

**STATE of MICHIGAN  
TECHNICAL WEATHERIZATION POLICIES**

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## INTRODUCTION AND OVERVIEW

The Technical Weatherization Policy (TWP) manual contains policies and requirements for the Michigan Weatherization Assistance Program. Community Action Agencies (CAAs) and Limited Purpose Agencies (LPA's) receiving funding from the State of Michigan for local administration of the weatherization program shall follow the guidelines contained in the TWP relative to technical and program requirements.

<b>2000 TECHNICAL REQUIREMENTS – INTRODUCTION</b>	EFFECTIVE DATE 10/01/2011 Issue date 9/30/2011
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This manual contains the technical weatherization policies and requirements for the Michigan Weatherization Program, including measures guidelines/policies (which include "incidental repairs"), inspection/testing and energy audit requirements, standards and specifications for weatherization measures, manufactured home weatherization requirements, health and safety requirements, and testing requirements (which include blower door testing, carbon monoxide testing, combustion appliance inspection/testing, and infrared scans).

The manual is set up by sections and subjects within each section. Section headings are enclosed in boxes.

<b>2100 WEATHERIZATION MEASURES</b>	EFFECTIVE DATE 10/01/2011 Issue date 9/30/2011
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Guidelines, policies, costs, standards and specifications for weatherization measures and related repairs are contained in this section, along with inspection, testing and energy audit requirements.

### 2101 GENERAL WEATHERIZATION MEASURES GUIDELINES/POLICIES/COSTS:

All weatherization materials utilized in conjunction with work performed as a part of this program shall, at minimum, meet the Standards for Weatherization Materials contained in "Appendix A" as published in the current U.S. Department of Energy Weatherization Assistance Program (DOE/WAP) rules (See Section 4400, Minimum Standards for WAP Materials). In cases where additional requirements apply, the specific requirement(s) will be listed in the appropriate section of this document.

All work measures shall be completed so as to successfully perform the intended function on a continuing basis (a quality of product and installation to provide a minimum 10-year life under normal conditions). Work shall be completed in a manner so as not to detract from the general appearance and structural integrity of the home and shall be in compliance with governing codes, the requirements of this document, and manufacturer's recommendations.

Weatherization measures are for the purpose of rendering the heated portions of dwellings energy efficient and to ensure the safety and protection of such measures, whether new or existing (e.g., any wood or other product which the manufacturer recommends be sealed, that is used to complete weatherization and which is exposed to moisture, shall receive a minimum of prime painting or other recommended sealer). For the purpose of this program, if necessary client usage of areas requires heat to those areas, they shall be treated as heated and weatherized accordingly. Unheated utility rooms, porches, etc., are not eligible for weatherization.

Health and safety measures shall be addressed as required to eliminate hazards as defined in Section 3800 and in accordance with the State of Michigan, U. S. Department of Energy Weatherization Assistance Program State Plan, and state and local codes.

If energy savings cannot be realized under this program due to the condition of a home, these conditions shall be documented and the home shall not be weatherized. Such conditions shall be brought to the attention of the client with referrals to other help sources if available.

"Incidental Repairs" means those repairs necessary for the effective performance or preservation of weatherization materials. Incidental repairs may be addressed as required (see Community Services Policy Manual (CSPM)).

State Historical Preservation: See CSPM Item 619 for program guidance on the application of Section 106 of the National Historic Preservation Act (NHPA) reviews.

## 2102 MAXIMUM AVERAGE COST PER UNIT:

Grantees shall comply with the established maximum average cost per unit, established per funding source, for each program year. Individual unit costs may exceed the average, but overall spending for the program year must fall within the maximum average limit (see CSPM).

## 2103 MEASURE(S) COMPLETION BY ORDER of SUCCESSION:

Measures installation shall be completed in the following sequence:

1. **Health and Safety measures that directly affect the health and safety of occupants (WAP staff and workers included). (see Section 3800)**
2. **Mechanical measures including Tune & Repair.**
3. **Air sealing and major bypass.**
4. **Insulation measures.**
5. **Remaining audit measures**

**NOTE: Incidental Repair measures shall be completed with the measure they are associated with.**

2200 ENERGY AUDIT /INSPECTION/TESTING PROTOCOL	EFFECTIVE DATE 10/01/2011
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## 2201 AUDIT/INSPECTION/TESTING REQUIREMENTS:

A complete **audit** and **inspection** is required for each home weatherized. Inspections shall include energy audit reviews as well as the required testing listed below. Inspection approval is mandatory for a dwelling to be considered a completion. Inspector must initial the IWC Inspection page. Certification that all work completed complies with all program requirements shall be verified by inspector signature on the Work Order page of the IWC. All inspections shall be completed by a SOM certified WAP Inspector (see Section 4500).

## 2202 BLOWER DOOR TESTING:

Required blower door test results (see Section 4000 and Section 4200) shall be documented on the SOM approved audit.

## 2203 HEALTH AND SAFETY INSPECTION/TESTING:

All dwellings weatherized require an audit and inspection health and safety inspection and testing (see Section 3200 and 3900). An audit of the home does include the Health and Safety Protocol as defined by DOE. The Protocol includes the following in the order listed:

1. Gas Leak test in and around the home
2. Ambient Air test for Carbon Monoxide (CO)
3. CAZ testing of all vented Combustion Appliances
4. Zone Pressure Diagnostic test when dwelling has an attached or "Tuck-Under" garage.

Any invasive test (e.g. drilling holes) which evaluates the flue gases (for content) is only conducted by a Licensed Mechanical Contractor or Licensed Mechanical Inspector.

## 2204 COMBUSTION APPLIANCE ZONE (CAZ) TESTING:

All dwellings weatherized require CAZ Testing. Auditor and inspector shall perform and document test results on SOM **approved audit. All vented combustion appliances shall be tested *daily (at the end of the Weatherization Work day)* for a CAZ Test after air sealing measures are installed, including sidewall dense pack insulation.**

## 2205 ENERGY AUDIT REQUIREMENTS:

State of Michigan approved audits shall be used in the Michigan Weatherization Assistance Program. The approved audits for each dwelling type are as follows:

- **Standard wood frame dwellings of 1 to 4 units**  
Use a NEAT Audit.
- **Multi-Unit dwellings of 5 or more units**  
A State of Michigan WAP approved audit shall be identified and used.
- **Manufactured Homes**  
Use a MHEA audit.
- **All dwellings requiring a heating system replacement**  
A NEAT or MHEA audit shall be required.

## 2206 TESTING PROTOCOL:

Audits and inspections shall be conducted in strict coherence to **Subject 3802**.

## 2207 NATIONAL ENERGY AUDIT TOOL (NEAT) DETERMINED WEATHERIZATION MEASURES:

NEAT audits are required for the determination of weatherization measures to be installed for one to four unit dwellings.

Weatherization measures with a computed Savings to Investment Ratio (SIR) of 1 or greater as calculated by a NEAT audit shall be addressed.

NEAT may indicate that a measure shall be addressed, but conditions dictate otherwise. In these cases,

- If the entry is a price, escalate the measure value to \$999.00 in "additional costs."
- If the entry is an option of what to consider, choose "none" in the respective measure screen.

Enter a justification in the "comment" section and document the conditions or circumstances on the appropriate page of the approved field audit when the measure cannot be completed.

## 2208 RESERVED:

## 2209 MANUFACTURED HOME ENERGY AUDIT (MHEA):

MHEA audits are required for the determination of weatherization measures to be installed for manufactured homes.

Weatherization measures with a computed Savings to Investment Ratio (SIR) of 1 or greater as determined by a MHEA audit shall be addressed.

When MHEA indicates that a measure should be addressed but conditions/circumstances dictate otherwise, the measure shall be escalated to a value of \$999.00 in "additional costs" or by inserting a "zero" or in some cases "none" in the respective measure screen. A justification shall be entered in the "comment" section and document the conditions or circumstances on the appropriate page of the approved field audit when the measure cannot be completed.

## 2210 MULTI-FAMILY WEATHERIZATION MEASURES:

An independent energy audit shall be conducted on any multifamily building housing 5 or more units. The independent audit shall have written pre approval by SOM Technical staff. (See CSPM)

Written approval is required prior to the commencement of weatherization services.

## 2211 MANDATORY WEATHERIZATION MEASURES:

The following measures are required:

- Major bypasses, as determined by blower door testing - Address in accordance with Section 3100.
- Duct Sealing, Repair and/or Replacement - Address in accordance with Section 2700.
- Blower Compartment Sealing - Address in accordance with Section 2700.
- Duct and Pipe Insulation (if located in unheated areas) - Address in accordance with Section 2700.

## 2212 MANDATORY HEALTH AND SAFETY MEASURES:

- Clothes Dryer Venting – Un-vented clothes dryers shall be vented outside (see Section 3200).
- Smoke Detectors - Smoke detectors shall be provided (see Section 3200).

## 2213 ADDITIONAL HEALTH AND SAFETY MEASURES:

- Additional health and safety measures may be addressed in accordance with the Health and Safety Guidelines (see Section 3900).

## 2214 OPTIONAL WEATHERIZATION MEASURES:

It will be the Grantees option to complete the following measures as weatherization measures on one to four unit dwellings, if it is felt there would be a benefit to the client and if installation of these items would not preclude installation of audit required weatherization measures:

- Low Flow Shower Head - Low flow showerheads may be installed in accordance with Section 3700.
- Water Heater Insulation - Water heaters may be insulated in accordance with Section 3700.
- Clock Set Back Thermostat - Set back thermostats may be installed in accordance with Section 3700.
- Heating System Tune-ups/Repairs - Heating system tune-ups/repairs shall be addressed in accordance with Section 3700.

Grantees shall establish a local policy as to whether the installation of water heater insulation, low flow shower heads, and clock set back thermostats will be addressed.

## 2215 EXCLUSION OF MEASURES/NO WEATHERIZATION WORK POSSIBLE:

If any of the audit required measures are not possible to perform, file documentation shall be required to clarify such situations. A brief explanation shall be noted on the SOM approved field audit and the appropriate section under "Comments" on the NEAT audit if used.

Note health and safety factors which cannot be corrected, e.g., removal of mold, odors, viruses, bacteria, unsanitary (including raw sewage) conditions, and rotting wood. If necessary, weatherization services may need to be deferred until the problem can be corrected or referred to another agency that can take remedial action. The Health and Safety condition shall be properly documented in the client file.

Factors which would limit the effectiveness of any measure shall be properly documented. Client circumstances (e.g., health) shall also be considered.

The client may refuse installation of one audit required measure. NO weatherization work shall be performed or continued if the client refuses more than one audit required measure(s). Refrigerators, compact fluorescent light bulbs, clock setback thermostats, water heater treatment and low flow shower heads are not included and may be refused by the client without penalty.

If energy savings cannot be realized under this program due to the condition of a home, these conditions shall be documented and the home SHALL not be weatherized. Such conditions shall be brought to the attention of the client with referrals to other help sources if available.

## 2216 INCIDENTAL REPAIRS:

"Incidental Repairs" references those repairs necessary for the effective performance or preservation of weatherization materials (see CSPM). These repairs must be referenced in the SOM approved field audit to the documented new or existing energy measure.

## 2217 DOE ATTIC/ROOF COSTING:

When supported by a complete NEAT audit, DOE funds may be used to supplement LIHEAP, DHS-MPSC, or other roof replacement funds only if required for proper installation and/or preservation of a NEAT approved "Attic Insulation Measure". The NEAT Additional Cost (\$) of Attics Added Insulation may be adjusted and the amount shall be listed in the Comment section of the NEAT Audit Information page. Attic insulation costs shall maintain an SIR $\geq$ 1. The maximum additional costs charged to DOE shall not exceed 70% of the roof replacement.

## 2218 BUY DOWN AUDIT PROCEDURE:

Reference Department of Energy (DOE), Weatherization Program Notice (WPN) 10-17 for Federal Requirements and CSPM item 622.

- Enter the buy down amount as a negative number in the additional cost cell of WA 8.6/NEAT/MHEA (e.g. -1000) for DBA/FACSPRO SIR generated work order.
- For Heating in WA 8.6/NEAT/MHEA (there is no additional cost cell) combine the labor and material, enter the amount in the Labor Cost cell, and enter the buy down amount as a negative number in the Material Cost cell.
- For measures that have only one cost, enter the cost with the buy down already deducted (e.g. original cost = \$700, buy down = -\$550, NEAT/MHEA tabs: Ducts/Infiltration>Costs>Infiltration Reduction (\$) 150)
- In **all** cases include an explanation and amount in the Comment field of the WA 8.6/NEAT/MHEA measure.
- When reconciling the Cost Center page of the DBA/FACSPRO IWC/IWCM, enter the funding source for the buy down amount as per WPN 10-17.

## 2300 NATIONAL ENERGY AUDIT TOOL (NEAT)

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## 2301 NATIONAL ENERGY AUDIT TOOL (NEAT) SETUP:

Set up instructions are located at the following web site:

[http://www.waptac.org/sp.asp?mc=techaids\\_audits](http://www.waptac.org/sp.asp?mc=techaids_audits)

Refer to the BCAEO Weatherization Program Guidance Memos for current approved version.

## 2302 NAMING AGENCY'S MASTER NEAT SETUP FILE:

Agencies shall create and maintain an annual master file. Identify the file with the agency acronym and the program year as the title. The following listed files shall be included:

## 2303 MATERIAL AND LABOR COSTS:

Grantees shall enter their material and labor costs for the allowable NEAT measures. The extent of the work for each measure which these costs shall represent is specified in Section 2400.

Note: Material and Labor costs shall be separated into the Material and Labor columns respectively. The Item Cost column is only used in the NEAT program for the Storm Window costs.

## 2304 FUEL COSTS:

Grantees shall enter approved work plan fuel cost data in the "Fuel Cost" tab of the NEAT "Set up Library". Average costs will be established from recognized suppliers and "spike" or season high costs will not be permitted.

Grantees may at their discretion utilize individual client fuel use data collected from the fuel supplier and entered into the "Utility Bills" tab of the "NEAT AUDIT".

## 2305 FUEL ESCALATION RATES AND DISCOUNT RATE:

The Fuel Escalation Rates and Discount Rate used in the NEAT setup shall not be altered. Grantees shall use the default values supplied in the NEAT program files.

## 2306 NEAT CANDIDATE MEASURES:

The NEAT setup shall allow for the consideration of the following Candidate Measures/weatherization measures:

- Attic insulation (all R values)
- Fill Ceiling Cavity
- Sill box insulation
- Foundation insulation
- Floor insulation (all R values)
- Wall insulation
- Wall insulation R13 batt
- **Window sealing/Weatherize (includes glass replacement)**
- Storm windows
- **Window Replacement**
- **Low E windows**
- **Furnace tuneup**
- Replace heating system (80%-85%)
- High efficiency furnace (90+ %)
- **High eff boiler**
- Lighting retrofits (Compact Fluorescent Light Bulbs)
- Refrigerator replacement
- Water Heater replacement (**DHW**)

Grantees shall turn off the following Candidate Measures in the NEAT setup:

- Duct Insulation see section 2700
- Window shading (awning)
- Sun screen fabric
- Sun Screen louvered
- Window film
- Thermal vent damper
- Electric vent damper
- IID (Intermittent Ignition Devices)
- Electric vent damper IID
- Flame retention burner
- \*Smart thermostat
- Tuneup AC
- Replace AC
- Evaporative cooler
- Install/Replace heatpump
- \*Water heater tank insulation
- \*Water heater pipe insulation
- \*Low flow showerheads

\*Optional Weatherization Measure - can be turned on as an agency option to measure its' SIR in relation to the other measures the agency is utilizing. Optional measures turned on by a Grantee shall be performed if justified by SIR.

## 2307 WEATHER DATA:

Weather data is determined by the SOM Weatherization Technical Division for each Grantee, based on climatological data from National Oceanic & Atmospheric Administration (NOAA, Ashville, North Carolina) for the agency service delivery area. Refer to the following chart.

<i>Agency</i>	<i>Acronym</i>	<i>Heating Degree Days</i>	<i>NEAT City</i>	<i>NEAT Degree Days</i>
Alger-Marquette Community Action Bureau	AMCAB	8390	Alpena	8208
Allegan County Resource Development Committee	ACRDC	6890	Grand Rapids	6949
Area Community Services Employment and Training Council	ACSET	6890	Grand Rapids	6949
Baraga-Houghton-Keweenaw Community Action Agency	BHKCAA	9400	Sault Sainte Marie	9409
Capitol Area Community Services	CACS	6940	Grand Rapids	6949
Chippewa-Luce Mackinac Comm Action & Human Res, Inc	CLMCA	9050	Sault Sainte Marie	9409
Community Action Agency of Jackson-Lenawee-Hillsdale	CAAJLH	6940	Grand Rapids	6949
Community Action Agency of South Central Michigan	CAASCM	6580	Grand Rapids	6949
Detroit Department of Human Services	DHSD	6290	Detroit	6730
Dickenson-Iron Community Services Agency	DICSA	8673	Alpena	8208
Downriver Community Conference	DCC	6290	Detroit	6730
Economic Opportunity Committee of St. Claire County, Inc	EOC	6564	Detroit	6730
Eight CAP, Inc	ECAP	7050	Flint	7103
Five CAP, Inc	FCAP	6950	Grand Rapids	6949
Genesee County Community Action Resource Department	GCCARD	7200	Flint	7200
Gogebic-Ontonagon Community Action Agency	GOCAA	8898	Sault Sainte Marie	9409
Human Development Commission	HDC	7200	Flint	7103
Kalamazoo County Community Action Bureau	KCCAB	6260	Detroit	6730
Macomb County Community Service Agency	MCCSA	6290	Detroit	6730
Menominee-Delta-Schoolcraft Community Action Agency	MDSCAA	8481	Alpena	8208
Mid-Michigan Community Action Agency	MMCAA	7017	Flint	7103
Monroe County Opportunity Program	MCOP	6290	Detroit	6730
Muskegon-Oceana Community Action Partnership, Inc	MOCAP	6950	Grand Rapids	6949
Northeast Michigan Community Services Agency	NEMCSA	8510	Alpena	8208
Northwest Michigan Human Services Agency	NMHSA	7700	Traverse City	7744
Oakland-Livingston Human Services Agency	OLHSA	6290	Detroit	6730
Ottawa County Community Action Agency	OCCAA	6890	Grand Rapids	6949
Saginaw County Community Action Committee, Inc.	SCCAC	7120	Flint	7103
Southwest Michigan Community Action Agency	SMCAA	6260	Detroit	6730
Washtinaw County Human Services Department	WCHSD	6290	Detroit	6730
Wayne County Weatherization	WCWx	6290	Detroit	6730
Wayne Metropolitan Community Services Agency	WMCSA	6290	Detroit	6730

## 2308 KEY PARAMETERS:

The default values contained in the Key Parameters of the "SET UP LIBRARY" shall be utilized with the following exceptions:

- Economics: Minimum Acceptable SIR – 1
- "SETUP Library" "NEAT Insulation Types" tab: Attic - Type 3 F/G Batts Rs/Inch 3.33
- "SETUP Library" "NEAT Insulation Types" tab: Wall - Type 2 F/G Batts Rs/Inch 3.33
- "SETUP Library" "NEAT Insulation Types" tab: Foundation Wall - Type 2 F/G Batts -Value 13
- Any other exceptions shall require written approval from SOM Technical Division

## 2309 MODIFICATIONS OF NEAT SETUP/PARAMETERS:

See Section 2200, Subject 2207

### 2310 REQUIRED DOCUMENTATION:

Justification for modification of winter fuel costs and/or weather data must be submitted to the State of Michigan Weatherization Assistance Program Division for approval as part of the Grantee work plan or prior to implementation if submitted separately from the work plan.

### 2311 FURNACE SIZING USING NEAT:

A complete audit shall be input into NEAT and in the "NEAT AUDIT", "Heating" tab, "Replacement System Options" choose mandatory replacement. Furnace sizing will be identified in the output report.

### 2312 FILE DOCUMENTS:

The client/job files for units weatherized using NEAT audits shall include:

- NEAT Job Input Summary Report (may be stored electronically )
- NEAT Output Summary Report (shall be printed)

<b>2350/2360 MANUFACTURED HOME ENERGY AUDITS (MHEA)</b>	EFFECTIVE DATE	10/01/2011
	Issue date	9/30/2011

### 2351 MANUFACTURED HOME ENERGY AUDIT (MHEA) SETUP:

Set up instructions are located at the following web site:

[http://www.waptac.org/sp.asp?mc=techaids\\_audits](http://www.waptac.org/sp.asp?mc=techaids_audits)

Refer to BCAEO Weatherization Program Guidance Memos for the current approved version.

### 2352 AGENCY'S MASTER NEAT/MHEA SETUP/PARAMETER FILE:

Agencies shall create and maintain an annual master file. Identify the file with the agency acronym and the program year as the title. The following files shall be included:

- Setup library with material and labor costs separated
- Setup library with agency fuel costs
- Supply library with replacement water heaters including the energy details
- Supply library with replacement refrigerator data including the energy details

### 2353 MATERIAL AND LABOR COSTS:

Grantees shall enter their material and labor costs for the allowable MHEA measures. The extent of the work for each measure which these costs shall represent is specified in Sections 2450 and 2460.

Note: Material and Labor costs shall be separated into the Material and Labor columns respectively.

### 2354 FUEL COSTS:

Grantees shall enter approved work plan fuel cost data in the "Fuel Cost" tab of the MHEA (NEAT) "Set up Library". Average costs will be established from recognized suppliers and "spike" or season high costs will not be permitted.

Grantees may at their discretion utilize individual client fuel use data collected from the fuel supplier and entered into the "Utility Bills" tab of the "MHEA AUDIT".

### 2355 FUEL ESCALATION RATES AND DISCOUNT RATE:

The Fuel Escalation Rates and Discount Rate used in the MHEA setup shall not be altered. Grantees shall use the default values supplied in the NEAT/MHEA program files.

## 2356 MHEA CANDIDATE MEASURES:

The MHEA setup shall allow for the consideration of the following Candidate Measures/weatherization measures:

- General air sealing
- Wall fiberglass batt insulation (if open cavity)
- Wall fiberglass batt insulation in Addition
- Wall cellulose loose insulation in Addition
- Wall fiberglass loose insulation
- Wall fiberglass loose insulation in Addition
- Floor fiberglass loose insulation
- Floor fiberglass loose insulation in Addition
- Roof cellulose loose insulation in Addition
- Roof fiberglass loose insulation
- Roof fiberglass loose insulation in Addition
- Replace Marked doors
- Storm doors (replacement of single "combo" prime door allowable)
- Storm door in Addition (replacement of single "combo" prime door allowable)
- **Window sealing/Weatherize (includes glass replacement)**
- **Window sealing/Weatherize in Addition (includes glass replacement)**
- **Replace single paned windows**
- **Replace single paned windows in Addition**
- **Plastic storm windows**
- **Plastic storm windows in Addition**
- Glass storm windows
- Glass storm windows in Addition
- **Tune heating system**
- Replace heating system
- Lighting Retrofit
- Refrigerator replacement
- Water heater replacement

Grantees shall turn off the following Candidate Measures in the MHEA setup (they are not allowable weatherization measures):

- Seal ducts see section 2700
- Wall cellulose loose insulation
- Floor cellulose loose insulation
- Roof cellulose loose insulation
- Add skirting
- Add skirting on Addition
- White coat roof
- White coat roof on Addition
- Replace wooden doors
- Replace wooden door in Addition
- Add awning
- Add awning in Addition
- Add shade screens
- Add shade screens in Addition
- \*Setback thermostat
- Evaporative cooling
- Replace dx cooling equip
- \*Water heater tank insulation
- \*Water heater pipe insulation
- \*Low flow showerheads

\*Optional Weatherization Measure - can be turned on as an agency option to measure its' SIR in relation to the other measures the agency is utilizing. Optional measures turned on by a Grantee must be performed if justified by SIR.

### 2357 WEATHER DATA:

Weather data is determined by the SOM Weatherization Technical Division for each Grantee, based on climatological data from National Oceanic & Atmospheric Administration (NOAA, Ashville, North Carolina) for the agency service delivery area. Refer to the chart in section 2300, subject 2307.

### 2358 KEY PARAMETERS:

The default values contained in the Key Parameters shall be utilized with the following exceptions:

- Economics: Minimum Acceptable SIR: 1
- Insulation: bag size for loose fiberglass insulation, as available to agency

### 2359 MODIFICATIONS OF NEAT/MHEA SETUP/PARAMETERS:

See Section 2200, Subject 2209

### 2360 REQUIRED DOCUMENTATION:

Justification for modification of winter fuel costs and/or weather data must be submitted to the State of Michigan Weatherization Assistance Program Division for approval as part of the Grantee work plan or prior to implementation if submitted separately from the work plan.

### 2361 FURNACE SIZING USING MHEA:

A complete audit shall be input into MHEA and in the "MHEA AUDIT", "Heating" tab, "Replacement" choose "Replacement Required". Furnace sizing will be identified in the output report.

### 2362 FILE DOCUMENTS:

The client/job files for units weatherized using MHEA audits shall include:

- MHEA Job Input Summary Report (may be stored electronically )
- MHEA Output Summary Report (shall be printed)

<b>2400 COMPLETION OF NEAT AUDITS</b>	EFFECTIVE DATE	10/01/2011
	Issue date	9/30/2011

The completion of a NEAT audit shall require a thorough audit. Field documentation shall be on a SOM approved field audit and provide all information required to complete NEAT data screens. Any attachments containing audit-related additional information shall be referenced on the SOM approved field audit and included as part of the client file.

Data entries required to complete individual NEAT audits shall be completed in compliance with the NEAT Manual instructions.

<b>2450/2460 COMPLETION OF MHEA AUDITS</b>	EFFECTIVE DATE	10/01/2011
	Issue date	9/30/2011

The completion of a MHEA audit shall require a thorough audit. Field documentation shall be on a SOM approved field audit and provide all information required to complete MHEA data screens. Any attachments containing audit-related additional information shall be referenced on the SOM approved field audit and included as part of the client file.

Data entries required to complete individual MHEA audits shall be completed in compliance with the NEAT/MHEA Manual instructions.

## 2500 WEATHERIZATION MEASURE STANDARDS AND SPECIFICATIONS

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

Standards and specifications pertaining to Weatherization Measures are contained in this section.

### 2501 ATTIC INSULATION:

When called for by the NEAT/MHEA audit all attic areas (attic floors, knee walls, and slopes) between heated and unheated areas shall be insulated.

### 2502 INSULATION LEVELS:

Install ceiling insulation at the level determined by the NEAT/MHEA audit.

### 2503 PRECAUTIONS AND ATTIC PREPARATION REQUIREMENTS:

Prior to insulation, all by-passes between heated and unheated areas shall be air-sealed (e.g., ceiling penetrations, balloon frame construction, floor cavity below knee wall) and all venting and attic prep requirements shall be completed. Refer to section 3100 Infiltration/Exfiltration/Major Bypass Measures.

Inspect the areas to be insulated to identify potential safety hazards. Inspect the ceiling and roof for structural soundness and ability to support additional loads. Inspect for moisture problems. In the case of wiring that is cracked, frayed, deteriorated, or otherwise in question, do not add insulation to this area. Any evidence of problems with wiring in the attic shall be inspected and corrected. If the correction is completed using WAP funding, the work must be completed by a licensed electrician.

Identify and provide noncombustible (e.g. metal) barriers for all heat producing devices where cellulose insulation is to be installed. Maintaining a minimum 3" clearance from cellulose insulation (clearance of insulation from attic furnaces and other heat producing sources must be provided in accordance with the governing code). All barriers shall extend at least 4" above the height of the settled insulation.

Attic ceiling access barriers are to be made of a rigid material (e.g. plywood, pine, etc.). In cases where existing attic access has less than 30 inches of unobstructed headroom, fiberglass batts (extending 15" minimum from perimeter of access) may be used in ceiling accesses where occupants do not use the area for storage purposes. Barriers shall extend 2" above loose fill insulation without gaps.

Dryer, kitchen, and bath fan vents shall be extended to the outside. Vents shall be equipped with a water-proof cap and back damper. Ducts shall be aluminum or galvanized sheet metal, or a labeled aluminum flex duct. Exposed exhaust fan ducts in unconditioned spaces shall be insulated. Heat ducts and pipes passing through unheated attic areas shall be insulated. Before insulating, ducts and pipes shall be inspected. Ducts shall be sealed, and supported. Refer to section 2700.

### 2504 CEILING INSULATION APPLICATION:

All insulation material shall be installed in accordance with requirements of the governing code and the manufacturer's recommendations. It shall be kept dry and free of extraneous materials.

### 2505 KNEEWALL INSULATION APPLICATION:

When called for by the NEAT/MHEA audit all knee walls between heated and unheated areas shall be insulated. All insulation material shall be installed in accordance with requirements of the governing code and the manufacturer's recommendations.

## 2506 SLOPED CEILING INSULATION APPLICATION:

Inspect the area to be insulated to identify potential safety problems.

Sloped ceiling areas insulated with batt or blanket type of insulation shall maintain an air space between the roof deck and the insulation.

Sloped ceiling areas insulated with dense packed cellulose do not require an air space and must be air sealed from other attic spaces.

<b>2600 ATTIC VENTILATION</b>	EFFECTIVE DATE 10/01/2011 Issue date 9/30/2011
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Proper and adequate ventilation must be included to ensure the effectiveness of the insulation and guard against deterioration caused by moisture accumulation. Ventilation shall be installed to meet SOM Construction code requirements.

<b>2700 DUCT/PIPE INSULATION &amp; DUCT/SEAL REPAIR/REPLACEMENT</b>	EFFECTIVE DATE 10/01/2011 Issue date 9/30/2011
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All ducts and pipes (excluding drain pipes), located in unheated areas or areas which are being insulated and ventilated, (e.g., attics and crawl spaces) shall be insulated.

## 2701 PRECAUTIONS AND PREPARATION REQUIREMENTS:

All ducts and pipes shall be thoroughly inspected for leakage and proper support.

## 2702 DUCT SEALING/REPAIR/REPLACEMENT:

Seal, repair and/or replace all supply and return air ducts as required to insure the integrity of the systems.

Where possible, problems related to the fit of ductwork shall be corrected regardless of location of ductwork (both in heated and unheated areas). Typical problems include ducts disconnected at joints, holes in ducts, seams in ducts open and bent ducts.

## 2703 INSULATION LEVEL:

Air distribution ducts and water pipe insulation shall comply with SOM Construction Code.

Duct and pipe insulation shall comply with DOE/WAP Appendix A (see Section 4400, Minimum Standards for WAP Materials).

## 2704 FURNACE FILTERS:

Dirty or non-existent furnace filters shall be replaced. Clients shall be instructed in proper intervals for replacement of the filters as a part of the Client Education portion of Michigan's Weatherization Assistance Program.

## 2705 SEALING BLOWER COMPARTMENT:

Ensure that the blower compartment is sealed (e.g., openings sealed, properly fitting door, a filter rack cover is in place, etc.).

## 2706 DUCT SIZING:

New duct work shall be sized in accordance with the SOM Mechanical code.

## 2800 FOUNDATION INSULATION

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

### 2801 BAND JOIST (SILL BOX) INSULATION:

When called for by the NEAT audit, all band joist pockets located between heated and unheated areas shall be insulated. Insulation shall meet the requirements of Appendix A.

### 2802 FLOOR INSULATION:

When called for by the NEAT audit, floors between heated and unheated areas shall be insulated.

### 2803 FOUNDATION/PERIMETER INSULATION:

When called for by the NEAT audit, all foundation walls between heated and unheated areas shall be insulated.

### 2804 PERIMETER INSULATION APPLICATION:

Perimeter insulation shall be installed based upon the existing following conditions:

1. Furnace located below the floor level and within the foundation area.
2. Extensive duct work located below the floor joists.
3. Plumbing located below the floor joists (which may be susceptible to freezing).
4. Client usage of below floor areas which requires heat.
5. Pumps, water heaters, or other equipment located below the floor level (which may be susceptible to freezing).
6. Situations where portions of the floor are not accessible to do floor insulation (but the Perimeter is accessible).

Prior to insulation, all by-passes between heated foundation areas and unheated areas shall be air sealed (e.g., foundation wall penetrations, cores of block opening into heated areas, gaps at sill plate). Refer to Section 3100 Infiltration/Exfiltration/Major Bypass Measures.

### 2805 GROUND COVER:

When floor or perimeter insulation is required, and a dirt **floor(s)** exists, the dirt floor shall be covered with a minimum six mil polyethylene film held in place with rocks, boards, earth, or sand.

## 2900 FOUNDATION VENTILATION

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

Proper and adequate ventilation must be included to ensure the effectiveness of the insulation and guard against deterioration caused by moisture accumulation. If vents exist they shall not be removed, covered, or otherwise disabled. When installing new vents they shall comply with SOM Construction Code.

## 3000 FURNACE/BOILER/SPACE HEATER REPLACEMENT

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

Program funds may be used to replace unsafe heating systems. The NEAT Audit and/or complete Manual "J" shall be used for sizing purposes.

### 3001 INSTALLATION:

Installation shall be completed by a licensed mechanical contractor. Installation shall be in accordance with the requirements of the governing code and manufacturer's recommendations. A mechanical permit shall be obtained from the code authority having jurisdiction.

New forced air heating systems shall have a filter rack with a cover, installed in the return air plenum, in an accessible location.

### 3002 SPACE HEATERS:

Compliance with the DOE Space Heater Policy is required. Un-vented space heaters as the primary heat source must be replaced with vented space heaters prior to any weatherization activities. The purchase/installation of un-vented space heaters is prohibited.

### 3003 DUCT SIZING:

New duct work shall be sized in accordance with the SOM Mechanical code.

### 3004 DOCUMENTATION REQUIREMENTS:

Mechanical permit application from the code authority having jurisdiction shall be in the client file.

### 3005 CERTIFICATION:

Once the unit has been installed, the mechanical contractor must place identification on the appliance in plain view. The identification shall indicate the date of installation and the name and phone number of the mechanical contractor.

The mechanical permit number shall be stated on the SOM approved field audit and/or a copy of the permit attached on new installations. All installations are subject to jurisdiction verification.

<b>3100 INFILTRATION/EXFILTRATION/MAJOR BYPASS</b>	EFFECTIVE DATE	10/01/2011
	Issue date	9/30/2011

Infiltration/Exfiltration/Major Bypass shall be addressed to the extent dictated by blower door testing.

### 3101 BLOWER DOOR TESTING:

Blower door testing shall be utilized to identify leakage.

The infiltration/exfiltration/major bypass measures will be considered fulfilled if:

- (1) Blower door calculations are completed to show the dwelling is at the minimum air change level for occupant safety conditions, or
- (2) The initial air change level is reduced by an appropriate percentage. See guidelines in Section 4000, Blower Door Testing.

### 3102 MAJOR BYPASSES/INFILTRATION REDUCTION:

Major Bypasses are holes and gaps in the air barrier. If SIR does not attain a 1 or greater, compliance with TWP subject 2218 is required.

Major bypasses, as determined by blower door testing, are generally defined as openings/direct penetrations to the interior conditioned space, between heated and unheated areas, and in ceiling and foundation pressure planes. Refer to Midwest Best Practices section 211 Air sealing for examples.

### 3103 DOOR REPLACEMENT:

#### WA 8.6/NEAT

- List as a major bypass on the IWC with comment as why (e.g. damaged beyond repair).
- The NEAT TAB Shell>Doors>Comment field shall include a statement that the effected door was replaced as a major bypass.
- The NEAT TAB Ducts/Infiltration>Air and Duct Leakages>Costs>Infiltration Reduction (\$) amount shall include the cost of the replacement door.
- If SIR does not attain a 1 or greater, compliance with TWP subject 2218 is required.

#### WA 8.6/MHEA

- List as Replacement Required in the IWCM door section
- The MHEA TAB Shell>Doors>Replacement Door Required (check box)>Include in SIR (check box)
- If SIR does not attain a 1 or greater, compliance with TWP subject 2218 is required.

### 3104 CLOSING OFF FIREPLACES:

Unused fireplaces with no damper or a poorly fitting damper and no other existing means of sealing shall be closed off to stop infiltration/exfiltration/major bypass.

- Blocking shall not be of a permanent nature (shall be removable).
- Blocking shall be flagged
- Documented electronically on the SOM approved field audit and with client's signature on DHS 4260 Potentially Unsafe Conditions Notice in file (e.g., red tagged, noting blocking).

Fireplaces which are used and cannot be effectively closed off by the damper, fireplace doors or other means, shall be repaired or otherwise corrected to allow closure when not in use.

### 3105 CLOSING OFF AREAS:

Portions of dwellings not necessary for client use, which would require heat, shall be closed off to the maximum extent possible (as is acceptable to the client/owner). New interior doors may be installed where none exist in order to separate heated from unheated areas. Interior walls between heated and unheated areas shall be insulated in accordance with section 3400.

Unused, unheated second and third floor areas may be closed off by insulating floor-ceiling areas between heated and unheated floors. In such cases, appropriate attic preparation and ventilation is required.

### 3106 SEALING NEW WOOD/WEATHERIZATION MATERIALS:

Wood and similar materials requiring a sealer shall be so protected whenever moisture may affect these materials. This includes all new wood doors and sash even when they may be protected by a storm window/door.

### 3107 DECAY RESISTANT WOOD REQUIREMENTS:

Code requirements for use of pressure treated or other approved decay-resistant wood shall be complied with. Generally any wood within 8" of exposed earth must be pressure treated or otherwise approved for use.

### 3200 HEALTH AND SAFETY (MANDATORY) MEASURES

EFFECTIVE DATE	10/01/2011
Issue date	9/30/2011

### 3201 SMOKE DETECTOR:

Smoke detectors are required as a health and safety measure. Smoke detectors shall be battery powered, installed in accordance with the manufacturer's recommendations, following state and local code requirements. New batteries may be installed in existing working smoke detectors. (Alkaline are recommended) Client education on appropriate test procedures and intervals to replace the batteries shall be documented.

### 3202 CLOTHES DRYER VENTING:

Clothes dryers shall be vented directly to the exterior. (See Section 4001) Clothes dryers shall be vented using aluminum or galvanized sheet metal or approved aluminum flex duct (UL labeled) and in accordance with SOM Construction Code. Outdoor dryer vent caps shall have a backdraft damper that closes when the dryer is not being used.

### **3300 STORM WINDOWS**

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

When called for by the NEAT/MHEA audit, storm windows shall be installed over existing single-glazed prime windows. Storm windows shall be compatible with the operation of prime windows (e.g., double-hung storms for double hung prime windows.) Storm windows must meet the applicable building code requirements relative to egress and shall not restrict open area of bedroom egress window. Operative prime windows shall remain operable without removal of storm window frame.

### **3400 WALL INSULATION**

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

When called for by the NEAT/MHEA audit, walls between heated and unheated areas shall be insulated. Insulation shall meet the requirements of Appendix A.

### **3500 ELECTRIC BASE LOAD MEASURES STANDARDS AND SPECIFICATIONS**

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

Standards and specifications pertaining to Electric Base Load Measures are contained in this section.

### 3501 COMPACT FLUORESCENT LIGHT BULBS:

When called for by the NEAT/MHEA audit incandescent bulbs shall be replaced with compact fluorescent light bulbs (CFL).

An inspection shall be conducted to determine the retrofit of incandescent light bulbs with CFLs. The replacement CFL wattage would be determined by the usage and suitability for the client.

### 3502 REFRIGERATORS:

An audit shall be conducted of the existing refrigerator(s). If the Savings to Investment Ratio (SIR) is 1 or greater, the existing refrigerator(s) may be replaced at the time of weatherization with a single refrigerator that meets or exceeds the 2001 federal energy standards. Refrigerators may not be installed where none exist.

The replacement of only one refrigerator is allowed. Households which utilize more than one refrigerator and/or freezer shall be encouraged to eliminate additional units. Costs of disposal/recycling all units are allowable. If the appliance(s) identified for replacement are not available or present at the time of delivery the new refrigerator shall not be delivered. This shall be documented on the SOM Approved Audit and the refrigerator replacement shall be eliminated as a WAP measure for this dwelling unit.

- The audit can be a NEAT/MHEA evaluation or by entering metered data into the SOM Approved Audit
- A minimum of 10% of the units evaluated will be subject to live metering to determine actual watt-hour consumption.
- Refrigerators assessed using data base evaluation must match the model number.
- Refrigerators assessed using labeled consumption evaluation must include age and door seal condition
- The duration for metering is one (1) hour or greater.

If it is determined that a defrost cycle has occurred during the metering interval, one of the following shall be required:

- The metering interval shall be extended to 24 hours.
- The data shall be discarded, the meter reset and the one (1) hour interval begun again.

### 3503 DISPOSAL REQUIREMENTS:

Disposal requirements will include, removing the existing appliance(s) identified for replacement from the client's home and certified destruction (including recapture of CFC's as required by section 608 of the "Clean Air Act", as amended by Final Rule, 40 CFR 82, May 14, 1993).

A Certificate of Disposal from the scrap yard/recycler shall be available for all appliances removed from service and a copy placed in the client/job file.

<b>3600 DOMESTIC HOT WATER TANK (DHW)</b>	EFFECTIVE DATE 10/01/2011 Issue date 9/30/2011
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Inspection of water heaters shall be completed in compliance with Section 3900. New water heaters may be installed in units when called for as a HEALTH AND SAFETY measure or based on SIR as determined NEAT/MHEA. Agencies may change fuel type if it is determined as merited based on cost/savings considerations (costs included in SIR). Funds cannot be used to convert to an electric water heater from another fuel source. Water heaters shall be installed by a State Of Michigan licensed contractor in accordance with the requirements of the governing code. The permit (where required) shall be obtained from the responsible code enforcement authority with copy or documentation maintained in the client file. Once the unit has been installed, the contractor must place the information on the appliance, in plain view, certifying that the system has been properly installed in accordance with governing code requirements. The information shall indicate the date of installation and the name and phone number of the mechanical contractor.

<b>3700 OPTIONAL WEATHERIZATION MEASURES, STANDARDS AND SPECIFICATIONS</b>	EFFECTIVE DATE 10/01/2011 Issue date 9/30/2011
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Standards and specifications pertaining to Optional Weatherization Measures are contained in this section.

### 3701 LOW FLOW SHOWER HEAD:

Shower heads shall be examined for flow rate. Shower heads exceeding maximum two-and one-half gallons per minute at normal residential water pressures (20-40 psi) may be replaced with low flow shower heads. Replacement must be able to withstand temperatures of 160 degrees F.

### 3702 DHW TANK INSULATION:

Water heaters shall be thoroughly inspected to determine whether they shall be insulated using the following guidelines:

1. Tanks which leak or have leaking pipes shall not be insulated.
2. If manufacturer's directions/warning labels indicate insulation is not recommended, tank shall not be insulated.
3. An operable temperature/pressure relief valve must be mounted to the tank (within the top 6") with the discharge directed downward and terminating within 6" of floor. If not the tank shall not be insulated.
4. Combustion type water heaters must have their own exhaust vent directly to the chimney or outside properly installed with a minimum 1/4 inch/foot positive pitch; if not, the tank shall not be insulated.
5. Combustion type water heaters must have a cover plate attached, covering the burner opening; if not, the tank shall not be insulated.
6. Combustion type water heaters with a vent damper shall not be insulated.

### 3703 CLOCK SETBACK (SMART) THERMOSTAT:

Clock setback thermostats shall only be installed in dwellings where clients have agreed to utilize.

Thermostat shall be clock-operated type designed to provide a minimum of one setback period per 24 hours. Thermostat shall be compatible with existing furnace system. All thermostats installed shall display current room temperature.

### 3704 INSTRUCTIONS TO CLIENT:

Clients shall be instructed on the setting and operation of new clock thermostats and the replacement of batteries for thermostats utilizing batteries.

### 3705 FURNACE/BOILER/SPACE HEATER TUNE-UP/REPAIR:

Furnace, boiler, and space heater tune-up and repairs shall be conducted by licensed mechanical contractors.

- A tune-up involves a visual inspection, testing procedures, cleaning, and adjustments to improve the combustion and seasonal efficiency of the heating system.
- Repairs involve the replacement or reconstruction of defective or unsafe parts for the purpose of ensuring the safe operation of the heating system.

Tune-Up/Repair shall be completed by a licensed mechanical contractor. Tune-Up/Repair shall be in accordance with the requirements of the governing code and manufacturer's recommendations. A mechanical permit shall be obtained from the code authority having jurisdiction when repairs or jurisdiction rules require.

<b>3800 HEALTH AND SAFETY</b>	EFFECTIVE DATE 10/01/2011
	Issue date 9/30/2011

Health and safety policies, procedures, requirements and measures are contained in this section.

### 3801 HEALTH AND SAFETY POLICY:

The health and safety of clients, local weatherization operator (grantee) staff, and contractors is of primary concern. Health and safety hazards specifically not to be abated under the Michigan Weatherization Program shall include hazards presented by asbestos, radon, lead, mold and moisture, or toxic chemicals. Weatherization funds may be used for the elimination of energy related health and safety hazards that are necessary before or because of the installation of weatherization materials.

### 3802 HEALTH AND SAFETY PROCEDURE:

Each home weatherized must be assessed to detect the existence of potential hazards to workers or clients. **If unsafe conditions exist that would endanger the health and safety of the clients or weatherization workers, and those conditions cannot be corrected, no weatherization work may be started on that home.**

The audit shall include, but is not limited to, a health and safety inspection and discussion with the client relative to the following:

- Gas leak testing
- CO Ambient Air
- CAZ Testing
- ZPD for an attached or "tuck-under" garage
- Blower Door testing consistent with Section 4000.
- Evaluations of the duct system (e.g., return air properly ducted and air-tight).
- A complete evaluation of existing and potential moisture problems using Form DHS-552.
- A review for the presence of hazardous substances (asbestos, lead paint, volatile organic compounds) in the home.

- A review of the need and/or existence of smoke detectors.
- Evaluate clothes dryers for proper venting.
- A review for structural safety.
- A review for means of egress.
- A review for electrical hazards.
- A review for fire hazards.
- A SOM approved field audit completed with respect to the above health and safety issues.

See Section 2203 for the required Health and Safety inspection protocol.

To ensure that the weatherization work that was completed does not create potential problems, the inspection shall include, but is not limited to, a health and safety inspection and discussion with the client relative to the following:

- Gas leak testing
- CO Ambient Air
- CAZ Testing
- ZPD for an attached or "tuck-under" garage
- A final blower door test after all work has been completed. This test must be consistent with Section 4000 to ensure that building tightness recommendations have not been exceeded
- An evaluation of the moisture conditions in the dwelling
- A review of all weatherization work completed with respect to health and safety (e.g., structural damage as a result of weatherization work).

If the inspection indicates that weatherization work resulted in a health and safety problem, the agency must correct the problem prior to submitting the unit as a completion.

### 3803 REQUIRED DOCUMENTATION:

An SOM Approved Audit shall be completed which shall include health and safety factors.

<b>3900 HEALTH AND SAFETY ASSESSMENT REQUIREMENTS</b>	EFFECTIVE DATE	10/01/2011
	Issue date	9/30/2011

Health and safety assessment requirements are contained in this section.

### 3901 ASBESTOS - DESCRIPTION:

A fibrous, non-combustible mineral

### 3902 HEALTH/SAFETY CONCERNS:

Asbestos fibers are microscopic. When disturbed and released into the air, the fibers can be inhaled. Significant exposure may result in lung cancer, asbestosis, or Mesothelioma. Known asbestos containing building components shall not be handled during the course of weatherization work in a way which would cause the transmission of asbestos dust into the air. **Reference WPN 11-06**

Friable asbestos is any asbestos containing product which can be crumbled, pulverized, or reduced to powder by hand pressure. Friable asbestos shall not be touched. If suspected friable asbestos is found in a home, written notification shall be provided to the client/owner. Notice of Asbestos (DHS-4290) is located in the forms section at the end of this manual. A copy of the written notification shall be maintained in the client file.

- Weatherization work is not required in areas where asbestos may be disturbed.
- If a weatherization measure is deleted due to the presence of asbestos, proper documentation shall be provided on the SOM Approved Audit.
- This decision would normally be made by the auditor.
- If the contractor or crew determines the presence of asbestos which would affect their ability to complete a prescribed weatherization measure in a safe manner without creating/disturbing asbestos dust, they shall notify

the grantee and the measure shall be deleted (again, proper documentation shall be provided on the SOM Approved Audit).

- Contractors and crews shall not be penalized for refusing to work on asbestos-sided dwellings.
- Further information on the DOE requirements are available at: <http://www.waptac.org/sp.asp?id=1653>

### 3903 CARBON MONOXIDE (CO) – DESCRIPTION:

An odorless/colorless gas produced as a byproduct of an incomplete combustion process.

### 3904 HEALTH AND SAFETY CONCERNS:

CO is a direct and cumulative poison. When combined with blood hemoglobin, CO replaces oxygen in the blood until it completely overcomes the body. Low level CO poisoning symptoms include headaches, confusion, dizziness, nausea, vomiting, convulsions, sleepiness, stinging eyes, and loss of muscular control. Death from CO poisoning occurs suddenly. A victim inhaling a toxic concentration of the gas may become helpless before realizing that danger exists. Effects can vary significantly based on age, sex, weight, and overall state of health. Children, the elderly and the infirm may be seriously affected by even low levels of CO depending on the concentration and exposure period.

### 3905 CARBON MONOXIDE TESTING:

Carbon monoxide testing is required (see Section 4000).

### 3906 CLIENT NOTIFICATION:

Potential CO related health and safety concerns shall be discussed with the client. The client shall be immediately advised of any serious concerns relative to CO. If CO testing indicates a CO problem, a Notice of Indoor Air Quality Concern, DHS-4289 shall be provided.

### 3907 CARBON MONOXIDE **ALARM** INSTALLATION:

Carbon monoxide alarms **shall** be installed on a dwelling under the following circumstances:

- **Whenever a local agency must defer work and** the dwelling unit contains an unsafe combustion appliance
- A combustion appliance is putting off unsafe levels of CO that cannot be immediately remedied
- A combustion appliance has minimal draft and/or spillage and **no** CO is being produced
- The dwelling contains a fireplace or wood burning stove that draws combustion air from inside the dwelling

### **WEATHERIZATION WORK SHALL NOT BE PERFORMED UNTIL UNSAFE APPLIANCES HAVE BEEN REPAIRED, REPLACED, OR REMOVED.**

### 3908 INDOOR AIR QUALITY:

Audit procedures shall include a visual review and discussion with the client relative to potential indoor air quality (IAQ) problems, such as:

- Combustion by-products/carbon monoxide
- Unstable lead-based paint
- Friable asbestos

If IAQ problems are found, the client shall be advised and written notification shall be provided to the client, landlord, owner, and/or his/her agent. A copy of the written notice shall be maintained in the client file. Notice of Indoor Air Quality (DHS-4289) is located in the forms section at the end of this manual.

Where possible, "incidental repairs" or "health and safety" measures may be completed to correct IAQ problems in order to allow weatherization work to take place. Client education shall be provided where appropriate

In addition to asbestos, carbon monoxide, and lead based paint which are addressed in this section, other IAQ concerns may include:

- Volatile Organic Compounds (VOC): Cleaning fluids, paints, solvents, herbicides, pesticides, and formaldehyde. Known to be potential irritants to lungs, eyes, and skin. Some VOCs may be carcinogenic. VOCs are frequently stored under sinks, in closets, and basements. Formaldehyde may be found in a variety of building components including plywood, carpeting, and particle boards. Recommend moving potentially dangerous material outside of living space into sheds or garages. Basements are not recommended for storage, particularly if leaky ductwork exists.
- Airborne Particulate Matter: Primarily tobacco smoke or smoke from improperly vented wood stoves. It is known to cause lung cancer. Excessive air-tightening can increase levels of carcinogenic by-products in dwellings. Dwellings with high levels of tobacco smoke or other indoor pollutants shall not be over tightened (see Section 4000 Blower Door Testing).
- Fiberglass: Fibrous glass insulation material. Known to be an irritant to lungs, eyes and skin. Most preliminary research indicates no long-term negative health effects resulting from exposure to high levels of fiberglass, but some studies have indicated that some types of finely chopped blown-in fiberglass may be a potential carcinogen. Exposed fiberglass shall not be left in occupied areas of dwellings. Workers are advised to wear properly rated respirators and protective clothing when working with or around fiberglass.
- Raw Sewage/Methane Gas: Workers must take precautions to avoid direct contact with raw sewage or other unsanitary conditions. Clients must be informed of existing conditions and referred to available resources for assistance.

### 3909 MOLD AND MOISTURE ASSESSMENT:

Molds, mildew and spores are primarily caused by excessive moisture levels in a home. Mold remediation is not an allowable DOE expense. These substances can be a significant contributing factor in a number of health problems. Excessive moisture in a home provides an environment that allows mold and mildew to flourish. Dwellings with serious moisture problems shall not be tightened until measures are taken to mitigate the moisture sources.

All dwellings shall be checked for previous or existing moisture problems. Audit procedures shall include a mold and moisture assessment. The assessment shall be a visual review that includes these four categories:

- General building envelope
- Outside/Site
- HVAC
- Occupied space

The following pages contain:

- A MICHIGAN WEATHERIZATION PROGRAM HEALTH & SAFETY ASSEMENT FINDINGS (DHS-552) form that shall be used to conduct the assessment AND shall be maintained in each client/job file.
- RELEASE OF LIABILITY AND WAIVER OF CLAIMS (DHS-552-A) to be used to notify the client of Mold/moisture problems. The completed form shall be maintained in each client/job file.

### 3910 LEAD - DESCRIPTION:

A metal contained in paints and various other substances. Lead in paint was discontinued in 1978 for residential use.

### 3911 HEALTH/SAFETY CONCERNS:

Ingestion or absorption of lead into the blood stream is a serious health hazard causing brain damage over a period of time. This can be a particularly serious problem with small children, who may ingest paint chips or flakes or dust contaminated with lead products. Serious learning disabilities can result from excessive lead levels in the bloodstream. Workers can be contaminated in the same way as children, but are most likely to be exposed by breathing dust created by sanding or planing surfaces that contain lead based paints.

Lead paint is the primary source of lead in a home. Contamination occurs when lead paint is disturbed by sanding, chipping, or flaking.

### 3912 PROCEDURES:

Lead paint removal is not an allowable activity under the Weatherization Assistance Program. To minimize risks to clients and weatherization personnel:

- Provide clients and workers with Renovate Right Brochure available at [www.epa.gov/lead](http://www.epa.gov/lead).
- All weatherization contractors, crew persons, auditors and inspectors are to be trained and certified in Lead Safe Weatherization (LSW).
- All local weatherization operator staff, inspectors, contractors, and crews, must be in compliance with:
  - EPA's LRRPP Rule requirements
  - all Federal, state, and local regulations
  - OSHA rules for worker safety
  - all State and local rules for waste disposal
- Do not disturb lead based paint particularly in dwellings with small children.
- Staff and contractors shall assume that any paint on windows and doors contains lead, unless it has been verified otherwise.
- If paint chips/dust results from weatherization work, the area shall be cleaned in accordance with LSW Practices.

### 3913 UNSAFE CONDITIONS:

Unsafe conditions determined during the course of weatherization shall be documented and written notice shall be provided to the client, /landlord, /property owner. A copy of the notice shall be maintained in the client/job file, Notice of Unsafe Conditions (DHS-4288) is located in the forms section at the end of this manual.

### 3914 WIRING – HEALTH/SAFETY CONCERNS:

- Electric shock while working around wiring.
- Fire resulting from arcing between loose wiring connections
- Fire resulting from lack of dissipation of heat due to insulation over/around heat producing sources.
- Integrity and safety of knob and tube wiring.

### 3915 TO MINIMIZE RISKS:

- Workers must demonstrate caution when working around wiring.
- Verify proper wiring connections and proper fusing.
- Verify proper blocking out of insulation around heat-producing sources.

### 3916 INSULATING IN AREAS WITH WIRING:

Inspection prior to installing insulation is critical to insure there are no potential hazards relative to the wiring.

- If knob and tube wiring exists in wall cavities to be insulated, it must be in good condition.
- Breakers or "S" type fuses must be installed in the fuse box (fuses appropriate to the wire size).
- OTHERWISE SUCH AREAS SHALL NOT BE INSULATED AND THE FILE PROPERLY
- DOCUMENTED

Insulating over knob and tube wiring is prohibited in some areas by code.

Any evidence of problems with wiring in the attic shall be inspected and corrected. If the correction is completed using WAP funding, the work must be completed by a licensed electrician.

## 4000 HEALTH AND SAFETY MEASURES

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

Health and safety measures may be completed for the elimination of energy-related health and safety hazards.

### 4001 MANDATORY HEALTH AND SAFETY MEASURES:

- Installation of smoke detectors shall be placed in accordance with all SOM and Local Fire/Building Codes.
- Clothes dryers shall be vented to the exterior.

### 4002 TESTING:

Testing requirements relative to blower door testing, carbon monoxide testing, combustion appliance inspection/testing, and infrared scans are contained in this section.

### 4003 BLOWER DOOR TESTING:

The blower door shall be used at the audit and inspection as a diagnostic tool to measure the air tightness of buildings and to help locate air leakage sites.

Based on a pre-weatherization blower door test to determine the air changes per hour (ACH) at 50 Pascal (Pa), the following guidelines shall be considered in air sealing dwellings utilizing a blower door:

Pre ACH @ 50 Pa Recommended ACH Percentage Reduction

- 0-5 No sealing work (mechanical ventilation may be needed).
- 6-10 Only "Major Bypasses" shall be addressed.

Note: In cases where the IWC/IWCM recommended ACH percentage reduction cannot be achieved, reasons shall be documented on the SOM Approved Audit. The ACH reduction shall not exceed recommended minimum levels of air sealing without documented Combustion Appliance Zone (CAZ) testing.

### 4004 MINIMUM LEVELS OF AIR SEALING:

Each home shall be evaluated for minimum sealing levels based on current occupants and dwelling construction.

If blower door testing cannot be completed, a **detailed explanation** shall be documented on the SOM Approved Audit.

### 4005 CARBON MONOXIDE (CO) TESTING:

All dwellings weatherized shall be tested for CO levels during audits and inspections. Tests shall include ambient air checks. Levels exceeding 9 parts per million (ppm) shall be documented on the SOM Approved Audit and corrective action recommended. See Health and Safety section 4000.

### 4006 COMBUSTION APPLIANCE INSPECTION/TESTING REQUIREMENTS:

All combustion appliances shall be inspected during audit and inspection by a Certified Weatherization Inspector and/or tested by a licensed mechanical contractor. Related sections of the SOM approved audit shall be completed. There shall be no disassembly of the mechanical components of combustion appliances, unless completed by a licensed mechanical contractor.

The Combustion Appliance Zone procedure to check for vent stack spillage shall be followed and documented on the SOM approved audit.

## 4007 WORST CASE DRAFT TESTING OF THE COMBUSTION APPLIANCE ZONE:

Combustion appliances may be tested under the worst case depressurization of the Combustion Appliance Zone (CAZ). The Worst Case Depressurization of the Combustion Appliance Zone testing, when performed, shall be documented on the SOM approved audit

### **4100 INFRARED SCANS**

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Agencies shall be responsible for infrared scans in compliance with the requirements of this Subject. Scans may be completed by grantee staff or an infrared scanning contractor.

Scans shall be completed annually for each contractor/crew with priority given to jobs identified by the weatherization monitor and/or grantee inspector(s) for scanning.

Calculations shall be completed for each job scanned to determine the percent of void area present. Jobs containing void areas in excess of 5 percent will require corrective action. Additional scanning of the same contractor/crew shall be completed if repetitive problems are found.

### 4101 DOCUMENTATION REQUIREMENTS:

The Infrared Scan Report form (DHS-4286[Rev. 4/06]) (located in the forms section at the end of this manual) shall be completed for each job scanned with a copy maintained in the client/job file and a copy placed in a master file of all infrared scans completed for the PY.

### **4200 PROGRAM REQUIREMENTS – INTRODUCTION**

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

This section contains the work related weatherization programmatic policies, procedures, and requirements for the Michigan WAP, including blower door test requirements, client/job file documentation requirements, standards for weatherization materials, and training and certification requirements. Additional requirements are contained in the CSPM.

### 4201 BLOWER DOOR TEST REQUIREMENTS:

Blower door test requirements are contained in this section.

### 4202 DWELLINGS TO BE TESTED:

All dwellings weatherized require blower door testing during audit and inspection by a DHS Certified Inspector. Results of blower door testing shall be documented on the SOM Approved Audit and maintained in the client/job file.

Conditions which prevent completion of blower door testing shall be documented on the SOM approved field audit.

Client/job file requirements/documentation relative to the job site and completed units are contained in this section. Also contained in this section/subject is the definition of a "completed unit" (Section 4308).

#### **4301 JOB SITE REQUIREMENTS:**

Job site documentation requirements:

1. SOM Approved Audit
2. Client Plan of Action
3. Client Inspection/Assessment

#### **4302 SOM Approved Audit:**

Each unit weatherized shall have weatherization work documented electronically on the SOM Approved Audit. This form shall be completed during the course of the weatherization work including:

- Client information.
- Audit data including estimated materials/costs.
- Testing results (blower door, combustion appliances, etc.).
- Actual materials/labor costs.
- Electronic Sign-offs.

Any drawings, spread sheets, NEAT data sheets, or other information utilized in conjunction with completion of the SOM Approved Audit and the NEAT audit shall be referenced on the appropriate page of the SOM Approved Audit and included in the client/job file.

The SOM Approved Audit must be completely filled out including all cost information and sign-offs, and shall be filed in the client/job file along with all related information (e.g., application, Client Inspection and Assessment form, invoices, Certificate of Insulation, Health and Safety notifications, Client Plan of Action) pertaining to the job before the job is reported as a completion.

#### **4303 MULTI FAMILY BUILDINGS (1 to 4 UNITS):**

An SOM Approved Audit shall be completed for buildings/units weatherized. The SOM Approved Audit shall be fully completed including all general information, measures, materials, costs, and sign-offs.

The files shall clearly indicate weatherization measures to be completed. SOM approval shall be obtained to determine if one comprehensive audit or multiple audits are required. All weatherization work performed including common areas shall be documented on the SOM Approved Audit.

All client files for the building must be clearly cross-referenced so that any reviewer can easily determine building eligibility under the 66 percent (50 percent) rule, or any other aspect of the total weatherization work to that multifamily building. The file(s) must clearly indicate it is a multifamily building.

#### **4304 MULTI FAMILY BUILDINGS (5+ UNITS) (RESERVED)**

#### **4305 COSTS:**

The following requirements apply relative to recording of job related costs:

- Identify charges according to funding source.
- All weatherization related costs must be itemized on the SOM approved audit

### 4306 SOM Approved Audit FORMS:

Versions of the SOM Approved Audit are:

- IWCM used for manufactured homes using MHEA.
- IWC used for dwellings to be evaluated using NEAT.

### 4307 CLIENT PLAN OF ACTION:

Client energy education shall be provided throughout the weatherization process. A Client Plan of Action shall be maintained in the client/job file and three Energy Action Steps discussed/reinforced during subsequent visits. If the client is not agreeable to completing a Client Plan of Action, this shall be documented in the client/job file.

### 4308 CLIENT INSPECTION/ASSESSMENT:

As part of the inspection a Client Inspection/Assessment for Weatherization (see the forms section located at the end of this manual) shall be completed and signed by the inspector and client. The client is asked to complete an assessment of each of the WAP measures. The completed/signed form shall be maintained in the client/job file. If the client refuses to sign or for some other reason the form cannot be completed, the reason shall be documented on the form in the client/job file.

### 4309 UNIT COMPLETION DEFINITION:

A dwelling unit shall not be reported as completed until:

- All weatherization materials have been installed.
- The grantee has verified that all required/appropriate forms and documentation are included in the client/job file.
- The grantee, or its authorized representative, has performed and approved an inspection.

In cases in which weatherization work was started but cannot be completed for a justified reason, signed and dated documentation shall be provided in the client job file as to why the weatherization work was stopped and the unit may be considered a completion. Examples of reasons to stop weatherization work:

- Death of client.
- Dwelling is vacated and/or sold.
- Unable to contact client after numerous (documented) attempts.
- Extensive fire damage.
- Client refuses further weatherization work.
- Health and safety risks to contractor/crew (e.g. unsanitary conditions, drugs, threats, etc.).

### 4310 NEAT FILE DOCUMENTATION:

The client/job files for units weatherized using NEAT audits shall include:

- NEAT Job Input Summary Report (may be stored electronically )
- NEAT Output Summary Report (shall be printed)

### 4311 MANUAL J FILE DOCUMENTATION:

The client/job files where furnace replacement occurs using manual "J" shall include and have available the complete sizing reports.

### 4312 FILE DOCUMENTATION CHECKLIST:

All required forms and documentation shall be maintained in the client/job file. Prior to reporting weatherization units as completions, grantee shall verify that all required/appropriate forms and documentation are included in the client/job file.

The Checklist is an optional form which may be used as an aid to insure the completeness of client/job files (see form DHS-4291 in the forms section at the end of this manual).

### **4313 LSW/LRRP DOCUMENTATION CLIENT FILE:**

All LSW/LRRP client files shall include, completed and signed:

- Written confirmation of receipt of Lead Pamphlet. (see DHS 4285, CSPM 615)
- Certificate of mailing if applicable (see CSPM 615)
- Pictures of the signs, containment and notices posted.
- Renovation Recordkeeping Checklist (see [www.epa.gov/oppt/lead/pubs/samplechecklist.pdf](http://www.epa.gov/oppt/lead/pubs/samplechecklist.pdf))

### **4314 LSW/LRRP DOCUMENTATION AGENCY FILE:**

Agency files shall include:

- Documentation (e.g. copy of certificate) of DOE required LSW training for crew, staff, and subcontractors
- Documentation (e.g. copy of certificate) of EPA required LRRP training for crew, staff, and subcontractors
- Documentation (e.g. copy of certificate) of EPA LRRP Firm status as required including expiration date
- Documentation (e.g. copy of certificate) of EPA LRRP Renovator status as required including expiration date
- Documentation (e.g. copy of certificate) of EPA LRRP Supervisor status as required including expiration date

<b>4400 STANDARDS FOR WEATHERIZATION MATERIALS</b>	EFFECTIVE DATE	10/01/2011
	Issue date	9/30/2011

### **4401 MATERIALS STANDARDS:**

Weatherization materials standards and insulation requirements are contained in this Section/Subject.

### **4402 MINIMUM STANDARDS FOR WEATHERIZATION MATERIALS:**

Materials used by the WAP must meet the minimum standards and testing requirements as specified in the Code of Federal Regulations; 10 CFR Part 440 Appendix A. Navigation to the Code of Federal Regulations website:

- [http://edocket.access.gpo.gov/cfr\\_2009/janqtr/pdf/10cfr440AppA.pdf](http://edocket.access.gpo.gov/cfr_2009/janqtr/pdf/10cfr440AppA.pdf)
- At 1996 through the current year click Browse and/or search the CFR
- Scroll down to the Title 10 Energy click January 1, 2009
- Scroll down and click: 440 Weatherization Assistance for low income persons
- Scroll down to 440 App A and click either Text or PDF

In cases where Michigan Weatherization Program standards are more restrictive, such requirements will be enforced.

### **4403 INSULATION REQUIREMENTS - CERTIFICATE OF INSULATION:**

Whenever an area is addressed/completed with thermal insulation (attic, wall, perimeter, or floor insulation), contractors/crews are required to complete in triplicate a Certificate of Insulation. This form shall contain the following information:

- Address of the building insulated
- Date of completion of the installation
- Name and address of the installer
- Insulation type (e.g. cellulose, fiberglass, rigid foam)
- Insulation manufacturer
- When cellulose insulation is used, data from the bag specifying plant, batch number, date, and/or any other information needed to identify the batch
- Location and dimension (in square feet) of each space which is insulated
- The amount of insulation which was installed in each of the locations, given in the units in which the material is most commonly available (e.g. bags, rolls, sheets)

- The R-value installed in each of the identified locations; and
- A statement signed by an authorized individual, certifying that the installation was carried out in conformance to the applicable standard practices, codes, and regulations.

A copy of this form goes to the client/homeowner, another is permanently affixed to the house in or at the electric service panel and the third copy goes to the agency client/job file.

**4404 WEATHERIZATION MATERIALS DOCUMENTATION REQUIREMENTS:**

Documentation shall be maintained at the grantee (or office of grantee) which establishes compliance with standards and testing requirements (see section 4402). Types of documentation may include manufacturer's specifications, material containers, and/or test lab reports. In cases where contractors are providing materials, the agency shall maintain documentation on all products being used by each contractor. Product documentation shall be organized in one location and available for monitoring review.

<b>4500 TRAINING/CERTIFICATION REQUIREMENTS</b>	EFFECTIVE DATE	10/01/2011
	Issue date	9/30/2011

Training/certification requirements relative to blower door, auditor/inspector, Indoor Air Quality/Mold, and Lead-Safe Weatherization (LSW) and Indoor Air Quality (IAQ) are contained in this section

**4501 BLOWER DOOR TRAINING:**

Each grantee shall have at least one DHS Certified Inspector available who is trained and capable of properly completing blower door testing and related calculations.

**4502 WEATHERIZATION INSPECTOR TRAINING/CERTIFICATION:**

Weatherization inspector training/testing will be offered by the SOM. New inspectors shall attend and pass these training sessions prior to performing any Weatherization inspections. Those who qualify for certification by passing the required testing and satisfactorily completing on-the-job training subsequent to the testing shall be notified via e-Mail. Documentation relative to inspector certification shall be maintained at the agency.

The SOM WAP Division may offer special testing relative to inspector certification as deemed appropriate. The SOM WAP Division also reserves the right to withdraw inspector certification at any time.

The SOM WAP Division may establish additional training/testing requirements as needed.

**4504 LEAD SAFE WEATHERIZATION TRAINING:**

Lead Safe Weatherization training will be offered on an as needed basis; new staff is required to attend training within 180 days of the date they are hired. Those who attend and pass this training will be authorized to inspect, supervise, and/or work on the dwellings as specified in SOM WAP Division. Individuals who have not attended one of these training sessions will not be permitted to inspect, supervise, and/or work on the homes to be weatherized unless they are accompanied by or in the presence of staff who have attended the required training.

Mechanical, plumbing, roofing, and electrical contractors and their personnel who work on a dwelling as part of the DOE WAP are also required to obtain the necessary Lead Safe Weatherization training.

SOM LIHEAP and MPSC programs follow DOE rules regarding LSW.

4505 INDOOR AIR QUALITY/MOLD TRAINING:

Weatherization crews, contractors, and inspectors receive specialized training in the recognition of conditions that promote mold growth they may encounter in their weatherization work and how best to prevent creating new mold conditions. New staff is required to attend training within 180 days of the date they are hired. Individuals who have not attended one of these training sessions will not be permitted to inspect, supervise, and/or work on the dwellings to be weatherized unless they are accompanied by or in the presence of staff who have attended the required training.

5000 FORMS

EFFECTIVE DATE 10/01/2011  
Issue date 9/30/2011

# MICHIGAN WEATHERIZATION PROGRAM HEALTH & SAFETY ASSESSMENT FINDINGS

Department of Human Services

AGENCY NAME

Client Name	Job Number
Address	City, Zip

**1. Moisture Areas – Existing conditions (check all that apply)**

- Actual construction defect or deterioration that allows water into the home (*roof, decks, windows, concrete slabs, moisture infiltration*)
- Evidence of conditions that might allow water in the home (*poor grading, bad flashing, bad/missing gutters*)
- Any other source of water vapor or moisture; signs of condensation
- Plumbing defects (*leaking drains, pipes or toilet seals, missing caulk on sinks or tubs*)
- Damp atmosphere in house
- Evidence of water penetrating the home (*stains, moist areas*)
- Visible mold growth (*if "Yes," complete #2*)
- HVAC problems (*dirty, moist filters, poor condensation drainage, plugged or disconnected vents*)
- Dryer vented indoors, inadequate ventilation for kitchen, bath or other high moisture area
- Other (*planters, aquariums, hot tubs, nearby swamps, etc.*) List all that apply

- Client complaint of allergy-like symptoms

**2. Mold Areas – Existing conditions (check all that apply)**

Checklist	Mold/Musty Odors	Existing Mold	Sq. Ft. of Mold Area	No Evidence of Excessive Mold Found
<input type="checkbox"/> Bath ( <i>location</i> ): _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Shower ( <i>location</i> ): _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Kitchen	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Laundry Area	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Basement Walls	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Crawlspace	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Exterior Walls	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Attic	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Ceilings	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Other ( <i>specify</i> ) _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>

**Moisture/Mold Disclaimer:** By signing below, I acknowledge that I have received the above information concerning moisture and mold conditions in my home prior to any weatherization work being done and I will take steps to reduce excessive moisture by utilizing one or more of the tips in the attached Client Tips fact sheet. I also understand that the agency may choose to defer work on my dwelling until the referenced area(s) have been remedied. If the agency proceeds with weatherization work, I agree to hold the agency, and its contractors, performing weatherization harmless for any future moisture or mold problems that are not directly attributable to weatherization work.

\_\_\_\_\_  
Weatherization client signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Agency Representative

\_\_\_\_\_  
Date

Original – Agency File (always)  
Copy – Client (when applicable)

**RELEASE OF LIABILITY AND WAIVER OF CLAIMS**  
 Department of Human Services  
 AGENCY NAME

**Health and Safety Assessment**

In addition to the energy audit we will do on your home, we will do a limited health and safety assessment of the home. The health and safety assessment will consist of a visual inspection for potential health and safety problems. You will be notified of any health and safety problems that are identified, including mold. However, the evaluator is not a qualified mold professional. Mold may be present in areas not accessible or seen during the visual inspection or during the actual work on your home. Work on your home will be performed in a manner to prevent future mold growth. Mold can be a problem in any home, but especially in those where there is an excessive amount of moisture or humidity present. In addition, if there are several people, pets, plants or fish aquariums present, conditions may exist for mold to grow. If there are existing conditions that are seen or unseen, we shall not be held responsible or liable. The agency and its contractors will be held harmless for any future moisture or mold problems that are not directly attributable to weatherization work.

**Weatherization Activities**

*Notice:* During weatherization activities, particularly when insulation is being blown into wall cavities and attics, insulation dust, other types of dust, and other particles may become airborne. Additionally, unforeseen circumstances may result in some insulation leaking through cracks into the home's living space. In those circumstances where insulation leaks into the living space, we will be responsible for clean-up (repairing damage and cleaning up the living area). Minor construction dust is inevitable at the end of any remodeling work. Construction dust clean-up will be the responsibility of the home owner/occupant.

*Recommendation:* It is recommended that people with the following health conditions be out of the house when insulation is being blown into the house: Asthma, emphysema, allergies and other respiratory conditions, pregnancy and any serious health conditions such as decrease immune functions which might be aggravated by dust and other dust-like particles in the air. Furthermore, it is also recommended that infants less than 12 months old should be out of the house when insulation is being blown. Persons who leave the house during the insulation process should remain outside the house for at least 30 minutes after completion of insulation activities.

**Release of Waiver of Claims:** I acknowledge by my signature below receipt of the information and recommendations set out above. Additionally, I agree on behalf of myself and any minor children or others for whom I am responsible, to hold the agency and its agents harmless from any claims, medical problems or personal injuries that may occur, develop or worsen in response to the weatherization activities. This waiver is for all damages, direct or indirect, that may relate to weatherization activities, including money lost by not being able to work, healthcare costs and pain or suffering.

**I am aware the weatherization process may cause airborne particles, including dust, to be released in my home and that such airborne particles can aggravate health conditions. I have chosen to go forward with the weatherization process, accepting any and all risks of injury or damages.**

**I have carefully read this release and waiver and fully understand its contents. I am aware this is a release of liability and have signed it of my own free will.**

Client Name	Phone	Job File Number
Address	City/Zip	
Client Signature	Date	Agency Witness Date

Agency File (always)  
 Copy - Client (always)

<b>WEATHERIZATION PROGRAM CLIENT INSPECTION/ASSESSMENT State of Michigan Department of Human Services</b>	Weatherization Agency Name:		
	Address (Street Number and Name):		
	City:	State: Michigan	Zip Code:
	Telephone Number: (       )		

Client Name:		Address of Home (Street Number and Name):	
City:	State: Michigan	Zip Code:	Job Number:

The services performed on your home were completed to the extent possible within the current available funding and program limitations. The services provided are free of charge. Please rate the performance of each task which was completed. Thank you for your cooperation.

WEATHERIZATION MEASURE Check Work Performed		CLIENT ASSESSMENT			WEATHERIZATION MEASURE Check Work Performed		CLIENT ASSESSMENT		
		Good	Fair	Poor			Good	Fair	Poor
<input type="checkbox"/>	Health and Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Band Joist Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Major Bypasses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Floor Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Duct Sealing/Repair/Replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Perimeter Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Duct Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Refrigerator Replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Furnace Filter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water Heater Replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Attic Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Furnace Replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Knee wall Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Wall Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Infiltration/Exfiltration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Compact Fluorescent Light Bulbs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Please note that not all the above measures are installed on every home. The local weatherization agency makes final installation decisions after their pre-inspection and after reviewing total job costs and program limitations.

I understand that representatives of the state and federal government have the responsibility to monitor the performance of the weatherization agency. This means that the work performed to my dwelling may be inspected by representatives of those organizations.

By signature, I certify that the weatherization tasks were completed in my home and I have rated the weatherization crew's work performance.

Client's Signature:	Date:
Inspector's Signature:	Date:

Additional Comments:
----------------------

AUTHORITY: P.A. 230 OF 1981 COMPLETION: Required PENALTY: None	The Department of Human Services will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, political beliefs or disability.
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**INFRARED SCAN REPORT  
WEATHERIZATION PROGRAM**  
State of Michigan  
Department of Human Services

Weatherization Agency Name			
Job Number		Client Name	
Address (Street Number and Name)			
Contractor		City	State
Scan By		Date	Telephone Number ( )

INTERIOR WALL ELEVATIONS (MAIN FLOOR)		INTERIOR WALL ELEVATIONS (2ND FLOOR)	
A.	H.	1.	4.
B.	I.	2.	5.
C.	J.	3.	6.
D.	K.	Draw Views of Structure (Main Floor Plan)	
E.	L.		
F.	M.	Draw Views of Structure (2nd Floor Plan)	
G.	N.		

Symbols	Comments
BR -- Bedroom Room	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
DR -- Dining Room	
B -- Bath	
KC -- Kitchen Cabinets	
KW -- Knee wall	
LD -- Low Density	
P -- Partition	
? -- Scan Unclear	
RA -- Return Air / Duct	
SL -- Sloped Ceiling*	
ST -- Stairs	
V -- Void	
LR -- Living	
K -- Kitchen	

(Void Area \_\_\_\_\_ SF) ÷ (Total Wall Area \_\_\_\_\_ SF) = \_\_\_\_\_ % Void

Authority: PA 230 of 1981 Completion: Required Penalty: None	The Department of Human Services will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, political beliefs or disability.
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DHS-4286 (Rev. 4/06) Previous editions obsolete





<b>WEATHERIZATION PROGRAM</b> <b>ASBESTOS NOTICE</b> State of Michigan Department of Human Services	Weatherization Agency Name:		
	Address (Street Number and Name):		
	City:	State: Michigan	Zip Code:
	Telephone Number: (       )		

Client Name:		Address of Home (Street Number and Name):	
City:	State: Michigan	Zip Code:	Job Number:

This letter is to make you aware of the presence of asbestos containing materials in: \_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

Person(s) Notified (Client, Landlord, Owner, Third Party):
_____
_____

This material should not be disturbed. There is no need for concern relative to the presence of this material if it is left undisturbed. Avoid any handling of this material which could put asbestos dust particles in the air. Airborne asbestos particles pose a potential health hazard. Removal should only be done by a licensed asbestos abatement contractor.

Weatherization workers are not qualified or allowed to work on any asbestos containing products which could create asbestos dust.

The Michigan Department of Human Services, State Emergency Relief Program may be able to help with asbestos removal if the furnace is being replaced.

Further information on asbestos is available from the U.S. Consumer Product Safety Commission. They may be contacted by calling (800) 638-2772 or writing U.S. Consumer Product Safety Commission, Washington, D.C. 20207. Also, the U.S. Environmental Protection Agency has an "Asbestos Hotline" at (800) 368-5888. State regulations on asbestos are administered by the Michigan Department of Energy, Labor & Economic Growth (DELEG) Asbestos Program. The program also enforces asbestos issues related to the Michigan Occupational Safety and Health Act (MIOSHA) (Act 154, P.A. 1974, as amended).

A copy of this notice was sent to all parties of interest listed above (a copy shall be retained in the client file)	Signature of Agency Representative:	Date:
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AUTHORITY: P.A. 230 OF 1981 COMPLETION: Required PENALTY: None	The Department of Human Services will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, political beliefs or disability.
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DHS - 4290 (Rev. 4/05) Previous edition obsolete.

**WEATHERIZATION CHECKLIST FOR  
CLIENT/JOB FILE DOCUMENTATION**  
State of Michigan  
Department of Human Services

Weatherization Agency Name		
Client Name		
Address (Street Number and Name)		
City	State	Rep. Initials

Job Number \_\_\_\_\_

**I. CLIENT ELIGIBILITY (see CSPM for policies/forms)**

<p><b>Yes/NA</b>  <input type="checkbox"/> / <input type="checkbox"/> 1. Standard Application Form, DHS-4283  <input type="checkbox"/> / <input type="checkbox"/> 2. Income Eligibility Documentation and Calculations  <input type="checkbox"/> / <input type="checkbox"/> 3. Home Ownership  <input type="checkbox"/> / <input type="checkbox"/> 4. Landlord Agreement/Exhibits/Tenant Synopsis/ and Lease</p>	<p> <input type="checkbox"/> / <input type="checkbox"/> 5. Documentation of Landlord Contribution (if applicable)  <input type="checkbox"/> / <input type="checkbox"/> 6. Priority Criteria Selection  <input type="checkbox"/> / <input type="checkbox"/> 7. Documentation of Annual Heating and Electric Usage  <input type="checkbox"/> / <input type="checkbox"/> 8. Written Notification of Eligibility/Ineligibility              a. Notification of Job Scheduling              b. Notification of Appeal Process         </p>
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**II. JOB-RELATED**

<p><b>Yes/NA</b>  <input type="checkbox"/> / <input type="checkbox"/> 1. Approved Audit  <input type="checkbox"/> / <input type="checkbox"/> 2. 552 Health and Safety Assessment Findings  <input type="checkbox"/> / <input type="checkbox"/> 3. 552A Release of Liability and Waiver of Claims  <input type="checkbox"/> / <input type="checkbox"/> 4. NEAT Job Input Summary Report/NEAT Output Summary Report  <input type="checkbox"/> / <input type="checkbox"/> 5. Confirmation of Receipt of Lead Pamphlet  <input type="checkbox"/> / <input type="checkbox"/> 6. Client Energy Plan of Action  <input type="checkbox"/> / <input type="checkbox"/> 7. Asbestos Notification Letter DHS -4290  <input type="checkbox"/> / <input type="checkbox"/> 8. Notice of Indoor Air Quality Concern DHS -4289  <input type="checkbox"/> / <input type="checkbox"/> 9. Notice of Potentially Unsafe Condition DHS -4288  <input type="checkbox"/> / <input type="checkbox"/> 10. Certificate of Insulation  <input type="checkbox"/> / <input type="checkbox"/> 11. Contractor's Invoice  <input type="checkbox"/> / <input type="checkbox"/> 12. Post-inspection Documentation/Corrections Approved  <input type="checkbox"/> / <input type="checkbox"/> 13. Client Inspection/Assessment DHS -1008  <input type="checkbox"/> / <input type="checkbox"/> 14. Appliance Replacement/Disposal Documentation  <input type="checkbox"/> / <input type="checkbox"/> 15. Permit(s) for Furnace or Water Heater Replacement  <input type="checkbox"/> / <input type="checkbox"/> 16. Other _____  <input type="checkbox"/> / <input type="checkbox"/> 17. _____  <input type="checkbox"/> / <input type="checkbox"/> 18. _____</p>
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Authority: PA 230 of 1981  
 Completion: Optional  
 Penalty: None

The Department of Human Services will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, Political beliefs or disability.

DHS-4291 (Rev.11/09) previous editions obsolete

# MICHIGAN WEATHERIZATION PROGRAM HEALTH & SAFETY ASSESSMENT FINDINGS

Department of Human Services

AGENCY NAME

Client Name	Job Number
Address	City, Zip

**1. Moisture Areas – Existing conditions (check all that apply)**

- Actual construction defect or deterioration that allows water into the home (*roof, decks, windows, concrete slabs, moisture infiltration*)
- Evidence of conditions that might allow water in the home (*poor grading, bad flashing, bad/missing gutters*)
- Any other source of water vapor or moisture; signs of condensation
- Plumbing defects (*leaking drains, pipes or toilet seals, missing caulk on sinks or tubs*)
- Damp atmosphere in house
- Evidence of water penetrating the home (*stains, moist areas*)
- Visible mold growth (*if "Yes," complete #2*)
- HVAC problems (*dirty, moist filters, poor condensation drainage, plugged or disconnected vents*)
- Dryer vented indoors, inadequate ventilation for kitchen, bath or other high moisture area
- Other (*planters, aquariums, hot tubs, nearby swamps, etc.*) List all that apply

- Client complaint of allergy-like symptoms

**2. Mold Areas – Existing conditions (check all that apply)**

Checklist	Mold/Musty Odors	Existing Mold	Sq. Ft. of Mold Area	No Evidence of Excessive Mold Found
<input type="checkbox"/> Bath ( <i>location</i> ): _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Shower ( <i>location</i> ): _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Kitchen	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Laundry Area	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Basement Walls	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Crawlspace	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Exterior Walls	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Attic	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Ceilings	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/> Other ( <i>specify</i> ) _____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>

**Moisture/Mold Disclaimer:** By signing below, I acknowledge that I have received the above information concerning moisture and mold conditions in my home prior to any weatherization work being done and I will take steps to reduce excessive moisture by utilizing one or more of the tips in the attached Client Tips fact sheet. I also understand that the agency may choose to defer work on my dwelling until the referenced area(s) have been remedied. If the agency proceeds with weatherization work, I agree to hold the agency, and its contractors, performing weatherization harmless for any future moisture or mold problems that are not directly attributable to weatherization work.

\_\_\_\_\_  
Weatherization client signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Agency Representative

\_\_\_\_\_  
Date

Original – Agency File (always)  
Copy – Client (when applicable)

**RELEASE OF LIABILITY AND WAIVER OF CLAIMS**  
 Department of Human Services  
 AGENCY NAME

**Health and Safety Assessment**

In addition to the energy audit we will do on your home, we will do a limited health and safety assessment of the home. The health and safety assessment will consist of a visual inspection for potential health and safety problems. You will be notified of any health and safety problems that are identified, including mold. However, the evaluator is not a qualified mold professional. Mold may be present in areas not accessible or seen during the visual inspection or during the actual work on your home. Work on your home will be performed in a manner to prevent future mold growth. Mold can be a problem in any home, but especially in those where there is an excessive amount of moisture or humidity present. In addition, if there are several people, pets, plants or fish aquariums present, conditions may exist for mold to grow. If there are existing conditions that are seen or unseen, we shall not be held responsible or liable. The agency and its contractors will be held harmless for any future moisture or mold problems that are not directly attributable to weatherization work.

**Weatherization Activities**

*Notice:* During weatherization activities, particularly when insulation is being blown into wall cavities and attics, insulation dust, other types of dust, and other particles may become airborne. Additionally, unforeseen circumstances may result in some insulation leaking through cracks into the home's living space. In those circumstances where insulation leaks into the living space, we will be responsible for clean-up (repairing damage and cleaning up the living area). Minor construction dust is inevitable at the end of any remodeling work. Construction dust clean-up will be the responsibility of the home owner/occupant.

*Recommendation:* It is recommended that people with the following health conditions be out of the house when insulation is being blown into the house: Asthma, emphysema, allergies and other respiratory conditions, pregnancy and any serious health conditions such as decrease immune functions which might be aggravated by dust and other dust-like particles in the air. Furthermore, it is also recommended that infants less than 12 months old should be out of the house when insulation is being blown. Persons who leave the house during the insulation process should remain outside the house for at least 30 minutes after completion of insulation activities.

**Release of Waiver of Claims:** I acknowledge by my signature below receipt of the information and recommendations set out above. Additionally, I agree on behalf of myself and any minor children or others for whom I am responsible, to hold the agency and its agents harmless from any claims, medical problems or personal injuries that may occur, develop or worsen in response to the weatherization activities. This waiver is for all damages, direct or indirect, that may relate to weatherization activities, including money lost by not being able to work, healthcare costs and pain or suffering.

**I am aware the weatherization process may cause airborne particles, including dust, to be released in my home and that such airborne particles can aggravate health conditions. I have chosen to go forward with the weatherization process, accepting any and all risks of injury or damages.**

**I have carefully read this release and waiver and fully understand its contents. I am aware this is a release of liability and have signed it of my own free will.**

Client Name	Phone	Job File Number
Address	City/Zip	
Client Signature	Date	Agency Witness Date

Agency File (always)  
 Copy - Client (always)

<b>WEATHERIZATION PROGRAM CLIENT INSPECTION/ASSESSMENT State of Michigan Department of Human Services</b>	Weatherization Agency Name:		
	Address (Street Number and Name):		
	City:	State: Michigan	Zip Code:
	Telephone Number: (       )		

Client Name:		Address of Home (Street Number and Name):	
City:	State: Michigan	Zip Code:	Job Number:

The services performed on your home were completed to the extent possible within the current available funding and program limitations. The services provided are free of charge. Please rate the performance of each task which was completed. Thank you for your cooperation.

WEATHERIZATION MEASURE Check Work Performed		CLIENT ASSESSMENT			WEATHERIZATION MEASURE Check Work Performed		CLIENT ASSESSMENT		
		Good	Fair	Poor			Good	Fair	Poor
<input type="checkbox"/>	Health and Safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Band Joist Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Major Bypasses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Floor Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Duct Sealing/Repair/Replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Perimeter Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Duct Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Refrigerator Replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Furnace Filter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water Heater Replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Attic Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Furnace Replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Knee wall Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Wall Insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Infiltration/Exfiltration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Compact Fluorescent Light Bulbs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Please note that not all the above measures are installed on every home. The local weatherization agency makes final installation decisions after their pre-inspection and after reviewing total job costs and program limitations.

I understand that representatives of the state and federal government have the responsibility to monitor the performance of the weatherization agency. This means that the work performed to my dwelling may be inspected by representatives of those organizations.

By signature, I certify that the weatherization tasks were completed in my home and I have rated the weatherization crew's work performance.

Client's Signature:	Date:
Inspector's Signature:	Date:

Additional Comments:
----------------------

AUTHORITY: P.A. 230 OF 1981 COMPLETION: Required PENALTY: None	The Department of Human Services will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, political beliefs or disability.
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**INFRARED SCAN REPORT  
WEATHERIZATION PROGRAM**  
State of Michigan  
Department of Human Services

Weatherization Agency Name			
Job Number		Client Name	
Address (Street Number and Name)			
Contractor		City	State
Scan By		Date	Telephone Number ( )

INTERIOR WALL ELEVATIONS (MAIN FLOOR)		INTERIOR WALL ELEVATIONS (2ND FLOOR)	
A.	H.	1.	4.
B.	I.	2.	5.
C.	J.	3.	6.
D.	K.	Draw Views of Structure (Main Floor Plan)	
E.	L.		
F.	M.	Draw Views of Structure (2nd Floor Plan)	
G.	N.		

Symbols	Comments
BR -- Bedroom	LR -- Living Room
DR -- Dining Room	K -- Kitchen
B -- Bath	C -- Closet
KC -- Kitchen Cabinets	FP -- Fireplace
KW -- Knee wall	St -- Studs
LD -- Low Density	H -- Header
P -- Partition	W -- Window
? -- Scan Unclear	D -- Door
RA -- Return Air / Duct	
SL -- Sloped Ceiling	
ST -- Stairs	
V -- Void	

(Void Area \_\_\_\_\_ SF) ÷ (Total Wall Area \_\_\_\_\_ SF) = \_\_\_\_\_ % Void

Authority: PA 230 of 1981 Completion: Required Penalty: None	The Department of Human Services will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, political beliefs or disability.
--	--





<b>WEATHERIZATION PROGRAM</b> <b>ASBESTOS NOTICE</b> State of Michigan Department of Human Services	Weatherization Agency Name:		
	Address (Street Number and Name):		
	City:	State: Michigan	Zip Code:
	Telephone Number: (      )		

Client Name:		Address of Home (Street Number and Name):	
City:	State: Michigan	Zip Code:	Job Number:

This letter is to make you aware of the presence of asbestos containing materials in: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

Person(s) Notified (Client, Landlord, Owner, Third Party):
_____
_____

This material should not be disturbed. There is no need for concern relative to the presence of this material if it is left undisturbed. Avoid any handling of this material which could put asbestos dust particles in the air. Airborne asbestos particles pose a potential health hazard. Removal should only be done by a licensed asbestos abatement contractor.

Weatherization workers are not qualified or allowed to work on any asbestos containing products which could create asbestos dust.

The Michigan Department of Human Services, State Emergency Relief Program may be able to help with asbestos removal if the furnace is being replaced.

Further information on asbestos is available from the U.S. Consumer Product Safety Commission. They may be contacted by calling (800) 638-2772 or writing U.S. Consumer Product Safety Commission, Washington, D.C. 20207. Also, the U.S. Environmental Protection Agency has an "Asbestos Hotline" at (800) 368-5888. State regulations on asbestos are administered by the Michigan Department of Energy, Labor & Economic Growth (DELEG) Asbestos Program. The program also enforces asbestos issues related to the Michigan Occupational Safety and Health Act (MIOSHA) (Act 154, P.A. 1974, as amended).

A copy of this notice was sent to all parties of interest listed above (a copy shall be retained in the client file)	Signature of Agency Representative:	Date:
--	-------------------------------------	-------

AUTHORITY: P.A. 230 OF 1981 COMPLETION: Required PENALTY: None	The Department of Human Services will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, political beliefs or disability.
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DHS - 4290 (Rev. 4/05) Previous edition obsolete.

**WEATHERIZATION CHECKLIST FOR  
CLIENT/JOB FILE DOCUMENTATION**  
State of Michigan  
Department of Human Services

Weatherization Agency Name		
Client Name		
Address (Street Number and Name)		
City	State	Rep. Initials

Job Number \_\_\_\_\_

**I. CLIENT ELIGIBILITY (see CSPM for policies/forms)**

<p><b>Yes/NA</b>  <input type="checkbox"/> / <input type="checkbox"/> 1. Standard Application Form, DHS-4283  <input type="checkbox"/> / <input type="checkbox"/> 2. Income Eligibility Documentation and Calculations  <input type="checkbox"/> / <input type="checkbox"/> 3. Home Ownership  <input type="checkbox"/> / <input type="checkbox"/> 4. Landlord Agreement/Exhibits/Tenant Synopsis/ and Lease</p>	<p> <input type="checkbox"/> / <input type="checkbox"/> 5. Documentation of Landlord Contribution (if applicable)  <input type="checkbox"/> / <input type="checkbox"/> 6. Priority Criteria Selection  <input type="checkbox"/> / <input type="checkbox"/> 7. Documentation of Annual Heating and Electric Usage  <input type="checkbox"/> / <input type="checkbox"/> 8. Written Notification of Eligibility/Ineligibility              a. Notification of Job Scheduling              b. Notification of Appeal Process         </p>
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**II. JOB-RELATED**

<p><b>Yes/NA</b>  <input type="checkbox"/> / <input type="checkbox"/> 1. Approved Audit  <input type="checkbox"/> / <input type="checkbox"/> 2. 552 Health and Safety Assessment Findings  <input type="checkbox"/> / <input type="checkbox"/> 3. 552A Release of Liability and Waiver of Claims  <input type="checkbox"/> / <input type="checkbox"/> 4. NEAT Job Input Summary Report/NEAT Output Summary Report  <input type="checkbox"/> / <input type="checkbox"/> 5. Confirmation of Receipt of Lead Pamphlet  <input type="checkbox"/> / <input type="checkbox"/> 6. Client Energy Plan of Action  <input type="checkbox"/> / <input type="checkbox"/> 7. Asbestos Notification Letter DHS -4290  <input type="checkbox"/> / <input type="checkbox"/> 8. Notice of Indoor Air Quality Concern DHS -4289  <input type="checkbox"/> / <input type="checkbox"/> 9. Notice of Potentially Unsafe Condition DHS -4288  <input type="checkbox"/> / <input type="checkbox"/> 10. Certificate of Insulation  <input type="checkbox"/> / <input type="checkbox"/> 11. Contractor's Invoice  <input type="checkbox"/> / <input type="checkbox"/> 12. Post-inspection Documentation/Corrections Approved  <input type="checkbox"/> / <input type="checkbox"/> 13. Client Inspection/Assessment DHS -1008  <input type="checkbox"/> / <input type="checkbox"/> 14. Appliance Replacement/Disposal Documentation  <input type="checkbox"/> / <input type="checkbox"/> 15. Permit(s) for Furnace or Water Heater Replacement  <input type="checkbox"/> / <input type="checkbox"/> 16. Other _____  <input type="checkbox"/> / <input type="checkbox"/> 17. _____  <input type="checkbox"/> / <input type="checkbox"/> 18. _____</p>
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Authority: PA 230 of 1981  
 Completion: Optional  
 Penalty: None

The Department of Human Services will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, Political beliefs or disability.

DHS-4291 (Rev.11/09) previous editions obsolete