



HEDDERMAN SERVICES

281-355-9911

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## MECHANICAL INSPECTION

11511 Olympia dr  
HOUSTON, TX 77077



Inspector

**Luis Mireles**

TREC#22797

281-355-9911

[office@hedderman.com](mailto:office@hedderman.com)



# PROPERTY INSPECTION REPORT FORM

June Chapman in C/O Debbie Cooper <i>Name of Client</i>	10/05/2022 9:00 am <i>Date of Inspection</i>
11511 Olympia dr, HOUSTON, TX 77077 <i>Address of Inspected Property</i>	
Luis Mireles <i>Name of Inspector</i>	TREC#22797 <i>TREC License #</i>
<i>Name of Sponsor (if applicable)</i>	<i>TREC License #</i>

## PURPOSE OF INSPECTION

A real estate inspection is a visual survey of a structure and a basic performance evaluation of the systems and components of a building. It provides information regarding the general condition of a residence at the time the inspection was conducted.

*It is important that you carefully read ALL of this information. Ask the inspector to clarify any items or comments that are unclear.*

## RESPONSIBILITY OF THE INSPECTOR

This inspection is governed by the Texas Real Estate Commission (TREC) Standards of Practice (SOPs), which dictates the minimum requirements for a real estate inspection.

The inspector IS required to:

- use this Property Inspection Report form for the inspection;
- inspect only those components and conditions that are present, visible, and accessible at the time of the inspection;
- indicate whether each item was inspected, not inspected, or not present;
- indicate an item as Deficient (D) if a condition exists that adversely and materially affects the performance of a system or component **OR** constitutes a hazard to life, limb or property as specified by the SOPs; and
- explain the inspector's findings in the corresponding section in the body of the report form.

The inspector IS NOT required to:

- identify all potential hazards;
- turn on decommissioned equipment, systems, utilities, or apply an open flame or light a pilot to operate any appliance;
- climb over obstacles, move furnishings or stored items;
- prioritize or emphasize the importance of one deficiency over another;
- provide follow-up services to verify that proper repairs have been made; or
- inspect system or component listed under the optional section of the SOPs (22 TAC 535.233).

## RESPONSIBILITY OF THE CLIENT

While items identified as Deficient (D) in an inspection report DO NOT obligate any party to make repairs or take other actions, in the event that any further evaluations are needed, it is the responsibility of the client to obtain further evaluations and/or cost estimates from qualified service professionals regarding any items reported as Deficient (D). It is recommended that any further evaluations and/or cost estimates take place prior to the expiration of any contractual time limitations, such as option periods.

**Please Note:** Evaluations performed by service professionals in response to items reported as Deficient (D) on the report may lead to the discovery of additional deficiencies that were not present, visible, or accessible at the time of the inspection. Any repairs made after the date of the inspection may render information contained in this report obsolete or invalid.

## REPORT LIMITATIONS

This report is provided for the benefit of the named client and is based on observations made by the named inspector on the date the inspection was performed (indicated above).

ONLY those items specifically noted as being inspected on the report were inspected.

This inspection IS NOT:

- a technically exhaustive inspection of the structure, its systems, or its components and may not reveal all deficiencies;
- an inspection to verify compliance with any building codes;
- an inspection to verify compliance with manufacturer's installation instructions for any system or component and DOES NOT imply insurability or warrantability of the structure or its components.

## NOTICE CONCERNING HAZARDOUS CONDITIONS, DEFICIENCIES, AND CONTRACTUAL AGREEMENTS

**Conditions may be present in your home that did not violate building codes or common practices in effect when the home was constructed but are considered hazardous by today's standards. Such conditions that were part of the home prior to the adoption of any current codes prohibiting them may not be required to be updated to meet current code requirements. However, if it can be reasonably determined that they are present at the time of the inspection, the potential for injury or property loss from these conditions is significant enough to require inspectors to report them as Deficient (D). Examples of such hazardous conditions include:**

- malfunctioning, improperly installed, or missing ground fault circuit protection (GFCI) devices and arc-fault (AFCI) devices;
- ordinary glass in locations where modern construction techniques call for safety glass;
- malfunctioning or lack of fire safety features such as smoke alarms, fire-rated doors in certain locations, and functional emergency escape and rescue openings in bedrooms;
- malfunctioning carbon monoxide alarms;
- excessive spacing between balusters on stairways and porches;
- improperly installed appliances;
- improperly installed or defective safety devices;
- lack of electrical bonding and grounding; and
- lack of bonding on gas piping, including corrugated stainless steel tubing (CSST).

Please Note: items identified as Deficient (D) in an inspection report DO NOT obligate any party to make repairs or take other actions. The decision to correct a hazard or any deficiency identified in an inspection report is left up to the parties to the contract for the sale or purchase of the home.

This property inspection report may include an inspection agreement (contract), addenda, and other information related to property conditions.

INFORMATION INCLUDED UNDER "ADDITIONAL INFORMATION PROVIDED BY INSPECTOR", OR PROVIDED AS AN ATTACHMENT WITH THE STANDARD FORM, IS NOT REQUIRED BY THE COMMISSION AND MAY CONTAIN CONTRACTUAL TERMS BETWEEN THE INSPECTOR AND YOU, AS THE CLIENT. THE COMMISSION DOES NOT REGULATE CONTRACTUAL TERMS BETWEEN PARTIES. IF YOU DO NOT UNDERSTAND THE EFFECT OF ANY CONTRACTUAL TERM CONTAINED IN THIS SECTION OR ANY ATTACHMENTS, CONSULT AN ATTORNEY.

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### **ADDITIONAL INFORMATION PROVIDED BY INSPECTOR**

*Hedderman Engineering Inc.:*

>It is the purpose of this report to give our client my educated and experienced opinion of the condition and function of the stated property as visually inspected by Hedderman Engineering Inc. The inspection performed on this property is of a general nature and includes the following systems: electrical, mechanical, and plumbing. This does not include any specialized inspections and/or inspections of any hazardous materials (such as done in environmental inspections) or any of the following: structural systems, mold, audio/visual components, lighting control systems, hazardous materials and gases, rated walls, lead paint, destructive insects or pest, security items, water or air treatment systems, etc. This inspection is limited to those components which were visible and readily accessible at the time of the inspection. It is noted that this report contains the opinions of this inspector of the stated property as it appeared on the day of the inspection and is in no way a warranty of any component in the days and future following the inspection. All mechanical components are judged on the basis of age, condition, and the function of those items as they appeared on the day of the inspection and are not guaranteed to continue functioning in that manner in the future. It is recommended that the our client purchase a home warranty policy to protect oneself from both unexpected and anticipated problems that may occur in the future.

>It is noted that Hedderman Engineering Inc. is not responsible for any problems found in the house during or after components are opened up, disassembled, uncovered, made visible, or made accessible by another entity after the inspection is completed.

>If a builder or service contractor examines an area of question and comes to the conclusion that there is no repair needed, have them present to you in writing that the item is in compliance with a prevailing code and is functioning properly, and not in need of repair.

>It is the intent of this inspector to work in compliance with the Standards Of Practice For Real Estate Inspectors. It is not required of this company to exceed these standards. You may obtain a copy of the document referred to above by contacting the Texas Real Estate Commission. It is also noted that this inspection is not a "code inspection", but rather an inspection of the condition and function of the stated property.

>Although this report may include observations of some building code violations, total compliance with mechanical, plumbing, electrical codes, specifications, and/or legal requirements are specifically excluded. We do not perform "code" inspections, and since building codes change every few years, our inspections are not performed with the intention of bringing every item in the property into compliance with current code requirements. Rather, the standard of our inspections is a **performance standard** to

determine if the items inspected are functioning at the time of the inspection, or are in need of repair. This is particularly applicable to Home Warranty policies, where the standards of the Home Warranty service company are often different than our stated performance standard for judging whether a piece of equipment is functional or in need of repair. If you intend to rely on a Home Warranty policy, then it is recommended that you contact the appropriate service companies for a more in-depth analysis of what may be required to meet their standards should a claim be made against the policy.

>If there are any questions or concerns please contact Hedderman Engineering, Inc. at 281-355-9911 or Office@HeddermanEngineering.com.

## I. STRUCTURAL SYSTEMS

- A. Foundation**  
*Comments:*
- B. Grading and Drainage**  
*Comments:*
- C. Roof Covering Materials**  
*Comments:*
- D. Roof Structures & Attics**  
*Comments:*
- E. Walls (Interior and Exterior)**  
*Comments:*
- F. Ceilings and Floors**  
*Comments:*
- G. Doors (Interior and Exterior)**  
*Comments:*
- H. Windows**  
*Comments:*
- I. Stairways (Interior and Exterior)**  
*Comments:*
- J. Fireplaces and Chimneys**  
*Comments:*
- K. Porches, Balconies, Decks and Carports**  
*Comments:*

The structural portions of this property were inspected by an engineer from Hedderman Engineering Inc. per the inspection agreement between this firm and our client. All comments regarding the structure and property grade are found in the structure report that is created and provided by the engineers at Hedderman Engineering Inc.

According to HAR, the house was built in 1978.

*Orientation - House Facing North:*

For the purpose of the inspection, North is considered to be the front of the house.

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I=Inspected

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NP=Not Present

D=Deficient

I NI NP D

## II. ELECTRICAL SYSTEMS

**A. Service Entrance and Panels**

*Comments:*

*Electrical System Description:*

The electrical service is provided by a 120/240 volt, single-phase, 200-ampere underground service to an electric meter located at the rear side of the garage.

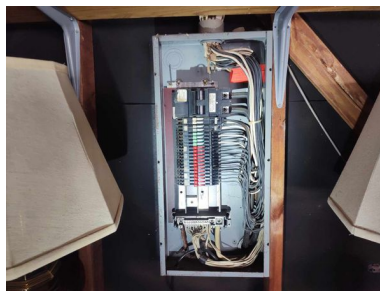
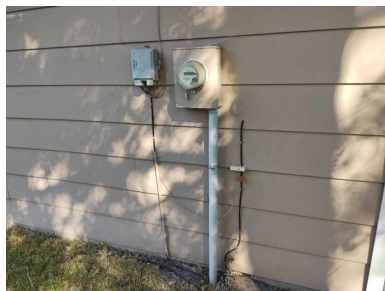
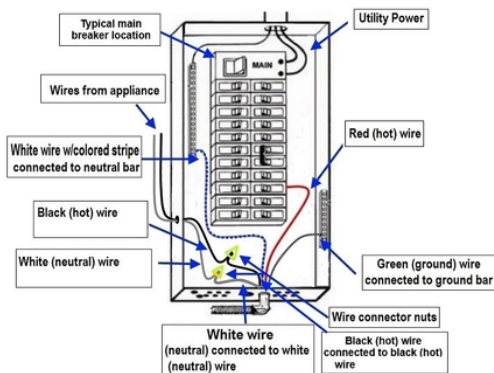
### Electrical Wiring Information

<u>Service Wires</u>	<u>Branch Circuit Wires</u>	<u>Grounded or Ungrounded System</u>
4/0 aluminum	copper	Grounded

### Breaker Panel Information

<u>Location</u>	<u>Manufacturer</u>	<u>Rating - Amps</u>
Garage	Sylvania	225 amps

Circuit Breaker Wiring Diagram



*Breakers - Routine Check:*

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It is a general recommendation that all circuit breakers be tripped off and on at least once a year to ensure that they are still physically able to trip off. Occasionally, the points on a breaker will fuse to the main bus in the panel, preventing the breaker from tripping off, even if there is an overload on the circuit. If this condition occurs, it can be a fire hazard.

*AFCI Breakers Not Present - Home built pre-AFCI:*

The breaker panel(s) did not contain any Arc Fault Circuit Interrupters (AFCI). This is an “as-built” condition, that does not meet current building code standards. AFCI devices are intended to protect against fires caused by electrical arcing in the wiring, by shutting off the power to the circuit when an electrical arc is detected in the circuit. Homes built prior to 2002 were not required by the National Electrical Code (NEC) to be protected by AFCI devices. Since this home was built prior to 2002, the breaker panel is not required to be retrofitted with new AFCI breakers. If adding AFCI breakers is desired, it is recommended that you contact an electrician for further information.

**1: Zinsco/Sylvania Breaker Panels**

It is a general recommendation that all circuit breakers be tripped off and on several times a year to ensure that they are still physically able to trip off. Occasionally, the points on a breaker will deteriorate at the point where it connects to the electrical bus in the panel, causing the panel/breaker to overheat. Zinsco and Sylvania panels have a reputation for this condition. Consideration should be given to replacing the breaker panel. It is recommended that you perform an online search of Zinsco breaker panels and Sylvania breaker panels.

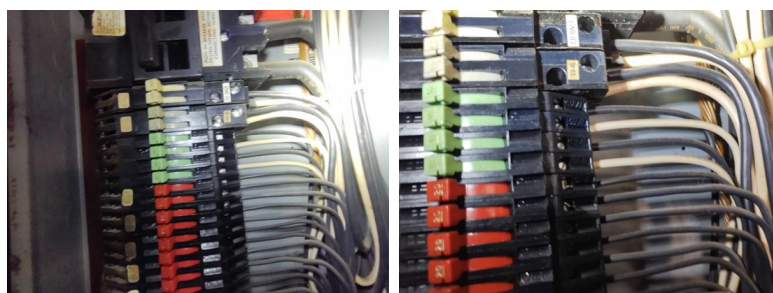
**Obtain Cost Estimate**

**2: Power Wire - White insulation**

We observed one or more white wires that were used as a power wires, and were connected to a circuit breaker. Typically, the white wires are the grounded/neutral conductors, and if they are used as a power conductor, they must be permanently marked or wrapped with black or red tape to identify them as a “hot” ungrounded conductor.

**Obtain Cost Estimate**

**E3407.3**



**3: Breakers - Not Labeled**

All of the breakers were not labeled to identify the circuits they were protecting. It is recommended that an electrician be contacted to specifically identify each circuit.

**Obtain Cost Estimate**

**4: No Antioxidation Solution**

The aluminum conductors were not coated with an anti-oxidation solution. Per the standards set forth by The Texas Real Estate Commission, we are compelled to recommend that the wires should be coated with an anti-

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oxidation solution, however this is not required by the current building codes.

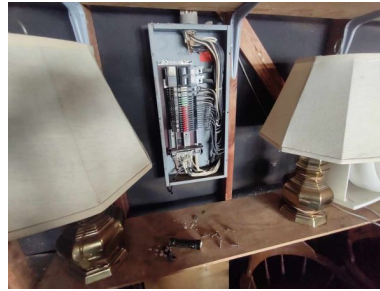
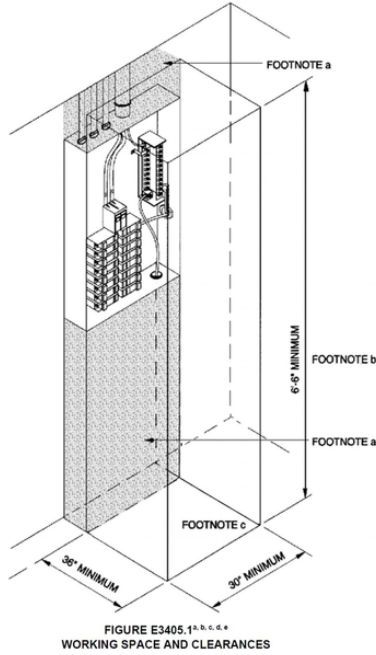
**Obtain cost estimate**

**5: Breaker Panel - Inadequate Clearance**

The breaker panel did not have the required three foot clearance at the front and it is recommended that the minimum required clearance be made or that the panel be relocated.

**Obtain Cost Estimate**

*E3405.1*



**6: Breakers Oversized - A/C condensing unit**

The circuit breakers for air conditioning condensing unit was rated higher than the maximum size allowed by the manufacturer of the condensing unit. The breakers should be replaced by the size listed on the manufacturer's nameplates located on the condensing unit.

**Obtain Cost Estimate**



**B. Branch Circuits, Connected Devices, and Fixtures**

Type of Wiring: Copper -

Comments:

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I	NI	NP	D
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*GFCI Outlet - Functional* : Some at kitchen, Some at bathrooms -

Outlets that were protected by ground fault circuit interrupt (GFCI) devices were present and functioning properly at the time of the inspection. The GFCI devices were checked and the power to the outlets turned off when the test buttons were pressed. It is pointed out that GFCI devices can stop tripping and/or resetting properly at any point. The devices should be tested periodically and replaced when necessary.

*Outlets - Some inaccessible:*

Some of the receptacle outlets in the home were inaccessible and could not be reached for inspection due to furniture, heavy storage items, personal effects, or conditions outside the control of the inspector.

*Exterior Light Fixtures - Sensors/Timers:*

Several of the exterior lights appeared to be on a daylight sensor or timer, and will not come on until it gets dark. Since it was not dark, the lights were not checked at the time of the inspection. Further investigation is recommended.

*Low Voltage Systems - Not inspected:*

It is pointed out that low voltage systems, low voltage wiring, and low voltage connections were not included in the scope of the inspection and were not checked, including: audio/visual systems, alarm systems, data lines, and phone lines. If further investigation is desired, it is recommended that a service company be contacted.

#### **1: GFCI - Missing at outlet**

Kitchen counter tops, Master bathroom, Exterior of the house, Washing machine, Garage -

A GFCI device was not installed at one or more locations that are currently required to have GFCI protection.

It is recommended that an electrician install GFCI devices at all of the currently required locations.

**Obtain Cost Estimate**

Recommendation: Contact a qualified professional.

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#### **2: Outlet - Missing**

Half bathroom,

A 120-volt outlet was not provided at a currently required location.

**Obtain Cost Estimate**

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#### **3: Light Fixture - Nonfunctional**

Master bathroom,

A light fixture that was non-functional when the switch was on was observed. The problem may be a burned out bulb, defective light fixture, or defective switch.

**Further investigation is recommended**

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#### **4: Ceiling Fan - Unbalanced**

Master bedroom, 2nd Floor East Bedroom,

The ceiling fan was unbalanced and needs to be adjusted.

**Obtain Cost Estimate**

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#### **5: Open junction box**

Attic

An open junction box that was missing a cover was observed.

**Obtain Cost Estimate**



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**6: Unprotected wire splice**

Kitchen sink,

Wiring that was spliced and not enclosed in a junction box was observed.

**Obtain Cost Estimate**



**7: Power Cord Wire - Improperly hard wired**

Garage

Wiring that is not approved to be hard wired into the electrical system, including extension cord wiring or lamp cord wiring, was observed. For safety purposes, the unapproved wiring should be replaced with an approved wiring.

**Obtain Cost Estimate**



**8: Gas and/or Water Piping - Bonding Not visible**

The location(s) where the water supply piping and/or gas supply piping were bonded together and/or back to the electrical ground system were not visible at the time of the inspection. It is recommended that an electrician be contacted to determine if the plumbing in the house is properly bonded and to make any needed repairs.

**Obtain Cost Estimate**

Recommendation: Contact a qualified professional.

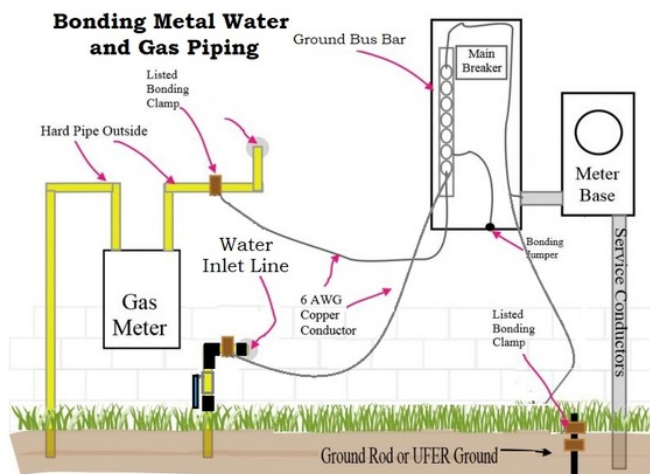
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**9: Smoke detectors - Current standards not met**

The house does not meet the current code concerning smoke alarms. This house is an older home and, if bringing the house into current standards is desired, it is recommended that you contact a service contractor to make all of the needed repairs. Smoke detectors are currently required to be connected in a manner that causes one detector to engage each other detector should an alarm be tripped, They are also required to be hardwired into the electrical system and contain a battery back up. Lastly, smoke detectors are required inside each bedroom, outside of bedroom areas, hallways, stairwells, and at each level of the structure.

**Obtain Cost Estimate**

Recommendation: Contact a qualified professional.

**10: Carbon Monoxide Detectors - Current standards not met**

Carbon monoxide detectors were not installed at all of the currently required locations and it is recommended that approved carbon monoxide detectors be installed. Currently, carbon monoxide detectors are required outside each sleeping area.

**Obtain Cost Estimate**

Recommendation: Contact a qualified professional.

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### III. HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS

**A. Heating Equipment**

Comments:

Type of System: Forced Air

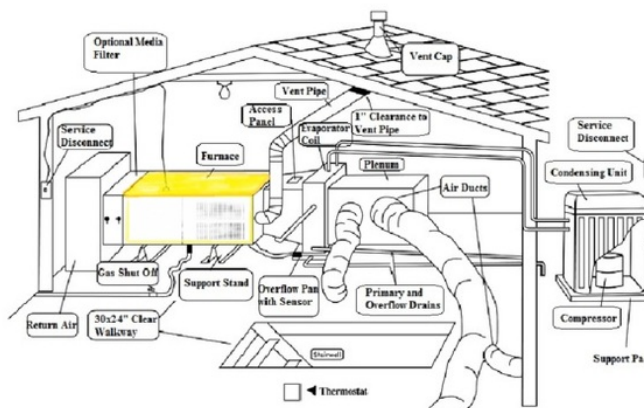
Energy Sources: natural gas

*It is pointed out that our inspection of the air conditioning and heating system(s) is a limited, visual inspection in accordance with the TREC SOP, where we check the equipment as it has been installed to determine whether or not the system(s) is cooling and/or heating at the time of the inspection. Our inspection is a cursory inspection of the apparent function, as we do not determine the sizing, adequacy, or design of any component in the system, or the compatibility of the individual components, nor the installation of the system(s) to be in conformity to the latest building code requirements. If you desire an in-depth analysis of the HVAC system(s) by a qualified service technician using specialized diagnostic equipment, then it is recommended that a service company be contacted to analyze the system(s). This is particularly important if the system(s) is an older system and has only a limited amount of remaining life due to its age and/or condition.*

Gas Furnace Description:

The heating for the property was provided the following natural gas-fired equipment:

<u>ZONE</u>	<u>BRAND</u>	<u>BTU</u>	<u>DATE</u>	<u>LOCATION</u>
House	Ruud	unknown	unknown	attic



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*Heating Equipment - Functional:*

The heating equipment was observed to be operating and functional at the time of the inspection. The heating equipment responded to the thermostat(s) and the equipment appeared to be heating the air adequately.

*Limited life:*

Due to the age and/or condition of the equipment, it is our opinion that the equipment has only a limited amount of remaining life.

*Heat Exchanger - Information:*

Gas furnaces are constructed in such a way that the units must be dismantled in order to view the entire heat exchanger inside. The equipment was not dismantled, and the heat exchanger was not able to be viewed for evidences of cracks. If further investigation is desired, it is recommended that a service company be contacted to dismantle the equipment. It is pointed out, for safety purposes, the heat exchanger should be inspected by an HVAC service company once a year.

**1: Manufacturer's data sticker**

The manufacturer's data sticker was missing or illegible and we could not determine the size, age, and/or manufacturer of the equipment. Further investigation is recommended with the owner and/or a service company.

**Further investigation is recommended**

Recommendation: Contact a qualified professional.

**2: Vent pipe needs repair**

Screws penetrate wall, Secured with tape, Rusted vent pipe section -

The vent pipe was not installed properly and is in need of repair. It is pointed out that an improperly installed vent pipe is a safety hazard.

**Obtain cost estimate**

Recommendation: Contact a qualified professional.



**3: Attic Decking - Inadequate to equipment**

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I   NI   NP   D

The attic did not have adequate service decking to and/or in front of the equipment. The platform decking should be a continuous deck that is a minimum of 30 inches wide, that extends along all sides of the appliance where access is required. In addition, the decking should be free from any obstructions, such as gas lines, electrical wiring, duct work, framing members, etc.

**Obtain Cost Estimate**

*MI305.1.3*

**4: Sediment trap missing**

Sediment traps were not installed at the gas supply lines for one or more of the gas fired furnaces. A sediment trap is intended to catch sediment/moisture/debris in a gas supply line before it can enter into the gas equipment.

**Obtain Cost Estimate**

Recommendation: Contact a qualified professional.

**B. Cooling Equipment**

*Comments:*

*Type of System: Split system*

*The inspection of the HVAC system is cursory in nature in accordance with the TREC SOP. We measure the temperature drop ( $\Delta T$ ) across the indoor coil(s) at the time of the inspection and our observations have been recorded in this report. It is pointed out that our measurements of the cooling performance of the equipment is only at a "point in time", and cannot reflect whether the equipment has been recently serviced, or what the future performance of the equipment will be after the day of the inspection. Further investigation with the homeowner is recommended to determine when the equipment was last serviced. It is pointed out that an HVAC license is required to check the refrigerant pressures for the A/C equipment, therefore the refrigerant pressure was not checked during the inspection.*

*A/C Equipment Description:*

The type of air conditioning for the property is a forced air split system. The cooling equipment for the property was as follows:

Zone	Brand	Size/Age Condenser	Size/Age Coil	Temp Drop Degrees
House	Payne	4-ton 2018	4-ton 2018	17

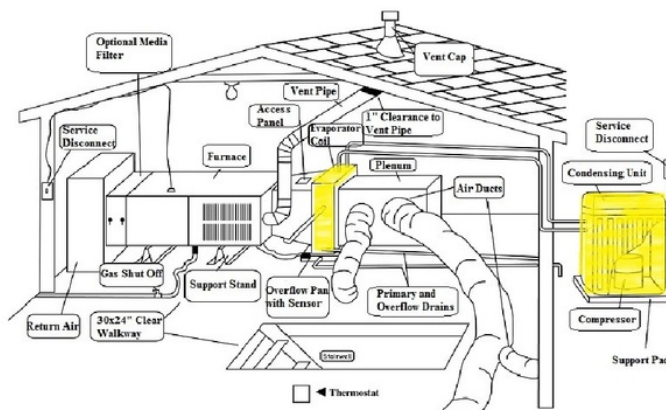
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*Condensing Unit Equipment - Functional:*

The condensing unit equipment was functional at the time of the inspection. The equipment responded to the corresponding thermostat, and the compressor components and fan motor components appeared to be operating as evidenced by the cooling performance of the system.

*Coil Equipment - Functional:*

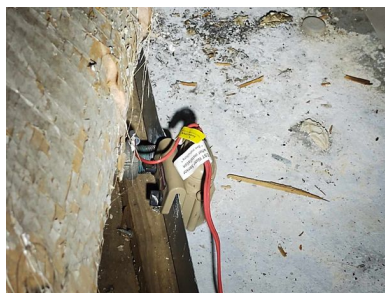
The coil equipment was operating and was providing a degree of cooling at the time of the inspection.

*Cooling Performance - Acceptable:*

The cooling performance of the equipment was observed to be adequate according to industry standards. The air conditioning equipment was observed to be cooling between 16-20 degrees across the indoor coil at the time of the inspection.

*Overflow Pan - Water sensor present:*

The overflow pan under the evaporator coil was equipped with a water sensor that is intended to shut off the air conditioning equipment if the pan fills with water.



*Cooling Performance:*

We measure the temperature drop ( $\Delta T$ ) across the indoor coil(s) at the time of the inspection and our observations have been recorded in this report. It is pointed out that our measurements of the cooling

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performance of the equipment is only at a “point in time”, and cannot reflect whether the equipment has been recently serviced, or what the future performance of the equipment will be after the day of the inspection. Further investigation with the homeowner is recommended to determine when the equipment was last serviced.

**1: Overflow Pan - Rust**

Rust was observed in the overflow pan under the coil, apparently due to water backing up at the primary drain line and overflowing into the pan. No water was observed in the overflow pan at the time of the inspection, however since the equipment was only operated for a short time during the inspection, It is recommended that the primary drain line and the coil be checked by an air conditioning service company.

**Obtain Cost Estimate**



**2: Overflow Pan - Debris in pan**

Insulation and/or debris was observed in the overflow pan. The pan needs to be cleaned out to prevent clogging of the drain line.

**Obtain Cost Estimate**



**3: Primary Drain Line - Termination unknown**

The location where the primary condensate drain line terminates was not determined at the time of the inspection. Further investigation is recommended with a service company. The drain should be terminated into the plumbing drain system in an approved manner.

**Obtain Cost Estimate**

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**C. Duct Systems, Chases, and Vents**

*Type of ducts:* Rigid ducts, Flex ducts -

*Comments:*

*Return Air - Acceptable :*

The return air system in the house had no visible items that were in need of repair and appeared to be performing as intended at the time of the inspection.

*Ductwork - Flex and Rigid ducts :*

The air ducts in the attic consisted of some newer flex ducts and some older rigid ducts. Due to the age of the rigid air ducts, further investigation is recommended with the homeowner and/or a service company to determine if the ductwork has been cleaned recently. If the air ducts have not been cleaned, it is recommended that the interior of the ducts be checked by a service company.

**1: Air filter - dirty**

The filter was dirty and needs to be replaced. A dirty filter can allow the evaporator coil and air ducts to become dirty, which can affect the performance of the system.

**Obtain Cost Estimate**

**2: Registers - Microbial growth observed**

Some of the registers were covered with mildew/debris. It is recommended that a service company be contacted to check the inside a of the duct work to determine if there is a build-up of debris/mold/mildew inside, and make any needed repairs. Further investigation is recommended.

**Obtain Cost Estimate**





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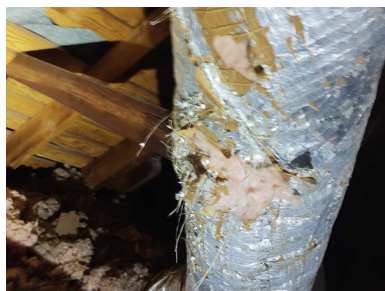
I NI NP D



### 3: Ducts - Sheathing/Insulation damaged

The sheathing and/or insulation around the air ducts is damaged/missing, and the damaged duct work needs to be repaired or replaced.

**Obtain Cost Estimate**



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#### IV. PLUMBING SYSTEMS

**A. Plumbing Supply, Distribution Systems, and Fixtures**

*Comments:*

Location of water meter: front yard at neighbors house

Location of main water supply valve: west

Static water pressure reading: 52 PSI

Water Supply Material: galvanized steel

A plumbing system typically consists of three major components, including the potable water supply piping; the waste or drain piping; and the plumbing fixtures. The distribution piping brings the water from the public water main or a private well to the individual fixtures throughout the property. The water distribution system is under pressure, usually from 40 psi to 70 psi. The waste or drain piping carries the waste water and products underground to the sewer system or septic tank, and the waste piping is not under pressure, but operates by gravity flow. We typically run water down the drains from the sinks, tubs, showers, and toilets, but this cannot simulate the waste flow characteristics of full occupancy. There may be partial blockage of the underground waste lines from debris, broken pipes, or tree roots that cannot be detected by a visual inspection. If you desire a more in-depth inspection, it is recommended that you contact a qualified plumber.

*Main Water Shut Off Valve Location:* West side -

The main shut-off valve for the water line service piping is intended to provide a means to disconnect the water service to the structure/property.



*Static Water Pressure:* 50-55 PSI -

The static water pressure at the property was measured with a water pressure gauge at the hose bibb nearest to the shut off valve at the time of the inspection.



*Water Supply Piping - Galvanized Steel:*

All or portions of the water piping for the property was observed to be the original galvanized piping. It is pointed out that the galvanized piping will deteriorate with time, and will corrode on the inside of the piping, thereby reducing the inside diameter of the pipe, and restricting the flow of the water through the pipe. In addition, the piping will corrode through to the outside of the pipe and will eventually deteriorate to where the pipe will start leaking. It can be anticipated that the galvanized water piping throughout the house will need to be replaced when it is causing reduced water pressure or is corroded enough to start leaking.

I=Inspected

NI=Not Inspected

NP=Not Present

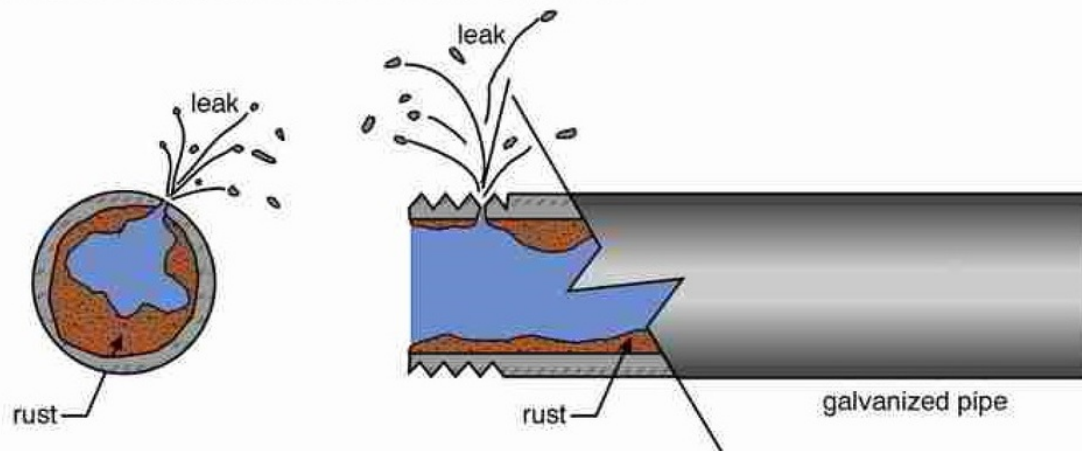
D=Deficient

I NI NP D

## Galvanized steel pipe

rusting of galvanized pipe can greatly reduce water pressure and will eventually cause leaks as rust creates holes in the pipe walls

problems are likely to occur soonest on pipes carrying hot water, horizontal pipes and at threaded (thinner) sections



### *Sinks & Lavatories - Functional:*

No items requiring repair were visible at the time of the inspection to the operation of the sinks and/or lavatories. The sinks were filled with water, and were observed to be draining properly, with no leaking piping or slow drains.

### *Toilets - Functional:*

No items requiring repair were visible at the time of the inspection to the operation of the toilets. The toilets were flushing properly, with no leaks visible in the plumbing, the wax seal, or the internal valves.

### *Tub/Shower - Functional:*

No items requiring repair were visible for the tub and/or shower at each bathroom. The tubs were partially filled with water and water was run in the showers, and they were observed to be operating adequately at the time of the inspection.

### **1: Vacuum Breaker - Missing**

The atmospheric vacuum breaker devices were missing at one or more of the hose bibbs, and it is recommended that they be installed to prevent cross connections, which can allow contaminated water to enter the potable water supply.

### **Obtain Cost Estimate**

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I NI NP D



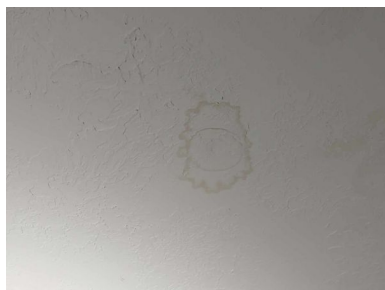
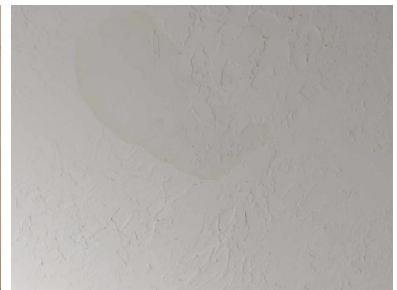
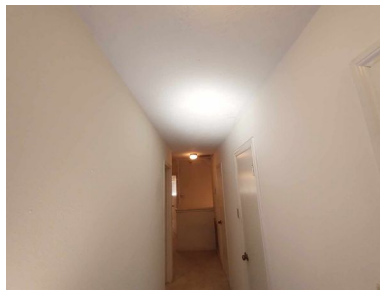
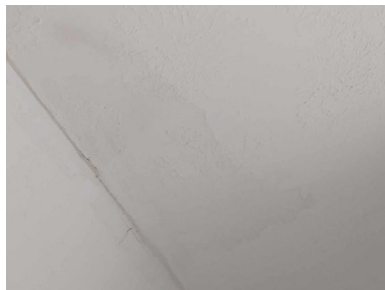
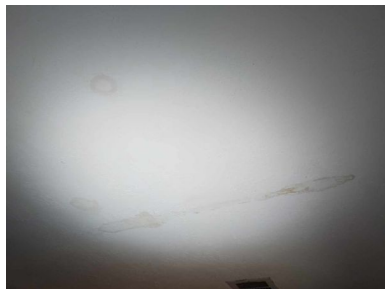
**2: Water Stains/Damage Observed**

Master bedroom, 2nd floor hallway, 2nd floor west bedroom,

Water damage/stains were observed indicating a current or previous leak. The source of the condition was not determined, with certainty, at the time of the inspection. Further investigation is recommended with a contractor to determine the source of the condition and to make any necessary repairs to correct the moisture condition and, if present, any secondary damage.

**Obtain Cost Estimate**

Recommendation: Contact a qualified professional.



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I	NI	NP	D
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### 3: Water Pressure Reduced

The water pressure in the house reduced noticeably when more than one plumbing fixture was operated at the same time. This condition is commonly found when galvanized water piping is present, and may indicate a significant amount of rust or scale is present on the interior walls of the water piping. Further investigation is recommended with a plumber to determine the reason for the condition and to provide a cost estimate for any needed repairs.

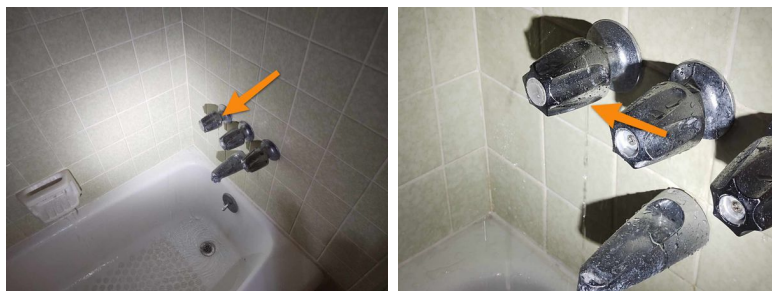
**Obtain Cost Estimate**

### 4: Water Valve - Leaking

Tub at 2nd floor bathroom,

A water valve was leaking around the valve stem and needs to be repaired/replaced.

**Obtain Cost Estimate**



### 5: Sprayer - Clogged

Kitchen sink,

The sprayer was clogged with mineral deposits. The head should be cleaned or replaced.

**Obtain Cost Estimate**

### 6: Water Stains/Damage Under Sink

Master bathroom,

Evidence of a previous leak was visible under a sink, where water stains/damage were visible at the bottom of the cabinet. No leaks were visible at the time of the inspection.

**Further investigation is recommended.**



### 7: Toilet - Loose on floor

2nd Floor Bathroom

The toilet was loose on the floor and needs to be reset and secured to the floor.

**Obtain Cost Estimate**

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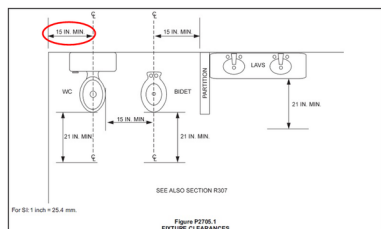
I NI NP D

**8: Toilet - Improper clearance**

Half bathroom,

The toilet was located too close to the adjacent tub or cabinet. A properly installed toilet requires a minimum of 15 inches of clearance. Further investigation is recommended with a plumber to determine a solution for the condition and to provide cost estimates for any needed repairs.

**Obtain Cost Estimate**



**9: Toilet - Seat loose/damaged**

Master bathroom,

The toilet seat was loose and/or damaged on the toilet and needs to be repaired.

**Obtain Cost Estimate**

**10: Tub - Caulk needed**

Master bathroom, 2nd Floor Bathroom,

The tub needs to be caulked.

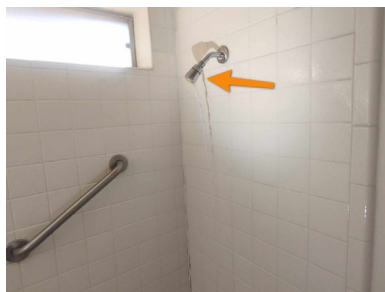
**Obtain Cost Estimate**

**11: Tub/Shower - Water leaks past diverter**

Master bathroom,

The diverter valve was leaking water past the valve when the valve was turned to the faucet or shower.

**Obtain Cost Estimate**



**12: Shower/Tub - Shower head leak**

2nd Floor Bathroom,

The shower head was leaking at the connection and needs to be repaired.

**Obtain Cost Estimate**

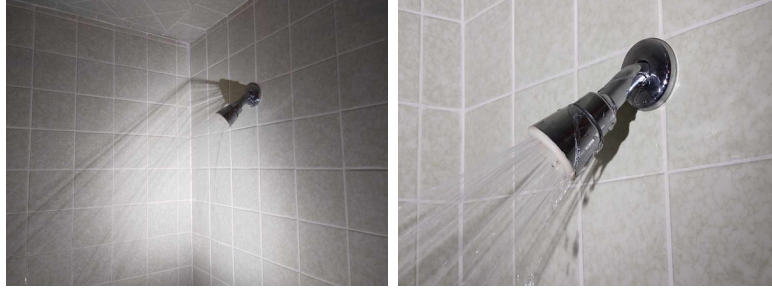
I=Inspected

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NP=Not Present

D=Deficient

I NI NP D



**13: Shower/Tub - Caulk valves**

Master bathroom, 2nd Floor Bathroom,

The tub and/or shower valves and/or faucet needs to be caulked to prevent water from entering the wall cavity behind the valves/faucet.

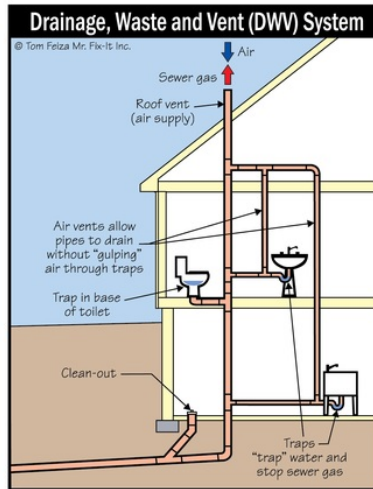
**Obtain Cost Estimate**

**B. Drains, Wastes, and Vents**

*Sewer Piping Material:* Appears to be ABS -  
*Comments:*

*Sewer System - Functional:*

No evidences of a system wide problem were observed when the system was operationally checked by running water through each of the plumbing fixtures during the duration of the inspection. It is noted that most of the drain waste system in the walls, under the floors, and in the ceilings is not visible. If further investigation is desired, it is recommended that a plumber be contacted to perform an in depth survey with a camera or hydrostatic test.



*Sewer Clean Out Present:* Rear -

A sewer clean out was present. The clean out is needed in the event of a stoppage in the main sewer drain line, and the clean out is where a sewer snake would be utilized to remove a clog in the sewer line.

I=Inspected NI=Not Inspected NP=Not Present D=Deficient

I NI NP D



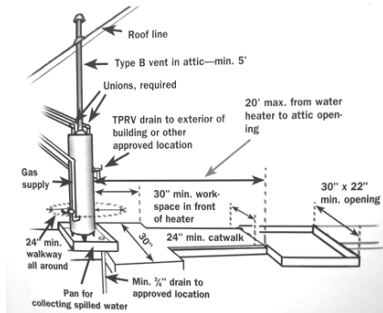
**C. Water Heating Equipment**

*Energy Source:* Natural gas -  
*Capacity:* Gallons

*Gas Water Heater Description:*

The hot water for the property was provided by the following natural gas fired gas water heater(s):

<u>Location</u>	<u>Brand</u>	<u>Capacity</u>	<u>Age</u>	<u>Energy Type</u>
Attic	State	40-gallons	2012	Gas



*Water Heater Equipment - Functional:*

The water heater equipment was functional at the time of the inspection and providing hot water to the applicable plumbing fixtures.

*Hot water - Temperature:*

The generally recommended maximum temperature setting for a hot water heater, to prevent accidental scalding, is 120-125 degrees. It is recommended that the water heater thermostat be adjusted to and maintained in this temperature range.

WATER TEMPERATURE	Adults (skin thickness of 1.5 mm)	Children (skin thickness of .65 mm)
	Time required for a third-degree burn to occur	
155°F - 63°C	1 second	0.5 second
149°F - 64°C	2 seconds	1 second
143°F - 62°C	5 seconds	1 second
137°F - 60°C	15 seconds	4 seconds
132°F - 57°C	1 minute	10 seconds
124°F - 51°C	3 minutes	1.5 minutes
120°F - 49°C	5 minutes	2.5 minutes
100°F - 37°C	Safe temperature for bathing	

For 95 °C = (1°F) - 32(F) + 32; 95 - 32 = 63 - 32 = 31 °C  
Figure P218.3  
TEMPERATURE BURN CHART



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I	NI	NP	D
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*Water Heater Equipment - limited life:*

Due to the age and/or condition of the equipment, it is our opinion that the equipment has only a limited amount of life remaining. Normal life expectancy for a water heater in the Houston area is approximately 10-12 years.

*Temp/Pressure Relief Valve - Information:*

Temperature/pressure relief valves are not operationally checked by this firm during the inspection. Valves typically do not reseal properly when they are operated, which causes the valves to leak. It is best to replace the temperature/pressure relief valves for water heaters every 2-3 years to prevent them from getting clogged with mineral deposits.

**1: TPR valve needs repair**

Flex piping installed in line -

The drain line for the temperature pressure relief valve on the water heater was not installed properly and is in need of repair.

**Obtain cost estimate**

Recommendation: Contact a qualified professional.



**2: Overflow Pan - Remove Insulation/debris**

Insulation and/or debris was observed in the overflow pan and needs to be removed.

**Obtain Cost Estimate**



I=Inspected      NI=Not Inspected      NP=Not Present      D=Deficient

I	NI	NP	D
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**D. Hydro-Massage Therapy Equipment**

*Comments:*

*Hydro-Therapy Equipment Not present:*

Hydro-therapy equipment was not present at the time of the inspection.

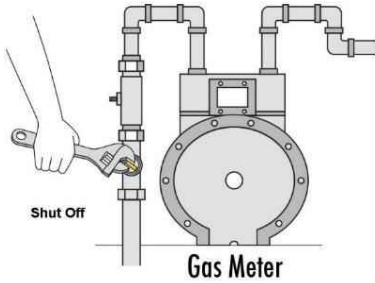
**E. Gas Distribution Systems and Gas Appliances**

*Location of Gas Meter:* Rear of house -

*Type of gas distribution piping material:* Steel piping with flexible appliance connectors

*Comments:*

A cursory visual inspection was performed on the gas supply piping. The inspection was limited to the gas pipes that were visible and accessible at the time of the inspection, without digging to uncover gas lines. The underground gas line is typically galvanized steel, which can and does rust. However, viewing the underground gas line(s) would require digging, and HEI does not do any digging around the gas lines to determine their condition or the degree of rusting at the underground piping. Also, the use of specialized equipment to detect leaks is not included in the scope of this inspection, nor is determining the gas supply pressure or adequacy. If further investigation is desired to know the condition of the underground gas line(s), it is recommended that a plumber be contacted.



**1: Gas odor observed**

Gas meter,

A gas odor was observed at the time of the inspection possibly indicating a gas leak. It is recommended that a plumber be contacted to find the source of the leak and to make any necessary repairs.

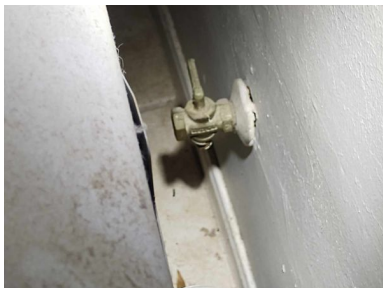
**Obtain Cost Estimate**

**2: Unused gas valve - Need to cap**

Utility room,

An unused gas valve that was not capped was observed. The unused gas valve needs to be properly capped to prevent accidental gas leaks.

**Obtain Cost Estimate**



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I NI NP D

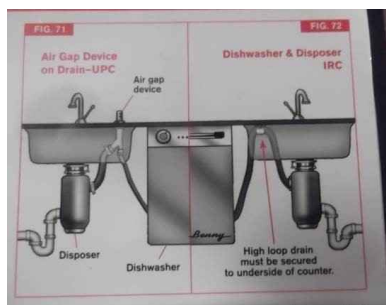
## V. APPLIANCES

### A. Dishwashers

*Comments:*

*Drain Line Loop Present:*

The drain line under the sink was looped up so that the top of the loop was higher than the point where the drain line connected to the disposal. This will help to prevent garbage from running down the drain line into the dishwasher.



*Limited Life:*

The dishwasher was functional at the time of the inspection. However, due to the age and/or condition of the equipment, it is our opinion that it has only a limited amount of life remaining.

### B. Food Waste Disposers

*Comments:*

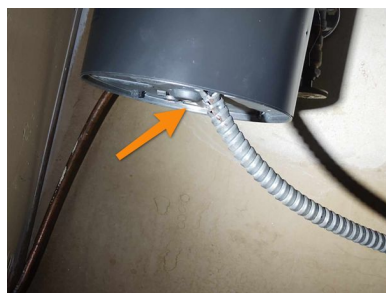
*Functional:*

The disposal was operating and responded to the controls at the time of the inspection.

#### 1: Electrical Wire - Missing Clamp

The electrical connection at the bottom of the disposal was missing the proper clamp connection to the housing.

**Obtain Cost Estimate**



#### 2: Electrical Wire - Partially Encased

The electrical wiring for the disposal is only partially encased in conduit.

**Obtain Cost Estimate**

I=Inspected

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NP=Not Present

D=Deficient

I	NI	NP	D
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**C. Range Hood and Exhaust Systems**

*Comments:*

*Range Vent - Functional:*

No items requiring repair were visible at the time of the inspection to the operation of the range vent. The vent fan was observed to be venting properly at the time of the inspection.

**D. Ranges, Cooktops, and Ovens**

*Comments:*

*Electric Cooktop - Functional:*

The electric cooktop was functional at the time of the inspection and responded to the controls. All of the elements and controls were operational at the time of the inspection.

**1: Ovens - One improperly calibrated**

Both oven thermostats were checked, and one was properly calibrated, and the other was not properly calibrated. The thermostats were set at 350 degrees, and the lower oven did not heat to within the allowable  $\pm 25$  degrees. The ovens were checked with an oven thermometer, and the upper oven was found to heat to 330 degrees, and the lower oven to 400 degrees.

**Obtain Cost Estimate**



Lower oven

**E. Microwave Ovens**

*Comments:*

*Not Present:*

A built-in microwave was not present at the time of the inspection.

**F. Mechanical Exhaust Vents and Bathroom Heaters**

I=Inspected

NI=Not Inspected

NP=Not Present

D=Deficient

I NI NP D

Comments:

**1: Exhaust Fan - Not present**

Utility room, master bathroom,

An exhaust vent fan was not present. Exhaust vent fans are intended to remove humidity and moisture from the air. Consideration should be given to installing an exhaust vent fan.

**Obtain Cost Estimate**

**G. Garage Door Operators**

Comments:

*Functional - Autoreverse and sensors:*

The garage door opener equipment was functional at the time of the inspection and opened/closed when the controls were operated. The auto-reverse mechanism was operational, and the sensitivity setting on the mechanism was adequate. Also, the infrared auto reverse mechanism was functional.

**H. Dryer Exhaust Systems**

Comments:

*Dryer Vent:*

The dryer vent appeared to be properly installed at the time of the inspection. It is pointed out that a portion of the dryer pipe was not visible where it entered the wall/ceiling. Also, dryer vents need to be cleaned periodically for safety reasons and to allow the dryer to operate properly.

*Dryer vent - Dryer present:*

The vent was connected to the dryer but was not tested. It is recommended that the vent be checked for an excess of lint and that it be cleaned if necessary. (Information)

*Vent - Check for lint:*

It is recommended that the vent be checked periodically for an excess of lint and that it be cleaned if necessary. (Information)

**I. Other**

Comments:

*Non Built-in Equipment - Not inspected:*

It is pointed out that non built-in refrigerators, wine coolers, small refrigerators, clothes washers, and clothes dryers are not included in the scope of this inspection and were not checked. If further investigation is desired, it is recommended that a service company be contacted.

**Further investigation is recommended**

I=Inspected

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NP=Not Present

D=Deficient

I NI NP D

### INFORMATION FROM HEDDERMAN ENGINEERING INC.

*Closing Comments :*

Opinions and comments stated in this report are based on the apparent performance of the items included within the scope of the inspection, at the time of the inspection. Performance standards are based on the knowledge gained through the experience and professional studies of the inspector. There is no warranty or guarantee, either expressed or implied, regarding the habitability, future performance, life, merchantability, and/or need for repair of any item inspected. It is recommended that a Home Warranty Policy be provided to protect the appliances and mechanical equipment against unforeseen breakdowns during the first year. Check with your agent for details.

**Items identified in the report as Deficient and our Recommendations are provided in the above report. Many, but not all, recommendations are highlighted in bold red text. It is our intention, and your responsibility, that you follow up on these deficiencies and recommendations as part of your due diligence by contacting the appropriate service contractor(s) for Further Investigation, Obtain cost estimate, and/or Contact the builder. It is pointed out that other related and/or underlying conditions may be present, and which may not be apparent in our limited, visual inspection without further investigation by qualified service companies. It is emphasized how important it is for you if you intend to rely on our report(s), to continue to gather the in-depth information that will be obtained by further investigation with appropriate service technicians who will use their specialized knowledge of the component(s) and the related building codes along with their specialized diagnostic equipment to give you the TOTAL PICTURE of the condition of the property. Failure on your part to do your due diligence will constitute negligence on your part and will result in an incomplete body of knowledge upon which you base your decisions regarding this property. We recommend that your further investigations be done before the expiration of your option period and before closing on the property.**

As an additional service, we recommend using a new tool we have on our website that can quickly turn your inspection report into an easy-to-read estimate of repairs for a nominal fee. These pricing reports from a third party company called Repair Pricer not only make the inspection report easy to understand in terms of dollars and cents, but they are also useful negotiation tools. Just visit the page below on our website and upload your report into Repair Pricer. If you have any questions when you receive your report, you can contact them at [info@repairpricer.com](mailto:info@repairpricer.com)  
<http://www.heddermanengineering.com/repair-cost-estimates>