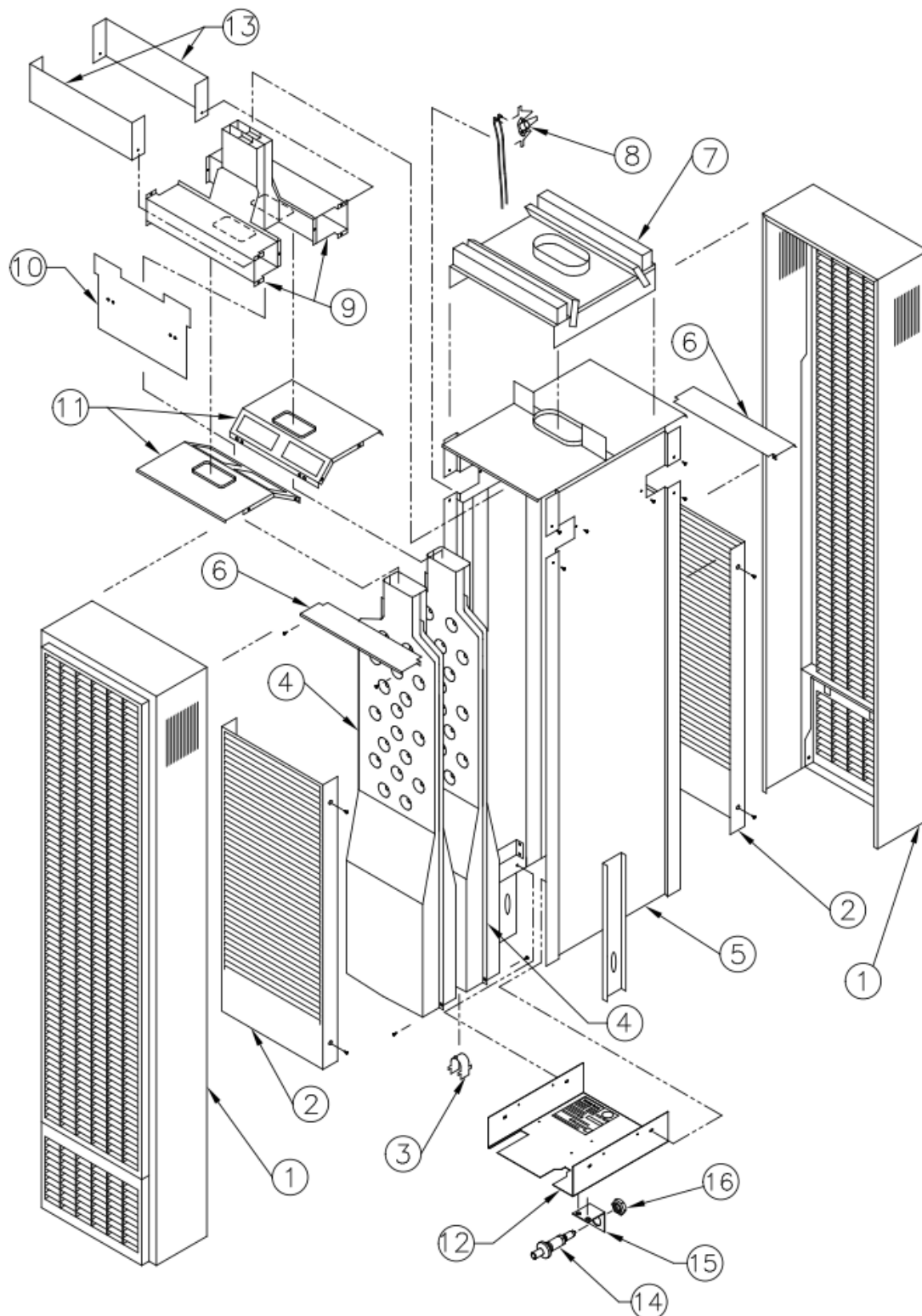
### Cabinet and Body Parts - 250 and 350 Series



# Furnace Replacement Parts

## Furnace Replacement Parts (continued)

### Cabinet and Body Parts – 500 Series



# Furnace Replacement Parts

## Furnace Replacement Parts (continued)

### Control Assembly – 250, 350 & 500 Series

REF. NO.	DESCRIPTION	2509621A	2509622A	3509621A	3509622A	5009621A	5009622A
		2519621A	2519622A	3519621A	3519622A	5019621A	5019622A
		2539621A	2539622A	3539621A	3539622A	5039621A	5039622A
		2559621A	2559622A	3559621A	3559622A	5059621A	5059622A
1	Wire Assembly (Both Required)	P321836/A	P321836/A	P321836/A	P321836/A	P321836/A	P321836/A
2	Valve	P322660	P323011	P322660	P323011	P322660	P323011
3	Front Burner Bracket	9B234	9B234	9B234	9B234	9B243	9B243
4	Manifold	P323660	P323660	P323660	P323660	P323661	P323661
5	Burner Orifice (2 Required for 500 Series)	P332624	P090543	P332635	P090536	P332623	P332625
6	Pilot/Generator Assembly	P501618	P501617	P501618	P501617	P322397	P322396
7	Thermostat	P322016	P322016	P322016	P322016	P322016	P322016
8	Burner (2 Required for 500 Series)	P323648	P323648	P323648	P323648	P323648	P323648
9	Electrode	P322276	P322276	P322276	P322276	P322155	P322155
10	Pilot Mounting Plate	-	-	-	-	9A409	9A409

### Cabinet and Body Parts - 250 & 350 Series

REF. NO.	DESCRIPTION	2509621A	2509622A	3509621A	3509622A
		2519621A	2519622A	3519621A	3519622A
		2539621A	2539622A	3539621A	3539622A
		2559621A	2559622A	3559621A	3559622A
1	Face Panel	4915	4915	4915	4915
2	Front Heat Shield	9C216	9C216	9C216	9C216
3	Combustion Chamber	6922	6922	6923	6923
4	Front Shield Deflector	9B199	9B199	9B199	9B199
5	Inner Shield Top	9C152	9C152	9C152	9C152
6	Draft Hood Assembly	9C184	9C184	9C217	9C217
7	Vent Limit Switch	P321826	P321826	P322055	P322055
8	Shield Assembly	9C213	9C213	9C213	9C213
9	Header	5902	5902	5902	5902
10	Burner Pan	9B296	9B296	9B296	9B296
11	Manual Spark Igniter	P285500	P285500	P285500	P285500
12	Igniter Bracket	7A189	7A189	7A189	7A189
13	Pal Nut	P285501	P285501	P285501	P285501
**	Header - Insulation	P310000	P310000	P310000	P310000
**	Parts Bag	9A288-1	9A288-1	9A288-1	9A288-1
**	Knob	P332606	P332606	P332606	P332606
**	Vent Limit Switch Bracket	P322074	P322074	P322074	P322074

\*\* Not Shown

# Furnace Replacement Parts

## Furnace Replacement Parts (continued)

Cabinet and Body Parts – 500 Series			
REF. NO.	DESCRIPTION	5009621A 5019621A 5039621A 5059621A	5009622A 5019622A 5039622A 5059622A
1	Face Panel (2 Required)	4915	4915
2	Front Heat Shield (2 Required)	9C216	9C216
3	Carryover Shell	9A321-1	9A321-1
4	Combustion Chamber (2 Required)	9D72/9D74	9D72/9D74
5	Shield Assembly	9C218	9C218
6	Deflector (2 Required)	9B199	9B199
7	Header	5901	5901
8	Vent Limit Switch	P321826	P321826
9	Draft Hood (2 Required)	9C170	9C170
10	Non-Vision Shield	9C157	9C157
11	Inner Shield Top (2 Required)	9C158	9C158
12	Burner Pan Assembly	9B251	9B251
13	Blower Heat Deflector	9A440	9A440
14	Manual Spark Igniter	P285500	P285500
15	Igniter Bracket	7A189	7A189
16	Pal Nut	P285501	P285501
**	Header – Insulation	P310000	P310000
**	Parts Bag	9A288-1	9A288-1
**	Knob	P332606	P332606
**	Vent Limit Switch Bracket	P322074	P322074

\*\* Not Shown

# Troubleshooting Your Furnace

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
1. Pilot will not stay lit after following lighting instructions.	<ul style="list-style-type: none"> <li>a. Generator producing insufficient millivolts.</li> <li>b. Loose or dirty generator connections at gas valve.</li> <li>c. Generator defective.</li> <li>d. Grounded thermostat wire.</li> <li>e. Defective gas valve.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check pilot flame. It must impinge on the generator.</li> <li>b. Clean and/or tighten generator connections at valve.</li> <li>c. Check generator with millivolt meter. Take reading at generator terminals of the valve with the valve placed in "Pilot" position. Disconnect the thermostat wires. The millivolt reading should be 450 millivolts or more.</li> <li>d. Remove thermostat wires from valve terminals. If pilot now stays lit, trace thermostat wiring circuit for a ground. May be grounded to furnace, gas supply, nails or staples.</li> <li>e. Replace gas valve after above is verified.</li> </ul>
2. No gas to the main burner.	<ul style="list-style-type: none"> <li>a. Gas valve not turned to the "ON" position after lighting pilot.</li> <li>b. Thermostat not tuned to a position calling for heat.</li> <li>c. Plugged furnace orifice.</li> <li>d. Improper wired or broken thermostat wires. Defective thermostat.</li> <li>e. Pilot generator may not be generating sufficient millivolts to open valve.</li> <li>f. Defective valve.</li> <li>g. Vent safety switch tripped.</li> </ul>	<ul style="list-style-type: none"> <li>a. Turn gas valve knob to the "ON."</li> <li>b. Set thermostat to a position calling for heat.</li> <li>c. Check—clean or replace.</li> <li>d. Check connections at valve terminals. If valve operates, check thermostat wires.</li> <li>e. See 1a and 1c above.</li> <li>f. Replace gas valve after above is verified.</li> <li>g. Check and reset.</li> </ul>
3. Furnace operates but turns off before room temperature is attained.	<ul style="list-style-type: none"> <li>a. Thermostat location.</li> <li>b. Defective thermostat.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check thermostat location. It should not be in the path of warm air discharge from furnace, near a lamp or above a T.V. or stereo unit.</li> <li>b. Check thermostat calibration or replace.</li> </ul>
4. Furnace not producing sufficient heat.	<ul style="list-style-type: none"> <li>a. Furnace may be too small for space being heated.</li> <li>b. Furnace not burning at full rate.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check heat sizing calculations.</li> <li>b. Check for low gas pressure at gas valve. It should be 4 inches water column for natural gas; 10-inches water column for L.P.G. Check for blocked burner orifices.</li> </ul>
5. Furnace operates but will not shut off when room temperature is attained.	<ul style="list-style-type: none"> <li>a. Thermostat wiring defective.</li> <li>b. Thermostat location.</li> <li>c. Defective thermostat.</li> <li>d. Valve stuck open.</li> </ul>	<ul style="list-style-type: none"> <li>a. Thermostat lead wires may be shorted together, caused by a nail or staple. Check by removing thermostat leads from valve terminals.</li> <li>b. Check thermostat location. If on an outside wall, or there is a hole in the wall behind the thermostat, cold air may be coming in contact with the thermostat. Relocate.</li> <li>c. Check thermostat calibration; verify thermostat temperature reading; or replace.</li> <li>d. Replace valve.</li> </ul>

# Troubleshooting Your Furnace

## Troubleshooting Your Furnace (continued)

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
6. Pilot outage.	a. Pilot flame may be low or blowing (high). b. Drafts or drafty areas.	a. Adjust pilot flame. Pilot orifice may be plugged (check for spider webs or other material). b. Check for doorway and high movement areas.
7. Noisy blower.	a. Housing rattling. b. Blower dirty. c. Blower wheel bent.	a. Tighten blower screws. b. Clean blower wheel. c. Straighten or replace.
8. Blower does not run.	a. Fan switch not set.	a. Select fan speed.
9. Main burner will not stay on.	a. Blockage in vent pipe.  b. Vent too short.  c. Restriction in vent system caused by offsets.  d. Incorrect vent pipe.  e. Loose connections on the vent safety wiring harness.	a. Check vent pipe for blockage, such as bird nests, twigs, leaves, etc. Check that the vent cap is properly installed, and not placed too far down on the vent pipe. Cap must be the same manufacturer as the vent. b. The vent should terminate a minimum of 12 feet above the floor plate. The top of the vent must be at least 2 feet above any obstacle within a 10 foot radius, including the roof. c. All type "B" vents shall extend in a vertical direction with offsets not exceeding 45 degrees. Any angle greater than 45 degrees from vertical is considered horizontal. Any offsets used should be a minimum of 2-feet above the draft hood or as far away as possible to allow venting to begin before any restriction is encountered. The use of too many offsets may also prevent proper venting. d. Use listed B/W type vent pipe. DO NOT use transite or any other type of ceramic pipe for venting. DO NOT use single wall vent pipe. When venting into a masonry chimney, the chimney must be properly lined and sized for this gas furnace. The use of type "B" or flexible chimney liner is recommended. e. Check the connection on both the switch and the gas valve. Tighten if necessary.
10. Abnormal operation.	a. Delayed ignition. Pilot flame may be too low. b. Expansion noise, ticking.  c. Combustible gas spillage.  d. Excessive flame roll-out.  e. Burner is over-fired.  f. Yellow burner flame. g. Yellow pilot flame. h. Expansion noise	a. Adjust pilot flame. Refer to "How to Care for Your Furnace" section in this manual. b. Check installation. Casing may be distorted by being fastened to an uneven opening or jammed under the header. A restricted vent may create expansion noise. Refer to "Vent Installation" section in this manual. c. Check vent system for a blocked flue, excessive down draft (wind) or negative pressure in room caused by a ventilating fan or a fire in a fireplace. d. Furnace is possibly overrated, check for high gas pressure at gas valve. (See 4B). e. Check the manifold gas pressure. Check the rate, this appliance is manufactured for elevations up to 4,500 feet. It must be derated for operation above 4,500 feet. f. Check burner for obstructions. Install new burner and pilot orifices. g. Remove pilot orifice, check and clean. h. DO NOT elevate the furnace off the floor unless supported by the free standing accessory. Never shear the legs. If replacing the furnace, bring the vent pipe to the header. DO NOT raise the furnace to the vent pipe. Legs must be flat on the floor plate, never one in front of the other.



# Hints and Information

## Service Hints

If your furnace fails to work correctly, you may avoid the inconvenience and cost of a service call by checking the troubleshooting section on pages 38 and 39 before you call for service.

**WARNING:** If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

**DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity or this or any other appliance.

### WHAT TO DO IF YOU SMELL GAS

- Open all of the windows.
- Do not try to light any appliance.
- Do not touch any electrical switch.
- Do not use any phone or cell phone in your building.
- Extinguish any open flame.
- Immediately call your gas supplier from a neighbor's phone. If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

## How to Order Repair Parts

When ordering repair parts, always give the following Information:

1. MODEL NUMBER
2. MFG. DATE CODE
3. PART NUMBER
4. PART DESCRIPTION

All parts listed herein may be ordered from your equipment supplier. The Model Number of your Williams wall furnace will be found on the nameplate near gas valve, inside control compartment.



Williams Furnace Company • 250 West Laurel Street, Colton, CA 92324  
(909) 825-0993 • FAX: (909) 824-8009 • [www.wfc-fc.com](http://www.wfc-fc.com)

Manufactured in the U.S.A. • Established 1916



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## Exhibit D IFB 23-30

### Energy Efficiency Measures

<b>DOORS and WINDOWS: Doors and windows energy conservation measures affect the exterior or "envelope" of a building. Examples of doors and windows Energy Conservation Measures (ECMs) include replacement windows, storm doors, storm windows, and window film.</b>	
ENERGY STAR qualified Replacement Windows	ENERGY STAR qualified windows meet energy efficiency specification set by the Department of Energy (DOE) and have been tested and certified by the National Fenestration Rating Council (NFRC). Windows should be as specified by ENERGY STAR: <a href="http://www.energystar.gov/index.cfm?c=windows_doors.pr_crit_windows">http://www.energystar.gov/index.cfm?c=windows_doors.pr_crit_windows</a>
ENERGY STAR qualified Replacement Exterior Doors	ENERGY STAR qualified doors meet energy efficiency specification set by DOE and have been tested and certified by the National Fenestration Rating Council (NFRC). Windows should be as specified by ENERGY STAR: <a href="http://www.energystar.gov/index.cfm?c=windows_doors.pr_crit_windows">http://www.energystar.gov/index.cfm?c=windows_doors.pr_crit_windows</a>
Energy Efficient Storm Doors	A storm door that, in combination with the exterior door over which it is installed- (a) Has a U-factor and SHGC of 0.30 or below; and (b) Meets the prescriptive criteria for such component established by the 2006 IECC.
Energy Efficient Storm Windows	A storm window that, in combination with the exterior window over which it is installed- (a) Has a U-factor and SHGC of 0.30 or below; and (b) Meets the prescriptive criteria for such component established by the 2006 IECC.
Energy Efficient Window Film	Energy efficient window films are those that meet the requirements of a "qualifying insulation system." The window film manufacturer must certify that the film meets the requirements. Make sure you get a "Manufacturer Certification Statement" that certifies the product meets the requirements.
<b>INSULATION and AIR SEALING: Insulation and air sealing energy conservation measures affect the exterior or "envelope" of a building. Examples of insulation and air sealing Energy Conservation Measures include adding attic insulation, adding wall insulation, and air sealing.</b>	
Attic or Roof Insulation installations	Install additional attic insulation to meet or exceeds current building code requirements. Install additional roof insulation to meet or exceeds current building code requirements only if the attic is tightly sealed, i.e. isolated from the outside and any roof or soffit vents.
units receiving professional Air Sealing	Air sealing (caulking and/or weatherstripping, or foam insulation) in single family detached and semi-detached properties should be verified by blower door testing, and follow up Indoor Airquality/IAQ (carbon monoxide) testing, if appropriate. If accessible, seal air leaks using materials (low VOC if available) that meet local fire code requirements, including at a minimum: § to attic spaces or into basements; include sill and top plates; § along the top, bottom, or inside party walls; § around windows and doors; § around access to common stair wells around plumbing, electrical, or ventilation shafts; § around any vents, flues, chimneys that penetrate the roof or side walls; around decks, balconies, or cantilevers.
<b>HEATING and COOLING: Heating/Cooling ECMs are measures that save energy by directly affecting heating or cooling equipment. These include: (1) measures that involve changes directly to the equipment, such as vent or flue dampers; electronic ignition; controls; replacement of inefficient heating or cooling equipment; combined heat and power; (2) measures that regulate the temperature in the dwelling units, such as setback thermostats, radiator controls or Energy management Systems; and (3) measures that improve the distribution system, such as insulating hot water or steam pipes; converting steam distribution system to hot water; and sealing and insulating ducts.</b>	
Furnaces/boilers receiving Flue/Vent Dampers	A flue/vent damper is a device installed in the vent of a furnace or boiler that automatically closes the vent when the burner goes off to reduce the loss of warm air up the chimney.
Constant Air Regulating Dampers installations	In multifamily buildings Constant Air Regulators (CARs) optimize ventilation and control in-unit pressure and "stack effect."
Furnaces/boiler conversions to Electronic Ignition	Electronic ignition is used to replace the constant-burning pilot lights on gas-fired heating systems.

## Energy Efficiency Measures

Inefficient Heating Plants replaced with high efficiency/ENERGY STAR qualified heating plants	92 AFUE gas furnace, ENERGY STAR qualified; OR 85 AFUE boiler, ENERGY STAR qualified; OR 85 AFUE oil furnace, ENERGY STAR qualified; OR > 8.2 HSPF / 14.5 SEER / 12 EER ENERGY STAR qualified heat pump; OR ENERGY STAR qualified Geothermal Heat Pump: Open Loop: $\geq 3.6$ COP; $\geq 16.2$ EER; Closed Loop: $\geq 3.3$ COP; $\geq 14.1$ EER; Direct Expansion (DX): $\geq 3.5$ COP; $\geq 15$ EER
Insulation for Hot Water or Steam Pipes	All circulating service hot water piping shall be insulated to at least R-2.
Sealed and Insulated Ducts	Seal all duct joints with air-tight collars, mastic and/or UL-181 tape. Insulate all ductwork located in unconditioned space to at least R-6. Insulate all accessible ductwork located in conditioned space to at least R-4, especially in places where condensation is a problem.
Inefficient A/Cs replaced with efficient/ ENERGY STAR qualified air conditioners	> 14.5 SEER / 12 EER ENERGY STAR qualified AC; OR > 8.2 HSPF / 14.5 SEER / 12 EER ENERGY STAR qualified heat pump; OR ENERGY STAR qualified Geothermal Heat Pump: Open Loop: $\geq 3.6$ COP; $\geq 16.2$ EER; Closed Loop: $\geq 3.3$ COP; $\geq 14.1$ EER; Direct Expansion (DX): $\geq 3.5$ COP; $\geq 15$ EER
HVAC pump motors >1 HP replaced with high efficiency motors	Motors and Pumps 1 hp or greater should be National Electrical Manufacturers Association (NEMA) premium efficiency; Product scope and nominal efficiency levels for the NEMA Premium program. <a href="http://www.nema.org/stds/complimentary-docs/upload/MG1premium.pdf">http://www.nema.org/stds/complimentary-docs/upload/MG1premium.pdf</a>
<b>HVAC controls: These energy conservation measures are relatively cheap and easy to install controls for HVAC systems.</b>	
Boiler Temperature Controls/Outdoor Air Reset Installations	Boiler controls save energy by regulating the boiler so that it operates only when necessary. The most basic type of boiler control is an outdoor air reset/cutout control system, which senses outdoor temperature and matches boiler operation to how much heat the residence needs..
Radiator Controls installed	Thermostatic radiator valves regulate the amount of heat a radiator gives off.
Thermostats replaced with Programmable Thermostats	Use ENERGY STAR qualified setback thermostats.
<b>Domestic Hot Water</b>	
Domestic Hot Water Tanks insulated	Ensure total of R-16 insulation. Many older DHW heaters are equipped with R-7 so install a minimum of R-9 rated blanket over water heater or hot water storage tank.
Clothes washing machines were/will be Converted to Cold Rinse	Although warm or hot water is necessary to wash some types of clothing, cold water can be used in the rinse cycle for all applications. Converting laundries to cold-rinse cycle can generate significant energy savings by cutting down on hot water use.
Inefficient Water Heaters replaced with high efficiency/ ENERGY STAR qualified Hot Water Heaters	In unit: Gas (EF) $\geq 0.67$ : In-unit gas water heaters need to be sealed combustion. Electric (EF): 52 Gal EF $\geq 0.92$ 66 Gal $\geq 0.90$ 80 Gal $\geq 0.89$ Heat Pump Water Heaters: EF $\geq 2.0$ . Central Water Heaters: DHW equipment shall be specified as indirect fired or standalone tanks only; Only gas water heaters that vent to the outside will be specified; The maximum storage tank capacity shall be specified based on occupancy; The distribution system shall include a DHW loop with a timed or temperature based control on the circulating pump; Electronic mixing valves shall be used to control hot water temperature.
ENERGY STAR qualified Solar Thermal Hot Water System	ENERGY STAR qualified Solar Thermal Hot Water Systems use the sun to heat water. These heating systems typically include storage tanks and solar collectors. There are two types of solar water heating systems: active, which have circulating pumps and controls, and passive, which don't.
<b>Lighting: Lighting ECMs save electricity through the installation of more efficient lighting and/or by controlling the operation of lights. Examples include: replacing incandescent lights with fluorescent lighting in dwelling units and common areas; installing more efficient lamps and ballasts in common areas; installing lighting controls in common areas; improving the efficiency of outdoor lighting; and installing outdoor lighting controls.</b>	
Incandescent light bulbs and conventional indoor light fixtures replaced with ENERGY STAR qualified Compact Fluorescent Lighting and fixtures	ENERGY STAR qualified light fixtures and bulbs use about 75 percent less energy than standard incandescent bulbs, generate 75% less heat, and last up to 10 times longer. All types of fixtures are available. Bulbs are available in different sizes and shapes to fit in almost any fixture. ENERGY STAR qualified fixtures are designed to optimize the performance of the enclosed efficient light source.

## Energy Efficiency Measures

Exit signs replaced with ENERGY STAR qualified LED exit signs	ENERGY STAR qualified LED exit signs use very little energy, 5 watts or less, per sign.
Outdoor and common area lighting fixtures replaced with ENERGY STAR qualified fixtures and lamps	ENERGY STAR qualified light fixtures and bulbs use about 75 percent less energy than standard incandescent bulbs, generate 75% less heat, and last up to 10 times longer. All types of fixtures are available. Bulbs are available in different sizes and shapes to fit in almost any fixture. ENERGY STAR qualified fixtures are designed to optimize the performance of the enclosed efficient light source.
Lighting controls in outdoor and common areas installed	There are two main types of lighting controls: occupancy controls and daylighting controls. Occupancy controls turn off or dim all or most of the lights in a space that is unoccupied. Daylighting controls use light sensors that detect natural light and turn off or dim lights appropriately.
<b>Appliances: Appliances include replacing old refrigerators, dishwashers, or clothes washers with energy-efficient models.</b>	
Refrigerators replaced with ENERGY STAR qualified Refrigerators	ENERGY STAR qualified refrigerator models use at least 20 percent less energy than required by current federal standards and 40% less energy than the conventional models sold in 2001.
Clothes Washers replaced with ENERGY STAR qualified Clothes Washers	Clothes washers with the ENERGY STAR label can cut clothes washing related energy costs by more than a third and the water costs by more than half.
Window AC units replaced with ENERGY STAR qualified Window AC units	ENERGY STAR qualified room air conditioners use at least 10% less energy than conventional models.
Dishwasher replaced with ENERGY STAR qualified Dishwasher units	ENERGY STAR qualified dishwashers use at least 41 percent less energy and much less water than conventional dishwashers.
<b>Water Conservation: Water conservation measures are green measures focused on water savings and related energy savings from heating domestic hot water.</b>	
Toilets replaced with Water-saving Toilets	Low flow toilets use less than 1.28 gallons per flush. This is 20% less than the current normal toilet that uses 1.6 gallons per flush.
Showerheads and faucet aerators replaced with low-flow showerheads and faucet aerators	Low-flow showerheads use less than 2.2 gallon per minute and low-flow faucets are less than 1.5 gallons per minute
Gray water recycling system	Gray water is wastewater from bathtub, shower drain, sinks, washing machines, and dishwashers. Greywater can be recycled for irrigation, toilets, and exterior washing, resulting in water conservation. Check local codes. Many do not yet allow greywater recycling for indoor use.
<b>Other: These include solar thermal (hot water); photovoltaic panels; geothermal; and other renewable systems.</b>	
Solar Photovoltaic Panels	
Cogeneration/Micro Combined Heat and Power Systems	Multi-family: Cogeneration Systems combine power generation with hot water production. Cogeneration systems are considerably more energy efficient than conventional power plants. Single-family: Micro Combined Heat and Power (CHP) Systems are similar to Cogeneration Systems but are sized for single-family residential applications.
<b>Green Measures: Green measures for new units are those with LEED, ENERGY STAR, or Enterprise Green Communities ratings/labels. Other green measures include environmentally friendly storm water management systems; green roofs; low- or no-VOC paints; resource efficient materials; recycled products; and other indoor air quality (IAQ) measures including mold and moisture control.</b>	

## Energy Efficiency Measures

Green Roof	Green roofs are rooftops planted with vegetation. Intensive green roofs have thick layers of soil (6 to 12 inches or more) that can support a broad variety of plant or even tree species. Simpler green roofs (extensive roofs) have a soil layer of 6 inches or less to support turf, grass, or other ground cover. Green roofs provide additional insulation to residence and reduce storm water runoff peak flows
Units painted with Low or No-VOC Paints	Most conventional paints contain VOCs (volatile organic compounds). VOCs diminish air quality, and may be detrimental to occupant health.
Recycled Building Products	Use salvaged products or use products with minimum of 25% postconsumer recycled product.
Spot Ventilation installed	Ensuring adequate ventilation of bathrooms and kitchens can improve the indoor air quality of a unit. When installing ventilation use ENERGY STAR qualified exhaust fans.
Advanced utility metering installed	Master-metered utilities may be converted to individually-metered utilities, whereby tenants pay directly to the energy suppliers; or sub-metered, whereby the project's energy usage costs utilize industry-standard metering and computer billing systems which monitor/measure a tenant's actual energy consumption. Advanced metering may include smart metering. Advanced meters may also provide time of day rates, and provide occupants with better information and improved controls over appliances

**Exhibit E IFB 23-30**

**Price Sheet**

The undersigned agrees to provide all the necessary labor, personnel, supervision, equipment, signage, warning tape, insurance, transportation, licenses, permits, materials, tools, supplies, barricades, and any other ancillary item(s), or resource(s) needed to perform all the work specified in **Exhibit B: Scope of Work (SOW)** at the following fixed price:

Item	Description	Total
1	Profit	\$ _____
2	Labor Includes Davis Bacon Wages (See Attachment J)	\$ _____
3	Overhead	\$ _____
4	Material	\$ _____
5	Total Bid Price for ALL Work in Exhibit B Scope of Work (SOW):	\$ _____

\_\_\_\_\_  
**NAME OF CONTRACTOR / OFFEROR / FIRM / INDIVIDUAL / CORPORATION**

\_\_\_\_\_  
**COMPLETE ADDRESS**

\_\_\_\_\_  
**CITY, STATE, ZIP CODE**

\_\_\_\_\_  
**E-MAIL ADDRESS**

\_\_\_\_\_  
**PHONE NUMBER / FAX NUMBER**

\_\_\_\_\_  
**MANUAL OR E-SIGNATURE**

\_\_\_\_\_  
**TITLE**

**Exhibit F IFB 23-30**

**Supplemental Price Sheet**

The undersigned on page 2 of this Exhibit agrees to deliver (F.O.B Destination), and install the following **new** (i.e., previously unused) items, in accordance with the requirements specified in Exhibit B Scope of (SOW) at the following price, which is used as the baseline in the event of escalation:

<b><u>Item</u></b>	<b><u>Description</u></b>	<b><u>Quantity</u></b>	<b><u>Unit Price</u></b>	<b><u>Extension Price</u></b>
1	Top Vent Natural Gas Furnace, 35,000 BTU, Williams Model No. 3509622A or HHA Approved Equivalent  <b>(Note: Must Meet HUD Energy requirements per Exhibit D)</b>	651	\$ _____	\$ _____

**Insert Full Description Below:**

**Manufacturer:** \_\_\_\_\_ **Model / Part No.:** \_\_\_\_\_  
\_\_\_\_\_

<b><u>Item</u></b>	<b><u>Description</u></b>	<b><u>Quantity</u></b>	<b><u>Unit Price</u></b>	<b><u>Extension Price</u></b>
2	Top Vent Natural Gas Thermostat, Williams Part No. P322016 or HHA Approved Equivalent  <b>(Note: Must Meet HUD Energy requirements per Exhibit D)</b>	651	\$ _____	\$ _____

**Insert Full Description Below:**

**Manufacturer:** \_\_\_\_\_ **Model / Part No.:** \_\_\_\_\_  
\_\_\_\_\_

---

**NAME OF CONTRACTOR / OFFEROR / FIRM / INDIVIDUAL / CORPORATION**

---

**ADDRESS, CITY, STATE, ZIP**

---

**TITLE**

---

**E-MAIL ADDRESS**

---

**PHONE NUMBER / FAX NUMBER**

---

**MANUAL SIGNATURE**

---

**DATE**

**Note: This Form must have a manual signature.**





# Terrain Solutions, Inc.

Texas Geoscience Firm Reg. #50018

10103 Fondren Road, Suite #426  
Houston, Texas 77096  
[www.TerrainSolutionsInc.com](http://www.TerrainSolutionsInc.com)

Telephone: 713 - 467 - 2900  
Fax: 1-713-583-1045  
Email: [office@terrainsolutionsinc.com](mailto:office@terrainsolutionsinc.com)

December 9, 2022

Mr. Jay Mason and Ms. Diana Dmitriyeva  
Houston Housing Authority  
2460 Fountain View Drive, Suite 3017  
Houston, Texas 77057

Exhibit G: IFB 23-30

Re: Limited Asbestos Survey for Heater Replacement  
Cuney Homes, 3260 Truxillo Street  
Houston, TX 770014  
TSI Project #221071-01R

Dear Mr. Mason and Ms. Dmitriyeva:

In accordance with the authorization and change orders dated 10/25/2022 and 11/15/2022 referencing TSI Proposals P2022-129 & P2022-129Add, **Terrain Solutions, Inc. (TSI)** is pleased to present the results of the Limited Asbestos Survey performed by FERN environmental for the site referenced above.

Thank you for allowing **TSI** to be your consultant for this project. If you have any questions, please call me at (713) 467-2900.

Respectfully submitted

Glenn R. Lowenstein, PG  
Program Manager  
Terrain Solutions, Inc. Texas Geoscience Firm #50018

Enclosures

**Asbestos Inspection Report**  
Heater Replacement Project  
Cuney Homes Apartments  
3260 Truxillo St.  
Houston, Texas 77004



By:

FERN Environmental, LLC  
1900 West Gray #131631  
Houston, Texas 77219  
(832) 797-3059 FAX: (713) 202-4717  
TDSHS Asbestos Consultant Agency Lic. # 100455 Exp:2/15/24  
DSHS Asbestos Laboratory Lic. #300482 Exp:11/17/24  
TDLR Mold Assessment Company Lic. # ACO1147 Exp:12/16/24  
TDSHS Lead Firm Lic. #2110668 Exp:11/30/24



FERN Project # 0122-272

December 5, 2022

Akinola Olufuwa  
DSHS Lic. Consultant #105845  
Exp. 10/2/22

Gregory Lall  
DSHS Lic. Consultant #105216  
Exp. 2/29/24



December 5, 2022

Mr. Glenn Lowenstein  
Terrain Solutions, Inc.  
10103 Fondren Road, Suite 426  
Houston, Texas 77096  
Phone: 713-467-2900

RE: Limited Asbestos Inspection  
Heater Replacement Project  
Cuney Homes Apartments  
3260 Truxillo St.  
Houston, TX 77004  
FERN Project #0122-272

Dear Mr. Lowenstein,

Pursuant to your request, FERN Environmental, LLC (FERN) performed asbestos testing at the above-referenced site on November 11-18, 2022.

**Asbestos was not detected** in samples collected from the gypsum board walls, caulking or vinyl floor coverings at the proposed work areas at the heater units.

We appreciate the opportunity to provide our environmental services. Should you have any questions, please feel free to contact us at (832) 797-3059.

Sincerely,  
FERN Environmental, LLC

Akinola Olufuwa  
DSHS Lic. Consultant #105845

Gregory Lall  
DSHS Lic. Consultant #105216

Attachment: Asbestos Inspection Report

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### 1.1 BACKGROUND

FERN Environmental, LLC (FERN) performed testing for asbestos-containing materials in the vacant apartment units at 3260 Truxillo St. in Houston, Texas. This inspection targeted materials that may be disturbed during planned renovation activities.

Due to the health effects associated with exposure to asbestos dust, building materials are tested for asbestos content prior to their disturbance. If an asbestos inspection reveals the presence of asbestos-containing materials, they must be properly handled by trained workers prior to renovation. Federal, state and local regulations apply to work involving Asbestos Containing Materials (ACM).

### 1.2 AUTHORIZATION

Authorization to perform this testing was given by Glenn Lowenstein with Terrain Solutions, Inc.

### 1.3 PURPOSE

The objective of the testing was to provide general information for specific areas of this facility regarding the presence of accessible and/or exposed building materials which commonly contain asbestos. Materials which contain one percent or more ( $\geq 1\%$ ) asbestos are considered to be ACM according to Environmental Protection Agency (EPA) and Texas Department of State Health Services (DSHS) regulations.

### 1.4 WARRANTY

The information contained in this report is based upon data furnished by the Client and observations and test results provided by FERN. Certain findings are time dependent, and subject to changing site conditions, and revisions to Federal, state, and local regulations.

These findings have been prepared in accordance with generally accepted practices in the asbestos testing and abatement industry. Building materials such as thermal insulation in pipe chases are typically inaccessible to the inspector. Roofs are not normally sampled due to concerns about voiding existing warranties and creating moisture intrusion that may lead to structural damage. Occupied buildings should be revisited once they are vacated, and prior to commencing work. If new materials are uncovered during demolition activities, the asbestos content of such materials must be verified by laboratory analysis.

This report has been prepared for the use of the Client for the described site. It is not an abatement specification and is not intended for the use or benefit of any other party and may not be reproduced, except in full, without written approval from FERN.

No other warranties are implied or expressed.

## 2.1 BACKGROUND

The scope of services included the performance of field and laboratory testing programs, and the preparation of a report detailing where and at what concentrations asbestos was found.

The inspection was conducted by Akin Olufuwa (Lic. #105845), Abbey Aribatise (lic #105868) and Greg Lall (Lic. #105216), EPA accredited asbestos inspectors and DSHS Licensed asbestos consultants, on November 11-18, 2022, to identify materials containing more than one percent (>1%) asbestos.

## 2.2 REGULATORY REQUIREMENTS

The visual inspection and asbestos sampling were conducted in general accordance with EPA/AHERA guidelines to determine the presence of asbestos in suspect asbestos-containing materials (ACM) which were accessible and/or exposed in the facility. Bulk samples obtained from the facility were delivered to the NVLAP accredited, and DSHS licensed (Lic. #30-0312) Apex Precision Analytical Services, Inc. laboratory for analysis for asbestos by Polarized Light Microscopy (PLM) with dispersion staining in accordance with USEPA guidelines (EPA/600/R-93/116).

Asbestos-containing materials (ACM) that will be impacted during construction activities must be abated by trained and certified abatement workers.

An abatement specification is required for abatement projects in accordance with the regulations, and is typically prepared after the renovation scope is determined. Asbestos containing materials that will be impacted by the renovation are more extensively quantified during specification development.

Data tables containing a summary of results by building component are included in the Appendix of this report.

### 3.1 FIELD SURVEY

#### Inspection Procedures

Asbestos inspection and sample collection were performed by an EPA accredited and DSHS Licensed inspector. An initial facility walk-through was conducted to determine the presence of suspect materials which were accessible and/or exposed. Materials that are similar in appearance are grouped into 'homogeneous' sampling areas. Representative samples are collected from each homogeneous area.

#### Sampling Procedures

After a thorough visual examination, samples of suspect ACM were collected. Sampling is typically limited to materials that are accessible and do not involve destruction of floors, ceilings, roofs, physical barriers, etc. or the structural integrity of the item being tested.

EPA guidelines were used to determine the sampling protocol, and samples were collected from representative areas of each suspect material. A summary of the tested materials is presented in the appendix and includes information such as friability and condition (Good, Damaged or Significantly Damaged).

Inaccessible materials in locations such as pipe chases and behind walls, and any other materials which were not evaluated in this inspection may be assumed to be ACM or tested for asbestos, if they are uncovered during renovation or other operations which may disturb them. Roof sampling can lead to rapid deterioration of structural components, and is therefore usually done immediately preceding construction/demolition operations when damage can be properly addressed.

The inspected areas generally consisted of gypsum board walls and ceilings, vinyl floor coverings, central HVAC, and concrete slab foundation.

After each sample was extracted, a spray encapsulant and/or tape covering may have been applied to the sampled area to prevent potential fiber release.

#### Laboratory Methods

Analysis was performed by using the bulk sample for visual observation and slide preparations for microscopic examination and identification. The samples were mounted on slides and then analyzed for asbestos (chrysotile, amosite, crocidolite, anthophyllite and actinolite/tremolite), and fibrous non-asbestos constituents (mineral wool, paper, etc.) and non-fibrous constituents.

Asbestos is identified by Polarized Light Microscopy (PLM) in accordance with USEPA guidelines (EPA/600/R-93/116) for this method. The same method was used to identify the non-asbestos constituents. The microscopist visually estimates relative amounts of each constituent by determining the volume of each constituent in proportion to the total volume of the sample, using a stereoscope.

#### 4.1 INSPECTION RESULTS

A material is considered to be asbestos containing if at least one sample collected from the material contains asbestos fibers at a concentration one percent or more ( $\geq 1\%$ ).

Asbestos was not detected in samples collected from the gypsum board walls, vinyl floor coverings, sink undercoating, or duct seam mastic.

**Asbestos was not detected** in samples collected from the gypsum board walls, caulking or vinyl floor coverings at the proposed work areas at the heater units.

\*Note: If pipe chases, crawl space areas, or perimeter walls will be accessed during renovation activities, care should be taken to prevent damage to any mastics or insulation that are encountered. Work should cease until such materials have been evaluated by a licensed inspector.

#### AHERA CLASSIFICATION

In accordance with EPA AHERA regulations (40 CFR 763 Subpart E), ACM identified in a survey should be classified into one of the following categories:

- (1) Damaged or significantly damaged thermal system insulation ACM
- (2) Damaged friable surfacing ACM
- (3) Significantly damaged friable surfacing ACM
- (4) Damaged or significantly damaged friable miscellaneous ACM
- (5) ACBM with potential for damage
- (6) ACBM with potential for significant damage
- (7) Any remaining friable ACBM or friable suspected ACBM

Asbestos was not detected in the proposed work areas therefore AHERA classification is not needed.

These findings have been prepared in accordance with generally accepted practices in the asbestos testing and abatement industry. No other warranties are implied or expressed. The laboratory analysis results are included in the Appendix.



## **APPENDIX 1**

### **ASBESTOS ANALYSIS RESULTS**

## BULK ASBESTOS SAMPLE SUMMARY

Cuney Homes Apartments

3260 Truxillo St.

Houston, Texas 77004

Project No. 0122-272

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
01	1A	A/C Caulking	1	NF	G	N.D.
02	1A	Drywall and Joint Compound	1	F	G	N.D.
03	1A	Floor tile Brown with specs	1	NF	G	N.D.
04	1B	Floor tile white	1	NF	G	N.D.
05	1B	Drywall and Joint Compound	1	F	G	N.D.
06	1C	Drywall and Joint Compound	1	F	G	N.D.
07	1C	Floor tile Tan	1	NF	G	N.D.
08	2A	A/C Caulking	2	NF	G	N.D.
09	2A	Drywall and Joint Compound	2	F	G	N.D.
10	2A	Floor tile Tan	2	NF	G	N.D.
11	2B	Drywall and Joint Compound	2	F	G	N.D.
12	2B	Floor tile white	2	NF	G	N.D.
13	2C	Floor tile white	2	NF	G	N.D.
14	2C	Drywall and Joint Compound	2	F	G	N.D.
15	3A	A/C Caulking	3	NF	G	N.D.
16	3A	Drywall and Joint Compound	3	F	G	N.D.
17	3A	Floor tile Tan	3	NF	G	N.D.
18	3B	Drywall and Joint Compound	3	F	G	N.D.
19	6A	Drywall and Joint Compound	6	F	G	N.D.
20	6A	Floor tile white	6	NF	G	N.D.
21	6B	Drywall and Joint Compound	6	F	G	N.D.
22	6B	A/C Caulking	6	NF	G	N.D.
23	6C	Drywall and Joint Compound	6	F	G	N.D.
24	6C	Floor tile white	6	NF	G	N.D.
25	5C	Drywall and Joint Compound	5	F	G	N.D.
26	5C	Floor tile white	5	NF	G	N.D.
27	5B	Drywall and Joint Compound	5	F	G	N.D.
28	5B	Floor tile white	5	NF	G	N.D.
29	5A	Drywall and Joint Compound	5	F	G	N.D.
30	5A	A/C Caulking	5	NF	G	N.D.
31	4D	A/C Caulking	4	NF	G	N.D.
32	4D	Drywall and Joint Compound	4	F	G	N.D.
33	4A	Drywall and Joint Compound	4	F	G	N.D.
34	7A	Floor tile white	7	NF	G	N.D.
35	7A	Drywall and Joint Compound	7	F	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
36	7B	A/C Caulking	7	NF	G	N.D.
37	7B	Drywall and Joint Compound	7	F	G	N.D.
38	7C	Drywall and Joint Compound	7	F	G	N.D.
39	7C	Floor tile white	7	NF	G	N.D.
40	8A	Floor tile white	8	NF	G	N.D.
41	8A	Drywall and Joint Compound	8	F	G	N.D.
42	8B	Drywall and Joint Compound	8	F	G	N.D.
43	8B	Floor tile white	8	NF	G	N.D.
44	8C	A/C Caulking	8	NF	G	N.D.
45	8C	Drywall and Joint Compound	8	F	G	N.D.
46	9A	A/C Caulking	9	NF	G	N.D.
47	9A	Drywall and Joint Compound	9	F	G	N.D.
48	9C	Drywall and Joint Compound	9	F	G	N.D.
49	9C	Floor tile white	9	NF	G	N.D.
50	9E	Drywall and Joint Compound	9	F	G	N.D.
51	9E	Floor tile white	9	NF	G	N.D.
52	12C	Drywall and Joint Compound	12	F	G	N.D.
53	12C	Floor tile Brown with specs	12	NF	G	N.D.
54	12D	Drywall and Joint Compound	12	F	G	N.D.
55	12D	A/C Caulking	12	NF	G	N.D.
56	12B	Drywall and Joint Compound	12	F	G	N.D.
57	12B	Floor tile white	12	NF	G	N.D.
58	11D	Floor tile Brown with specs	11	NF	G	N.D.
59	11D	Drywall and Joint Compound	11	F	G	N.D.
60	11B	A/C Caulking	11	NF	G	N.D.
61	11B	Drywall and Joint Compound	11	F	G	N.D.
62	11A	Drywall and Joint Compound	11	F	G	N.D.
63	11A	Floor tile white	11	NF	G	N.D.
64	10E	Drywall and Joint Compound	10	F	G	N.D.
65	10E	Floor tile Beige and brown with specs	10	NF	G	N.D.
66	10O	A/C Caulking	10	NF	G	N.D.
67	10O	Drywall and Joint Compound	10	F	G	N.D.
68	10A	Drywall and Joint Compound	10	F	G	N.D.
69	10A	Floor tile Brown with specs	10	NF	G	N.D.
70	13D	A/C Caulking	13	NF	G	N.D.
71	13D	Drywall and Joint Compound	13	F	G	N.D.
72	13C	Floor tile blue	13	NF	G	N.D.
73	13C	Drywall and Joint Compound	13	F	G	N.D.
74	13E	Floor tile white	13	NF	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
75	13E	Drywall and Joint Compound	13	F	G	N.D.
76	14C	Drywall and Joint Compound	14	F	G	N.D.
77	14C	Floor tile brown	14	NF	G	N.D.
78	14F	Drywall and Joint Compound	14	F	G	N.D.
79	14F	A/C Caulking	14	NF	G	N.D.
80	14H	Drywall and Joint Compound	14	F	G	N.D.
81	14H	Floor tile white	14	NF	G	N.D.
82	15A	Drywall and Joint Compound	15	F	G	N.D.
83	15A	Floor tile white	15	NF	G	N.D.
84	15C	A/C Caulking	15	NF	G	N.D.
85	15C	Drywall and Joint Compound	15	F	G	N.D.
86	15E	Drywall and Joint Compound	15	F	G	N.D.
87	15E	Floor tile white	15	NF	G	N.D.
88	16A	Drywall and Joint Compound	16	F	G	N.D.
89	16A	Floor tile white	16	NF	G	N.D.
90	16B	A/C Caulking	16	NF	G	N.D.
91	16B	Floor tile white	16	NF	G	N.D.
92	16B	Drywall and Joint Compound	16	F	G	N.D.
93	18B	Drywall and Joint Compound	18	F	G	N.D.
94	18B	Floor tile white	18	NF	G	N.D.
95	20B	A/C Caulking	20	NF	G	N.D.
96	20B	Drywall and Joint Compound	20	F	G	N.D.
97	20G	Drywall and Joint Compound	20	F	G	N.D.
98	20G	Floor tile white	20	NF	G	N.D.
99	22F	A/C Caulking	22	NF	G	N.D.
100	22F	Drywall and Joint Compound	22	F	G	N.D.
101	22D	Drywall and Joint Compound	22	F	G	N.D.
102	22D	Floor tile Brown with specs	22	NF	G	N.D.
103	22E	Floor tile white	22	NF	G	N.D.
104	22E	Drywall and Joint Compound	22	F	G	N.D.
105	19G	Drywall and Joint Compound	19	F	G	N.D.
106	19G	Floor tile	19	NF	G	N.D.
107	19C	A/C Caulking	19	NF	G	N.D.
108	19C	Drywall and Joint Compound	19	F	G	N.D.
109	19A	Drywall and Joint Compound	19	F	G	N.D.
110	19A	Floor tile	19	NF	G	N.D.
111	21D	Drywall and Joint Compound	21	F	G	N.D.
112	21D	A/C Caulking	21	NF	G	N.D.
113	26A	Drywall and Joint Compound	26	F	G	N.D.
114	26A	A/C Caulking	26	NF	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
115	26C	Drywall and Joint Compound	26	F	G	N.D.
116	26C	A/C Caulking	26	NF	G	N.D.
117	26D	Drywall and Joint Compound	26	F	G	N.D.
118	26D	A/C Caulking	26	NF	G	N.D.
119	25E	Drywall and Joint Compound	25	F	G	N.D.
120	25E	A/C Caulking	25	NF	G	N.D.
121	25C	Drywall and Joint Compound	25	F	G	N.D.
122	25C	A/C Caulking	25	NF	G	N.D.
123	25B	Drywall and Joint Compound	25	F	G	N.D.
124	25B	A/C Caulking	25	NF	G	N.D.
125	35F	Drywall and Joint Compound	35	F	G	N.D.
126	35F	A/C Caulking	35	NF	G	N.D.
127	35C	Drywall and Joint Compound	35	F	G	N.D.
128	35C	A/C Caulking	35	NF	G	N.D.
129	35A	Drywall and Joint Compound	35	F	G	N.D.
130	35A	A/C Caulking	35	NF	G	N.D.
131	36D	Drywall and Joint Compound	36	F	G	N.D.
132	36D	A/C Caulking	36	NF	G	N.D.
133	36C	Drywall and Joint Compound	36	F	G	N.D.
134	36C	A/C Caulking	36	NF	G	N.D.
135	36B	Drywall and Joint Compound	36	F	G	N.D.
136	36B	A/C Caulking	36	NF	G	N.D.
137	30A	Drywall and Joint Compound	30	F	G	N.D.
138	30A	A/C Caulking	30	NF	G	N.D.
139	30D	Drywall and Joint Compound	30	F	G	N.D.
140	30D	A/C Caulking	30	NF	G	N.D.
141	30E	Drywall and Joint Compound	30	F	G	N.D.
142	30E	A/C Caulking	30	NF	G	N.D.
143	31B	Drywall and Joint Compound	31	F	G	N.D.
144	31B	A/C Caulking	31	NF	G	N.D.
145	31E	Drywall and Joint Compound	31	F	G	N.D.
146	31E	A/C Caulking	31	NF	G	N.D.
147	32C	Drywall and Joint Compound	32	F	G	N.D.
148	32C	A/C Caulking	32	NF	G	N.D.
149	32E	Drywall and Joint Compound	32	F	G	N.D.
150	32E	A/C Caulking	32	NF	G	N.D.
151	32D	Drywall and Joint Compound	32	F	G	N.D.
152	32D	A/C Caulking	32	NF	G	N.D.
153	29A	Drywall and Joint Compound	29	F	G	N.D.
154	29A	A/C Caulking	29	NF	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
155	37B	Drywall and Joint Compound	37	F	G	N.D.
156	37B	A/C Caulking	37	NF	G	N.D.
157	37A	Drywall and Joint Compound	37	F	G	N.D.
158	37A	A/C Caulking	37	NF	G	N.D.
159	42D	Drywall and Joint Compound	42	F	G	N.D.
160	42D	A/C Caulking	42	NF	G	N.D.
161	21E	Drywall and Joint Compound	21	F	G	N.D.
162	21E	A/C Caulking	21	NF	G	N.D.
163	24B	Drywall and Joint Compound	24	F	G	N.D.
164	24B	A/C Caulking	24	NF	G	N.D.
165	24D	Drywall and Joint Compound	24	F	G	N.D.
166	24D	A/C Caulking	24	NF	G	N.D.
167	24F	Drywall and Joint Compound	24	F	G	N.D.
168	24F	A/C Caulking	24	NF	G	N.D.
169	23C	Drywall and Joint Compound	23	F	G	N.D.
170	23C	A/C Caulking	23	NF	G	N.D.
171	23E	Drywall and Joint Compound	23	F	G	N.D.
172	23E	A/C Caulking	23	NF	G	N.D.
173	23F	Drywall and Joint Compound	23	F	G	N.D.
174	23F	A/C Caulking	23	NF	G	N.D.
175	34C	Drywall and Joint Compound	34	F	G	N.D.
176	34C	A/C Caulking	34	NF	G	N.D.
177	34A	Drywall and Joint Compound	34	F	G	N.D.
178	34A	A/C Caulking	34	NF	G	N.D.
179	33F	Drywall and Joint Compound	33	F	G	N.D.
180	33F	A/C Caulking	33	NF	G	N.D.
181	33D	Drywall and Joint Compound	33	F	G	N.D.
182	33D	A/C Caulking	33	NF	G	N.D.
183	33B	Drywall and Joint Compound	33	F	G	N.D.
184	33B	A/C Caulking	33	NF	G	N.D.
185	27B	Drywall and Joint Compound	27	F	G	N.D.
186	27B	A/C Caulking	27	NF	G	N.D.
187	27C	Drywall and Joint Compound	27	F	G	N.D.
188	27C	A/C Caulking	27	NF	G	N.D.
189	27F	Drywall and Joint Compound	27	F	G	N.D.
190	27F	A/C Caulking	27	NF	G	N.D.
191	28B	Drywall and Joint Compound	28	F	G	N.D.
192	28B	A/C Caulking	28	NF	G	N.D.
193	28C	Drywall and Joint Compound	28	F	G	N.D.
194	28C	A/C Caulking	28	NF	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
195	28E	Drywall and Joint Compound	28	F	G	N.D.
196	28E	A/C Caulking	28	NF	G	N.D.
197	29B	Drywall and Joint Compound	29	F	G	N.D.
198	29B	A/C Caulking	29	NF	G	N.D.
199	29D	Drywall and Joint Compound	29	F	G	N.D.
200	29D	A/C Caulking	29	NF	G	N.D.
201	42E	Drywall and Joint Compound	42	F	G	N.D.
202	42E	A/C Caulking	42	NF	G	N.D.
203	42A	Drywall and Joint Compound	42	F	G	N.D.
204	42A	A/C Caulking	42	NF	G	N.D.
205	41B	Drywall and Joint Compound	41	F	G	N.D.
206	41B	A/C Caulking	41	NF	G	N.D.
207	41A	Drywall and Joint Compound	41	F	G	N.D.
208	41A	A/C Caulking	41	NF	G	N.D.
209	41D	Drywall and Joint Compound	41	F	G	N.D.
210	41D	A/C Caulking	41	NF	G	N.D.
211	40D	Drywall and Joint Compound	40	F	G	N.D.
212	40D	A/C Caulking	40	NF	G	N.D.
213	50A	Drywall and Joint Compound	50	F	G	N.D.
214	50A	A/C Caulking	50	NF	G	N.D.
215	50C	Drywall and Joint Compound	50	F	G	N.D.
216	50C	A/C Caulking	50	NF	G	N.D.
217	50D	Drywall and Joint Compound	50	F	G	N.D.
218	50D	A/C Caulking	50	NF	G	N.D.
219	49B	Drywall and Joint Compound	49	F	G	N.D.
220	49B	A/C Caulking	49	NF	G	N.D.
221	49C	Drywall and Joint Compound	49	F	G	N.D.
222	49C	A/C Caulking	49	NF	G	N.D.
223	49F	Drywall and Joint Compound	49	F	G	N.D.
224	49F	A/C Caulking	49	NF	G	N.D.
225	48A	Drywall and Joint Compound	48	F	G	N.D.
226	48A	A/C Caulking	48	NF	G	N.D.
227	48C	Drywall and Joint Compound	48	F	G	N.D.
228	48C	A/C Caulking	48	NF	G	N.D.
229	48B	Drywall and Joint Compound	48	F	G	N.D.
230	48B	A/C Caulking	48	NF	G	N.D.
231	38D	Drywall and Joint Compound	38	F	G	N.D.
232	38D	A/C Caulking	38	NF	G	N.D.
233	38C	Drywall and Joint Compound	38	F	G	N.D.
234	38C	A/C Caulking	38	NF	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
235	38B	Drywall and Joint Compound	38	F	G	N.D.
236	38B	A/C Caulking	38	NF	G	N.D.
237	39D	Drywall and Joint Compound	39	F	G	N.D.
238	39D	A/C Caulking	39	NF	G	N.D.
239	39F	Drywall and Joint Compound	39	F	G	N.D.
240	39F	A/C Caulking	39	NF	G	N.D.
241	39G	Drywall and Joint Compound	39	F	G	N.D.
242	39G	A/C Caulking	39	NF	G	N.D.
243	40C	Drywall and Joint Compound	40	F	G	N.D.
244	40C	A/C Caulking	40	NF	G	N.D.
245	40A	Drywall and Joint Compound	40	F	G	N.D.
246	40A	A/C Caulking	40	NF	G	N.D.
247	58E	Drywall and Joint Compound	58	F	G	N.D.
248	58E	A/C Caulking	58	NF	G	N.D.
249	58F	Drywall and Joint Compound	58	F	G	N.D.
250	58F	A/C Caulking	58	NF	G	N.D.
251	58D	Drywall and Joint Compound	58	F	G	N.D.
252	58D	A/C Caulking	58	NF	G	N.D.
253	57D	Drywall and Joint Compound	57	F	G	N.D.
254	57D	A/C Caulking	57	NF	G	N.D.
255	57E	Drywall and Joint Compound	57	F	G	N.D.
256	57E	A/C Caulking	57	NF	G	N.D.
257	57C	Drywall and Joint Compound	57	F	G	N.D.
258	57C	A/C Caulking	57	NF	G	N.D.
259	56F	Drywall and Joint Compound	56	F	G	N.D.
260	56F	A/C Caulking	56	NF	G	N.D.
261	56D	Drywall and Joint Compound	56	F	G	N.D.
262	56D	A/C Caulking	56	NF	G	N.D.
263	56E	Drywall and Joint Compound	56	F	G	N.D.
264	56E	A/C Caulking	56	NF	G	N.D.
265	55E	Drywall and Joint Compound	55	F	G	N.D.
266	55E	A/C Caulking	55	NF	G	N.D.
267	55D	Drywall and Joint Compound	55	F	G	N.D.
268	55D	A/C Caulking	55	NF	G	N.D.
269	55F	Drywall and Joint Compound	55	F	G	N.D.
270	55F	A/C Caulking	55	NF	G	N.D.
271	53E	Drywall and Joint Compound	53	F	G	N.D.
272	53E	A/C Caulking	53	NF	G	N.D.
273	53D	Drywall and Joint Compound	53	F	G	N.D.
274	53D	A/C Caulking	53	NF	G	N.D.



Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
275	53B	Drywall and Joint Compound	53	F	G	N.D.
276	53B	A/C Caulking	53	NF	G	N.D.
277	44A	Drywall and Joint Compound	44	F	G	N.D.
278	44A	A/C Caulking	44	NF	G	N.D.
279	44B	Drywall and Joint Compound	44	F	G	N.D.
280	44B	A/C Caulking	44	NF	G	N.D.
281	44F	Drywall and Joint Compound	44	F	G	N.D.
282	44F	A/C Caulking	44	NF	G	N.D.
283	52F	Drywall and Joint Compound	52	F	G	N.D.
284	52F	A/C Caulking	52	NF	G	N.D.
285	52E	Drywall and Joint Compound	52	F	G	N.D.
286	52E	A/C Caulking	52	NF	G	N.D.
287	52D	Drywall and Joint Compound	52	F	G	N.D.
288	52D	A/C Caulking	52	NF	G	N.D.
289	51D	Drywall and Joint Compound	51	F	G	N.D.
290	51D	A/C Caulking	51	NF	G	N.D.
291	51E	Drywall and Joint Compound	51	F	G	N.D.
292	51E	A/C Caulking	51	NF	G	N.D.
293	51F	Drywall and Joint Compound	51	F	G	N.D.
294	51F	A/C Caulking	51	NF	G	N.D.
295	43A	Drywall and Joint Compound	43	F	G	N.D.
296	43A	A/C Caulking	43	NF	G	N.D.
297	43B	Drywall and Joint Compound	43	F	G	N.D.
298	43B	A/C Caulking	43	NF	G	N.D.
299	43D	Drywall and Joint Compound	43	F	G	N.D.
300	43D	A/C Caulking	43	NF	G	N.D.
301	60E	Drywall and Joint Compound	60	F	G	N.D.
302	60E	A/C Caulking	60	NF	G	N.D.
303	60D	Drywall and Joint Compound	60	F	G	N.D.
304	60D	A/C Caulking	60	NF	G	N.D.
305	60F	Drywall and Joint Compound	60	F	G	N.D.
306	60F	A/C Caulking	60	NF	G	N.D.
307	59E	Drywall and Joint Compound	59	F	G	N.D.
308	59E	A/C Caulking	59	NF	G	N.D.
309	59F	Drywall and Joint Compound	59	F	G	N.D.
310	59F	A/C Caulking	59	NF	G	N.D.
311	59B	Drywall and Joint Compound	59	F	G	N.D.
312	59B	A/C Caulking	59	NF	G	N.D.
313	19B	Drywall and Joint Compound	19	F	G	N.D.
314	19B	A/C Caulking	19	NF	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
315	19C	Drywall and Joint Compound	19	F	G	N.D.
316	19C	A/C Caulking	19	NF	G	N.D.
317	116G	Drywall and Joint Compound	116	F	G	N.D.
318	116G	A/C Caulking	116	NF	G	N.D.
319	113H	Drywall and Joint Compound	113	F	G	N.D.
320	113H	A/C Caulking	113	NF	G	N.D.
321	112C	Drywall and Joint Compound	112	F	G	N.D.
322	112C	A/C Caulking	112	NF	G	N.D.
323	112B	Drywall and Joint Compound	112	F	G	N.D.
324	112B	A/C Caulking	112	NF	G	N.D.
325	112A	Drywall and Joint Compound	112	F	G	N.D.
326	112A	A/C Caulking	112	NF	G	N.D.
327	114E	Drywall and Joint Compound	114	F	G	N.D.
328	114E	A/C Caulking	114	NF	G	N.D.
329	114G	Drywall and Joint Compound	114	F	G	N.D.
330	114G	A/C Caulking	114	NF	G	N.D.
331	114H	Drywall and Joint Compound	114	F	G	N.D.
332	114H	A/C Caulking	114	NF	G	N.D.
333	117H	Drywall and Joint Compound	117	F	G	N.D.
334	117H	A/C Caulking	117	NF	G	N.D.
335	117G	Drywall and Joint Compound	117	F	G	N.D.
336	117G	A/C Caulking	117	NF	G	N.D.
337	117J	Drywall and Joint Compound	117	F	G	N.D.
338	117J	A/C Caulking	117	NF	G	N.D.
339	118E	Drywall and Joint Compound	118	F	G	N.D.
340	118E	A/C Caulking	118	NF	G	N.D.
341	118F	Drywall and Joint Compound	118	F	G	N.D.
342	118F	A/C Caulking	118	NF	G	N.D.
343	118H	Drywall and Joint Compound	118	F	G	N.D.
344	118H	A/C Caulking	118	NF	G	N.D.
345	119A	Drywall and Joint Compound	119	F	G	N.D.
346	119A	A/C Caulking	119	NF	G	N.D.
347	119L	Drywall and Joint Compound	119	F	G	N.D.
348	119L	A/C Caulking	119	NF	G	N.D.
349	101L	Drywall and Joint Compound	101	F	G	N.D.
350	101L	A/C Caulking	101	NF	G	N.D.
351	47C	Drywall and Joint Compound	47	F	G	N.D.
352	47C	A/C Caulking	47	NF	G	N.D.
353	47E	Drywall and Joint Compound	47	F	G	N.D.
354	47E	A/C Caulking	47	NF	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
355	47A	Drywall and Joint Compound	47	F	G	N.D.
356	47A	A/C Caulking	47	NF	G	N.D.
357	46B	Drywall and Joint Compound	46	F	G	N.D.
358	46B	A/C Caulking	46	NF	G	N.D.
359	46C	Drywall and Joint Compound	46	F	G	N.D.
360	46C	A/C Caulking	46	NF	G	N.D.
361	46D	Drywall and Joint Compound	46	F	G	N.D.
362	46D	A/C Caulking	46	NF	G	N.D.
363	54E	Drywall and Joint Compound	54	F	G	N.D.
364	54E	A/C Caulking	54	NF	G	N.D.
365	54A	Drywall and Joint Compound	54	F	G	N.D.
366	54A	A/C Caulking	54	NF	G	N.D.
367	54D	Drywall and Joint Compound	54	F	G	N.D.
368	54D	A/C Caulking	54	NF	G	N.D.
369	45B	Drywall and Joint Compound	45	F	G	N.D.
370	45B	A/C Caulking	45	NF	G	N.D.
371	45C	Drywall and Joint Compound	45	F	G	N.D.
372	45C	A/C Caulking	45	NF	G	N.D.
373	45D	Drywall and Joint Compound	45	F	G	N.D.
374	45D	A/C Caulking	45	NF	G	N.D.
375	19A	Drywall and Joint Compound	19	F	G	N.D.
376	19A	A/C Caulking	19	NF	G	N.D.
377	116D	Drywall and Joint Compound	116	F	G	N.D.
378	116D	A/C Caulking	116	NF	G	N.D.
379	116H	Drywall and Joint Compound	116	F	G	N.D.
380	116H	A/C Caulking	116	NF	G	N.D.
381	115C	Drywall and Joint Compound	115	F	G	N.D.
382	115C	A/C Caulking	115	NF	G	N.D.
383	115B	Drywall and Joint Compound	115	F	G	N.D.
384	115B	A/C Caulking	115	NF	G	N.D.
385	115A	Drywall and Joint Compound	115	F	G	N.D.
386	115A	A/C Caulking	115	NF	G	N.D.
387	113J	Drywall and Joint Compound	113	F	G	N.D.
388	113J	A/C Caulking	113	NF	G	N.D.
389	113K	Drywall and Joint Compound	113	F	G	N.D.
390	113K	A/C Caulking	113	NF	G	N.D.
391	101M	Drywall and Joint Compound	101	F	G	N.D.
392	101M	A/C Caulking	101	NF	G	N.D.
393	102E	Drywall and Joint Compound	102	F	G	N.D.
394	102E	A/C Caulking	102	NF	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
395	101J	Drywall and Joint Compound	101	F	G	N.D.
396	101J	A/C Caulking	101	NF	G	N.D.
397	102D	Drywall and Joint Compound	102	F	G	N.D.
398	102D	A/C Caulking	102	NF	G	N.D.
399	102A	Drywall and Joint Compound	102	F	G	N.D.
400	102A	A/C Caulking	102	NF	G	N.D.
401	103H	Drywall and Joint Compound	103	F	G	N.D.
402	103H	A/C Caulking	103	NF	G	N.D.
403	103G	Drywall and Joint Compound	103	F	G	N.D.
404	103G	A/C Caulking	103	NF	G	N.D.
405	103F	Drywall and Joint Compound	103	F	G	N.D.
406	103F	A/C Caulking	103	NF	G	N.D.
407	111G	Drywall and Joint Compound	111	F	G	N.D.
408	111G	A/C Caulking	111	NF	G	N.D.
409	111F	Drywall and Joint Compound	111	F	G	N.D.
410	111F	A/C Caulking	111	NF	G	N.D.
411	111D	Drywall and Joint Compound	111	F	G	N.D.
412	111D	A/C Caulking	111	NF	G	N.D.
413	110C	Drywall and Joint Compound	110	F	G	N.D.
414	110C	A/C Caulking	110	NF	G	N.D.
415	110B	Drywall and Joint Compound	110	F	G	N.D.
416	110B	A/C Caulking	110	NF	G	N.D.
417	108F	Drywall and Joint Compound	108	F	G	N.D.
418	108F	A/C Caulking	108	NF	G	N.D.
419	110A	Drywall and Joint Compound	110	F	G	N.D.
420	110A	A/C Caulking	110	NF	G	N.D.
421	108D	Drywall and Joint Compound	108	F	G	N.D.
422	108D	A/C Caulking	108	NF	G	N.D.
423	108C	Drywall and Joint Compound	108	F	G	N.D.
424	108C	A/C Caulking	108	NF	G	N.D.
425	107F	Drywall and Joint Compound	107	F	G	N.D.
426	107F	A/C Caulking	107	NF	G	N.D.
427	107H	Drywall and Joint Compound	107	F	G	N.D.
428	107H	A/C Caulking	107	NF	G	N.D.
429	109B	Drywall and Joint Compound	109	F	G	N.D.
430	109B	A/C Caulking	109	NF	G	N.D.
431	106D	Drywall and Joint Compound	106	F	G	N.D.
432	106D	A/C Caulking	106	NF	G	N.D.
433	106C	Drywall and Joint Compound	106	F	G	N.D.
434	106C	A/C Caulking	106	NF	G	N.D.

Sample #	Unit	Description	Building #	Friable (F)/ Non-Friable (NF)	Condition	Analytical Results
435	106E	Drywall and Joint Compound	106	F	G	N.D.
436	106E	A/C Caulking	106	NF	G	N.D.
437	104J	Drywall and Joint Compound	104	F	G	N.D.
438	104J	A/C Caulking	104	NF	G	N.D.
439	104F	Drywall and Joint Compound	104	F	G	N.D.
440	104F	A/C Caulking	104	NF	G	N.D.
441	105B	Drywall and Joint Compound	105	F	G	N.D.
442	105B	A/C Caulking	105	NF	G	N.D.
443	104C	Drywall and Joint Compound	104	F	G	N.D.
444	104C	A/C Caulking	104	NF	G	N.D.
445	105L	Drywall and Joint Compound	105	F	G	N.D.
446	105L	A/C Caulking	105	NF	G	N.D.
447	105M	Drywall and Joint Compound	105	F	G	N.D.
448	105M	A/C Caulking	105	NF	G	N.D.
449	120C	Drywall and Joint Compound	120	F	G	N.D.
450	120C	A/C Caulking	120	NF	G	N.D.
451	120B	Drywall and Joint Compound	120	F	G	N.D.
452	120B	A/C Caulking	120	NF	G	N.D.
453	120D	Drywall and Joint Compound	120	F	G	N.D.
454	120D	A/C Caulking	120	NF	G	N.D.
455	119F	Drywall and Joint Compound	119	F	G	N.D.
456	119F	A/C Caulking	119	NF	G	N.D.
457	109E	Drywall and Joint Compound	109	F	G	N.D.
458	109E	A/C Caulking	109	NF	G	N.D.
459	107C	Drywall and Joint Compound	107	F	G	N.D.
460	107C	A/C Caulking	107	NF	G	N.D.

Note: N.D. = Asbestos was Not Detected

Condition = Good (G), Damaged (D), Significantly Damaged (SD)

## ASBESTOS BULK ANALYSIS REPORT

Date: November 30, 2022

FERN Environmental, LLC

Report: 2322-4744  
0122-272 / Cuney

This document shall be considered a duly signed original report of the results obtained from the analysis(es) performed. All analyses are done within government guidelines and regulations.

A handwritten signature in black ink, appearing to read 'G.R. Simmons', written over a horizontal line.

Gary R. Simmons  
Laboratory Manager

Lab Comments on Project: N/A

## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

FERN Environmental, LLC  
10103 Fondren Rd., Ste. 425  
Houston, TX 77096  
832-797-3059  
Contact: Greg Lall

Report Number: 2322-4744  
Report Date: November 30, 2022  
Samples Collected: November 18, 2022  
Date Received: November 18, 2022  
Turn-around time: 5 Day

Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
01	2322-4744-01	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
02	2322-4744-02A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-02B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-02C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-02D	Brown,White / Sheetrock / Fibrous / Homogeneous	None Detected	Cellulose 10% Fibrous Glass 2%	Binder
03	2322-4744-03A	Brown / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-03B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
04	2322-4744-04A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-04B	Yellow,Grey / Mastic,Material / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
05	2322-4744-05A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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05	2322-4744-05B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-05C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-05D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
06	2322-4744-06A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-06B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-06C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-06D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
07	2322-4744-07A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-07B	Green / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
08	2322-4744-08	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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09	2322-4744-09A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-09B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-09C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-09D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
010	2322-4744-10A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-10B	Yellow,Grey / Mastic,Material / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
011	2322-4744-11A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-11B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-11C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-11D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
012	2322-4744-12A	Off White,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-12B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
013	2322-4744-13A	Off White,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-13B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
014	2322-4744-14A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-14B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-14C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-14D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
015	2322-4744-15	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
016	2322-4744-16A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
016	2322-4744-16B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-16C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-16D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
017	2322-4744-17A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-17B	Green / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
018	2322-4744-18A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-18B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
019	2322-4744-19A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-19B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-19C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
019	2322-4744-19D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
020	2322-4744-20A	Off White,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-20B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
021	2322-4744-21A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-21B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-21C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-21D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
022	2322-4744-22	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
023	2322-4744-23A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-23B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
023	2322-4744-23C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-23D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
024	2322-4744-24A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-24B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
025	2322-4744-25A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-25B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-25C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-25D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
026	2322-4744-26A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-26B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
027	2322-4744-27A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-27B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
028	2322-4744-28A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-28B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
029	2322-4744-29A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-29B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-29C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-29D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
030	2322-4744-30	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
031	2322-4744-31	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

FERN Environmental, LLC  
10103 Fondren Rd., Ste. 425  
Houston, TX 77096  
832-797-3059  
Contact: Greg Lall

Report Number: 2322-4744  
Report Date: November 30, 2022  
Samples Collected: November 18, 2022  
Date Received: November 18, 2022  
Turn-around time: 5 Day

Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
032	2322-4744-32A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-32B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-32C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-32D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
033	2322-4744-33A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-33B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-33C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-33D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
034	2322-4744-34A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-34B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
035	2322-4744-35A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-35B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-35C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-35D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
036	2322-4744-36	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
037	2322-4744-37A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-37B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-37C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-37D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
038	2322-4744-38A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
038	2322-4744-38B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-38C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-38D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
039	2322-4744-39A	Off White,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-39B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
040	2322-4744-40A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-40B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
041	2322-4744-41A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-41B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-41C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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041	2322-4744-41D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
042	2322-4744-42A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-42B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-42C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-42D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
043	2322-4744-43A	Off White,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-43B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
044	2322-4744-44	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
045	2322-4744-45A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-45B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder

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045	2322-4744-45C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-45D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
046	2322-4744-46	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
047	2322-4744-47A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-47B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-47C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-47D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
048	2322-4744-48A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-48B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-48C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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048	2322-4744-48D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
049	2322-4744-49A	Brown / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-49B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
050	2322-4744-50A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-50B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-50C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-50D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
051	2322-4744-51A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-51B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
052	2322-4744-52A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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052	2322-4744-52B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-52C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-52D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
053	2322-4744-53A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-53B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
054	2322-4744-54A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-54B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-54C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-54D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
055	2322-4744-55	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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056	2322-4744-56A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-56B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-56C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-56D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
057	2322-4744-57A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-57B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
058	2322-4744-58A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-58B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
059	2322-4744-59A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-59B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder

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059	2322-4744-59C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-59D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
060	2322-4744-60	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
061	2322-4744-61A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-61B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-61C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-61D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
062	2322-4744-62A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-62B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-62C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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062	2322-4744-62D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
063	2322-4744-63A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-63B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
064	2322-4744-64A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-64B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-64C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-64D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
065	2322-4744-65A	Light Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-65B	Green / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
066	2322-4744-66	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

FERN Environmental, LLC  
10103 Fondren Rd., Ste. 425  
Houston, TX 77096  
832-797-3059  
Contact: Greg Lall

Report Number: 2322-4744  
Report Date: November 30, 2022  
Samples Collected: November 18, 2022  
Date Received: November 18, 2022  
Turn-around time: 5 Day

Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
067	2322-4744-67A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-67B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-67C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-67D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
068	2322-4744-68A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-68B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-68C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-68D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
069	2322-4744-69A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-69B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
070	2322-4744-70	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
071	2322-4744-71A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-71B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-71C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-71D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
072	2322-4744-72	White,Grey / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
073	2322-4744-73A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-73B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-73C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-73D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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**Job ID / Site: 0122-272 / Cunev**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
074	2322-4744-74A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-74B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
075	2322-4744-75A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-75B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-75C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-75D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
076	2322-4744-76A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-76B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-76C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-76D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
077	2322-4744-77A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-77B	Yellow / Mastic / Fibrous / Homogeneous	None Detected	None Detected	Binder
078	2322-4744-78A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-78B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-78C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-78D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
079	2322-4744-79	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
080	2322-4744-80A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-80B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-80C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
080	2322-4744-80D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
081	2322-4744-81A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-81B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
082	2322-4744-82A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-82B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-82C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-82D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
083	2322-4744-83A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-83B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
084	2322-4744-84	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
085	2322-4744-85A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-85B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-85C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-85D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
086	2322-4744-86A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-86B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-86C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-86D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
087	2322-4744-87A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-87B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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088	2322-4744-88A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-88B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-88C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-88D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
089	2322-4744-89A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-89B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
090	2322-4744-90	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
091	2322-4744-91A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-91B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
092	2322-4744-92A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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092	2322-4744-92B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-92C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-92D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
093	2322-4744-93A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-93B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-93C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-93D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
094	2322-4744-94A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-94B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
095	2322-4744-95	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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096	2322-4744-96A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-96B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-96C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-96D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
097	2322-4744-97A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-97B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-97C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-97D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
098	2322-4744-98A	Off White / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-98B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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099	2322-4744-99	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
100	2322-4744-100A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-100B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-100C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-100D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
101	2322-4744-101A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-101B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-101C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-101D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
102	2322-4744-102A	Tan / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

FERN Environmental, LLC  
10103 Fondren Rd., Ste. 425  
Houston, TX 77096  
832-797-3059  
Contact: Greg Lall

Report Number: 2322-4744  
Report Date: November 30, 2022  
Samples Collected: November 18, 2022  
Date Received: November 18, 2022  
Turn-around time: 5 Day

Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
102	2322-4744-102B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
103	2322-4744-103A	Beige, Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-103B	Yellow / Mastic / NonFibrous / Homogeneous	None Detected	None Detected	Binder
104	2322-4744-104A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-104B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-104C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-104D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
105	2322-4744-105A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-105B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-105C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
105	2322-4744-105D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
106	2322-4744-106A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-106B	Yellow / Mastic / Fibrous / Homogeneous	None Detected	None Detected	Binder
107	2322-4744-107	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
108	2322-4744-108A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-108B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-108C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-108D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
109	2322-4744-109A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-109B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
109	2322-4744-109C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-109D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
110	2322-4744-110A	Beige,Grey / Floor Tile / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-110B	Yellow / Mastic / Fibrous / Homogeneous	None Detected	None Detected	Binder
111	2322-4744-111A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-111B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-111C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-111D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
112	2322-4744-112	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
113	2322-4744-113A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
113	2322-4744-113B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-113C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-113D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
114	2322-4744-114	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
115	2322-4744-115A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-115B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-115C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-115D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
116	2322-4744-116	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
117	2322-4744-117A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
117	2322-4744-117B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-117C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-117D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
118	2322-4744-118	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119	2322-4744-119A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-119B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-119C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-119D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
120	2322-4744-120	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
121	2322-4744-121A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
121	2322-4744-121B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-121C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-121D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
122	2322-4744-122	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
123	2322-4744-123A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-123B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-123C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-123D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
124	2322-4744-124	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
125	2322-4744-125	White / Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
126	2322-4744-126	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
127	2322-4744-127A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-127B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-127C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-127D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
128	2322-4744-128	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
129	2322-4744-129A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-129B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-129C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-129D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
130	2322-4744-130	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
131	2322-4744-131A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-131B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-131C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-131D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
132	2322-4744-132	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
133	2322-4744-133A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-133B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-133C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-133D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
134	2322-4744-134	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
135	2322-4744-135A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-135B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-135C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-135D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
136	2322-4744-136	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
137	2322-4744-137A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-137B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-137C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-137D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
138	2322-4744-138	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
139	2322-4744-139A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-139B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-139C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-139D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
140	2322-4744-140	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
141	2322-4744-141A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-141B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-141C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-141D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

**FERN Environmental, LLC**  
**10103 Fondren Rd., Ste. 425**  
**Houston, TX 77096**  
**832-797-3059**  
**Contact: Greg Lall**

**Report Number: 2322-4744**  
**Report Date: November 30, 2022**  
**Samples Collected: November 18, 2022**  
**Date Received: November 18, 2022**  
**Turn-around time: 5 Day**

**Job ID / Site: 0122-272 / Cunev**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
142	2322-4744-142	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
143	2322-4744-143A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-143B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-143C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-143D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
144	2322-4744-144	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
145	2322-4744-145A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-145B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-145C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-145D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
146	2322-4744-146	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
147	2322-4744-147A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-147B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-147C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-147D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
148	2322-4744-148	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
149	2322-4744-149A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-149B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-149C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-149D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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150	2322-4744-150	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
161	2322-4744-151A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-151B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-151C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-151D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
162		NSR			
163	2322-4744-152A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-152B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-152C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-152D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
164	2322-4744-153	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
165	2322-4744-154A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-154B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-154C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-154D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
166	2322-4744-155	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
167	2322-4744-156A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-156B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-156C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-156D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
168	2322-4744-157	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
169	2322-4744-158A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-158B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-158C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-158D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
170	2322-4744-159	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
171	2322-4744-160A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-160B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-160C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-160D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
172	2322-4744-161	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
173	2322-4744-162A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-162B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-162C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-162D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
174	2322-4744-163	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
175	2322-4744-164A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-164B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-164C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-164D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
176	2322-4744-165	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
177	2322-4744-166A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-166B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-166C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-166D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
178	2322-4744-167	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
179	2322-4744-168A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-168B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-168C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-168D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
180	2322-4744-169	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
181	2322-4744-170A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-170B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-170C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-170D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
182	2322-4744-171	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
183	2322-4744-172A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-172B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-172C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-172D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
184	2322-4744-173	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
185	2322-4744-174A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-174B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-174C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-174D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
186	2322-4744-175	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
187	2322-4744-176A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-176B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-176C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-176D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
188	2322-4744-177	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
189	2322-4744-178A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-178B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-178C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-178D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
190		NSR			
191	2322-4744-179A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-179B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-179C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-179D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

FERN Environmental, LLC  
10103 Fondren Rd., Ste. 425  
Houston, TX 77096  
832-797-3059  
Contact: Greg Lall

Report Number: 2322-4744  
Report Date: November 30, 2022  
Samples Collected: November 18, 2022  
Date Received: November 18, 2022  
Turn-around time: 5 Day

Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
192	2322-4744-180	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
193	2322-4744-181A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-181B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-181C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-181D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
194	2322-4744-182	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
195	2322-4744-183A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-183B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-183C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-183D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

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Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
196	2322-4744-184	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
197	2322-4744-185A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-185B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-185C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-185D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
198	2322-4744-186	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
199	2322-4744-187A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-187B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-187C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-187D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
200	2322-4744-188	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
151	2322-4744-189A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-189B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-189C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-189D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
152	2322-4744-190	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
153	2322-4744-191A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-191B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-191C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-191D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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**Job ID / Site: 0122-272 / Cuney**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
154	2322-4744-192	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
155	2322-4744-193A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-193B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-193C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-193D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
156	2322-4744-194	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
157	2322-4744-195A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-195B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-195C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-195D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
158	2322-4744-196	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
159	2322-4744-197A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-197B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-197C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-197D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
160	2322-4744-198	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
201	2322-4744-199A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-199B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-199C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-199D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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202	2322-4744-200	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
203	2322-4744-201A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-201B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-201C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-201D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
204	2322-4744-202	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
205	2322-4744-203A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-203B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-203C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-203D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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206	2322-4744-204	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
207	2322-4744-205A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-205B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-205C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-205D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
208	2322-4744-206	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
209	2322-4744-207A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-207B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-207C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-207D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
210	2322-4744-208	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
211	2322-4744-209A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-209B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-209C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-209D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
212	2322-4744-210	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
213	2322-4744-211A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-211B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-211C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-211D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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214	2322-4744-212	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
215	2322-4744-213A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-213B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
216	2322-4744-214	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
217	2322-4744-215A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-215B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
218	2322-4744-216	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
219	2322-4744-217A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-217B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
220	2322-4744-218	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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221	2322-4744-219A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-219B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
222	2322-4744-220	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
223	2322-4744-221A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-221B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
224	2322-4744-222	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
225	2322-4744-223A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-223B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
226	2322-4744-224	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
227	2322-4744-225A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Job ID / Site: 0122-272 / Cuney

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
227	2322-4744-225B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
228	2322-4744-226	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
229	2322-4744-227A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-227B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
230	2322-4744-228	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
231	2322-4744-229A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-229B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-229C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-229D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
232	2322-4744-230	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

FERN Environmental, LLC  
10103 Fondren Rd., Ste. 425  
Houston, TX 77096  
832-797-3059  
Contact: Greg Lall

Report Number: 2322-4744  
Report Date: November 30, 2022  
Samples Collected: November 18, 2022  
Date Received: November 18, 2022  
Turn-around time: 5 Day

Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
233	2322-4744-231A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-231B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-231C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-231D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
234	2322-4744-232	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
235	2322-4744-233A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-233B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-233C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-233D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
236	2322-4744-234	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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**Turn-around time: 5 Day**

**Job ID / Site: 0122-272 / Cuney**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
237	2322-4744-235A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-235B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-235C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-235D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
238	2322-4744-236	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
239	2322-4744-237A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-237B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-237C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-237D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
240	2322-4744-238	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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**Job ID / Site: 0122-272 / Cunev**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
241	2322-4744-239A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-239B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-239C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-239D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
242	2322-4744-240	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
243	2322-4744-241A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-241B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-241C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-241D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
244	2322-4744-242	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Job ID / Site: 0122-272 / Cuney

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
245	2322-4744-243A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-243B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-243C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-243D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
246	2322-4744-244	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
247	2322-4744-245A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-245B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-245C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-245D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
248	2322-4744-246	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
249	2322-4744-247A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-247B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-247C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-247D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
250	2322-4744-248	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
251	2322-4744-249A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-249B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-249C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-249D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
252	2322-4744-250	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
253	2322-4744-251A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-251B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-251C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-251D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
254	2322-4744-252	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
255	2322-4744-253A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-253B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-253C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-253D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
256	2322-4744-254	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
257	2322-4744-255A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-255B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-255C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-255D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
258	2322-4744-256	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
259	2322-4744-257A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-257B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-257C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-257D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
260	2322-4744-258	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
261	2322-4744-259A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-259B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-259C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-259D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
262	2322-4744-260	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
263	2322-4744-261A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-261B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-261C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-261D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
264	2322-4744-262	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
265	2322-4744-263A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-263B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-263C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-263D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
266	2322-4744-264	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
267	2322-4744-265A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-265B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-265C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-265D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
268	2322-4744-266	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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269	2322-4744-267A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-267B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-267C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-267D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
270	2322-4744-268	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
271	2322-4744-269A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-269B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-269C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-269D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
272	2322-4744-270	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

**FERN Environmental, LLC**  
**10103 Fondren Rd., Ste. 425**  
**Houston, TX 77096**  
**832-797-3059**  
**Contact: Greg Lall**

**Report Number: 2322-4744**  
**Report Date: November 30, 2022**  
**Samples Collected: November 18, 2022**  
**Date Received: November 18, 2022**  
**Turn-around time: 5 Day**

**Job ID / Site: 0122-272 / Cuney**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
273	2322-4744-271A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-271B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-271C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-271D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
274	2322-4744-272	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
275	2322-4744-273A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-273B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-273C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-273D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
276	2322-4744-274	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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**Job ID / Site: 0122-272 / Cuney**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
277	2322-4744-275A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-275B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-275C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-275D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
278	2322-4744-276	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
279	2322-4744-277A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-277B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-277C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-277D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
280	2322-4744-278	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
281	2322-4744-279A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-279B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-279C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-279D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
282	2322-4744-280	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
283	2322-4744-281A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-281B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-281C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-281D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
284	2322-4744-282	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
285	2322-4744-283A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-283B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-283C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-283D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
286	2322-4744-284	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
287	2322-4744-285A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-285B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-285C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-285D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
288	2322-4744-286	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
289	2322-4744-287A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-287B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-287C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-287D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
290	2322-4744-288	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
291	2322-4744-289A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-289B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-289C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-289D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
292	2322-4744-290	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
293	2322-4744-291A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-291B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-291C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-291D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
294	2322-4744-292	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
295	2322-4744-293A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-293B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-293C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-293D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
296	2322-4744-294	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
297	2322-4744-295A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-295B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-295C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-295D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
298	2322-4744-296	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
299	2322-4744-297A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-297B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-297C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-297D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
300	2322-4744-298	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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**Job ID / Site: 0122-272 / Cunev**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
301	2322-4744-299A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-299B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-299C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-299D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
302	2322-4744-300	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
303	2322-4744-301A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-301B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-301C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-301D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
304	2322-4744-302	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
305	2322-4744-303A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-303B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-303C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-303D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
306	2322-4744-304	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
307	2322-4744-305A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-305B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-305C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-305D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
308	2322-4744-306	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
309	2322-4744-307A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-307B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-307C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-307D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
310	2322-4744-308	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
311	2322-4744-309A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-309B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-309C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-309D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
312	2322-4744-310	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

**FERN Environmental, LLC**  
**10103 Fondren Rd., Ste. 425**  
**Houston, TX 77096**  
**832-797-3059**  
**Contact: Greg Lall**

**Report Number: 2322-4744**  
**Report Date: November 30, 2022**  
**Samples Collected: November 18, 2022**  
**Date Received: November 18, 2022**  
**Turn-around time: 5 Day**

**Job ID / Site: 0122-272 / Cuney**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
313	2322-4744-311A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-311B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-311C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-311D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
314	2322-4744-312	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
315	2322-4744-313A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-313B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-313C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-313D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
316	2322-4744-314	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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**Job ID / Site: 0122-272 / Cunev**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
317	2322-4744-315A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-315B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-315C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-315D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
318	2322-4744-316	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
319	2322-4744-317A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-317B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-317C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-317D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
320	2322-4744-318A	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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**Job ID / Site: 0122-272 / Cunev**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
321	2322-4744-319A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-319B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-319C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-319D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
322	2322-4744-320	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
323	2322-4744-321A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-321B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-321C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-321D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
324	2322-4744-322	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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**Job ID / Site: 0122-272 / Cuney**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
325	2322-4744-323A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-323B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-323C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-323D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
326	2322-4744-324	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
327	2322-4744-325A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-325B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-325C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-325D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
328	2322-4744-326	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
329	2322-4744-327A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-327B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-327C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-327D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
330	2322-4744-328	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
331	2322-4744-329A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-329B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-329C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-329D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
332	2322-4744-330	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
333	2322-4744-331A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-331B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-331C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-331D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
334	2322-4744-332	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
335	2322-4744-333A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-333B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-333C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-333D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
336	2322-4744-334	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
337	2322-4744-335A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-335B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-335C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-335D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
338	2322-4744-336	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
339	2322-4744-337A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-337B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-337C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-337D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
340	2322-4744-338	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
341	2322-4744-339A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-339B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-339C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-339D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
342	2322-4744-340	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
343	2322-4744-341A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-341B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-341C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-341D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
344	2322-4744-342	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
345	2322-4744-343A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-343B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-343C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-343D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
346	2322-4744-344	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
347	2322-4744-345A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-345B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-345C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-345D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
348	2322-4744-346	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
349	2322-4744-347A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-347B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-347C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-347D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
350	2322-4744-348	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
351	2322-4744-349A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-349B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
352	2322-4744-350	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
353	2322-4744-351A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-351B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

FERN Environmental, LLC  
10103 Fondren Rd., Ste. 425  
Houston, TX 77096  
832-797-3059  
Contact: Greg Lall

Report Number: 2322-4744  
Report Date: November 30, 2022  
Samples Collected: November 18, 2022  
Date Received: November 18, 2022  
Turn-around time: 5 Day

Job ID / Site: 0122-272 / Cunev

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
354	2322-4744-352	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
355	2322-4744-353A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-353B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	None Detected	Binder
356	2322-4744-354	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
357	2322-4744-355A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-355B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	None Detected	Binder
358	2322-4744-356	Clear Yellow / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
359	2322-4744-357A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-357B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	None Detected	Binder
360	2322-4744-358	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
361	2322-4744-359A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-359B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
362	2322-4744-360	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
363	2322-4744-361A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-361B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
364	2322-4744-362	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
365	2322-4744-363A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-363B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
366	2322-4744-364	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
367	2322-4744-365A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
367	2322-4744-365B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
368	2322-4744-366	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
369	2322-4744-367A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-367B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
370	2322-4744-368	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
371	2322-4744-369A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-369B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
372	2322-4744-370	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
373	2322-4744-371A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-371B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
374	2322-4744-372	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
375	2322-4744-373A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-373B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
376	2322-4744-374	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
377	2322-4744-375A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-375B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-375C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-375D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
378	2322-4744-376	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
379	2322-4744-377A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
379	2322-4744-377B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-377C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-377D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
380	2322-4744-378	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
381	2322-4744-379A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-379B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-379C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-379D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
382	2322-4744-380	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
383	2322-4744-381A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
383	2322-4744-381B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-381C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-381D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
384	2322-4744-382	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
385	2322-4744-383A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-383B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-383C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-383D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
386	2322-4744-384	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
387	2322-4744-385A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
387	2322-4744-385B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-385C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-385D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
388	2322-4744-386	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
389	2322-4744-387A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-387B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-387C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-387D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
390	2322-4744-388	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
391	2322-4744-389A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
391	2322-4744-389B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-389C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-389D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
392	2322-4744-390	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
393	2322-4744-391A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-391B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-391C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-391D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
394	2322-4744-392	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
395	2322-4744-393A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
395	2322-4744-393B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-393C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-393D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
396	2322-4744-394	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
397	2322-4744-395A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-395B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-395C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-395D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
398	2322-4744-396	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
399	2322-4744-397A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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399	2322-4744-397B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-397C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-397D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
400	2322-4744-398	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
401	2322-4744-399A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-399B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-399C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-399D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
402	2322-4744-400	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
403	2322-4744-401A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

**FERN Environmental, LLC**  
**10103 Fondren Rd., Ste. 425**  
**Houston, TX 77096**  
**832-797-3059**  
**Contact: Greg Lall**

**Report Number: 2322-4744**  
**Report Date: November 30, 2022**  
**Samples Collected: November 18, 2022**  
**Date Received: November 18, 2022**  
**Turn-around time: 5 Day**

**Job ID / Site: 0122-272 / Cunev**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
403	2322-4744-401B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-401C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-401D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
404	2322-4744-402	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
405	2322-4744-403A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-403B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-403C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-403D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
406	2322-4744-404	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
407	2322-4744-405A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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**Job ID / Site: 0122-272 / Cunev**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
407	2322-4744-405B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-405C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-405D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
408	2322-4744-406	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
409	2322-4744-407A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-407B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-407C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-407D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
410	2322-4744-408	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
411	2322-4744-409A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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**Job ID / Site: 0122-272 / Cuney**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
411	2322-4744-409B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-409C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-409D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
412	2322-4744-410	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
413	2322-4744-411A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-411B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-411C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-411D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
414	2322-4744-412	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
415	2322-4744-413A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
415	2322-4744-413B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-413C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-413D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
416	2322-4744-414	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
417	2322-4744-415A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-415B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-415C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-415D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
418	2322-4744-416	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
419	2322-4744-417A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
419	2322-4744-417B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-417C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-417D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
420	2322-4744-418	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
421	2322-4744-419A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-419B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-419C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-419D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
422	2322-4744-420	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
423	2322-4744-421A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
423	2322-4744-421B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-421C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-421D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
424	2322-4744-422	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
425	2322-4744-423A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-423B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-423C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-423D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
426	2322-4744-424	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
427	2322-4744-425A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
427	2322-4744-425B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-425C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-425D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
428	2322-4744-426	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
429	2322-4744-427A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-427B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-427C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-427D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
430	2322-4744-428	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
431	2322-4744-429A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
431	2322-4744-429B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-429C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-429D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
432	2322-4744-430	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
433	2322-4744-431A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-431B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-431C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-431D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
434	2322-4744-432	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
435	2322-4744-433A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
435	2322-4744-433B	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
436	2322-4744-434	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
437	2322-4744-435A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-435B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-435C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-435D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
438	2322-4744-436	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
439	2322-4744-437A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-437B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-437C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
439	2322-4744-437D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
440	2322-4744-438	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
441	2322-4744-439A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-439B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-439C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-439D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
442	2322-4744-440	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
443	2322-4744-441A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-441B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-441C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

**FERN Environmental, LLC**  
**10103 Fondren Rd., Ste. 425**  
**Houston, TX 77096**  
**832-797-3059**  
**Contact: Greg Lall**

**Report Number: 2322-4744**  
**Report Date: November 30, 2022**  
**Samples Collected: November 18, 2022**  
**Date Received: November 18, 2022**  
**Turn-around time: 5 Day**

**Job ID / Site: 0122-272 / Cuney**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
443	2322-4744-441D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
444	2322-4744-442	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
445	2322-4744-443A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-443B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-443C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-443D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
446	2322-4744-444	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
447	2322-4744-445A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-445B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-445C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

FERN Environmental, LLC  
10103 Fondren Rd., Ste. 425  
Houston, TX 77096  
832-797-3059  
Contact: Greg Lall

Report Number: 2322-4744  
Report Date: November 30, 2022  
Samples Collected: November 18, 2022  
Date Received: November 18, 2022  
Turn-around time: 5 Day

Job ID / Site: 0122-272 / Cuney

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
447	2322-4744-445D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
448	2322-4744-446	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
449	2322-4744-447A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-447B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-447C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-447D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
450	2322-4744-448	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
451	2322-4744-449A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-449B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-449C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

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Job ID / Site: 0122-272 / Cuney

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
451	2322-4744-449D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
452	2322-4744-450	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
453	2322-4744-451A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-451B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-451C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-451D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
454	2322-4744-452	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
455	2322-4744-453A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-453B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-453C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

Page 113 of 115

## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

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**Samples Collected: November 18, 2022**  
**Date Received: November 18, 2022**  
**Turn-around time: 5 Day**

**Job ID / Site: 0122-272 / Cuney**

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
455	2322-4744-453D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
456	2322-4744-454	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
457	2322-4744-455A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-455B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-455C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-455D	Brown,White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
458	2322-4744-456	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
459	2322-4744-457A	White / Texture / NonFibrous / Homogeneous	None Detected	None Detected	Binder
	2322-4744-457B	Off White / Joint Tape / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	2322-4744-457C	White / Joint Compound / NonFibrous / Homogeneous	None Detected	None Detected	Binder

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NVLAP Lab Code: 200633-0 PLM

TDSHS Asbestos License#: 30-0312 PLM/PCM

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## PLM (Bulk) - Asbestos Analysis Report - Visual ID (EPA Method 600/R-93-116 Visual Area Estimation)

FERN Environmental, LLC  
10103 Fondren Rd., Ste. 425  
Houston, TX 77096  
832-797-3059  
Contact: Greg Lall

Report Number: 2322-4744  
Report Date: November 30, 2022  
Samples Collected: November 18, 2022  
Date Received: November 18, 2022  
Turn-around time: 5 Day

Job ID / Site: 0122-272 / Cuney

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
459	2322-4744-457D	Brown, White / Drywall / Fibrous / Homogeneous	None Detected	Cellulose 10%	Binder
460	2322-4744-458	White / Material / NonFibrous / Homogeneous	None Detected	None Detected	Binder
461 – 470		NSR (10)			

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# Apex Precision Analytical Services, Inc.

An Independent Laboratory Providing Reliable Analysis with Professionalism and Honesty



## Chain of Custody

APASI#:

for office use only

2322-4744

Date Collected: 11/18/2022		Date Sent:	
Contact: Gregory Lall		Special Instructions:	
Company: FERN Environmental, LLC			
Address: 10103 Fondren Rd., Suite 425		P.O. #:	
Houston, TX 77096		E-Mail: greg@fernenvironmental.com	
Phone: 832-797-3059		Add'l Email:	
Turn Around Time: (Circle One) Critical Urgent/ASAP 24 Hours 48Hours 72 Hours 5 Days			
Client Job Number/Name: 0122-272 / Cuvey			
<u>Mycology(Mold) Spore Trap-Air Samples</u> ___ Fungal/Mold spore count by Air-O-Cell, Cyclex (d), BioCell, or other spore trap cassette/device		<u>Polarized Light Microscopy(PLM)-Bulk Samples</u> ✓ ___ Asbestos Identification (Visual Estimation) by EPA 600/R-93/116 Method ___ Asbestos Identification (Point Count) by EPA 600/M4-82-020 Method ___ Asbestos Identification - by Gravimetric Reduction	
<u>Mycology(Mold) Bulk ID Samples</u> ___ Fungal/Mold Identification – bulk sample, tape lift, swab			
<u>Industrial Hygiene and Miscellaneous Analysis</u> ___ (RCF) Refractory Ceramic Fiber (Bulk) Identification (Visual Estimation) by Polarized Light Microscopy ___ Total Nuisance Dust (Air) by NIOSH Method 0500 ___ Total Respirable Dust (Air) by NIOSH Method 0600		<u>Phase Contrast Microscopy(PCM)-Air Samples</u> ___ Fiber Concentration by NIOSH Method 7400 Issue 2 ___ Lead Analysis by Niosh Method 7300	

	Sample #:	Location/Description:	Volume
1	001-460		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

Relinquished by: Abi

Date: 11/18/2022

Time: 2:50pm

Received by: Abi

Date: 11/18/22

Time: 1447



# Sample Summary

Site: \_\_\_\_\_ Date: \_\_\_\_\_ Inspector: \_\_\_\_\_  
 Project #: 0122-272 Building Info: 2322-4744

	Sample #	Description/Location	
	01	1A   Caulking by AC unit	Building 1
	02	1A   Sheetrock Drywall + Joint compound by AC	"
1	03	1A   Floor Tile in Kitchen (cream with brown speck)	"
2	04	1B   White Floor Tile with <sup>black</sup> <del>white</del> spec in Living Room	"
	05	1B   <del>Sheetrock</del> Drywall + Joint compound by AC Area	"
	06	1C   Drywall + Joint compound in AC Area	"
3	07	1C   Tan Floor Tile with grey and <sup>brown</sup> <del>white</del> spec in Kitchen	"
	08	2A   Brown <sup>caulking</sup> <del>Sheetrock</del> by AC unit	Building 2
	09	2A   Drywall + Joint compound by AC unit	"
	010	2A   Tan Floor Tile with grey and brown spec in Heater closet	"
	011	2B   Drywall + Joint compound in Kitchen	"
	012	2B   White Floor Tile with grey spec in Kitchen	"
	013	2C   White Floor Tile with grey spec in Living Room	"
	014	2C   Drywall + Joint compound by AC unit	"
	015	3A   Caulking by AC unit	Building 3
	016	3A   Drywall + Joint compound by AC unit - <sup>Living Room</sup> <del>Living Room</del>	"
	017	3A   <sup>Tan</sup> <del>Sheetrock</del> Floor Tile with brown, grey & white spec	"
	018	3B   Drywall + Joint compound in Kitchen area	"
	019	6A   Drywall + Joint compound by AC unit in Living Room	Building 3
2	020	6A   White Floor Tile with grey & black spec	"
2	021	6B   Drywall + Joint compound by AC unit	"

# Sample Summary

Site: \_\_\_\_\_ Date: \_\_\_\_\_ Inspector: \_\_\_\_\_

Project #: \_\_\_\_\_ Building Info: \_\_\_\_\_

2322-4744

Sample #	Description/Location	
022	16B caulking by AC unit in Living Room	Building 6
023	16C Drywall + Joint compound "	"
024	16C White Floor Tile with grey spec - Living Room	"
025	5C Drywall + Joint compound "	Building 5
026	5C White Floor Tile with grey spec - Kitchen	"
2, 3 027	5B Drywall + Joint compound - Living Room	"
2 028	5B White Floor Tile with grey spec - Kitchen	"
029	5A Drywall + Joint compound	"
030	5A caulking by AC unit - Living Room	"
031	4D caulking by AC unit	Building 4
032	4D Drywall + Joint compound - Heater closet	"
033	4A Drywall + Joint compound <sup>behind</sup> by entrance door	"
034	7A Dark Brown Floor Tile with grey & white spec <sup>by Harry</sup>	Building 7
035	7A Drywall + Joint compound behind entrance door	"
036	7B caulking by AC unit	"
2 037	7B Drywall + Joint compound	"
038	7C Drywall + Joint compound by AC u.	"
039	7C White Floor Tile with grey, white spec <sup>2nd floor in RPT room</sup>	"
040	8A White Floor Tile with grey & white spec <sup>Living Room</sup>	Building 8
041	8A Drywall + Joint compound by AC unit	"
042	8B Drywall + Joint compound	"

HB has new AC unit  
4A " " "

OR  
11/18

page \_\_\_\_ of \_\_\_\_



# Sample Summary

Site: \_\_\_\_\_ Date: \_\_\_\_\_ Inspector: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Building Info: \_\_\_\_\_

2322-4744

Sample #	Description/Location	
043 SB	White Floor Tile with grey & <sup>black</sup> white spec - Kitchen   Building 8	
044 SC	Drywall + Joint compound caulking by AC unit	"
045 <del>SC</del>	<del>Drywall + Joint compound caulking by AC unit</del> Living Room - Kitchen	"
046 9A	caulking by AC unit	Building 9
047 9A	Drywall + Joint compound - Living Room	"
048 9C	Drywall + Joint compound - Kitchen	"
2 049 9C	White Floor Tile with grey & <sup>black</sup> white spec - Kitchen	"
050 9E	Drywall + Joint compound - entrance door	"
2 051 9E	White floor tile + grey and black specs - Big stairs	"
052 12C	Drywall + Joint compound - Kitchen	Building 12
053 12C	Brown Floor Tile with grey & white spec - Kitchen	"
054 12D	Drywall + Joint compound - entrance door	"
055 12D	caulking by AC unit	"
056 12B	Drywall + Joint compound - Kitchen	"
057 12B	White Floor Tile + grey & white spec - Entrance	"
058 11D	Brown Floor Tile with white + grey spec - Kitchen	Building 11
059 11D	Drywall + Joint compound Behind entrance door	"
060 11B	caulking by AC unit	"
061 11B	Drywall + Joint compound	"
062 11A	Drywall + Joint compound - Kitchen area	"
063 11A	White floor tile + grey & black spec - Entrance	"

NOTE: 11F has a new AC unit

page \_\_\_ of \_\_\_

ack  
11/18

# Sample Summary

Site: \_\_\_\_\_ Date: \_\_\_\_\_ Inspector: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Building Info: \_\_\_\_\_

2322-4744

Sample #	Description/Location	
064 10E1	Drywall + Joint compound	Building 10
065 10E1	Beige Floor Tile with brown and white spec - Kitchen	"
066	10-0   Caulking by AC unit	"
067	10-0   Drywall + Joint compound - Kitchen	"
068	10-A   Drywall + Joint compound - behind entrance door	"
069	10-A   Brown Floor Tile + grey & white spec - entrance	"
070	13D   Caulking by AC unit	Building 13
071	13D   Drywall + Joint compound by stairwell	"
4 072	13C   Blue Floor Tile with grey and white spec - entrance	"
073	13C   Drywall + Joint compound - Kitchen	"
074	13E   White Floor Tile with grey and black spec - entrance	"
075	13E   Drywall + Joint compound - Kitchen	"
076	14C   Drywall + Joint compound - Kitchen	Building 14
077	14C   Brown Floor Tile with grey & white spec - Kitchen cabinet	"
078	14F   Drywall + Joint compound - Living Room	"
079	14F   Caulking by AC unit	"
080	14H   Drywall + Joint compound - Behind entrance door	"
081	14H   White with grey and black spec - entrance	"
082	15A   Drywall + Joint compound	Build
083	15A   White Floor Tile and grey and black specs - entrance	
084	15C   Caulking by AC unit	

08  
11/18



# Sample Summary

Site: \_\_\_\_\_ Date: \_\_\_\_\_ Inspector: \_\_\_\_\_

Project #: \_\_\_\_\_ Building Info: \_\_\_\_\_

2322-4744

Sample #	Description/Location	
085 15C	Drywall + Joint compound - Living Room	Building 15
086 15E	Drywall + Joint compound -	"
087 15E	White Floor Tile with grey spec - Kitchen	"
088 16A	Drywall + Joint compound - Kitchen	Building 16
089 16A	White Floor Tile with grey specs	"
090 16B	Caulking by AC unit	"
091 16B	White Floor Tile with grey and black specs - Kitchen	"
092 16B	Drywall + Joint compound - Kitchen	"
<del>093 17A</del>	<del>Drywall + Joint compound</del>	<del>Building 17</del>
093 18B	Drywall + Joint compound	Building 18
094 18B	White Floor Tile with grey specs	"
095 20B	Caulking by AC unit	Building 20
096 20B	Drywall + Joint compound - Living Room	Building 20
097 20G	<del>Drywall + Joint compound</del> Caulking by AC unit -	"
098 20G	White Floor Tile with grey specs - Kitchen	"
099 22F	Caulking by AC unit	Building 22
100 22F	Drywall + Joint compound - Pantry	"
101 22D	Drywall + Joint compound - Living Room	"
102 22D	Brown Floor Tile with grey & white spec - Kitchen	"
103 22E	White Floor Tile with grey spec - Kitchen	"
104 22E	Drywall + Joint compound	"

N.B. Building 17  
17A has a new AC unit

17B " " " "

18C, 18D " " " "

AOZ  
1/18

2322-4744

OR 11/18 page 2

2322-4744

SAMPLE NUMBER	UNIT	DESCRIPTION
111	21-E	Drywall and Joint Compound
112	u	A/C Caulking
113	26-A	Drywall and Joint Compound
114	26-A	A/C Caulking
115	26-C	Drywall and Joint Compound
116	26-C	A/C Caulking
117	26-D	Drywall and Joint Compound
118	26-D	A/C Caulking
119	25-E	Drywall and Joint Compound
120	25-K	A/C Caulking
121	25-C	Drywall and Joint Compound
122	25-C	A/C Caulking
123	25-B	Drywall and Joint Compound
124	25-B	A/C Caulking
125	35-F	Drywall and Joint Compound
126	35-P	A/C Caulking
127	25-K	Drywall and Joint Compound
128	35-K	A/C Caulking
129	35-A	Drywall and Joint Compound
130	35-A	A/C Caulking
131	36-D	Drywall and Joint Compound
132	36-D	A/C Caulking
133	36-C	Drywall and Joint Compound
134	36-C	A/C Caulking
135	36-B	Drywall and Joint Compound
136	36-B	A/C Caulking
137	30-A	Drywall and Joint Compound
138	30-A	A/C Caulking
139	30-D	Drywall and Joint Compound
140	30-D	A/C Caulking
141	30-E	Drywall and Joint Compound
142	30-E	A/C Caulking
143	31-B	Drywall and Joint Compound
144	31-B	A/C Caulking
145	31-E	Drywall and Joint Compound
146	31-E	A/C Caulking
147	32-C	Drywall and Joint Compound
148	32-C	A/C Caulking
149	32-E	Drywall and Joint Compound
150	32-C	A/C Caulking

05/11/18



2322-4744

SAMPLE NUMBER	UNIT	DESCRIPTION
161	21E	Drywall and Joint Compound
162	21E	A/C Caulking
163	24B	Drywall and Joint Compound
164	24B	A/C Caulking
165	24D	Drywall and Joint Compound
166	24D	A/C Caulking
167	24F	Drywall and Joint Compound
168	24F	A/C Caulking
169	23C	Drywall and Joint Compound
170	23C	A/C Caulking
171	23E	Drywall and Joint Compound
172	23E	A/C Caulking
173	23F	Drywall and Joint Compound
174	23F	A/C Caulking
175	34C	Drywall and Joint Compound
176	34C	A/C Caulking
177	34A	Drywall and Joint Compound
178	34A	A/C Caulking
179	33F	Drywall and Joint Compound
180	33F	A/C Caulking
181	33D	Drywall and Joint Compound
182	33D	A/C Caulking
183	33B	Drywall and Joint Compound
184	33B	A/C Caulking
185	27B	Drywall and Joint Compound
186	27B	A/C Caulking
187	27C	Drywall and Joint Compound
188	27C	A/C Caulking
189	27E	Drywall and Joint Compound
190	27E	A/C Caulking
191	28B	Drywall and Joint Compound
192	28B	A/C Caulking
193	28C	Drywall and Joint Compound
194	28C	A/C Caulking
195	28E	Drywall and Joint Compound
196	28E	A/C Caulking
197	29B	Drywall and Joint Compound
198	29B	A/C Caulking
199	29D	Drywall and Joint Compound
200	29D	A/C Caulking

34E has new AC, 28D has new AC

6/21/18

2322-4744

SAMPLE NUMBER	UNIT	DESCRIPTION
151	32-D	Drywall and Joint Compound
152	32-D	A/C Caulking
153	29-A	Drywall and Joint Compound
154	29-A	A/C Caulking
155	37-B	Drywall and Joint Compound
156	37-B	A/C Caulking
157	37-A	Drywall and Joint Compound
158	37-A	A/C Caulking
159	42-D	Drywall and Joint Compound
160	42-D	A/C Caulking
201	42-E	Drywall and Joint Compound
202	42-E	A/C Caulking
203	42-A	Drywall and Joint Compound
204	42-A	A/C Caulking
205	41-B	Drywall and Joint Compound
206	41-B	A/C Caulking
207	41-A	Drywall and Joint Compound
208	41-A	A/C Caulking
209	41-D	Drywall and Joint Compound
210	41-D	A/C Caulking
211	40-D	Drywall and Joint Compound
212	40-D	A/C Caulking
213	50-A	Drywall and Joint Compound
214	50-A	A/C Caulking
215	50-C	Drywall and Joint Compound
216	50-C	A/C Caulking
217	50-D	Drywall and Joint Compound
218	50-D	A/C Caulking
219	49-B	Drywall and Joint Compound
220	49-B	A/C Caulking
221	49-C	Drywall and Joint Compound
222	49-C	A/C Caulking
223	49-F	Drywall and Joint Compound
224	49-F	A/C Caulking
225	48-A	Drywall and Joint Compound
226	48-A	A/C Caulking
227	48-C	Drywall and Joint Compound
228	48-C	A/C Caulking
229	48-B	Drywall and Joint Compound
230	48-B	A/C Caulking

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M



2322-4744

SAMPLE NUMBER	UNIT	DESCRIPTION
231	38D	Drywall and Joint Compound
232	38D	A/C Caulking
233	38C	Drywall and Joint Compound
234	38C	A/C Caulking
235	38B	Drywall and Joint Compound
236	38B	A/C Caulking
237	39D	Drywall and Joint Compound
238	39D	A/C Caulking
239	39F	Drywall and Joint Compound
240	39F	A/C Caulking
241	39G	Drywall and Joint Compound
242	39G	A/C Caulking
243	40C	Drywall and Joint Compound
244	40C	A/C Caulking
245	40A	Drywall and Joint Compound
246	40A	A/C Caulking
247	58E	Drywall and Joint Compound
248	58E	A/C Caulking
249	58F	Drywall and Joint Compound
250	58F	A/C Caulking
251	58D	Drywall and Joint Compound
252	58D	A/C Caulking
253	57A	Drywall and Joint Compound
254	57A	A/C Caulking
255	57E	Drywall and Joint Compound
256	57E	A/C Caulking
257	57C	Drywall and Joint Compound
258	57C	A/C Caulking
259	56F	Drywall and Joint Compound
260	56F	A/C Caulking
261	56D	Drywall and Joint Compound
262	56D	A/C Caulking
✓ 263	56E	Drywall and Joint Compound
✓ 264	56E	A/C Caulking
265	55E	Drywall and Joint Compound
266	55E	A/C Caulking
267	55D	Drywall and Joint Compound
268	55D	A/C Caulking
269	55F	Drywall and Joint Compound
✓ 270	55F	A/C Caulking

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39B has a new AC 139C

2322-4744

SAMPLE NUMBER	UNIT	DESCRIPTION
271	53E	Drywall and Joint Compound
272	53E	A/C Caulking
273	53D	Drywall and Joint Compound
274	53D	A/C Caulking
275	53B	Drywall and Joint Compound
276	53B	A/C Caulking
277	<del>44B</del> 44A	Drywall and Joint Compound
278	<del>44B</del> 44A	A/C Caulking
279	44B	Drywall and Joint Compound
280	44B	A/C Caulking
281	44F	Drywall and Joint Compound
282	44F	A/C Caulking
283	52F	Drywall and Joint Compound
284	52F	A/C Caulking
285	52E	Drywall and Joint Compound
286	52E	A/C Caulking
287	52D	Drywall and Joint Compound
288	52D	A/C Caulking
289	51D	Drywall and Joint Compound
290	51D	A/C Caulking
291	51E	Drywall and Joint Compound
292	51E	A/C Caulking
293	51F	Drywall and Joint Compound
294	51F	A/C Caulking
295	43A	Drywall and Joint Compound
296	43A	A/C Caulking
297	43B	Drywall and Joint Compound
298	43B	A/C Caulking
299	43D	Drywall and Joint Compound
300	43D	A/C Caulking
301	60E	Drywall and Joint Compound
302	60E	A/C Caulking
303	60D	Drywall and Joint Compound
304	60D	A/C Caulking
305	60F	Drywall and Joint Compound
306	60F	A/C Caulking
307	59E	Drywall and Joint Compound
308	59E	A/C Caulking
309	59F	Drywall and Joint Compound
310	59F	A/C Caulking

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53e has a new ac, 44c has a new ac



2322-4744

SAMPLE NUMBER	UNIT	DESCRIPTION
311	59B	Drywall and Joint Compound
312	59B	A/C Caulking
313	19-B	Drywall and Joint Compound
314	19-B	A/C Caulking
315	19-C	Drywall and Joint Compound
316	19-C	A/C Caulking
317	116-G	Drywall and Joint Compound
318	116-G	A/C Caulking
319	113H	Drywall and Joint Compound
320	113H	A/C Caulking
321	112C	Drywall and Joint Compound
322	112C	A/C Caulking
323	112B	Drywall and Joint Compound
324	112B	A/C Caulking
325	112A	Drywall and Joint Compound
326	112A	A/C Caulking
327	114E	Drywall and Joint Compound
328	114E	A/C Caulking
329	114G	Drywall and Joint Compound
330	114G	A/C Caulking
331	114H	Drywall and Joint Compound
332	114H	A/C Caulking
333	117H	Drywall and Joint Compound
334	117H	A/C Caulking
335	117G	Drywall and Joint Compound
336	117G	A/C Caulking
337	117J	Drywall and Joint Compound
338	117J	A/C Caulking
339	118G	Drywall and Joint Compound
340	118G	A/C Caulking
341	118F	Drywall and Joint Compound
342	118F	A/C Caulking
343	118H	Drywall and Joint Compound
344	118H	A/C Caulking
345	119A	Drywall and Joint Compound
346	119A	A/C Caulking
347	119L	Drywall and Joint Compound
348	119L	A/C Caulking
349	101L	Drywall and Joint Compound
350	101L	A/C Caulking

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119E has a new AC unit

2322-4744

SAMPLE NUMBER	UNIT	DESCRIPTION
351	47-C	Drywall and Joint Compound
352	47-C	A/C Caulking
353	47-E	Drywall and Joint Compound
354	47-E	A/C Caulking
355	47-A	Drywall and Joint Compound
356	47-A	A/C Caulking
357	46-B	Drywall and Joint Compound
358	46-B	A/C Caulking
359	46-C	Drywall and Joint Compound
360	46-C	A/C Caulking
361	46-D	Drywall and Joint Compound
362	46-D	A/C Caulking
363	54-E	Drywall and Joint Compound
364	54-E	A/C Caulking
365	54-A	Drywall and Joint Compound
366	54-A	A/C Caulking
367	54-D	Drywall and Joint Compound
368	54-D	A/C Caulking
369	45-B	Drywall and Joint Compound
370	45-B	A/C Caulking
371	45-C	Drywall and Joint Compound
372	45-C	A/C Caulking
373	45-D	Drywall and Joint Compound
374	45-D	A/C Caulking
375	19A	Drywall and Joint Compound
376	19A	A/C Caulking
377	116D	Drywall and Joint Compound
378	116D	A/C Caulking
379	116H	Drywall and Joint Compound
380	116H	A/C Caulking
381	115C	Drywall and Joint Compound
382	115C	A/C Caulking
383	115B	Drywall and Joint Compound
384	115B	A/C Caulking
385	115A	Drywall and Joint Compound
386	115A	A/C Caulking
387	113J 113K	Drywall and Joint Compound
388	113J 113K	A/C Caulking
389	113K	Drywall and Joint Compound
390	113K	A/C Caulking

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2322-4744

SAMPLE NUMBER	UNIT	DESCRIPTION
391	<del>101M</del> 101M	Drywall and Joint Compound
392	101M	A/C Caulking
393	<del>102E</del> 102E	Drywall and Joint Compound
394	102E	A/C Caulking
395	101J	Drywall and Joint Compound
396	101J	A/C Caulking
397	102D	Drywall and Joint Compound
398	102D	A/C Caulking
399	102A	Drywall and Joint Compound
400	102A	A/C Caulking
401	103H	Drywall and Joint Compound
402	103H	A/C Caulking
403	103G	Drywall and Joint Compound
404	103G	A/C Caulking
405	103F	Drywall and Joint Compound
406	103F	A/C Caulking
407	111G	Drywall and Joint Compound
408	111G	A/C Caulking
409	111F	Drywall and Joint Compound
410	111F	A/C Caulking
411	111D	Drywall and Joint Compound
412	111D	A/C Caulking
413	110C	Drywall and Joint Compound
414	110C	A/C Caulking
415	110B	Drywall and Joint Compound
416	110B	A/C Caulking
417	108F <del>108A</del>	Drywall and Joint Compound
418	108F <del>108A</del>	A/C Caulking
419	110A <del>108</del>	Drywall and Joint Compound
420	110A <del>108</del>	A/C Caulking
421	108D	Drywall and Joint Compound
422	108D	A/C Caulking
423	108C	Drywall and Joint Compound
424	108C	A/C Caulking
425	107F	Drywall and Joint Compound
426	107F	A/C Caulking
427	107H	Drywall and Joint Compound
428	107H	A/C Caulking
429	109B	Drywall and Joint Compound
430	109B	A/C Caulking

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109F, 109A ~~109B~~  
109H

102B has a new ac unit, 108E has a new ac unit

2322-4744

SAMPLE NUMBER	UNIT	DESCRIPTION
431	106D	Drywall and Joint Compound
432	106D	A/C Caulking
433	106C	Drywall and Joint Compound
434	106C	A/C Caulking
435	106E	Drywall and Joint Compound
436	106E	A/C Caulking
437	104J	Drywall and Joint Compound
438	104J	A/C Caulking
439	104F	Drywall and Joint Compound
440	104F	A/C Caulking
441	105B	Drywall and Joint Compound
442	105B	A/C Caulking
443	104C	Drywall and Joint Compound
444	104C	A/C Caulking
445	105L	Drywall and Joint Compound
446	105L	A/C Caulking
447	105M	Drywall and Joint Compound
448	105M	A/C Caulking
449	<del>120E</del> 120C	Drywall and Joint Compound
450	<del>120E</del> 120C	A/C Caulking
451	120B	Drywall and Joint Compound
452	120B	A/C Caulking
453	120D	Drywall and Joint Compound
454	120D	A/C Caulking
455	<del>109E</del> 119F	Drywall and Joint Compound
456	<del>109E</del> 119F	A/C Caulking
457	109E	Drywall and Joint Compound
458	109E	A/C Caulking
459	107C	Drywall and Joint Compound
460	107C	A/C Caulking
461		Drywall and Joint Compound
462		A/C Caulking
463		Drywall and Joint Compound
464		A/C Caulking
465		Drywall and Joint Compound
466		A/C Caulking
467		Drywall and Joint Compound
468		A/C Caulking
469		Drywall and Joint Compound
470		A/C Caulking

105A, 105C has a new AC unit, 120H

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**APPENDIX 2**  
**PHOTOGRAPHS**





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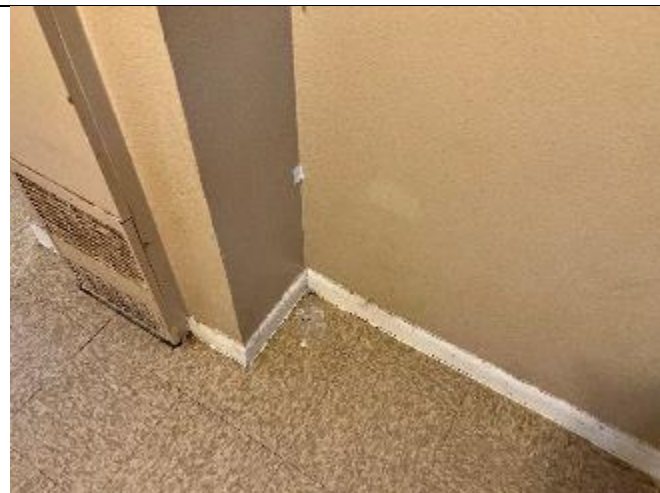
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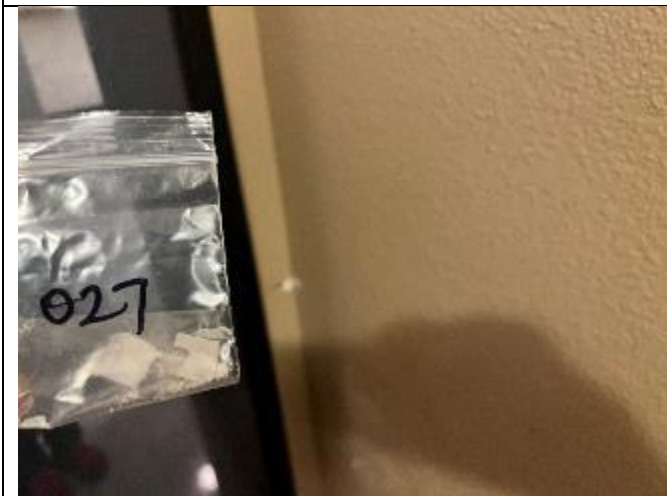




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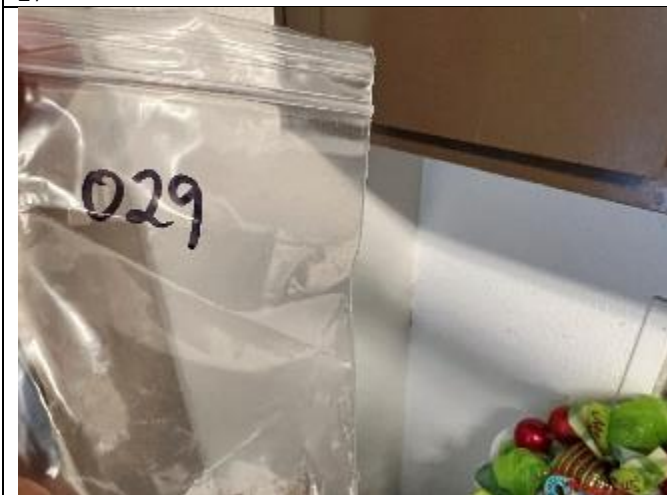
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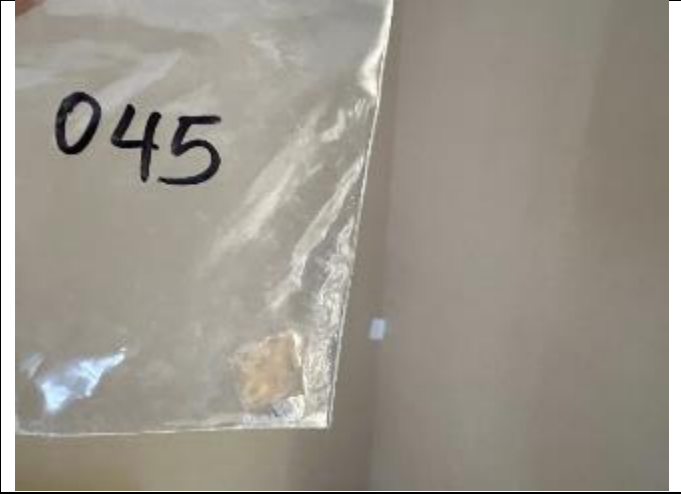
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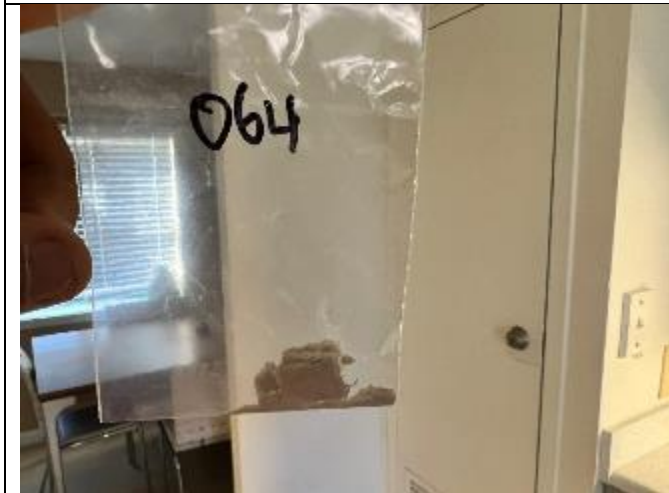




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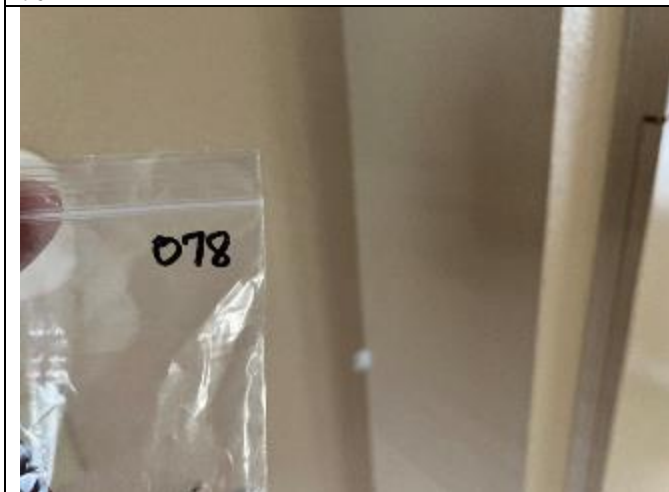
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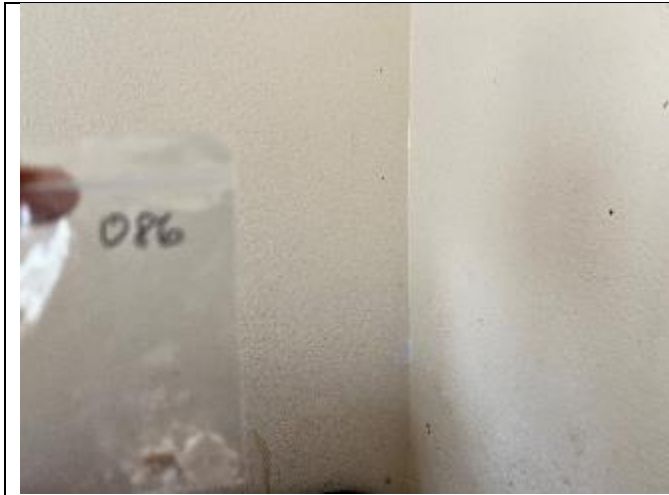


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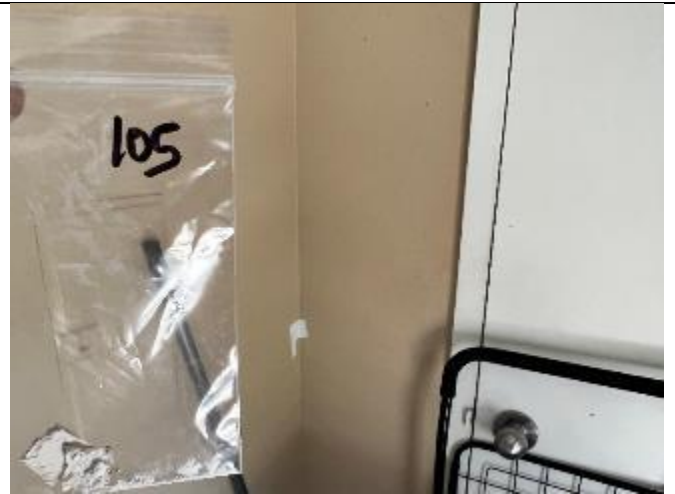
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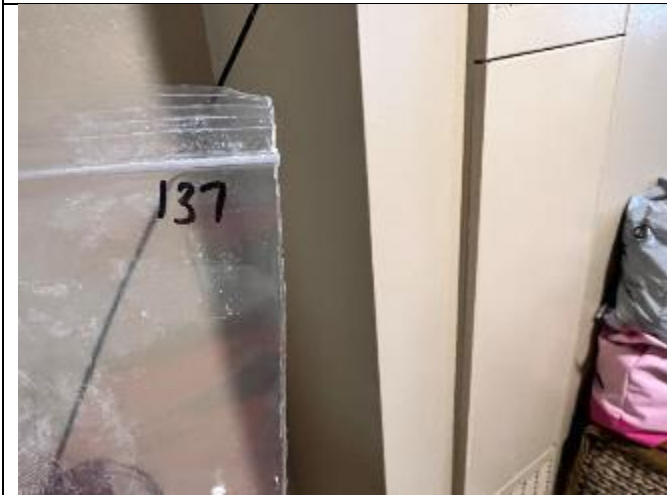




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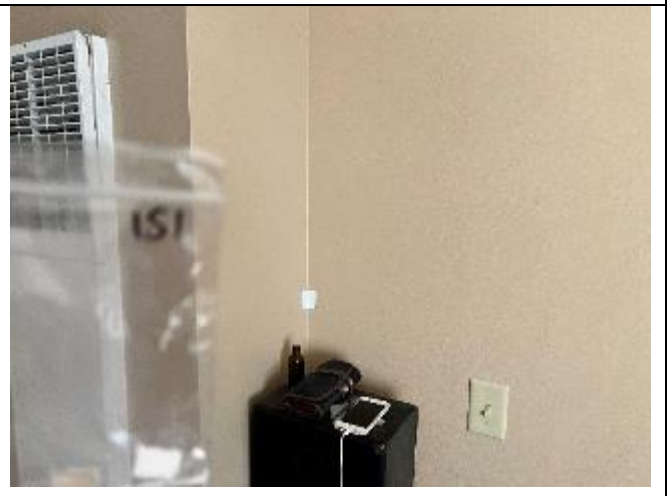
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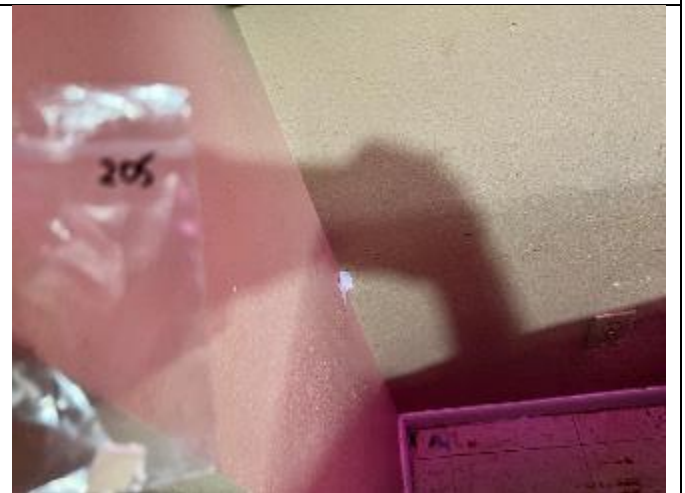
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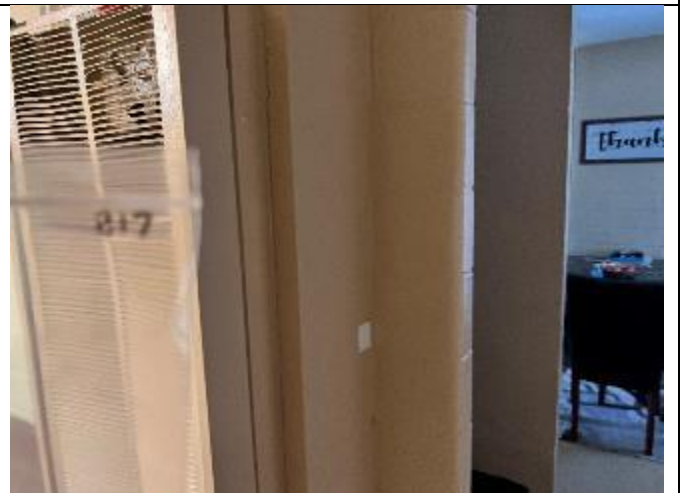
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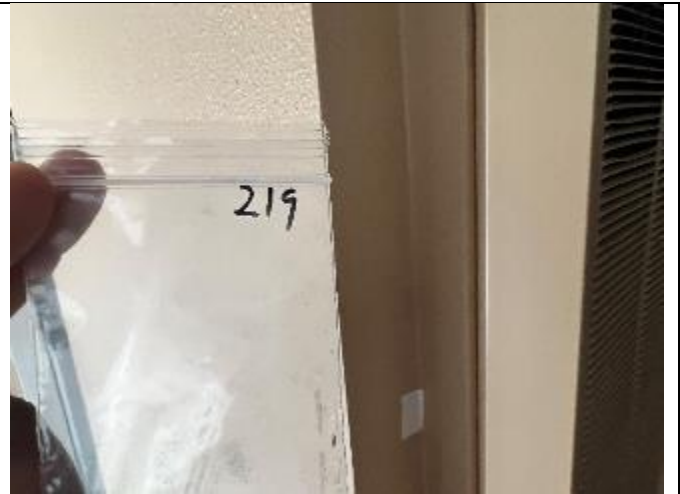


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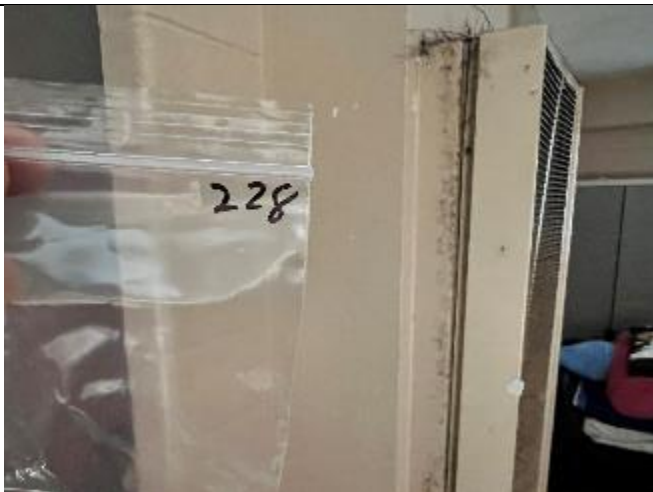
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**CONTRACT NO. 23-30**

**FOR**

**THE REPLACEMENT OF HEATERS AT CUNEY HOMES APARTMENTS**

**BETWEEN**

**AND**

**THE HOUSTON HOUSING AUTHORITY**

This contract (the "Contract")<sup>1</sup> is entered into by and between the HOUSTON HOUSING AUTHORITY (the "HHA"),<sup>2</sup> having its principal place of business at 2640 Fountain View, Houston, Texas 77057, and \_\_\_\_\_ (the "Contractor"), having its principal place of business at \_\_\_\_\_. Hereinafter, all references to the "Parties" shall mean the HHA and the Contractor.

**WITNESSETH:**

WHEREAS, the HHA is a public body corporate, duly organized and validly existing and in good standing under the laws of the State of Texas and currently engaged in business defined in the Local Government Code of the State of Texas, including the provision of decent, safe, and sanitary housing to the residents of its facilities, low-income families, the elderly, and the disabled;

WHEREAS, the HHA, or its affiliates or subsidiaries, owns certain multifamily housing developments, including that certain multifamily housing development commonly known as Cuney Homes located at 3260 Truxillo St, Houston, TX 77004 (the "Property");

WHEREAS the HHA requires a contract for the replacement of heaters and all necessary construction-related work for the replacement of heaters at the Property;

WHEREAS the HHA, on or about September 29, 2022, issued Invitation for Bid ("IFB") 22-31, including all exhibits, addenda, or amendments thereto, soliciting responses from qualified firms to contract for the replacement of heaters and all necessary construction-related work for the replacement of heaters at the Property;

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<sup>1</sup> The Contract may also be referred to interchangeably as the "Agreement."

<sup>2</sup> In addition to being referred to as the "HHA," the Houston Housing Authority may alternatively be referred to as the "Authority," the "Agency," the "PHA," the "Housing Authority," the "Local Authority," the "LHA," or the "HA."



WHEREAS the HHA reviewed the responses it received to IFB 22-31 and determined that the response submitted by the Contractor was the \_\_\_\_\_ and \_\_\_\_\_; and,

NOW THEREFORE, in consideration of the promises of the Parties herein, and pursuant to the mutual covenants and terms and conditions set forth in this Contract, the HHA and the Contractor agree to be legally bound as follows:

## **1. The Contract Documents.**

- 1.1 In addition to the foregoing document, this Contract shall include: (a) Form \_\_\_\_\_, as promulgated by the Department of Housing and Urban Development (“HUD”), and commonly known as “\_\_\_\_\_” (“Form \_\_\_\_\_”); (b) IFB 22-31, including all exhibits, addenda, or amendments thereto (“IFB 22-31”); (c) Contractor’s Response to IFB 22-31, including all exhibits, addenda, or amendments thereto. Form \_\_\_\_\_ is attached hereto and incorporated by reference as if set forth fully herein. The parties agree to be bound by the terms of Form \_\_\_\_\_ and the contract documents as outlined herein.
- 1.2 Form \_\_\_\_\_, IFB 22-31, and Contractor’s Response to IFB 22-31 are attached hereto as, respectively, Exhibit 1, Exhibit 2 and Exhibit 3 and are incorporated by reference as if set forth fully herein.
- 1.3 In the event of a conflict between or among the contract documents, the following order of priority shall apply: (a) Form \_\_\_\_\_; (b) the foregoing document; (c) IFB 22-31 and (d) Contractor’s Response to IFB 22-31. The Section 3 Form and the M/WBE Form shall receive the lowest priority in the event of a conflict between or among the contract documents.
- 1.4 A Contract document’s silence on a provision, issue, or term and condition found in another Contract document shall not be considered a conflict between or among the Contract documents.

## **2. Contractor’s Services.**

- 2.1 The work/services<sup>3</sup> to be performed by the Contractor pursuant to this Contract shall include, but not necessarily be limited \_\_\_\_\_ as outlined in Exhibit “\_\_\_\_\_” (Scope of Work) included in IFB 22-31 and incorporated by reference heretofore.
- 2.2 The contractor shall be required to provide all the necessary personnel, supervision, transportation, equipment, insurance, tools, supplies, materials, and any other item(s) or resource(s) needed to perform \_\_\_\_\_ at the \_\_\_\_\_, including but not limited to: \_\_\_\_\_.
- 2.3 Absent the HHA’s written consent or written instruction, the Work under this Contract shall be performed by Contractor.

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<sup>3</sup> Hereinafter referred to interchangeably as “Work” or “Services”.



- 2.4 The HHA may designate a Project Manager during the period of performance.
- 2.5 Contractor agrees to conduct all activities and perform all Work under this Agreement in accordance with all applicable federal, state and local laws, rules, regulations, policies, procedures and issuances in effect or promulgated during the term of this Agreement.

### **3. Consideration and Payment.**

- 3.1 In consideration of the work to be performed by the Contractor in accordance with the requirements and Scope of Work previously referenced herein as Exhibit \_\_\_\_ and pursuant to the Contract, the HHA shall pay the Contractor an amount not to exceed \_\_\_\_\_ (\$ \_\_\_\_\_), during the Contract term, including any extensions.
- 3.2 The amount to be paid to Contractor shall consist of the Fee Schedule, attached hereto as Exhibit \_\_\_\_.
- 3.3 Contractor shall receive payment after invoices have been submitted and work has been approved by HHA's Project Manager. Payment terms are net 30 days. Should Contractor receive payment by wire or electronic means, Contractor must provide HHA written confirmation and instructions signed by Contractor's duly authorized official before any type of electronic or wire payment will be made by HHA. Any changes to wire or electronic payment information must be submitted to HHA in writing and signed by Contractor's duly authorized official.
- 3.4 The Contractor will ensure that its work and services are provided in a cost-efficient manner.
- 3.5 All applicable federal (including Davis-Bacon wage rates), state, county and municipal taxes are included in the consideration herein. The Contractor warrants that it will comply with all federal and state laws including, but not limited to, the Prompt Pay Act in the payment of the Contractor's workers. Certified payrolls are required to be submitted by the Contractor on a weekly basis using the web-based submittal tool ("Prism Compliance Management") provided by the HHA.
- 3.6 By the twentieth day of a given month, the Contractor, with respect to the work and services provided under this Contract in the preceding month, shall provide the HHA with an invoice that includes: (a) an itemized list of the work and services performed, (b) who performed the work and services, (c) the Properties and amount at which the work and services was billed; (d) the amount of time spent on the work and services, measured in one-tenth of an hour increments, (3) costs incurred for reimbursable expenses, if any such expenses are reimbursable under this Contract. Invoices comporting with this section that are approved by the HHA shall be due and payable

- by the HHA no later than thirty days after receipt. Invoices may be sent by the Contractor to the HHA via the United States Postal Service or via email. If sent via email, an invoice shall be considered to be received by the HHA on the day the email was sent by the Contractor.
- 3.7 If the HHA does not approve of an invoice, or a part thereof, the HHA will, within seven business days after receipt of the invoice, provide the Contractor with written notice of adjustments that the HHA believes are warranted. If, within seven business days of receiving such notice from the HHA the Contractor does not present the HHA with additional detail or documentation to adequately support the disputed invoice (or portion thereof), then any adjustments made by the HHA to the invoice in question shall become binding upon the Contractor and the Contractor will waive any and all of its rights to dispute the adjusted invoice. If the Contractor responds timely within the seven business day timeframe allotted herein, and provides sufficient detail to adequately support the disputed invoice, (or disputed portion thereof), then the HHA shall consider the Contractor's timely response and will not unreasonably withhold payment of the disputed amount, provided that the additional detail or documentation submitted by the Contractor sufficiently and adequately supports the disputed invoice (or disputed portion thereof).
- 3.8 The HHA shall pay only the Contractor under this Contract. The HHA shall have no liability, directly or indirectly, for payment to the Contractor's employees, workers, agents, contractors, or subcontractors, if any. The Contractor agrees to indemnify, hold harmless, and defend the HHA and its employees, agents, affiliates, subsidiaries, representatives, and board members from any and all such claims.
- 3.9 The Contractor is solely responsible for the payment of wages and any applicable benefits to workers for work performed under this contract. The Contractor shall be responsible for withholding federal and state income taxes, paying Federal Social Security taxes, maintaining unemployment insurance and maintaining workers' compensation insurance, in an amount and under such terms as required by the applicable laws of the State of Texas. THE HHA'S PAYMENT IS TO THE CONTRACTOR. HHA SHALL HAVE NO LIABILITY, DIRECTLY OR INDIRECTLY, FOR PAYMENT TO THE CONTRACTOR'S WORKERS OR TO SUBCONTRACTORS. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE HHA, ITS EMPLOYEES, REPRESENTATIVES, AND AFFILIATES HARMLESS FROM ANY AND ALL SUCH CLAIMS.
- 3.10 The HHA is not responsible to the Contractor or the Contractor's workers for payment of any overtime compensation or any additional payments pursuant to the Fair Labor Standards Act; the Texas Pay Day Act; the Equal Pay Act; Title VII of the Civil Rights Act of 1964, 42 U.S.C 2000e, *et al.*, as amended; or any provisions of the Texas Labor Code Ann., as amended. The HHA will not be responsible for overtime wages.
- 3.11 In cases where the market for a particular supply or service is especially volatile, and the HHA needs a contract for a term greater than just an initial quantity, this contract

price may be adjusted upward or downward during the performance period based upon the occurrence of the following specified contingencies: \_\_\_\_\_ changes in market conditions; \_\_\_\_\_ the Consumer Price Index; \_\_\_\_\_ other commodity price indices that are not controlled by the contractor, or \_\_\_\_\_ other \_\_\_\_\_ the price adjustment will be made by HHA by reasonable written notice to Contractor. HHA will identify the price index to be used, the frequency of adjustment, and any overall ceiling price. Economic price adjustments may be initiated when (a) there is serious doubt concerning the stability of market or labor conditions that will exist during an extended period of contract performance; and (b) contingencies that would otherwise be included in the contract price can be identified and covered separately in the contract. Price adjustments based on established prices should normally be restricted to industry-wide contingencies. Price adjustments based on labor and material costs should be limited to contingencies beyond the contractor's control.

#### **4. Term/Period of Performance, Effective Date, and Termination.**

- 4.1 This Contract shall have an initial term of \_\_\_\_\_ ( ) years from the effective date. At its sole discretion, the HHA may elect to extend the period of performance for up to an additional \_\_\_\_\_ ( ) years, in \_\_\_\_\_ ( ) year increments.
- 4.2 All work performed by the Contractor under the Contract shall be performed between the hours of \_\_\_\_\_ a.m. and \_\_\_\_\_ p.m., Monday through Friday. HHA reserves the right to change hours as necessary.
- 4.3 This Contract shall be signed by the HHA and the Contractor. The Contractor shall sign the Contract first, and after signing, shall deliver the original signed contract, along with any and all required payment bonds, performance bonds, and required proof of insurance, to the HHA for signature by the HHA. This Contract shall not become effective until it is executed by the HHA. The Contract's effective date shall be the date of execution by the HHA.
- 4.4 Execution of the Contract by the Contractor is a representation that the Contractor has visited the work site, become generally familiar with local conditions under which the Contractor is to perform its work, and correlated personal observations with the requirements set forth in the Contract.
- 4.5 Passage of the Agreement expiration date shall not extinguish or prejudice HHA's right to enforce this Agreement with respect to default or defect in performance that has not been cured.
- 4.6 Irrespective of any default hereunder, HHA may at any time cancel the contract in whole or in part. Should this occur, the Contractor shall be entitled to equitable compensation for all work completed and accepted by HHA's Project Manager prior to such termination or cancellation.

## **5. Confidentiality.**

- 5.1 The Contractor acknowledges and agrees that all information which the Contractor shall receive from the HHA or its agents or affiliates in connection with this Contract shall be confidential and the Contractor shall not disclose such information to any party without the HHA's prior written consent or unless required to do so by law.

## **6. Contractor's Representations and Warranties.**

- 6.1 The Contractor represents and warrants that it has all applicable licenses and registrations to engage in and perform the services contemplated by this Contract. Unless otherwise stated herein, all local, State, or Federal permits or registrations which may be required to provide the services to be provided by the Contractor shall be the sole responsibility of the Contractor and any costs submitted by the Contractor in its Response shall reflect all costs required by the Contractor to procure and provide such necessary permits and registrations.
- 6.2 The Contractor represents and warrants that the Contractor presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree or have the potential of conflicting with the performance of its services under the Contract or the impartial rendering of assistance or advice to the HHA. The Contractor further represents, covenants, and warrants that in the performance of the Contract no person having any such interest shall be employed. In the event the Contractor becomes aware of such an interest after the execution of this Contract, the Contractor shall immediately disclose the interest to the HHA in writing. The Contractor agrees that in carrying out its duties and responsibilities under this Agreement, it will neither undertake, nor cause, nor permit to be undertaken, any activity which either (i) is illegal under any laws, decrees, rules, or regulations in effect in Texas or the United States; or (ii) would have the effect of causing the HHA to be in violation of any laws, decrees, rules, or regulations in effect in Texas or the United States.
- 6.3 Contractor agrees that in connection with this Agreement or any extension thereof, it will update the Conflict of Interest Questionnaire and any other relevant forms required by law, HUD or HHA, as needed. Contractor further agrees to notify the HHA immediately of any conflict of interest relating to the subject matter of this Agreement.
- 6.4 The Contractor represents and warrants that in performing its services under this Contract, it will comply with all applicable State of Texas laws and regulations pertaining to the provision of its services under this Contract and that the Contractor will perform its services in a good and workmanlike manner, with the same degree of skill, diligence, competency and knowledge which is ordinarily exhibited, possessed by and consistent with the professional standards that apply to the provision of such services in metropolitan areas of similar size to Houston, Texas and other professionals in good standing in the same or similar field as Contractor.



## **7. Performance Bond and Payment Bond**

- 7.1 The HHA requires the Contractor to furnish bonds covering the faithful performance of the Contract and payment of obligations arising thereunder. The required bonds shall be furnished by the Contractor on the date of the Contractor's execution of the Contract. In no case shall the Contractor begin work until the required bonds are furnished to the HHA.

## **8. Insurance.**

- 8.1 The Contractor shall maintain the following insurance for the duration of this Contract, unless otherwise noted:
- a. Workers' compensation insurance in accordance with State of Texas rules and regulations for all employees providing work and services hereunder. The policy must be endorsed to contain a waiver of subrogation and a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.
  - b. Commercial general liability insurance with a single limit for bodily injury of \$1,000,000.00 per occurrence and property damage limit of no less than \$1,000,000.00 per occurrence. The insurance may have a combined aggregate of coverage amounting to no less than \$2,000,000.00. Such insurance shall cover the operations of the Contractor under this Contract and shall protect the Contractor and its officers, agents, and employees against claims of bodily injury or death, including specifically such claims resulting from any form of sexual misconduct and for property damage to others. Such insurance shall also include coverage for completed operations and contractual liability. If the Contractor has a "claims made policy," then the following additional requirements apply: (i) the policy must provide a "retroactive date" which must be on or before the date the Contractor executes this Contract; and (ii) the extended reporting period may not be less than five years following the completion date of this Contract. Regardless of whether the Contractor's policy is claims made or per occurrence, the HHA must be named as an additional insured and the policy must be endorsed to be primary/noncontributory and to contain a waiver of subrogation in favor the HHA. The policy must also be endorsed with a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.
  - c. Automobile liability insurance covering owned, non-owned, hired and all vehicles used by the Contractor or its officers, employees, or agents with a combined single limit of not less than \$1,000,000.00 applicable to bodily injury, sickness or death and loss of, or damage to, property in any one occurrence. The HHA must be named as an additional insured under this policy and this policy must be endorsed to be primary and to contain a waiver

of subrogation in favor the HHA. The policy must also be endorsed with a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.

- d. Umbrella/Excess Liability Insurance in the amount of \$ TBD providing excess limits over Workers' Compensation, Automobile Insurance, Professional Liability and General Liability Insurance. The HHA must be named as an additional insured and this policy must be endorsed to be primary/noncontributory and contain a waiver of subrogation endorsement in favor of the HHA. The policy must also be endorsed with a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.
- e. Errors and omissions professional liability insurance in an amount no less than \$2,000,000 and for a continuous period of at least three years following the completion of the Contractor's services under this Agreement. The policy shall provide for coverage for all work performed by the Contractor. The Contractor shall ensure that any subcontractors hired by the Contractor that perform work on the Contractor's behalf will maintain their own Errors and Omissions Professional Liability Insurance coverage in the amount of no less than \$2,000,000 and the Contractor shall obtain evidence of such insurance in a manner satisfactory to the HHA and provide such evidence to the HHA upon the HHA's request. The policy must also be endorsed with a thirty (30) day notice of cancellation or non-renewal in favor of the HHA.

8.2 Before commencing its performance of any work or services under this Contract, the Contractor, at the request of the HHA, shall provide the HHA with copies of the applicable certificates of insurance, policies, declarations, and endorsements for the required coverages listed above so that the HHA may confirm: (a) that said coverages are valid and in effect; (b) that it is named as an additional insured under the Contractor's comprehensive general liability insurance policy ("CGL"), umbrella/excess liability insurance, errors and omissions/professional liability insurance and its automobile liability insurance policy; (c) that none of the required policies may be cancelled or non-renewed until at least thirty days prior written notice has been provided to the HHA; (d) that the Contractor's CGL policy, umbrella/excess liability and automobile policy are primary; and that (e) the Contractor's CGL policy, workers' compensation, umbrella/excess liability insurance and automobile policy contain waivers of subrogation in favor of the HHA. All certificates of insurance must reference this job/project and contract number.

8.3 All insurance shall be carried with companies that are financially responsible and admitted to do business in the State of Texas. The Contractor shall not permit the insurance policies required for this Contract to lapse during any period for which this Agreement is in effect.

8.4 The insurance requirements in this section are not intended to and shall not in any manner limit or qualify the liabilities or obligations assumed by the Contractor under this Contract, including, but not limited to, liability assumed by the Contractor pursuant

to section 8 of this Contract.

- 8.5 The Contractor shall be solely responsible for any premiums, deductibles, or self-insured retentions that may apply to the insurance coverages required in this Contract.
- 8.6 The Contractor shall require each of its subcontractors, if any, to provide the coverages noted in this section, unless such coverages are waived or reduced in writing by the HHA.
- 8.7 Builder's Risk Insurance. The Construction Manager shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made. This insurance shall include interests of the Owner, the Construction Manager, Subcontractors and Sub- subcontractors in the Project.

## **9. INDEMNITY AND HOLD HARMLESS.**

- 9.1 **THE CONTRACTOR SHALL INDEMNIFY, DEFEND, AND HOLD THE HHA AND ITS OFFICERS, AGENTS, SUBSIDIARIES, AFFILIATED ENTITIES, COMMISSIONERS AND EMPLOYEES (THE "INDEMNIFIED PERSONS") HARMLESS FROM ALL LIABILITY, LOSS OR DAMAGE, INCLUDING REASONABLE ATTORNEY FEES AND EXPENSES, RESULTING FROM, BROUGHT FOR, OR ON ACCOUNT OF ALL CLAIMS, DEMANDS, AND CAUSES OF ACTION OF EVERY KIND AND CHARACTER ASSERTED BY ANY PERSON (INCLUDING, WITHOUT LIMITATION, THE INDEMNIFIED PERSONS' OR CONTRACTOR'S EMPLOYEES), FOR PERSONAL INJURY, DEATH, OR FOR LOSS OF OR DAMAGE TO ANY AND ALL PROPERTY IN ANY WAY ARISING OUT OF, IN CONNECTION WITH, OR TO THE EXTENT CAUSED BY THE CONTRACTOR OR ANY SUBCONTRACTOR'S PERFORMANCE HEREUNDER. SUCH INDEMNITY SHALL BE WITHOUT REGARD TO THE NEGLIGENCE (WHETHER ACTIVE, PASSIVE, SOLE, CONCURRENT OR GROSS), STRICT LIABILITY OR OTHER FAULT OF ANY INDEMNIFIED PERSON. CONTRACTOR ACKNOWLEDGES AND AGREES THAT THIS INDEMNITY CONTROLS OVER ALL OTHER PROVISIONS IN THE AGREEMENT AND SURVIVES THE TERMINATION OF THIS AGREEMENT.**
- 9.2 **THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AND SHALL RELEASE AND HOLD HARMLESS THE HHA FROM ANY LIABILITY FOR,**

**ALL DAMAGE AND LOSS SUSTAINED BY IT TO ITS TOOLS AND EQUIPMENT UTILIZED IN THE PERFORMANCE OF SERVICES, OR THE PERFORMANCE OF ANY SUBCONTRACTORS' SERVICES, HEREUNDER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING ALL DEDUCTIBLES UNDER ITS POLICIES WITHOUT REIMBURSEMENT FROM THE HHA AND THE DEDUCTIBLE PORTION OF ANY LOSS SHALL NOT BE EXCLUDED FROM THE CONTRACTOR'S INDEMNITY OBLIGATION.**

- 9.3 NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, ANY LEGAL LIMITATIONS AFFECTING THE SCOPE OF PERMISSIBLE INDEMNITY SHALL BE READ INTO THESE CLAUSES SUCH THAT THE CLAUSE PROVIDES THE MAXIMUM INDEMNITY PURSUANT TO ITS TERMS WHILE STILL COMPLYING WITH THE LEGAL LIMITATIONS.**

#### **10. Notices.**

- 10.1 All notices and communications regarding the Contract must be in writing and shall be directed to the following representatives:**

HHA

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Tel: \_\_\_\_\_  
Fax: \_\_\_\_\_  
\_\_\_\_\_

CONTRACTOR

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Tel: \_\_\_\_\_  
Fax: \_\_\_\_\_  
\_\_\_\_\_

#### **11. Compliance with Federal Laws and Regulations**

- 11.1 To the extent applicable, the Contractor shall comply with any and all federal laws and regulations, including but not limited to, the following:**
- The requirements of Title VII of the Civil Rights Act of 1968 and Title VI of the Civil Rights Act of 1964, relating to prohibitions against discrimination in housing and the benefits of federally funded programs because of race, color, religion, sex, or national origin;
  - The prohibition against discrimination on the basis of age under the Age Discrimination Act of 1975, the prohibition against discrimination against handicapped individuals under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act;
  - All federal and state laws, rules and regulations related to energy efficiency and



resource conservation;

- The requirements of Executive Order 11246 relating to equal employment opportunity in connection with federally funded programs;
- The requirements of Section 3 of the Housing and Urban Development Act of 1968 relating to training and employment of individuals and contracting for business opportunities in metropolitan areas in which federally funded programs are being operated; and
- The requirements of Executive Orders 11625, 12432 and 12138 to implement Minority Business Enterprise (“MBE”) and Women’s Business Enterprise (“WBE”) participation goals in federal agencies’ programs.

## **12. Compliance with M/WBE and Section 3 Policy.**

- 12.1 When subcontracting, the Contractor agrees to utilize its good faith and best efforts to subcontract a sufficient dollar amount with M/WBE’s certified as such or recognized by the HHA as certified M/WBE in an effort to meet the HHA’s goal of a minimum of 30% of the final contract dollars being expended on one or more M/WBEs. All adjustments that cause the contract price to increase will also increase the total amount that the Contractor must expend on M/WBEs.
- 12.2 The Contractor hereby specifically agrees to adhere to the M/WBE Participation Plan as submitted by the Contractor and attached hereto as Exhibit 3.
- 12.3 The Contractor further agrees to adhere to the Section 3 Business Certification as submitted by the Contractor within its Response, attached hereto as Exhibit 4.

## **13. Records.**

- 13.1 Without limitation to any other provision of the Contract, the Contractor shall maintain all records pertaining to the Contract, which the HHA reasonably requires for three (3) years from the expiration date of the Contract unless a longer period is required under Title 24, CFR §85.42. The Contractor shall maintain records required by 24 CFR §135.120 for the period that HUD requires the records to be maintained. The Contractor will give the HHA, HUD, the Comptroller General of the United States, the General Accounting Office, and any of their authorized representative’s access to, and the right to examine, audit, copy, or reproduce all records pertaining to the project financed under the Contract and the operation of the program or project. The right to access shall continue as long as the records are required to be maintained.

## **14. Independent Contractor.**

- 14.1 The Contractor is an independent contractor of the HHA and not an employee of the HHA. Nothing contained in the Contract will be deemed or construed to create a

partnership between the Contractor and the HHA. The Contractor will have no authority to create any obligation or make representations or warranty binding on the HHA. All personnel supplied or used by the Contractor in connection with this Contract will be deemed employees, agents, or subcontractors of the Contractor and will not be considered employees, agents, or subcontractors of the HHA for any purpose whatsoever. The Contractor is solely responsible for payment of wages and overtime to the Contractor's employees. By entering into this Contract the Contractor and the HHA are not entering into a joint employment relationship or an employment relationship of any kind.

- 14.2 The Contractor agrees to comply with all applicable federal and state laws pertaining to the proper classification of workers. Additionally, the Contractor is aware that in accordance with Section 214.008 of the Texas Labor Code, contractors and subcontractors who fail to properly classify individuals performing work under a governmental contract will be penalized \$200.00 for each individual that has been misclassified.

#### **15. Subcontracts.**

- 15.1 The Contractor shall not subcontract any portion of its services under this Contract without first obtaining the written consent of the HHA.

#### **16. Non-Appropriation.**

- 16.1 The Contractor understands that the HHA is a governmental entity and this Agreement is contingent upon the receipt, availability and allocation of funding allocated to the HHA for the payment of such services or obligations. Should it not be funded for any period during the term of the Agreement, any sums due for the remainder of the term shall be forgiven and the HHA shall not be liable for payment. HHA may terminate this Agreement in writing at any time, or suspend services, if sufficient funds are not available to continue operations under this Agreement. Upon such written notice from the HHA, the Contract will automatically terminate.

#### **17. Proprietary Information.**

- 17.1 The Contractor shall maintain the confidentiality of all proprietary information provided to it by the HHA. Information in the public domain, or otherwise obtained independently by the Contractor, is not considered confidential.
- 17.2 Any programs, data, or other materials furnished by the HHA for use by the Contractor concerning the services performed under the Contract shall remain the sole property of the HHA.

#### **18. Ownership of Work Product.**

- 18.1 All drawings, designs, specifications, manuals, reports, studies, surveys, models,

software, source code and source code documentation, documentation or system architecture and any other documents, materials, data and products (“Work Product”) prepared or assembled by the Contractor or its subcontractors pursuant to this Contract shall be the exclusive property of the HHA and copies of all Work Products shall be delivered to the HHA upon the completion or termination of the Contract. The Contractor hereby assigns to the HHA ownership of all right, title and interest in and to such Work Products, including ownership of any copyright, patent, trademark, trade secret, or other intellectual property or proprietary rights in the Work Product. Further, Contractor hereby grants to the HHA a perpetual, royalty-free, paid-in-full, nonexclusive and irrevocable license to copy, reproduce, perform, dispose of, or use, in whole or in part, the Work Product and to authorize others to do so. The Contractor also agrees to execute all papers necessary for the HHA to perfect its ownership of the rights in the Work Product.

## **19 Criminal Background Checks Required.**

- 19.1 After execution of this Agreement and as soon as reasonably possible, the Contractor shall conduct criminal background checks on all employees and subcontractors before such employees or subcontractors are assigned to perform any work under this Agreement. The Contractor agrees that no employee or subcontractor currently suspended or debarred under 2 CFR § 180, et seq., or who has been convicted of a felony, shall be authorized to perform any work under the terms of this Agreement, without prior written approval from the HHA.

## **20. Special Requirements.**

- 20.1 The Contractor agrees that if the United States Department of Housing and Urban Development (“HUD”) requires a cost certification after substantial completion of the work performed under the Contract, then the Contractor will cooperate with the HHA and HUD and assist in providing such cost certification, provided that any payment to the Contractor hereunder shall not be conditioned upon any such cost certification, but shall be paid in accordance with the terms of the Contract.

## **21. Time.**

- 21.1 Time is of the essence in the Contract and each and all of its provisions.

## **22. Tax Exempt Status.**

- 22.1 The HHA is a unit of government and its functions are governmental functions. Its property is public property used for essential public and governmental purposes. By virtue of Section 392.005 of the Texas Local Government Code (the “Housing Authorities Law”), the HHA and its property are exempt from all taxes, including sales tax. A copy of the Tax Exemption Certificate will be provided to the Contractor, if required.

### **23. Cooperation with HHA.**

- 23.1 In the performance of this Contract, the Contractor agrees to cooperate with the HHA and its staff, including the HHA's Section 3 Coordinator.

### **24. Miscellaneous.**

- 24.1 Legal Construction/Severability. HHA and Contractor agree, that if any term or provision of this Agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular term or provision held to be invalid. The failure of either party to enforce any provision of this Agreement shall not constitute a waiver by the party of that or any other provision of this Agreement. Whenever context requires, the singular will include the plural (and vice-versa) and references to gender shall include the masculine and feminine. Article and section headings in this Contract are for reference only and are not intended to restrict or define the text of any section or article herein. This Contract shall not be construed more or less favorably by reason of the authorship or origin of its language; this Contract shall not be construed against the drafter in the event of an ambiguity (or otherwise).
- 24.2 Limitation of Liability. In no event shall the HHA be liable to the Contractor for any indirect, incidental, or exemplary damages.
- 24.3 Own Investigation. The Contractor represents and warrants that it entered this Contract based solely on its own investigation and due diligence and not on reliance on any statements, representations, or omissions of the HHA unless otherwise noted in this Contract. The Contractor represents and warrants that it is fully satisfied that it has received any information it requested from the HHA in order to determine whether to enter this Contract. The Contractor expressly disclaims any reliance on any representation, statement, or omission by the HHA with respect to this Contract, including the Contractor's decision to enter this Contract, unless otherwise noted herein.
- 24.4 Venue and Choice of Law. Venue for any legal action arising from or relating to this Contract shall exclusively lie in Harris County, Texas. The laws of the State of Texas shall govern and control any dispute that arises from or relates to this Agreement. In the event of any litigation arising from or related to this Agreement, or the services provided under this Agreement, each party will be responsible for its own costs incurred including staff time, court costs, attorney fees, and all other related expenses incurred in such litigation.
- 24.5 Notice of Court Actions. The Contractor agrees to give the HHA immediate notice in writing of any actions or suits filed and prompt notice of any claims made against the HHA or any of the parties involved in the implementation and administration of the Contract.



- 24.6 Integration. This Contract, along with the attached Exhibits, contains the complete agreement of the Parties and cannot be varied except by the Parties' written agreement. The Parties agree that there are no oral agreements, representations, or warranties that are not expressly set forth in this Contract.
- 24.7 Waiver of Default. It is not a waiver of or consent to default if the non-defaulting party fails to declare immediately a default or delays in taking any action. Pursuit of any remedy set forth in this Contract does not preclude pursuit of other remedies in this Contract or that are provided by law.
- 24.8 Non-Waiver. No covenant or condition of the Contract may be waived except by written consent of the waiving party. Forbearance or indulgence by one party in any regard whatsoever shall not constitute a waiver of the covenant or condition to be performed by the other party to which the same may apply, and until complete performance of any covenant or condition, the aggrieved party shall be entitled to invoke any remedy available to it under the Contract or by law or in equity despite such forbearance or indulgence. Unless otherwise stated herein, this Contract cannot be modified or altered in any way without the express written consent of the parties hereto.
- 24.9 Remedies Cumulative. All rights and remedies of HHA and Contractor shall be cumulative and may be exercised successively or concurrently. The foregoing is without limitation to or waiver of any other rights or remedies of HHA according to law.
- 24.10 Legal and Regulatory Compliance. All activities under this Agreement shall comply with all applicable local, state and federal laws, ordinances and regulations. This Agreement shall automatically be amended as necessary to comply with all applicable local, state and federal laws, ordinances and regulations, including incorporation of any provisions now or hereafter applicable to the subject matter hereof and/or required to be included by any federal, state or local governmental authority with relevant jurisdiction over the subject matter hereof. Any such change or incorporation of legal and regulatory requirements shall be deemed incorporated herein, irrespective of whether or not such provisions are expressly set forth in this Agreement or any written amendment hereto.
- 24.11 Assignment. The Contractor shall not assign, subcontract, or transfer any services, obligations, or interest in this Contract without the prior written consent of the HHA. Such consent shall not unreasonably be withheld when such assignment is for financing the Contractor's performance.
- 24.12 Successors and Assigns. This Contract shall be binding on and inure to the benefit of the parties to this Contract and their respective heirs, executors, administrators, legal representatives, successors, and assigns, if any.

- 24.13 No Third-Party Rights. Nothing contained in this Contract shall create a contractual relationship with or a cause of action in favor of third party against either the HHA or the Contractor.
- 24.14 Amendment. This Agreement may only be amended by a written amendment signed by the authorized agents of both parties.
- 24.15 Survival. The terms, conditions, representations, and all warranties contained in this Agreement shall survive the termination or expiration of this Agreement.
- 24.16 Publicity. Contractor shall not use in its advertising, marketing or other promotion efforts; any data, pictures or other representation of HHA except on prior specific written authorization from the HHA President/CEO or designee.
- 24.17 No Personal Inducements. Contractor acknowledges and agrees that HHA requires all Contractors to adhere to basic principles in conducting business with HHA. These principles include no direct or indirect personal inducement of HHA employees or Commissioners, such as the giving of gifts, money, tickets, trips, loans, discounts or any other item or service in connection with this Agreement. Contractor further acknowledges and agrees that breach of these principles may be grounds for termination of this Agreement.
- 24.18 Force Majeure. Neither party hereto will be liable or responsible to the other for any loss or damage or for any delays or failure to perform due to causes beyond its reasonable control including, but not limited to acts of God, strikes, epidemics, pandemics, disease, war, acts of terrorism, riots, civil disorder or unrest, flood, fire, tsunami, volcano, sabotage, air space closure, ground stop(s), a U.S. Department of State Travel Warning or any other circumstances of like character (“force majeure occurrence”).
- 24.19 Other: Contractor shall adhere to all federal, state and local laws and ordinances, as well as standards and recommendations outlined by the World Health Organization (WHO); Centers for Disease Control (CDC) and Occupational Safety and Health Administration (OSHA), and any other standards or procedures applicable to Contractor as it relates to the health, safety and welfare of tenants, residents, guests, HHA employees and others who may be involved in the execution of this Agreement.
- 24.20 Authority. Contractor represents and warrants that Contractor has the power and authority to enter into and perform this Agreement and that this Agreement, when executed and delivered, shall be a valid and binding obligation of Contractor enforceable in accordance with its terms.

**IN WITNESS THEREOF**, this document may be executed in multiple counterparts. Each counterpart is deemed an original. All counterparts together constitute one and the same instrument. Each party warrants that the undersigned is a duly authorized representative with the power to execute this contract.

\*\*\*\*\*SIGNATURES FOLLOW\*\*\*\*\*

IN WITNESS THEREOF,

HOUSTON HOUSING AUTHORITY

CONTRACTOR

By: \_\_\_\_\_  
David A. Northern, Sr.  
President & CEO

By: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Contract No. 22-31