

YINGST ENGINEERS

& Associates, Inc.

Inspections • Design • Forensic Engineering • Reserve & Transition Studies

Building Inspection Report

**1234 Any Street
Anywhere, PA 99999**
Project: 16-0000



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DESCRIPTION & LIMITATIONS

Property Information

| | | |
|---|--|---|
| <i>Date of Inspection:</i> 3/31/2016. | <i>Style of Home:</i> Two-Story. | <i>Age of Home:</i> 11 years old. |
| <i>Weather:</i> Partly Cloudy. | <i>Outside Temperature (F):</i> 50-60. | <i>Building Status:</i> Vacant. |

Limitations

A home inspection is intended to assist in evaluation of the overall condition of the dwelling. The inspection is based on observation of the visible and apparent condition of the structure and its components on the date of inspection.

The results of this home inspection are not intended to make any representation regarding the presence or absence of latent or concealed defects that are not reasonably ascertainable in a competently performed home inspection. No warranty or guaranty is expressed or implied.

This home inspection report is not to be construed as an appraisal and may not be used as such for any purpose.

This report is intended only as a general guide to help you, as our client, make an evaluation of the overall condition of the home, and is not intended to reflect the value of the premises, nor make any representation as to the advisability of purchase. The report expresses the professional opinions of the inspector, based upon visible conditions that existed at the time of the inspection only.

The inspection and report are not intended to be technically exhaustive, or to imply that every component was inspected, or that every possible defect was discovered. No disassembly of equipment, opening of walls, moving of furniture, appliances or stored items, or excavation was performed. All components and conditions which by the nature of their location are concealed, camouflaged or difficult to inspect are excluded from the report. The inspection is performed in compliance with the standards of practice of the American Society of Home Inspectors (ASHI) and the Standards of Practice of the National Academy of Building Inspection Engineers (NABIE) Level B, copies of which are available upon request.

Please keep in mind that we generally define a Material Defect as a "problem with a residential real property or any portion of it that would have a significant adverse impact on the value of the property or that involves an unreasonable risk to people on the property" and that would cost approximately \$1,000.00 or more to correct.



Our home inspection is not an inspection for mold and the inspector specifically disclaims and assumes no responsibility for identifying the presence of mold fungi. Mold fungi are present in all homes and may be present at levels at which sensitive people may react physically to their presence, even at levels at which fungal colonies are not visible, or when fungal colonies are hidden in inaccessible portions of the home. We do however point out potential mold or fungi growth if observed. If you are concerned with mold, we recommend that you hire a specialist to perform testing.

We do not research whether a building has been used for illegal uses. Our inspection report should not be construed as a compliance inspection of any governmental or non-governmental codes or regulations. The report is not intended to be a warranty or guarantee of the future adequacy or performance of the structure, its systems, or their component parts.

This report does not constitute any express or implied warranty of merchantability or fitness for use regarding the condition of the property and it should not be relied upon as such. Any opinions expressed regarding adequacy, capacity, or expected life of components are general estimates based on information about similar components and normal and customary practice. Occasional wide variations are to be expected between such estimates and actual experience.

We certify that our inspectors have no financial interest or any interest in the transfer of this property. To the best of our knowledge and belief, all statements and information in this report are true and correct.

In the event of a claim, the Client will allow Yingst Engineers & Associates to inspect the claim prior to any repairs or waive the right to make the claim. Client agrees not to disturb or repair or have repaired anything which may constitute evidence relating to the complaint, except in the case of an emergency.

Definitions

For your reference, the following definitions may be helpful in understanding the report:

Useful Life: The typical normal useful life of a building or site component when new.

Remaining Useful Life (RUL): The estimated remaining useful expectancy of an item or building component, based on age and current physical condition.

Excellent: Recently installed building system or site component with no repair or maintenance required. The full RUL of this system/component is assumed.



Good: A building system or site component exhibiting evidence of normal aging and appears capable of achieving its typical useful life. It may, however, be in need of typical repair or maintenance work.

Fair: A building system or site component that is approaching the end of its useful life or requires more than normal maintenance and repair to extend its remaining useful life.

Poor: A building system or site component that is no longer functioning as designed and/or represents a safety concern. Replacement or major repair is recommended in the near term.

The ratings noted above (excellent, good, fair, poor) are determined by comparison to other buildings of similar age and construction type based on our professional experience.



STRUCTURE

The evaluation of this home is based on indirect observations, as we cannot see most of the framing due to finishes and below grade foundation components. We visually inspect the structural systems by looking for cracks within the home and other evidence of structural distress or deterioration to help us evaluate the structural condition. Due to the nature of the visual inspection, it is possible that there are structural deficiencies that cannot be known.

Structural Components

| | |
|---|--|
| <i>Foundation Wall Type:</i> | Poured Concrete. |
| <i>Foundation Type:</i> | Full Basement. |
| <i>Wall Structure:</i> | Conventional Wood Stud. |
| <i>Floor Structure:</i> | Engineered Joists (TJI). |
| <i>Ceiling Structure:</i> | Conventional Wood Joists, Engineered Joists (TJI). |
| <i>Roof/Attic Structure:</i> | Conventional Wood Rafters, Engineered Rafters. |
| <i>Method of Attic Inspection:</i> | Entered Two Locations. |

Narrative

Foundation

Where visible, the foundation walls and related components are generally in good condition. It should be noted that most of the foundation walls were finished which limited the extent of our inspection of the foundation walls; however, no outward indications of distress were noted with respect to the foundation walls.

The concrete basement floor slab was mostly covered with finish materials, but appeared to be in good condition.

Framing

Where visible, the basic framing members are in good condition. The floor framing consists of manufactured wood I-joists and are a common building component in newer homes. All manufacturer's installation instructions should be followed if these members are modified in the future.

There were framing concerns noted in portions of the home including:

- The cathedral ceiling at the rear of the second floor sitting area is cracked. Further, it appears that this area was previously repaired. Due to the continued cracking, we recommend that this area be opened up and further evaluated to



ensure proper connections and framing members have been installed to minimize further movement.

- Due to moisture entry, as will be further discussed in the EXTERIOR section of the report, the rear patio columns and beams should be opened up to determine the extent of damage and to ensure proper repairs are made.

It should be noted that with the lower level finished off as it is, many of the basic structural components were not visible for inspection.



Cracking at sitting area ceiling.



Top view of patio column.

Wood Destroying

Insects

We did not observe any significant structural damage from wood destroying insects in those areas that were accessible and visible. However, some hidden damage or insect activity may be present or start in the future. This is common for all homes in this area, and regular insect inspections and maintenance by a competent pest control company are recommended. This report is not a warranty or guarantee regarding wood destroying organisms, but an inspection report, and no responsibility is assumed in this regard.

Overall Condition

There has been some settlement of this home which is common. Where visible, there are no indications of structural instability, and the home can be described as sound.

Overall, we consider the structural condition of this home to be average, and the conditions observed are common in many homes of this age and construction style that we inspect.



STORMWATER MANAGEMENT

Proper exterior water control is a necessary maintenance requirement with any building. This includes roof water discharge, surface water flow, designed water control systems such as sump pumps, negative slopes of paved areas toward the building, etc. These conditions change over time and must be maintained to prevent interior water problems.

Stormwater Components

| | |
|-------------------------------|----------------------|
| <i>Basement Water:</i> | High Humidity Noted. |
| <i>Grading:</i> | Depressions Noted. |

Narrative

Basement

With the basement being finished, we could not fully investigate the area for indications of water entry. Evidence of moisture entry (high humidity) in the basement was observed and included:

- Elevated humidity of over 60%.
- Insects (millipedes, centipedes, etc.) throughout basement.

It should be noted that no signs of significant water entry were noted and any basement is prone to high humidity. Proper ventilation should be provided as will be discussed in the VENTILATION section of the report.

The floor drains noted in the garage need to be kept clear and functional at all times.

While the basement was relatively dry at the time of the inspection, however, occasional water entry can occur in severe weather from an elevated ground water table, if roof gutters and downspouts become blocked or overflow, if normal surface water flow and drainage changes, etc.

For proper exterior stormwater management, we recommend the following to minimize the potential for future water problems:

- All roof gutters should be cleaned and maintained
- Downspouts should discharge at least 10 to 15 feet from the foundation
- All drains should be open and clean
- Grading should provide at least 6 inches of slope away in the first 10 feet of around the building
- Low spots in the grading should be corrected
- Concrete slabs and patios should slope away from the foundation
- Trees and shrubs should be kept trimmed to provide good airflow along the building walls.





Grading

Grading should be closely monitored, and elimination of low spots near the foundation or negative grading to the foundation should occur as required.

Regrading to eliminate low spots near the foundation and negative grading to the foundation is needed. These areas include:

- Right side of rear patio.



Gutters & Downspouts

The following specific concerns were noted with respect to the gutters and downspout system:

- The right side patio gutter downspout, left side patio gutter downspout, left entry gutter downspout and left front downspout are detached from the underground extension.
- The front left corner of the garage downspout discharges too close to the foundation and driveway and has caused settlement of the driveway.

The gutter downspouts should be made to discharge at least 10 to 15 feet away from the foundation to minimize the potential for settlement and lower level water entry.



The underground roof downspout extensions should be monitored and cleaned regularly to be sure they are open, functioning properly and discharge 10 to 15 feet away from the foundation.

The roof gutters should be monitored and cleaned regularly to minimize the potential for overflows and potential for settlement and lower level water entry.



Disconnected extension.



Discharge at driveway.



PLUMBING

The primary components of the plumbing system consist of the supply piping, the drain piping, the water heater, and the various fixtures. The supply piping brings the water to the fixture from a private well or public water main, and the drain piping carries the water from the fixture to a private septic system or to a public sewer line.

The supply piping works under pressure (typically 40 to 80 psi) while the drain lines are gravity flow and must be sloped accordingly.

Plumbing Components

| | |
|---------------------------------------|-----------------------------|
| <i>Water Supply:</i> | Private - Well. |
| <i>Water Shutoff Location:</i> | Front Left Mechanical Room. |
| <i>Sanitary Sewer:</i> | Public. |
| <i>Supply Piping:</i> | Copper (Cu). |
| <i>Sanitary Piping:</i> | PVC. |
| <i>Water Heating:</i> | Electric Storage Tanks (2). |

Narrative

Supply System

This home is served by its own well. Water samples for a water quality test were taken during the inspection. The results of this test will be sent to you under separate cover.

While there was no current evidence of problems with the capacity of the well serving this home, private wells such as this can be unpredictable. Seasonal variations are common with aquifer capacity and the water quality. Periodic testing of the water is recommended.

Due to its location in the well, the submersible pump could not be inspected. The visible equipment (tank, controls, etc.) was in good condition. While many have gone longer, this equipment has a normal design life of 5 to 10 years.

The supply piping and plumbing fixtures were in good condition and in operating condition at the time of inspection. Most plumbing fixtures were tested and found to be working normally with typical water pressure supplied.

The following items were noted at the time of inspection:

- The master bathroom toilet flapper sticks and requires repair.



- The front master bathroom sink drains slowly and requires repair. It appears to be the result of a clogged trap.

The home is equipped with water treatment equipment including:

- Conditioning equipment typically used to reduce mineral content in the water.
- Filter(s) to remove particulates.

All of these systems require routine maintenance. Our inspection does not include a review of these systems, and we recommend that you consult with a water quality professional experienced with this brand of equipment to service and determine its condition and the required maintenance.

The exterior faucets appear to be of a "frost-free" design. These units are designed to reduce the potential for winter freezing and do not normally have to be drained over the winter months. However, all hoses and attachments must be removed from the faucets over the winter.



Water treatment system.



Well control system.

Sanitary System

Based on available information, this house is served by municipal sewer. You should confirm this connection with the local utility provider. You should also be aware that you are typically responsible for the cost of repairs related to the portions of that system contained within your property lines.

The sanitary sewer piping was visually in good condition where accessible. The condition of hidden piping (behind walls/floors, underground, insulated, etc.) could not be observed.

Whirlpool Bathtub

The home is equipped with a whirlpool bathtub in the master bathroom. The bathtub was filled and put into operation at the time of inspection. Please understand that the controls were only tested to ensure the motor and jets were functioning as we could not test all functionality of the system during our inspection (i.e., timers, cycles, etc.).



We recommend you obtain all manufacturer's instructions to the whirlpool bathtub to ensure proper operation and maintenance of the unit.

Water Heating

Two electric water heaters provide domestic hot water. They were operational at the time of inspection. Most water heaters have a design life of 5 to 15 years. Based on the apparent age and condition of these units, replacement within the next five years should be anticipated.

Per the nameplates on the water heaters, the units have a capacity of 80 gallons. Their size appears adequate for the normal needs of this size house.

As a part of proactive maintenance, the water heater should be flushed every six months or as recommended by the manufacturer to remove sediments that collect at the bottom of the tank. This will normally extend the useful life of the unit. After turning off all power to the water heater, follow all manufacturer's instructions.



ELECTRIC

Our investigation of the electrical system is limited to visual observation of:

- The service entrance cable
- Removal of the main electric panel cover (when possible) and interior inspection
- Observing accessible grounding
- Spot testing receptacles and switches
- Testing overcurrent protection devices.

As such, all of the conditions relating to unseen areas such as inside walls/floors/ceilings, areas blocked by furnishings, etc. cannot be known. While some deficiencies in the system are readily discernible, not all conditions or hazards can be identified.

Residential electrical systems typically are supplied by a three-wire 120/240 volt system with the 120 volts powering receptacles, lights and smaller appliances. The larger appliances such as air conditioning and water heaters, stoves/ovens, pumps, clothes dryers, etc. operate on 240 volts for improved efficiency. The amount of total power available is typically related to the "amperage" of the system. The smallest modern systems are at least 100 amperes with 200 amperes the most common. Larger homes may have 400 amperes or even more in rare instances. Some older homes have 60 ampere or even 30 ampere systems - both are out dated.

The power to the home is derived from pole or surface transformers that feed overhead or underground wiring (the "service drop") to the main service panel in or on the exterior of the building. The main service panel contains breakers (or in older homes fuses) to prevent excessive current flow into the home and individual circuits. The individual circuits and wiring are sized for the loads that will be connected - receptacles, lights, the oven, etc.

Electrical Components

| | |
|---|---|
| <i>Service Entrance:</i> | Underground. |
| <i>Electric Capacity:</i> | 400 Amperes, 120/240 Volts, Three-Wire. |
| <i>Main Disconnect Location:</i> | Inside Main Panel. |
| <i>Main Panel Location:</i> | Front Left Basement. |
| <i>Wiring Type:</i> | Non-Metallic (Romex). |
| <i>Grounding:</i> | Ground Rod, Plumbing System. |

Narrative

Panel(s)

The capacity of the existing electrical system appears to be adequate to meet the demands of this building as it now stands. There are two 200 ampere panels located in the front left basement mechanical room. There is also a 100 ampere subpanel located

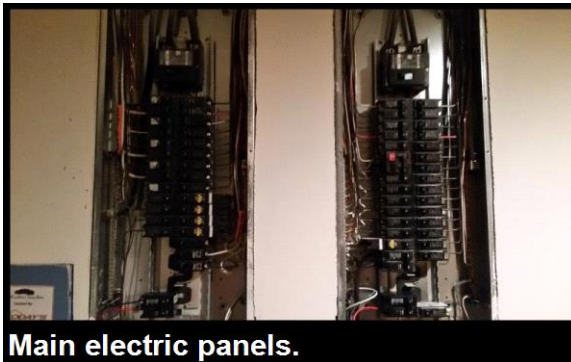


adjacent to the main panels which is controlled by the main panels. Additionally, the main panels are equipped with surge protection which will minimize any incoming surges from the utility.

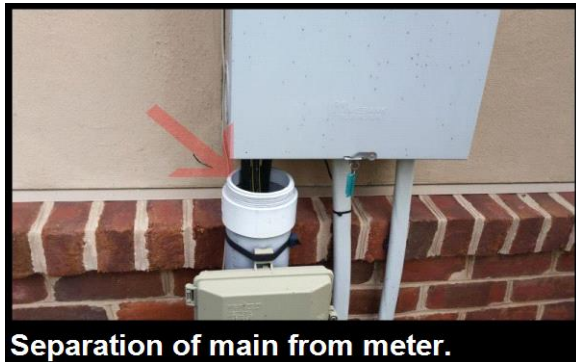
The electrical conduit has pulled away from the meter base at the left exterior of the home. This can often create unwanted stress on the connections and create a safety hazard. An electrician should be contacted at this time to evaluate the condition and correct the conduit.

Based upon our visual evaluation, the electric system of the home appears to be adequately grounded. Typical grounding of an electric system includes a ground wire attached to the plumbing system, a ground wire attached to a grounding rod embedded into the soil, or both.

There are Arc Fault Circuit Interrupter (AFCI) breakers installed for the bedroom circuits. AFCIs help to prevent fires by looking for overheating from poor connections. We recommend that all AFCI breakers be tested regularly for proper operation. If renovations to the home are made, we recommend additional AFCI breakers be provided in accordance with the latest building code as they are now required in areas other than the bedrooms.



Main electric panels.



Separation of main from meter.

Wiring & Fixtures

The general condition of visible electrical components is good. Based on a sampling of accessible wiring, receptacles, switches, etc., the following problems were identified:

- There are missing cover plates on the receptacles near the electrical panels (2).
- There are various light bulbs "out" throughout the home; of particular note were the library and powder room lights.
- There is an open wire splice which appears to be for a garbage disposal below the basement kitchenette sink.
- There is a loose junction box in the front central basement ceiling (located above the ceiling tile).
- There is an open junction box at the right rear water heater closet ceiling.



- The powder room light switch is loose.
- There is corrosion on the exterior soffit lights.

The house is equipped with a candle light circuit which is operated on a timer located adjacent to the electrical panels. Several of the bulbs in the candles were "out" at the time of our inspection.

This house is equipped with ground fault circuit interrupters (GFCIs) at the following locations:

- Kitchen
- Kitchenette
- Bathrooms
- Garage
- Exterior

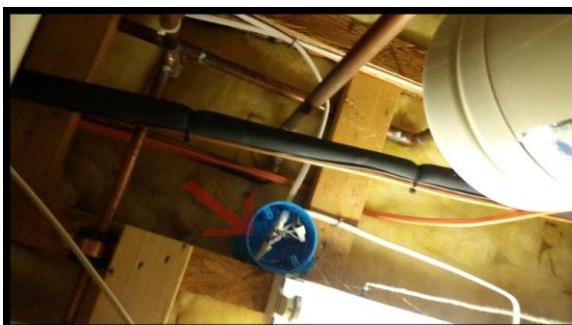
GFCIs are a safety device designed to trip, or shut off, before you get shocked. They are typically installed in wet areas (kitchen sink, bathrooms, etc.) and are an important safety feature of your home. We recommend that all GFCI receptacles be tested regularly for proper operation.

For added safety, we recommend that additional GFCI receptacles be installed at the following locations:

- Laundry room sink.

Installation of these additional GFCI receptacles is relatively inexpensive and will provide additional safety around the above locations.

While the electrical system is generally in serviceable condition, we recommend retaining a competent electrician to address the noted concerns and further review any areas of concern.



Open junction at water heater.



Corrosion at exterior lights.



HEATING & COOLING

Heating & Cooling Components

| | |
|------------------------------------|---|
| <i>Heating Type:</i> | Basement and First Floor - Forced Hot Air Furnaces (2), Second Floor - Air-to-Air Heat Pump. |
| <i>Heating Fuel Source:</i> | Natural Gas, Electric. |
| <i>Cooling Type:</i> | Split System Combined with Heating. |
| <i>Cooling Fuel Source:</i> | Electric. |

Narrative

Heating/Cooling

Heating and cooling for the basement and first floor of this home is provided by two split-system air conditioners and gas furnaces. Split-system air conditioning/heating systems consist of two primary components: the compressor/condensing units which are located at the right rear exterior, and the air handler/evaporator coil/gas furnace units which are located in the left and central basement.

Air conditioning is provided by the outside compressor/condenser in conjunction with the evaporator coil inside the furnace and transferring heat out of the home using two refrigerant lines. The blower in the furnace unit circulates the air through the home. For heating, the gas furnace heats the air and the blower circulates it. While in heating mode the compressor/condensing unit on the exterior does not operate. Air flow for both heating and cooling is in the same direction with supply vents providing the conditioned air and return vents bringing air back to the blower.

The heat exchanger is an internal component of the furnace that separates combustion exhaust gases from the interior heated air. Over time, the heat exchanger can rust through or deteriorate and allow exhaust gases to reach the heated air. The heat exchanger could not be fully inspected and was only visible to a very limited extent. It should be tested by a service technician annually with normal maintenance. A failed heat exchanger normally requires replacement of the heating unit.

These heating/cooling systems were tested and in operating condition at the time of the inspection. The following deficiencies were noted:

- The central furnace PVC exhaust has turned yellow which indicates the piping has overheated. This condition can lead to fires, and small holes in the piping can be created resulting in flue gasses entering the home. The piping should be replaced and the contractor shall ensure that the piping is installed in accordance with manufacturer's specifications.



- Both of the units' condensates are discharged directly below the basement floor. This can back up and lead to excess humidity into the basement. We recommend that the condensate be equipped with a condensate pump to discharge to the main sewer.
- Some corrosion was noted at the base of both the air handlers. This appears to be the result of a previous condensate leak; however, no active leaks were present at the time of inspection.
- The pipe sleeve for the refrigerant line located in the right water heater closet is not sealed.

According to the nameplate on the heating units, they are rated at 60,000 B.T.U.H. (basement) and 120,000 B.T.U.H. (first floor). In the cooling mode, these systems can produce approximately two tons of cooling (basement) and five tons of cooling (first floor). This appears to be adequate for this size house, however, a full load analysis and sizing of the heating/cooling system is beyond the scope of our current services. If you desire, additional analysis in this regard can be provided.

The furnaces have a humidifier. It should not be used when the air conditioning is running. Humidifiers require at least semi-annual maintenance - at the start of the heating season to activate and at the start of the cooling season to shut off along with cleaning and disinfection as needed. The humidifier was not tested during the inspection, and most have a design life of three to seven years.

The furnace and air handler portion of these systems has a typical design life of approximately 20 to 25 years. The condenser/compressor for the air conditioner has a typical design life of 10 to 15 years. This heating/cooling equipment appears to be approximately 11 years old.

Heating and cooling for the second floor of the home is provided by a split-system, air-to-air heat pump which is utilized in both the heating and cooling modes. Split-system heat pumps consist of two primary components: the compressor/condensing unit which is located at the right rear exterior, and the air handler/evaporator coil unit which is located in the attic. Backup electric heat coils are also normally installed in the air handler for emergency or during extremely cold temperatures.

For cooling, the outside compressor/condenser in conjunction with the evaporator coil inside the air handler transfers heat out of the home using two refrigerant lines. The blower in the air handler circulates the air through the home. For heating, the compressor/condenser and the evaporator coil reverse the refrigerant flow direction and move or "pump" heat into the home where the blower circulates it. Air flow for both heating and cooling is in the same direction with supply vents providing the conditioned air and return vents bringing air back to the blower.



Air-to-air heat pumps are efficient when operating in mid-range temperatures (above 40 degrees), however, their efficiency drops off in the heating process as temperatures reduce. For the heating process, the air handler is normally equipped with electric resistance heaters that automatically activate at below freezing temperatures as needed. This reduces efficiency, but provides adequate heat for the home.

You should also be aware that the heat supplied by an air-to-air heat pump is not as hot (typically 90 degrees) as air from a gas or oil fired furnace. The supplied heat is more than adequate to heat the home, but may feel cool to the skin.

This heat pump system was tested and in operating condition at the time of the inspection.

This system can produce approximately four tons of cooling or heating. This appears to be adequate for this size house, however, a full load analysis and sizing of the heating/cooling system is beyond the scope of our current services. If you desire, additional analysis in this regard can be provided.

The air handler portion of this system has a typical design life of approximately 20 to 25 years. The condenser/compressor for the heat pump has a typical design life of 10 to 15 years. This heating/cooling equipment appears to be approximately 11 years old.

The forced air systems should be cleaned, serviced and adjusted each year prior to the start of the heating and cooling seasons. This servicing should include the compressor, motor blower units, filters, and all electrical controls and devices for starting and operating, etc.

The heating/cooling system contains an electronic air filter. These filters need to be cleaned on a regular basis. You should consult the manufacturer's recommended cleaning instructions for this unit. These units have a typical design life of five to ten years. This unit appeared to be functional.

As a part of normal maintenance, periodic cleaning of all supply and return ductwork and grills is recommended.

It should be noted that the left second floor storage room is unheated.

We recommend that you review the last few years of heating/cooling bills with the current owner to better understand anticipated energy costs.





Typical basement unit.



Condensate discharge below floor.



Yellowing PVC exhaust.



Attic air handler unit.



VENTILATION

Proper ventilation in attics, basements and crawlspaces is very important for all buildings. Roof and attic ventilation minimizes the potential for moisture condensation in the winter and cools the attic in summer months to reduce the demand on air-conditioning and extend roof shingle life. Basements and crawlspace areas will have reduced moisture levels with proper ventilation. Without proper ventilation, these spaces need to be properly designed and conditioned to prevent excess moisture and humidity levels that can lead to environmental concerns.

Ventilation Components

| | |
|-------------------------------------|----------------------------------|
| <i>Attic Ventilation:</i> | Ridge, Soffit. |
| <i>Basement Ventilation:</i> | Heating/Cooling System, Windows. |

Narrative

The following observations were noted at the time of inspection with respect to ventilation:

- Rusted roofing nail tips in the attic.
- Fiberglass insulation filled rafter cavities without ventilation baffles in the attic.
- Moisture staining on the ceiling around the recessed light fixtures in the family room ceiling.
- Moisture staining below the lower ends of the left rear and right rear beams in the family room with continued staining down the wall.
- Moisture staining below the lower end of the front left beam in the second floor hallway.
- Excessive corrosion on the exterior soffit light fixtures.

As a result of the noted items, it is apparent that attic ventilation is inadequate. The amount of ventilation should be one square foot of free vent area for each 150 to 300 square feet of attic floor area depending on the roof and attic design. That being said, the cathedral ceilings that are throughout the home are difficult to ventilate. The best approach to repair the ventilation for this style of construction is to remove the ceiling or roof finish to access the framing cavities and install a closed cell spray foam insulation to eliminate the need to provide ventilation.

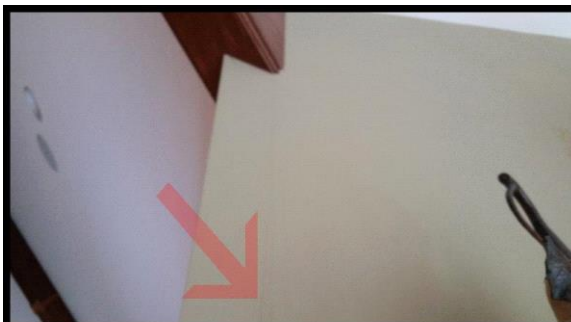
The kitchenette exhaust fan is a common re-circulating type that recycles the air through a screen filter and does not vent to the exterior. The screen/filter should be cleaned periodically according to the manufacturer's recommendations.

Excessive humidity in the basement is common in many homes. One or more dehumidifiers in the basement are often needed for proper humidity control. If excessive



humidity levels cannot be reduced with ventilation or other methods, the use of dehumidification is recommended.

Indoor air quality is a concern with all buildings and can change over time. Mold and mildew as well as other contaminants can cause respiratory problems, allergies and other issues for some people. OUR INSPECTION REPORT DOES NOT ADDRESS THESE OR ANY ENVIRONMENTAL CONCERNS unless a separate service in that regard was engaged. If we comment on any apparent concerns with respect to mold or other potential environmental issues, the comments are a courtesy to direct you to further investigation. The scope of our services does not include any evaluation of indoor air quality or environmental conditions unless included as an additional service.



Staining below beam.



Staining below light fixtures.



Staining below beam at trim.



Staining below beam.



ENERGY EFFICIENCY

The two most important areas for providing an energy efficient home are control of conduction and infiltration losses. Conduction (direct loss through the walls and ceiling) is generally controlled by the building thermal envelope (i.e. insulation, etc.). Infiltration loss (drafts or air leakage) is generally controlled by air sealing (i.e. caulking, weather-stripping, etc.). Beyond these items, energy efficient heating/cooling systems, hot water units, appliances and lighting are additional areas to consider.

Energy Efficiency Components

| | |
|--------------------------|------------------------|
| <i>Attic Insulation:</i> | Fiberglass. |
| <i>Window Glazing:</i> | Double Pane (Thermal). |

Narrative

Insulation

Both infiltration and conduction losses are reasonably well controlled within this home and typical for the age and construction style. No major work is recommended at this time.

Where observable, the attic insulation consisted of 10 to 12 inches in depth. The levels of insulation are typical for buildings of this age and construction style.

Based on available evidence, there appears to be adequate insulation in the exterior walls. However, with the walls inaccessible, this could not be confirmed.

Windows

Average quality "thermal pane" (double glazed) windows have been installed in this home, and they are in good condition. If properly maintained, they should serve you adequately. The thermal glass seal was visually inspected in these windows, and no problems were noted. Such defects are not always visible, however, because of varying temperature and humidity conditions.

Doors

The exterior door weather stripping was in fair to poor condition and should be replaced.

Additional Considerations

In addition to controlling conduction and infiltration losses, the next most important area to assure maximum energy efficiency is to improve the energy efficiency of the heating and cooling systems, water heater, appliances and lighting as items are replaced.



To reduce hot water energy costs, the water heater should normally be set to 120 degrees unless another device (such as a dishwasher) requires a higher temperature. Most water heaters can also be turned off or the temperature reduced to an away setting if you will be gone for an extended period.



INTERIOR

In this section of the report it is our intent to identify conditions that may represent larger concerns (i.e. roof leaks, plumbing leaks, cracking, structural issues, etc.). While we may comment on the overall condition of interior finishes, we understand that you are also able to assess the quality and condition of the finishes within the building. Typical minor cracking of drywall/plaster is common and should be anticipated, particularly with older homes.

Interior Components

| | |
|---|---|
| <i>Wall Finishes Include:</i> | Drywall/Plaster. |
| <i>Ceiling Finishes Include:</i> | Drywall/Plaster, Dropped Acoustical Ceiling Tile. |
| <i>Floor Finishes Include:</i> | Carpet, Wood, Ceramic Tile. |
| <i>Interior Door Condition:</i> | Good. |
| <i>Trim Condition:</i> | Good. |

Narrative

Based on site observations, the finish materials within this building are in above average condition. As with any home, minor maintenance, normal wear and tear, etc., should be expected.

While minimal, any areas of interior cracking can be addressed as part of redecorating activities. This includes the normal wood trim and drywall separation.

Squeaking floors were identified at some areas within the building. This is typically the result of loose or poorly secured sub-flooring. In some cases, the interior wall to floor connections can also move slightly on the nails and cause a "squeak". Several repair options are available and repair methods and costs will vary with the type of floor finish and approach.

Evidence of moisture staining was identified at the following areas:

- Three ceiling tiles above the library due to a previous kitchen sink leak.
- A ceiling tile at the right front central basement due to an unknown source.
- Four ceiling tiles at the right front basement due to apparent rodent activity.
- Two ceiling tiles at the right central basement due to condensate as a result of the refrigerant line.

All of these ceiling tiles should be replaced at this time.



The following appliances were tested briefly and in operating condition:

- Stove
- Ovens
- Kitchen Ventilator
- Dishwasher
- Garbage Disposal
- Bathroom Fans
- Ceiling Fans

It is important to realize that our limited inspection of these appliances does not include such things as exact temperature, timer cycles, motor conditions, etc. All that remain should be in operating condition when this property is taken over. Since the condition of this equipment can change unexpectedly, we suggest that you visit this home at least one more time before taking ownership to confirm that everything is operating properly. We have included a "Pre-Closing" checklist for your use during this final visit. As is typical, replacement of some of the appliances may be required over the next few years.



EXTERIOR

Exterior Components

| | |
|--|---|
| <i>Exterior Finishes Include:</i> | Brick Veneer, Stone Veneer, Hardie-Board Siding, Cement Based Stucco. |
| <i>Window Frame:</i> | Wood/Vinyl Clad. |
| <i>Window Type:</i> | Double Hung, Casement. |
| <i>Window Glazing:</i> | Double Pane. |
| <i>Window Condition:</i> | Good. |
| <i>Door Condition:</i> | Good. |

Narrative

Exterior Finishes

Some exterior repairs are recommended at this time and include:

- Significant damage has occurred to the Hardie-Board siding at the right and left sides of the rear patio as a result of missing roof diverter flashing. Further, the water entry appears to have continued into the patio roof beams and columns. This entire area should be opened up to determine the full extent of damage and to ensure proper repairs are made.
- The stone veneer has separated at the left front first floor bathroom window and requires repair.
- There is minor surface damage to the stucco at the right side of the garage due to apparent previous vine growth. This should be patched to resist moisture entry.

As is common, we identified some areas of cracking in the exterior stucco. Most of these cracks appear to be the result of thermal expansion and contraction and are common and to be expected. All cracks need to be properly repaired to minimize moisture entry and cracking.

Where visible, the exterior caulking compound at joints between different building materials is generally in serviceable condition at this time. It should be inspected and maintained regularly to limit moisture entry and air infiltration.

It is important for homeowners to realize that the painted trim on the building exterior can often be neglected on homes with low maintenance siding (vinyl, brick, etc.). As such, we recommend that the trim be maintained regularly.



**Damaged siding.****Separation of stone veneer.**

Windows & Doors

Some window repairs are recommended at this time and include the following:

- All of the right side portion of the twin window units in the basement and left dining room window would not open as a result of the candle lights which represents a safety hazard and should be corrected.
- There is fungi growth occurring at the left rear living room window typical of water entry. We recommend that this window be further evaluated.

The windows in this home are "thermal pane" units. These windows will normally provide good performance for many years. The seal in the window glass is key to providing the intended thermal value. While the seals generally appeared to be sound, problems are not always visible due to varying temperature and humidity conditions. As a result, future failures of the thermal pane glass may be experienced and require repair.

Some door repair(s) or replacement is recommended at this time and include the following:

- The left main patio door is out of square and requires repair.
- There are large gaps between the doors at the front entry and the door is loose. The door should be adjusted and new weather stripping installed.
- There is no head flashing visible above the left garage door.

**Fungi growth at living room window.****Missing head flashing.**

ROOFING

Roofing Components

| | |
|---|--|
| <i>Inspection Method:</i> | Walked Roof, Upper Story Windows. |
| <i>Roof Material:</i> | Asphalt/Fiberglass Shingles, Rubber (EPDM), Standing Seam Metal. |
| <i>Roof Surface Condition:</i> | Good. |
| <i>Gutters & Downspouts:</i> | Aluminum, Gutter Guards. |

Narrative

Roofing

The asphalt/fiberglass roofing appears to be approximately 11 years old. It appears to be of standard quality and should provide another 10 to 15 years of relatively problem-free service with normal maintenance.

The rear flat roof area consists of EPDM (rubber membrane) roof material. This roof is generally in good condition and has a typical useful life of 15 to 20 years. As such, replacement is recommended within the next five to ten years.

You should be aware that with any roof, regardless of age and type, some leakage can occur. As such, we recommend the roof be inspected and maintained regularly. Particularly important are the joints between roof surfacing and other building materials (flashing, siding, roof penetrations, etc.).

We recommend that stormwater from the building roof areas be properly managed (gutters, downspouts, etc.) at all times. They should be cleaned and flushed when needed and discharge at least 10 feet from the foundation (15 feet if a basement is present).



General view of roof.



View of flat roof.



FIREPLACES, STOVES & CHIMNEYS

Components

| | |
|--------------------------------------|--|
| <i>Number of Fireplaces:</i> | 4. |
| <i>Fireplace Fuel Source:</i> | Natural Gas. |
| <i>Number of Stoves:</i> | None. |
| <i>Number of Chimneys:</i> | 2. |
| <i>Chimney Material:</i> | Right- Masonry with Steel Liner, Left - Masonry without Flue. |

Narrative

Chimney(s)

The masonry chimneys appear to be in good structural condition, where visible. We did not inspect the interior flue as a complete inspection can only be performed with cleaning the flue and utilizing a remote camera. As with any chimney, we recommend that it be further evaluated by a qualified chimney professional.



Left rear chimney.



Right chimney.

Fireplace(s) & Stove(s)

The home is equipped with gas-fired, direct vent fireplaces throughout the home. These units were tested and in operating condition at the time of inspection. We recommend that you obtain all manufacturer's literature regarding this unit to ensure proper and safe operation in the future.



SITE & AMENITIES

This inspection is not intended to address or include any geological conditions or site stability information. Any reference to grade is limited to only areas around the exterior of the exposed areas of foundation or exterior walls. We cannot determine drainage performance of the site or the condition of any underground piping, including subterranean drainage systems and municipal water and sewer service piping or septic systems. Decks and porches are often built close to the ground, where no viewing or access is possible. Any areas too low to enter or not accessible are excluded from the inspection. We do not evaluate or move landscape components such as trees, shrubs, fountains, ponds, statuary, pottery, fire pits, and decorative or low-voltage lighting.

Components

| | |
|-----------------------------------|------------------|
| <i>Garage/Carport:</i> | Attached Garage. |
| <i>Driveway:</i> | Concrete. |
| <i>Private Walkway(s):</i> | Pavers. |
| <i>Public Sidewalk(s):</i> | Concrete. |
| <i>Patio(s)/Deck(s):</i> | Paver Patio. |
| <i>Fencing:</i> | Aluminum. |

Narrative

The attached garage constructed slab-on-grade is in good condition. The electric garage door openers are in serviceable condition and are equipped with functional safety reverse features. It is important that the safety reverse features be tested regularly for proper operation.

While most site components were in good condition, the following repairs or improvements are recommended:

- The front paver walkway has settled at the front entry which results in a tripping hazard. We recommend that the pavers be repositioned to provide a level walking surface.
- The concrete driveway has settled at the right side, particularly the right front, as a result of the gutter downspout discharge. We recommend that the gutter downspout be redirected and extended 10 to 15 feet away from the home and the driveway be repaired.
- There is a diseased evergreen tree at the front of the home which should be removed.

The shrubs and plantings around this building are too close at some areas. We recommend that they be trimmed back to provide proper separation between the



vegetation and building exterior. This is also important to limit moisture entry against the building walls.

A lightning rod system is installed at the home; however, we are not able to verify if this system is adequate to protect the home in the event of a lightning strike. If this is of concern, further evaluation should be considered.



Settled paver walkway.



Settled driveway.



SAFETY & ENVIRONMENTAL

This section of the report includes a review of visible safety and environmental concerns. It should not be construed as a code compliance evaluation (refer to Limitations section) to any requirements, but is intended to provide any items noted during our inspection that may assist you in your evaluation of this property.

For the purposes of this inspection, we have made some general observations regarding potential hazardous substances at the subject property. Please understand that we did not perform any soils analysis, geological studies, air quality analysis (i.e., mold, bacteria, volatile organic compounds, etc.) or other types of investigative services, as they are well beyond the project scope. Accordingly, we are not responsible for potential environmental liabilities in connection with the subject property, including its conformance to specific government requirements.

Components

| | |
|-------------------------|---|
| Radon Status: | Active Mitigation System Installed, Tested as Part of Inspection. |
| Safety Concerns: | None Noted. |

Narrative

Safety

The smoke alarms identified within the home are hardwired directly to the electrical system. All units should be tested regularly to ensure they are operating properly.

The home is equipped with a security system. Testing of this system is beyond the scope of work for this inspection and as such, testing was not performed. Additional information regarding the system should be provided by either the homeowner or system installer/manufacturer.

Environmental

The home is equipped with an active radon mitigation system. The fan was not in operating condition at the time of inspection and requires repair. Radon testing should be considered after its repair to confirm that the mitigation system is in proper operating condition. If you desire we can provide this testing service for you.

As part of this evaluation, a radon test was performed by Yingst Engineers & Associates, Inc. The results of this test are enclosed along with some general information on radon. For more information on radon, visit the EPA web site: <http://epa.gov/radon/>.

Molds are part of the natural environment. Outdoors, molds play a part in nature by breaking down dead organic matter such as fallen leaves and dead trees, but indoors, mold growth should be avoided. Molds reproduce by means of tiny spores; the spores are invisible to the naked eye and float through outdoor and indoor air. Mold may begin



growing indoors when mold spores land on surfaces that are wet. There are many types of mold, and none of them will grow without water or moisture.

Molds have the potential to cause health problems. Molds produce allergens (substances that can cause allergic reactions), irritants, and in some cases, potentially toxic substances (mycotoxins). Inhaling or touching mold or mold spores may cause allergic reactions in sensitive individuals. In addition, mold exposure can irritate the eyes, skin, nose, throat, and lungs of both mold-allergic and non-allergic people. Symptoms other than the allergic and irritant types are not commonly reported as a result of inhaling mold. Research on mold and health effects is ongoing.

Indoor mold growth can and should be prevented or controlled by controlling moisture indoors. If there is mold growth in your home, you must remediate the mold and correct the water problem. If you remediate the mold, but don't correct the water problem, the mold problem will likely return. While we may comment on obvious mold type stains/discoloration, this building evaluation is not intended to be a detailed evaluation for the presence of mold or other air quality concerns.

While not all molds are visible, no obvious mold growth was noted within the home. Controlling moisture intrusion on all levels of the home will help to limit any potential future mold growth or other problematic airborne materials.



CONCLUSION

Narrative

In summary, we consider this home to be in below average condition when compared to others of similar age and construction type as a result of the conditions noted in the report.

This building inspection report is presented as an inspection report and general outline of the recommended repairs. It is not a detailed plan of repair. If you desire, we can provide additional sketches and specifications for the repairs, however, there would be an additional charge for this service.

This report has been prepared in strict confidence with you, our client. No reproduction or re-use is permitted without express written consent, except as may be required by Pennsylvania real estate regulations. Further, we will not release this report to anyone without your permission.

If you have any questions about this report or inspection, please feel free to call our engineer for clarification. There is no additional charge for a reasonable number of phone consultations. Should an additional visit to the home be necessary, however, an additional fee will be charged.

Thank you for the opportunity to be of assistance to you.



MAJOR DEFECTS - MAINTENANCE PLAN

In addition to these general condition statements, this report covers repairs and maintenance. To help provide a perspective for the work that we have recommended for this home, the following anticipated repair and maintenance plan is offered. This list should not be considered all-inclusive since there will surely be other things you will want to make part of this list. Our purpose in providing this list is to help you organize some of the work that we have recommended, with particular emphasis on those things that need attention within the next year or so.

Cost estimates are presented for some of the repair items to give you a range of magnitude understanding of the costs for the recommended repairs. While every effort has been made to be precise, the actual costs may vary from these estimates. Many different variables affect the final cost of any project. Consultation with the contractor who will actually be doing the work will give you a much more precise estimate.

The following definitions apply to the items noted in the tables:

Material Defect (D) - A problem with a residential real property or any portion of it that would have a significant adverse impact on the value of the property or that involves an unreasonable risk to people on the property. The fact that a structural element, system or subsystem is near, at or beyond the end of the normal useful life of such a structural element, system or subsystem is not by itself a material defect. (Definition taken from Act 114 of 2000 (the "Home Inspection Law"), 68 Pa.C.S. 7102)

Upgrade (U) - Item is outdated and while generally functional should be replaced with more modern technology. May include improvements to meet current code or municipality requirements not required at the time of construction, however, is not a code or municipal compliance inspection. Includes recommendations to improve safety and environmental conditions, reduce maintenance, improve energy efficiency, etc.

Routine Replacement (R) - Anticipated major (typically \$1000 or more) repair/replacement of key components such as roofs, heating/cooling units, water heaters, etc. that should be budgeted for. Does not generally include minor items (less than \$1000). Estimated time frames are based on industry standard useful life tables and the observed visual condition of the component.

Normal Inspections Testing (N) - Typical inspections and testing that are recommended to further evaluate components or systems that were not fully accessible or require additional services to confirm their current condition.

Maintenance (M) - Items that are normally considered typical service and maintenance issues with most homes. Includes items required to prevent premature failure of structural and mechanical components and equipment. Recommended intervals are typically the maximum for a given item and should be done more frequently as local conditions or manufacturer recommendations indicate. This is a guideline only and the manufacturers recommendations shall dictate and should be followed.



| TABLE 1: MATERIAL DEFECTS | CODE | ESTIMATED COST[‡] |
|--|-------------|---------------------------------------|
| <i>ITEM</i> | | |
| Further evaluate and repair cracking at second floor siting area ceiling | D | \$750/+ |
| Further evaluate and repair electrical conduit separation from meter | D | \$500/+ |
| Correct central furnace PVC exhaust piping | D | \$500 |
| Correct inadequate attic ventilation | D | \$30,000/+ |
| Further evaluate and repair right and left sides of patio due to missing diverter flashing | D | \$25,000/+ |
| Repair brick/stone at bathroom window | D | \$750/+ |
| Noted exterior door and window repairs | D | \$1,500/+ |
| Repair settled paver walkway | D | \$2,500/+ |
| Repair driveway | D | \$2,500/+ |
| Repair radon mitigation system | D | \$400 |

*Denotes little or no anticipated cost as the item typically does not require professional repair unless additional problems are discovered. If additional repairs or unexpected conditions are discovered, additional repair costs should be expected.

+Recommend obtaining quotes.

A/R - As Required.

[‡]This table summarizes estimated costs of repairs or replacements, including both labor and materials. These estimates are based on our general knowledge of building systems, local contracting/construction industry conditions, and other recognized national sources including R.S. Means Building Home Improvement Cost Guide, Saylor Square Foot Building Costs, and the National Repair & Remodeling Estimator by Craftsman. We have performed no design work as part of this study, nor have we obtained competitive quotations or estimates. All cost estimates are +/- 50%.

| TABLE 2: ESTIMATED REPAIRS, UPGRADES AND REPLACEMENTS | | ESTIMATED COST[‡] & TIME FRAME | | |
|--|-------------|--|--|---|
| <i>ITEM</i> | <i>CODE</i> | <i>WITHIN YEAR 1</i> | <i>WITHIN 1ST 5 YRS</i> | <i>WITHIN 1ST 10 YRS</i> |
| Correct noted gutter downspout concerns | M | A/R | | |
| Correct low spot at right side of patio | M | \$500 | | |
| Noted master bathroom plumbing repairs | M | \$300 | | |
| Upgrade weather stripping at exterior doors | M | A/R | | |
| Replace noted ceiling tiles | M | \$400 | | |
| Noted landscaping repairs | M | A/R | | |
| Consider radon testing after mitigation repair | N | \$175 | | |
| Plan for replacement of well pump and equipment | R | | \$2,500/+ | |
| Plan for water heater replacement | R | | \$1,250 ea. | |
| Plan for replacement of exterior condenser/compressor (2 ton) | R | | \$3,000 | |
| Plan for replacement of exterior condenser/compressor (5 ton) | R | | \$6,000 | |
| Plan for replacement of exterior heat pump (4 ton) | R | | \$5,000 | |
| Plan for rubber roof resurfacing | R | | | \$2,000 |
| Provide dehumidifier in basement | U | \$400 | | |
| Consider installing additional AFCI circuit breakers | U | \$75 ea. | | |
| Install condensate pumps at basement air handlers/furnaces | U | \$350 ea. | | |

*Denotes little or no anticipated cost as the item typically does not require professional repair unless additional problems are discovered. If additional repairs or unexpected conditions are discovered, additional repairs costs should be expected.

+Recommend obtaining quotes.

A/R - As Required.

[‡]This table summarizes estimated costs of repairs or replacements, including both labor and materials. These estimates are based on our general knowledge of building systems, local contracting/construction industry conditions, and other recognized national sources including R.S. Means Building Home Improvement Cost Guide, Saylor Square Foot Building Costs, and the National Repair & Remodeling Estimator by Craftsman. We have performed no design work as part of this study, nor have we obtained competitive quotations or estimates. All cost estimates are +/- 50%.

| TABLE 3: RECOMMENDED MINIMUM MAINTENANCE | FREQUENCY | | | |
|---|-----------|----------|----------------|-----------|
| Item | Monthly | Annually | Every — Yrs | As Needed |
| Test smoke detectors | X | | | |
| Test GFCI receptacles | X | | | |
| Test carbon monoxide detectors | X | | | |
| Test garage door safety stop | X | | | |
| Clean/change heating/cooling system filters | X | | | |
| Flush water heater(s) per manufacturer’s recommendations | | X | | |
| Clean fan and ventilation equipment and ducts | | X | | |
| Service sewage pump | | X | | |
| Service heating/cooling equipment | | X | | |
| Clean roof gutters/downspouts/extensions | | X | | |
| Inspection and normal roof/gutter maintenance | | X | | |
| Clean and inspect chimney(s) and attached devices | | X | | |
| Inspect door and window weather stripping and upgrade as needed | | X | | |
| Inspect and touch-up exterior caulking and window putty | | X | | |
| Inspect and touch-up interior caulking | | X | | |
| Well water testing | | X | | |
| Clean and seal, stain or paint wood deck/steps | | X | | |
| Wood destroying insect inspections | | X | | |
| Seal asphalt/macadam driveway | | | 1 to 4 | |
| Pump and inspect septic system | | | 1 to 5 | |
| Radon testing | | | 2 to 4 | |
| Clean heating/cooling system ductwork | | | 2 to 5 | |
| Paint exterior | | | 3 to 7 | |
| Inspect and patch/repair sidewalk offsets as they develop | | | | A/R |