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| Reference is made to the Real Estate Purchase Contract a pertaining to the Real Property known as prop | and receipt for deposit datednade between   | I                                  |
|--|---|------------------------------------|
| Sales price to be Buyer agrees to pay extension is requested by Buyer a non-refundable deposit signed acceptance. This offer is subject to final Investor/Standard clauses to be made a permanent part of this cone.  Standard clauses to be made a permanent part of this cone. Buyer(s) agrees to deliver to Seller/Seller's agent signed within 4 (four) calendar days of Buyer's signature.  Seller will not pay for nor credit Buyer(s) for VA, Fifees; nor will they pay for or credit any other costs inspections or repairs unless otherwise stated and.  This contract cannot be extended or assigned without Seller will not provide financing. Property taxes shall be a lt is understood between Buyer(s) and Seller that this passis" condition with no Seller representations or warranges. Seller, SunTrust Mortgage, ResNet or the local listing a Buyer(s) to sign Seller's Addenda to be made part of one Seller to advise who will have choice of Title/Escrow/Coll in the event of a per diem charge, Buyer authorizes Secover said charge(s).  Unless this counter offer is accepted by the Buyer(s) by   | ntract: ed purchase contract and Addenda  HA or other loan/financing costs or of the following street in the following street |                                    |
| revoked. Seller reserves the right to continue to market sa acceptance of contract and counter offer/addendum(s).  | and property and accept any contract of Seller's  | choosing prior to Selier's written |
| This transaction is subject to acceptance and execution addendum by SunTrust Mortgage, "Seller".   | on of the original purchase contract/ sales a   | greement and this counter offer    |
| All other terms and conditions shall remain the same. This contract/sales agreement. This counter offer addendum is signature hereon. This counter offer addendum shall here <b>Acceptance:</b> Buyer(s) accepts the above counter offer ar  | accepted by the Buyer(s) and the Seller, as every become part of the above referenced contra  | ridenced by Buyer(s) and Seller's  |
| Buyer  | Date  |                                    |
| Buyer  Acceptance: Seller accepts the above counter offer and a SunTrust Mortgage  | Date acknowledges receipt thereof:  |                                    |
| Bv:  | Date:   |                                    |

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# SunTrust Mortgage Addendum to Contract for Sale

| Addendum to Contract for Sale  |
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| THIS ADDENDUM TO CONTRACT FOR SALE (THE "ADDENDUM") IS MADE PART OF THE CONTRACT FOR SALE DATED (THE "CONTRACT DATE"), BETWEEN SUNTRUST MORTGAGE, INC. ("SELLER") AND (THE "BUYER", WHETHER ONE OR MORE), AS AMENDED (COLLECTIVELY, THE "CONTRACT") FOR THE PURCHASE AND SALE OF CERTAIN REAL PROPERTY AND ALL IMPROVEMENTS, IF ANY (THE "PROPERTY") LOCATED AT:   |
|  |
| THIS ADDENDUM MODIFIES THE CONTRACT AS SET FORTH HEREIN, AND IS HEREBY MADE PART OF THE CONTRACT. TO THE EXTENT THIS ADDENDUM CONFLICTS IN WHOLE OR PART WITH THE TERMS OF THE CONTRACT, THE PROVISIONS OF THIS ADDENDUM SHALL SUPERCEDE THE TERMS OF THE CONTRACT AND CONTROL.  |
| <ol> <li>SALES PRICE / FINANCING / CLOSING COSTS.</li> <li>SALES PRICE. On the Closing Date, Buyer shall deliver, or cause to be delivered to the settlement agent handling the Closing, good and immediately available United States funds in the amount of the "Sales Price") to be held in escrow for Seller's benefit pending closing.</li> </ol>  |
| b. <u>DEPOSIT.</u> Buyer has deposited with the sum of the <u>Earnest deposit to be</u> good and immediately available United States funds (the "Deposit"), which amount shall be held in escrow for Seller's benefit pending Closing and shall be applied to the Sales Price at Closing or disbursed as otherwise stated in this Addendum.  |
| c. <u>FINANCING.</u> Buyer shall deliver to Seller, within five (5) Business Days (defined below) following the Contract Date or three (3) Business days following the date of this Addendum, whichever is later, either: (i) verification of funds required for Closing, or (ii) a copy of Buyer's fully-binding loan commitment, which shall evidence, to Seller's reasonable satisfaction, Buyer's financial capability to purchase the Property in accordance with the terms of the Contract, as modified by this Addendum <u>and</u> a copy of a pre-approval letter issued by Seller. NOTWITHSTANDING THE FOREGOING, BUYER IS <u>NOT</u> REQUIRED TO OBTAIN FINANCING FROM SELLER OR ANY AFFILIATE OF SELLER. BUYER SHALL BE ENTITLED TO OBTAIN FINANCING, IF AT ALL, FROM ANY SOURCE. UNLESS OTHERWISE AGREED BY A SEPARATE WRITING SIGNED BY SELLER, SELLER HAS NOT OFFERED, AND DOES NOT BY THE TERMS HEREOF OFFER, FINANCING TO BUYER. |
| d. <u>CLOSING COSTS.</u> Buyer shall pay all closing costs, taxes, fees, expenses and other charges normally and customarily paid by buyers in the area where the Property is located. To the extent local custom or applicable law does not clearly designate which party pays for which closing costs, taxes, fees, expenses and other charges, then Buyer shall pay all such closing costs, taxes, fees, expenses and other charges except for the costs associated with preparing the Deed and other costs which the seller is required to pay pursuant to this Addendum, which shall be paid by Seller. Notwithstanding local custom or practice and notwithstanding anything to the contrary in the Contract, Seller shall not pay any closing costs, taxes, fees, expenses and other charges not expressly provided for in this Addendum unless required by applicable law.   |
| 2. <u>INSPECTIONS AND REPAIRS</u> . BUYER ACCEPTS THE PROPERTY IN ITS " <u>AS IS" "WHERE IS"</u> CONDITION <u>"WITH ALL FAULTS"</u> . BUYER HAS READ, ACKNOWLEDGES AND UNDERSTANDS THE PROVISIONS AND STATEMENTS IN <u>SECTION 5</u> OF THIS ADDENDUM REGARDING THE CONDITION OF THE PROPERTY.   |
| SELLER STRONGLY RECOMMENDS THAT BUYER, AT BUYER'S EXPENSE, HAVE THE PROPERTY THOROUGHLY AND PROFESSIONALLY INSPECTED BY SUCH LICENSED INDEPENDENT INSPECTORS AS BUYER DEEMS APPROPRIATE, AND SELLER FURTHER RECOMMENDS THAT BUYER, AT BUYER'S EXPENSE, CONDUCT SUCH OTHER DUE DILIGENCE WITH RESPECT TO THE PROPERTY AS BUYER DEEMS APPROPRIATE. THE INSPECTIONS AND DUE DILIGENCE RECOMMENDED BY SELLER INCLUDE, BUT ARE NOT LIMITED TO: TITLE, SURVEY, FLOOD, TERMITE, STRUCTURAL, GENERAL HOME INSPECTION, AND ENVIRONMENTAL.   |
| BUYER ACKNOWLEDGES RECEIPT AND REVIEW OF THE <u>"HOMEBUYER'S GUIDE TO COMMON ENVIRONMENTAL HAZARDS"</u> (ATTACHED HERETO AS <u>EXHIBIT C</u> ) AND IS AWARE THAT BUYER HAS THE RIGHT TO HAVE THE PROPERTY INSPECTED FOR THE PRESENCE OF ANY OF THE HAZARDS MENTIONED IN THE GUIDE INCLUDING, BUT NOT LIMITED TO, LEAD, MOLD, RADON, HAZARDOUS WASTE, FORMALDEHYDE, ASBESTOS AND HOUSEHOLD HAZARDOUS WASTE.   |
| PROPERTIES CONSTRUCTED PRIOR TO JANUARY 1, 1978 ARE SUBJECT TO COMPLIANCE WITH THE RESIDENTIAL LEAD BASED PAINT HAZARD REDUCTION ACT OF 1992, ALSO KNOWN AS TITLE "X", AS THESE PROPERTIES MAY PRESENT EXPOSURE TO LEAD AND/OR LEAD HAZARDS FROM LEAD BASED PAINT. THE PROPERTY:  WAS NOT CONSTRUCTED PRIOER TO JANUARY 1, 1978.  WAS CONSTRUCTED PRIOER TO JANUARY 1, 1978.   |

IF THE PROPERTY WAS CONSTRUCTED PRIOR TO JANUARY 1, 1978, BUYER ACKNOWLEDGES RECEIPT AND REVIEW OF THE EPA PAMPHLET ENTITLED: "PROTECT YOUR FAMILY FROM LEAD IN YOUR HOME".

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BUYERS INITIAL'S \_\_\_

BUYERS INITIAL'S \_\_\_

SELLERS INITIALS \_\_\_\_\_

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ATTACHED HERETO AS EXHIBIT B, IS THE "DISCLOSURE OF INFORMATION ON LEAD-BASED PAINT AND LEAD-BASED PAINT HAZARDS".

SELLER STRONGLY RECOMMENDS THAT BUYER WALK-THROUGH THE PROPERTY WITHIN THREE (3) CALENDAR DAYS BEFORE THE CLOSING DATE, AS EXTENDED, IF APPLICABLE, FOR THE PURPOSE OF DETERMINING WHETHER THERE HAS BEEN ANY MATERIAL ADVERSE CHANGE IN THE CONDITION OF THE PROPERTY SINCE THE CONTRACT DATE (ORDINARY WEAR AND TEAR EXCEPTED). REGARDLESS OF WHETHER BUYER OBTAINS ANY INSPECTIONS OF THE PROPERTY OR CONDUCTS THE "WALK THROUGH" DESCRIBED ABOVE, ACCEPTANCE OF THE DEED SHALL CONSTITUTE ACKNOWLEDGEMENT BY THE BUYER THAT THE PROPERTY IS ACCEPTABLE.

Buyer shall complete, or cause to be completed, at its sole cost and expense, any and all inspections of the Property on or before that date which is seven (7) calendar days following the Contract Date or five (5) calendar days following the date of this Addendum, whichever is later (the "Inspection Deadline"). It shall be Buyer's sole responsibility to authorize and initiate any such inspections. All inspections of, and entry onto, the Property shall be at reasonable times and upon reasonable notice to Seller, all as determined by Seller inits reasonable discretion. Except as required by applicable law or as otherwise expressly provided in this Addendum, Seller shall not be obligated to pay for or provide any inspection or inspection report, or to repair or replace any portion of the Property. To the extent required by applicable law and only to the extent so required. Seller's responsibility for the cost of any inspection or inspection report, or for repairs to, or replacements of, the Property or any portion thereof, shall not exceed \$ (the "Repair Limit"). If the Repair Limit is not specified in the immediately preceding sentence, then the Repair Limit shall be deemed to be Five Hundred Dollars (\$500.00). If the cost of the required repairs or replacements exceeds the Repair Limit, and Seller does not elect (at its discretion) to pay such additional costs, then Buyer, at Buyer's option, may elect either to (i) pay the additional costs and proceed to Closing in accordance with the terms of the Contract, as modified by this Addendum, or (ii) terminate the Contract, in which case d

| SELLERS INITIALS BUYERS INITIAL'S BUYERS INITIAL'S   |
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| 3) <u>TITLE</u> . SELLER HEREBY ADVISES BUYER THAT BUYER SHOULD OBTAIN A POLICY OF TITLE INSURANCE WITH RESPECT TO THE PROPERTY AND SHOULD HAVE ANY COMMITMENT FOR SUCH TITLE INSURANCE POLICY EXAMINED BY AN ATTORNEY OF BUYER'S OWN SELECTION. Unless otherwise required by applicable law, Buyer shall obtain, at its sole expense, any title commitment, title examination, or policy of title insurance with respect to the Property and Seller shall not be obligated to pay any portion thereof. If, and only if, required by applicable law, Seller shall, at Seller's expense, furnish to Buyer an owner's policy of title insurance dated as of the Closing Date (the "Title Policy") issued by a title company of Seller's choosing ("Title Company"). Seller's agreement to furnish the Title Policy is conditioned on Buyer's agreement herein to accept the Title Policy and that the Cclosing taking place at the office of, and all disbursements be made by, Seller' attorney or agent or Title Company on the Closing Date, as extended, if applicable. In any event, if Buyer elects to obtain its own title commitment, title examination, or owner's policy of title insurance with respect to the Property, Seller shall not be obligated to provide any such commitment, examination or the Title Policy. In any event, Buyer shall be responsible for obtaining and paying for any mortgagee title insurance policy or other title policy and any associated costs associated therewith. |
| Buyer shall have until the Inspection Deadline to deliver to Seller written notice of its intention to terminate the Contract based upon the results of its inspections (the "Inspection Termination Notice"), and receive a refund of any Monies (defined below) actually paid by Buyer, in which event the parties shall be relieved of all obligations under the Contract, except for Buyer's Indemnification Obligations. In the event Buyer fails to time deliver the Inspection Termination Notice, then Buyer shall proceed to Closing in accordance with the terms of the Contract, as modified by this Addendum.  |
| Buyer / Seller shall pay for required any termite treatment required based upon the results of the termite inspection. If neither box is selected, then Buyer shall pay for such inspection treatment. If the box appearing immediately before the word "Seller" is selected, then Seller shall be obligated to pay for such treatment, not to exceed \$ (the "Termite Limit"). If no Termite Limit is specified, then such Termite Limit shall be deemed to be Two Hundred and Fifty Dollars (\$250.00).  |
| Buyer / Seller shall pay for any termite inspection. If neither box is selected, then Buyer shall pay for such inspection. In all events, Buyer shall be responsible for authorizing and initiating such inspection and any such inspection shall be conducted by an independent, licensection inspector qualified to conduct such inspection.   |
| be relieved of all obligations under the Contract, except for Buyer's Indemnification Obligations (defined below). In the event Buyer, its agents, representatives or inspectors, cause any damage the Property, then Buyer, at its expense, shall restore the Property to its condition immediately prior entry onto the Property by Buyer, its agents, representatives or inspectors, as applicable. Buyer shall indemnify, defend and hold Seller harmless of, from and against, any and all loss, cost, expense, damage and/or liability (including attorney's fees) (collectively, the "Loss") incurred and/or sustained by Seller, indcluding, but not limited to: (i) all Loss resulting from or arising out of damage to the Property caused, directly or indirectly, by any of the Buyer Parties (as defined below); (ii) all Loss resulting from or arising out of any claim or demand asserted against Seller for personal injuries and/or property damage sustained by any of the Buyer Parties on the Property, regardless of whether such loss, cost, expense, liability, claim or demand arises out of any defect, claimed defect, or condion on the Property; and (iii) all Loss resulting from or arising out of Buyer's failure to release and discharge the Seller Parties (defined below) as contemplated by the Buyer Release (defined below) (collectively, the "Buyer's Indemnification Obligations").  |

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1001 Semmes Ave Richmond, VA 23244 Corporate Fax

If Seller is required by applicable law to furnish Buyer with a Title Policy, and Buyer does not obtain its own title commitment, title examination, or owner's policy of title insurance with respect to the Property, such Title Policy shall insure Buyer's title to the property Property to be good and indefeasible subject only to the following exceptions ("Permitted Exceptions") (1) existing deed restrictions and restrictive covenants affecting the propery; (2) discrepancies, conflicts and shortages in area or boundary lines, or any encroachments or any overlapping of improvements; (3) real estate and personal property taxes of for the current and subsequent years and subsequent assessments for prior years due to change in land usage or ownership; (4) existing building and/or zoning restrictions and/or ordinances; (5) easements or roads, easements visible upon the ground, easements of record; (6) liens created or assumed as security for the Sales Price, liens created or granted by or at the direction of Buyer, liens created in connection with the Closing; (7) rights or privileges of public service companies and utility easements of record or common to any platted subdivision of which the Property is a part; (8) reservations or other exceptions of record or known to the Buyer; (9) the terms and provisions of any declaration, by-Laws and rules and regulations of any condominium regime or homeowner's association pertaining to the Property, as amended, including the platted easements and assessments set out therein; (10) the terms of any lease, ground lease or similar agreements, if any; (11) any other liens, encumbrances, easements, covenants or restrictions of record or known to the Buyer; and (12) any other matters that would be disclosed or discoverable by an accurate survey of the Property.

If Seller is required by applicable law to furnish Buyer with a Title Policy, and Buyer does not obtain its own title commitment, title examination, or owner's policy of title insurance with respect to the Property, then Seller Buyer shall make available to Buyer, on or before that date which is five (5) (10) calendar days prior to the Closing Date, as extended, if applicable, the commitment for the Title Policy (the "Commitment") and copies of all exception documents referenced in the Commitment (the "Exception Documents"). Buyer shall have three (3) calendar days following the date on which Seller makes the Commitment and Exception Documents available to deliver to Seller written notice (the "Title Objections Notice") of its objection to any title defect disclosed by the Commitment other than the Permitted Exceptions (the "Title Objections" and each, a "Title Objection"). Seller, at its option, may (i) decline to cure any one (1) or more of the Title Objections by providing written notice thereof to Buyer on or before the Closing Date, as extended, if applicable (the "Seller Notice"); or (ii) attempt to cure any one (1) or more Title Objections prior to the Closing Date, as extended, if applicable; or (iii) extend the Closing Date by not more than thirty (30) calendar days and attempt to cure any one (1) or more Title Objections during such extension period. If the Seller is unable or unwilling to cure any Title Objection on or before the Closing Date, as extended, if applicable or if Seller delivers the Seller's Notice, or if Seller fails to respond at all to the Title Objections Notcie by the Closing Date, as extended, if applicable, then Buyer may waive such Title objection and proceed to Closing in accordance with the terms of the Contract, as modified by this Addendum, or Buyer may, as Buyer's sole and exclusive remedy, terminate the Contract and receive a refund of any Monies (defined below) actually paid, in which event the parties shall be relieved of all obligations under the Contract, except for Buyer's Indemnification Obligations. In the event Buyer fails to timely deliver the Title Objections Notice, then all exceptions described or identified in the Commitment shall be deemed part of the "Permitted Exceptions". In no event shall the Buyer be permitted to object to any of the Permitted Exceptions.

On or before the Closing Date, as extended, if applicable, Seller shall deliver to the settlement agent performing the Closing, Seller's form of Special Warranty Deed, Quitclaim Deed or other deed conveying the Property to Buyer in form and substance as may be acceptable to the Seller (the "Deed"). **The Deed will shall not contain general warranty covenants.** The Seller will warrant and defend title to the Property against the lawful claims of all persons claiming by, through, or under Seller, but against none other. The Deed will be subject to the Permitted Exceptions.

| 4) CLOSING. The funding of the Sales Price (as defined below), recording of the Deed (as defined below) and delivery of possession of the            |
|--|
| Property to the Buyer (collectively, the "Closing") shall be conducted by and take place at the offices of   |
| or such settlement agent or title company as may be approved by Seller. Closing shall occur on or  |
| before the date set forth in the Contract, or if none is stated, within thirty (30) calendar days following the Contract Date or within fifteen (15) |
| calendar days following the date of this Addendum, whichever is later (the "Closing Date"). The Closing Date may be extended by the parties in       |
| accordance with the terms of this Addendum. If either party fails or refuses to close on the Closing Date, as extended, if applicable, for any       |
| reason other than a default of the other party, the non-defaulting party shall be entitled to exercise the remedies provided for in this Addendum    |
| immediately and without notice. Time is of the essence with respect to the Contract, as modified by this Addendum.                                   |
|  |

Extension by Buyer. Buyer shall be entitled to one (1) and only one (1) extension of the Closing Date. Buyer shall exercise its right to extend the Closing Date, if at all, by delivering to Seller at least three (3) calendar days prior to the Closing Date, as extended by Seller, if applicable, written notice of the new Closing Date accompanied by a certified or cashier's check payable to Seller in good and immediately available United States funds in an amount equal to the <u>greater</u> of: (i) the product of One Hundred Dollars (\$100.00) multiplied by the number of calendar days by which the Closing Date is extended by Buyer or (ii) the product of one-tenth of one percent (.001) multiplied by the Sales Price, multiplied by the number of calendar days by which the Closing Date is extended by Buyer (the <u>"Extension Fee"</u>). Notwithstanding the foregoing, the Buyer shall not be entitled to extend the Closing Date by more than thirty (30) calendar days. The Extension Fee shall be non-refundable except as otherwise provided herein. The Extension Fee shall not be credited against the Sales Price.

Extension by Seller. Seller may extend the Closing Date at any time by delivering to Buyer on or before the Closing Date, as previously extended, if applicable, written notice of the new Closing Date. In no event shall the Seller pay to Buyer any fee for any such extension of the Closing Date. Seller shall not be entitled to extend the Closing Date by more than sixty (60) calendar days cumulatively.

| SELLERS INITIALS | BUYERS INITIAL'S | BUYERS INITIAL'S |
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5. PROPERTY CONDITION. THE BUYER IS AWARE AND ACKNOWLEDGES THAT THE SELLER IS SELLING A PROPERTY WHICH WAS, OR MAY BE, ACQUIRED BY SELLER THROUGH FORECLOSURE, DEED IN LIEU OF FORECLOSURE, OR SIMILAR PROCEEDING AND THAT SELLER IS NOT FAMILIAR WITH THE CONDITION OF THE PROPERTY OR ANY PORTION THEREOF. BUYER ACKNOWLEDGES THAT SELLER MAY BE EXEMPT FROM CERTAIN STATE LAW REQUIREMENTS REGARDING DELIVERY OF A STATE-MANDATED REAL ESTATE TRANSFER DISCLOSURE OR SIMILAR STATEMENT. BUYER IS AWARE THAT THE SUBJECT PROPERTY IS NOT NEW. BUYER AND FURTHER ACKNOWLEDGES THAT THERE HAVES BEEN NO REPRESENTATION(S) OR WARRANTY(IES) MADE BY SELLER, OR ANY OTHER PERSON ACTING AS SELLER'S REPRESENTATIVE AND/OR BUYER'S REPRESENTATIVE REGARDING THE CONDITION OF THE PROPERTY OR ANY PORTION THEREOF, INCLUDING, WITHOUT LIMITATION, OF THE STRUCTURAL COMPONENTS THEREOF OR APPLIANCES THAT MAY BE CONTAINED THEREIN, IF ANY. IF INSPECTION REPORT(S) HAVE BEEN OBTAINED BY SELLER OR SELLER'S REPRESENTATIVE, AND SAID INSPECTION REPORT(S) ARE OR HAVE BEEN BEING PROVIDED TO THE BUYER, THEN SUCH REPORTS ARE PROVIDED TO THE BUYER FOR BUYER'S INFORMATION ONLY AND SHALL NOT BECOME A PART OF THE CONTRACT, NOR SHALL ANY SUCH REPORTS BE DEEMED TO CONSTITUTE ANY REPRESENTATION OR WARRANTY BY SELLER WITH RESPECT TO THE PROPERTY.

UNLESS OTHERWISE SPECIFIED ON EXHIBIT A ATTACHED HERETO, SELLER HAS NO ACTUAL KNOWLEDGE OF ANY LATENT DEFECTS IN THE PROPERTY.

"AS IS" DISCLAIMER; NO REPRESENTATIONS OR WARRANTIES. AS A MATERIAL PART OF THE CONSIDERATION FOR THE CONTRACT, BUYER AGREES THAT BUYER IS ACQUIRING THE PROPERTY "AS IS", "WHERE IS", WITH ALL FAULTS AND DEFECTS, LATENT AND PATENT, WHETHER KNOWN, UNKNOWN, DISCLOSED OR UNDISCLOSED BY SELLER, AND BUYER ACKNOWLEDGES AND AGREES THAT SELLER HAS NOT MADE, DOES NOT MAKE AND SELLER HEREBY SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS, WARRANTIES, PROMISES, COVENANTS, AGREEMENTS, OR GUARANTIES OF ANY KIND OR CHARACTER WHATSOEVER, WHETHER EXPRESS OR IMPLIED, ORAL OR WRITTEN, PAST, PRESENT OR FUTURE, OF, AS TO, CONCERNING OR WITH RESPECT TO (A) THE HABITABILITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PROPERTY OR ANY PART THEREOF, (B) THE COMPLIANCE OF OR BY THE PROPERTY OR ITS OPERATION WITH ANY LAWS, RULES, ORDINANCES OR REGULATIONS OF ANY GOVERNMENTAL AUTHORITY OR BODY HAVING JURISDICTION INCLUDING, WITHOUT LIMITATION, ALL APPLICABLE ZONING LAWS, (C) THE NATURE, QUALITY OR CONDITION OF THE PROPERTY, INCLUDING, WITHOUT LIMITATION, THE WATER, SOIL, AND GEOLOGY, OR THE PRESENCE OR ABSENCE OF ANY POLLUTANT, MOLD, LEAD-BASED PAINT, HAZARDOUS OR TOXIC SUBSTANCE OR MATERIAL, HAZARDOUS OR SOLID WASTE, UNDERGROUND OR ABOVEGROUND STORAGE TANK SYSTEM, OR ANY OTHER CONTAMINATION OR ENVIRONMENTAL CONDITION ON, IN, UNDER OR ABOUT THE PROPERTY, (D) THE SUITABILITY OF THE PROPERTY FOR ANY AND ALL ACTIVITIES AND USES WHICH BUYER MAY INTEND TO CONDUCT THEREON, (E) ANY INCOME TO BE DERIVED FROM THE PROPERTY, (F) THE MARKETABILITY, MERCHANTABILITY, AGE, QUALITY, STATE OF REPAIR OR FITNESS FOR A PARTICULAR PURPOSE OF ANY ITEMS OF PERSONAL PROPERTY THAT MAY OR MAY NOT BE LOCATED UPON THE PROPERTY, INCLUDING, WITHOUT LIMITATION, ANY HEATING, COOKING, REFRIGERATING, DISHWASHING, PLUMBING OR ELECTRICAL APPARATUS OR EQUIPMENT, BOILERS, ENGINES, MOTORS, GENERATING EQUIPMENT, PIPING OR PLUMBING FIXTURES, UNDERGROUND OR ABOVEGROUND STORAGE TANK SYSTEMS, VENTILATING OR VACUUM CLEANING SYSTEMS, IRRIGATION SYSTEMS, FIRE ALARMS, FIRE EXTINGUISHING APPARATUS, SECURITY SYSTEMS, TELEPHONE SYSTEMS, TELEPHONE JACKS, CABLE JACKS, GAS AND ELECTRIC FIXTURES, ELEVATORS, ESCALATORS, PARTITIONS, MANTELS, BUILT-IN MIRRORS, FURNITURE, WINDOW TREATMENTS, BLINDS, SCREENS, STORM SASHES, AWNINGS, CARPETING, UNDERPADDING OR DRAPES, OR (G) ANY OTHER MATTER RELATED TO OR CONCERNING THE PROPERTY OR ANY ITEMS OF PERSONAL PROPERTY WHICH MAY OR MAY NOT BE LOCATED THEREON. BUYER SHALL NOT SEEK RECOURSE AGAINST SELLER ON ACCOUNT OF ANY LOSS, COST OR EXPENSE SUFFERED OR INCURRED BY BUYER WITH REGARD TO ANY OF THE MATTERS DESCRIBED IN CLAUSES (A) THROUGH (G) ABOVE AND HEREBY ASSUMES THE RISK OF ANY ADVERSE MATTERS RELATED TO THE MATTERS DESCRIBED IN CLAUSES (A) THROUGH (G) ABOVE FROM AND AFTER THE DATE OF CLOSING.

BUYER EXPRESSLY ACKNOWLEDGES AND AGREES THAT BUYER HAS THOROUGHLY INSPECTED AND EXAMINED THE PROPERTY TO THE EXTENT DEEMED NECESSARY BY BUYER INORDER TO ENABLE BUYER TO EVALUATE THE PURCHASE OF THE PROPERTY.

BUYER ACKNOWLEDGES THAT BUYER, HAVING BEEN GIVEN THE OPPORTUNITY TO INSPECT THE PROPERTY, IS RELYING SOLELY ON ITS OWN INVESTIGATION OF THE PROPERTY AND NOT ON ANY INFORMATION PROVIDED OR TO BE PROVIDED BY OR ON BEHALF OF SELLER OR ANY STATEMENT, REPRESENTATION OR OTHER ASSERTION MADE BY SELLER WITH RESPECT TO THE PROPERTY. BUYER FURTHER ACKNOWLEDGES THAT NO INDEPENDENT INVESTIGATION OR VERIFICATION HAS BEEN OR WILL BE MADE BY SELLER WITH RESPECT TO ANY INFORMATION WHICH MAY BE SUPPLIED BY OR ON BEHALF OF SELLER CONCERNING THE PROPERTY, AND SELLER MAKES NO REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION, IT BEING INTENDED BY THE PARTIES THAT BUYER SHALL VERIFY THE ACCURACY AND COMPLETENESS OF SUCH INFORMATION ITSELF. SELLER SHALL HAVE NO RESPONSIBILITY OR LIABILITY FOR ANY REPAIRS OR REMEDIATION REQUESTED, RECOMMENDED OR PURPORTEDLY REQUIRED BY ANY INSPECTOR, APPRAISER, LENDER OR OTHERWISE.

| BUYER REPRESENTS TO SELLER THAT BUYER HAS KNOWLEDGE AND EXPERIENCE IN FINANCIAL AND BUSINESS MATTERS THAT |
|---|
| ENABLE BUYER TO EVALUATE THE MERIT AND RISKS OF THE TRANSACTION CONTEMPLATED HEREBY.                      |
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| SELLERS INITIALS | BUYERS INITIAL'S | BUYERS INITIAL'S |
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BUYER HEREBY WAIVES, TO THE MAXIMUM EXTENT PERMITTED BY LAW, ANY AND ALL RIGHTS, BENEFITS AND REMEDIES UNDER ANY STATE CONSUMER PROTECTION LAW WHICH MAY APPLY IN THE STATE WHERE THE PROPERTY IS LOCATED WITH RESPECT TO ANY MATTERS PERTAINING TO THE CONTRACT, AS MODIFIED BY THIS ADDENDUM, AND THE TRANSACTIONS CONTEMPLATED THEREBY AND HEREBY.

IT IS FURTHER AGREED THAT SELLER DOES NOT MAKE ANY REPRESENTATIONS OR WARRANTIES REGARDING ENVIRONMENTAL PROTECTION, POLLUTION, OR LAND USE LAWS, REGULATIONS, ORDERS OR REQUIREMENTS. BUYER HEREBY ASSUMES ALL RISKS AND LIABILITY AND AGREES THAT SELLER SHALL NOT BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL, OR OTHER DAMAGES RESULTING OR ARISING FROM OR RELATING TO THE OWNERSHIP, USE, CONDITION, LOCATION, MAINTENANCE, REPAIR OR OPERATION OF THE PROPERTY. BUYER FURTHER ACKNOWLEDGES AND AGREES THAT SELLER IS NOT IN A POSITION TO MAKE ANY REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED, AS TO THE PROPERTY. SELLER IS NOT LIABLE OR BOUND IN ANY MANNER BY ANY VERBAL OR WRITTEN STATEMENTS, REPRESENTATIONS OF OR INFORMATION PERTAINING TO THE PROPERTY, OR THE OPERATION THEREOF, FURNISHED BY ANY REAL ESTATE BROKER, AGENT. EMPLOYEE OR OTHER PERSON EXCEPT THE SELLER.

BUYER FURTHER ACKNOWLEDGES AND AGREES THAT PRIOR TO THE CLOSING DATE, BUYER SHALL CONDUCT ANY ENVIRONMENTAL INVESTIGATION, INCLUDING WITHOUT LIMITATION SAMPLING AND ANALYSIS OF SOIL, GROUNDWATER, SURFACE WATER, AIR, AND STRUCTURAL OR BUILDING COMPONENTS, WITH RESPECT TO THE PROPERTY WHICH BUYER MAY DEEM NECESSARY OR ADVISABLE. REGARDLESS OF WHETHER BUYER ELECTS TO PERFORM AN ENVIRONMENTAL INVESTIGATION, BUYER'S ACQUISITION OF THE PROPERTY SHALL CONSTITUTE A CONCLUSIVE PRESUMPTION THAT THE PROPERTY WAS FREE AND CLEAR OF ANY AND ALL POLLUTANTS, HAZARDOUS OR TOXIC SUBSTANCES OR MATERIALS, HAZARDOUS OR SOLID WASTES, LEAKING UNDERGROUND OR ABOVEGROUND STORAGE TANK SYSTEMS, OR OTHER CONTAMINATION OR ENVIRONMENTAL CONDITIONS ON THE CLOSING DATE.

BUYER HEREBY RELEASES SELLER NOW AND FOREVER FROM ANY AND ALL CAUSES OF ACTION, CLAIMS, DEMANDS, OR LIABILITIES, WHETHER DIRECT OR INDIRECT, RELATING TO OR ARISING FROM THE EXISTENCE OF ANY AND ALL POLLUTANTS, MOLD, LEAD-BASED PAINT, HAZARDOUS OR TOXIC SUBSTANCES OR MATERIALS, HAZARDOUS OR SOLID WASTES, LEAKING UNDERGROUND OR ABOVEGROUND STORAGE TANK SYSTEMS, OR OTHER CONTAMINATION OR ENVIRONMENTAL CONDITIONS OF ANY KIND IN, ON, UNDER, ABOUT, OR FROM THE PROPERTY, OR ARISING FROM THE VIOLATION OF ANY ENVIRONMENTAL OR SIMILAR LAWS WITH RESPECT TO THE PROPERTY INCLUDING, WITHOUT LIMITATION, THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT, THE RESOURCE CONSERVATION AND RECOVERY ACT, THE CLEAN AIR ACT, THE CLEAN WATER ACT, THE RESIDENTIAL LEAD-BASED PAINT HAZARD REDUCTION ACT, AND THE TOXIC SUBSTANCES CONTROL ACT, ALL AS AMENDED, AND ANY AND ALL LOCAL, STATE AND FEDERAL LAWS, RULES, ORDINANCES AND REGULATIONS RELATING THERETO (SUCH RELEASE SHALL BE PART OF THE "BUYER RELEASE").

BUYER HEREBY AGREES TO INDEMNIFY SELLER AND TO HOLD AND DEFEND SELLER HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS, CAUSES OF ACTION, COSTS, EXPENSES, DAMAGES, LIABILITIES OR LOSSES ASSERTED AGAINST, SUFFERED OR INCURRED BY SELLER AS A RESULT OF THE USE, TREATMENT, SPILL, DISPOSAL, MANUFACTURE, STORAGE OR RELEASE OF ANY POLLUTANT, HAZARDOUS OR TOXIC SUBSTANCE OR MATERIAL, HAZARDOUS OR SOLID WASTE, LEAKING UNDERGROUND OR ABOVEGROUND STORAGE TANK SYSTEMS, OR OTHER CONTAMINATION OR ENVIRONMENTAL CONDITION BY BUYER OR BY ANY OF BUYER'S AGENTS, CONTRACTORS, EMPLOYEES, INVITEES, TENANTS, SUCCESSORS OR ASSIGNS ON, IN, UNDER, ABOUT OR FROM THE PROPERTY. THE FOREGOING INDEMNIFICATION SHALL INCLUDE, WITHOUT LIMITATION, (I) ATTORNEYS' FEES AND COURT COSTS INCURRED BY SELLER IN CONNECTION WITH ANY OF THE FOREGOING AND (II) ANY COSTS OR EXPENSES ASSESSED AGAINST OR INCURRED BY SELLER AS A RESULT OF ANY INVESTIGATIVE, REMOVAL, REMEDIAL OR CORRECTIVE ACTION OBLIGATIONS IMPOSED WITH RESPECT TO THE PROPERTY UNDER ANY APPLICABLE COMMON LAW OR UNDER ANY ENVIRONMENTAL LAWS, RULES, ORDINANCES OR REGULATIONS AS A RESULT OF THE USE, TREATMENT, SPILL, DISPOSAL, MANUFACTURE, STORAGE OR RELEASE OF ANY POLLUTANT, HAZARDOUS OR TOXIC SUBSTANCE OR MATERIAL, HAZARDOUS OR SOLID WASTE, UNDERGROUND OR ABOVEGROUND STORAGE TANK SYSTEMS, OR OTHER CONTAMINATION OR ENVIRONMENTAL CONDITION BY BUYER OR BY ANY OF BUYER'S AGENTS, CONTRACTORS, EMPLOYEES, INVITEES, TENANTS, SUCCESSORS OR ASSIGNS ON, IN, UNDER, ABOUT OR FROM THE PROPERTY (SUCH INDEMNIFICATION SHALL BE PART OF "BUYER'S INDEMNIFICATION OBLIGATIONS").

BUYER ACKNOWLEDGES AND AGREES THAT SELLER DOES NOT OWN, AND CANNOT CONVEY, ANY PERSONAL PROPERTY THAT MAY BE LOCATED UPON THE PROPERTY. TO THE EXTENT THAT ANY PERSONAL PROPERTY IS LOCATED UPON THE PROPERTY, SUCH PERSONAL PROPERTY IS SPECIFICALLY EXCLUDED FROM THE TERMS OF THE CONTRACT.

BUYER ACKNOWLEDGES THAT THE PROVISIONS OF THIS SECTION 5 ARE AN INTEGRAL PORTION OF THE CONTRACT AND THAT SELLER WOULD NOT AGREE TO SELL THE PROPERTY TO BUYER FOR THE SALES PRICE WITHOUT THE DISCLAIMERS, AGREEMENTS AND OTHER STATEMENTS SET FORTH IN THIS SECTION.

| EXCEPT AS REQUIRED BY APPLICA SHALL SURVIVE CLOSING. | BLE LAW, THE PROVISIONS OF THI | S SECTION 5 SHALL NOT BE MERGED INTO THE DEED AND |
|--|--------------------------------|---|
| SELLERS INITIALS                                     | BUYERS INITIAL'S               | BUYERS INITIAL'S                                  |
|  | Page 6                         |   |

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6. <u>SURVEY</u>. Buyer shall obtain, at its sole cost and expense, any survey of the Property, whether any such survey is desired or required by Buyer, Buyer's lender, the Title Company, or otherwise.

- 7. <u>INSURANCE</u>. Immediately after Closing, Seller shall be relieved of all responsibility and liability for maintaining hazard, flood (if applicable), title, and all other forms of insurance on the Property. From and after Closing, Buyer shall be responsible for obtaining and maintaining any and all insurance with respect to the Property. NOTICE TO BUYER: CONSULT YOUR INSURANCE AGENT PRIOR TO THE CLOSING DATE.
- 8. ASSIGNMENT. The Buyer shall not assign the Contract or this Addendum. Any attempted assignment by Buyer shall be void.
- 9. PROPERTY TAXES. Prorations for real estate taxes affecting the Property shall be made as of the Closing Date and shall be based on the most recent available tax bill or upon the tax assessor's latest valuation and the current tax rate. As of the Closing Date, Buyer shall assume the payment of all assessments and other charges against the Property and Buyer shall indemnify Seller from and against any losses and expenses incurred as a result of Buyer's failure or refusal to pay such assessments and other charges when and as due (such obligations shall be deemed part of "Buyer's Indemnification Obligations"). THE SELLER SHALL NOT BE RESPONSIBLE FOR ANY ADJUSTMENT OF TAXES AFTER CLOSING. THIS PROVISION SHALL SURVIVE CLOSING.
- 10. <u>POSSESSION OF/ENTRY ONTO THE PROPERTY</u>. Possession of the Property shall be delivered to Buyer at Closing. Buyer shall not occupy or enter the Property prior to Closing without the express written consent of Seller, which consent shall not be unreasonably withheld, conditioned or delayed. All visits to and inspections of the Property shall be coordinated with Seller in advance.
- 11. <u>REAL ESTATE FEE / COMMISSON</u>. Any real estate fee or commission described in the Contract, if any, shall be payable at Closing and only if Closing occurs.
- 12. RISK OF LOSS. Risk of loss shall be born by Seller prior to and including the Closing Date and shall shift to Buyer after the Closing Date. If, on or before the Closing Date, the Property is damaged or destroyed by fire or other casualty, provided that such fire or other casualty is not caused by the Buyer, its agents or representatives, then Seller may, at its sole discretion, within ten (10) calendar days following such fire or other casualty, provide Buyer with written notice (the "Seller's Loss Notice") of its election either to (i) repair or restore the Property to substantially the same condition as it existed immediately before such fire or other casualty, in which event Seller shall act with reasonable dispatch to complete, or cause to be completed, such repairs or restoration of the Property in a commercially reasonable and workmanlike manner within ninety (90) days following the date of such fire or other casualty and the Closing Date shall be extended by ninety (90) days following the date of such fire or other casualty: or (ii) terminate the Contract, in which event the Buyer shall be entitled to receive an immediate refund of any Monies actually paid by Buyer, and the parties shall be relieved of all obligations under the Contract, except for Buyer's Indemnification Obligations. In the event the Seller elects to repair or restore the Property, then Buyer shall either: (a) proceed to Closing in accordance with the Contract, as modified by this Addendum, which Closing shall take place as soon as practicable following the completion of such repairs and/or restoration, and Buyer shall receive no credit against or reduction of the Sales Price or (b) terminate the Contract by written notice to Seller within three (3) calendar days following receipt of Seller's Loss Notice, in which event the Buyer shall be entitled to receive an immediate refund of any Monies actually paid by Buyer, and the parties shall be relieved of all obligations under the Contract, except for Buyer's Indemnification Obligations. In any event, if the Property is damaged by fire or other casualty that is caused by the Buyer, its agents or representatives, then, unless Seller elects to terminate the Contract, the Buyer shall be obligated to proceed to Closing in accordance with the Contract, as modified by this Addendum, and Buyer shall receive no reduction of, or credit against, the Sales Price. If the Seller elects to terminate the Contract as provided in the immediately preceding sentence, the Seller shall be entitled to retain the Monies and the parties shall be relieved of all obligations under the Contract, except for Buyer's Indemnification Obligations.
- 13. DEFAULT. Buyer and Seller shall proceed to Closing in accordance with the terms of the Contract, as modified by this Addendum, and each acknowledges that failure or refusal to do so for any reason other than a breach or default by the other party shall constitute a breach hereof and a default under the Contract. If Buyer fails or refuses to proceed to Closing on the Closing Date, as extended, if applicable, or otherwise fails or refuses to comply with the terms, covenants and conditions of the Contract, as modified by this Addendum, for any reason other than a breach or default by Seller, then Seller's sole and exclusive remedy shall be to terminate the Contract and retain any Deposit actually paid by Buyer or due from Buyer pursuant to the Contract and any Extension Fee (collectively, the "Monies"), as liquidated damages pursuant to Section 15 below, in which event the parties shall be relieved of all obligations under the Contract, except for Buyer's Indemnification Obligations. If Seller fails or refuses to proceed to Closing on the Closing Date, as extended, if applicable, or otherwise fails or refuses to comply with the terms, covenants and conditions of the Contract, as modified by this Addendum, for any reason other than a breach or default by Buyer, then Buyer's sole and exclusive remedy shall be to terminate the Contract and receive a refund of Monies actually paid by Buyer, in which event the parties shall be relieved of all obligations under the Contract, except for Buyer's Indemnification Obligations. In all events, Buyer's Indemnification Obligations shall survive termination of the Contract and Seller shall be entitled to all remedies available at law and in equity to enforce and collect Buyer's Indemnification Obligations. Subject to Section 14 below, in the event of any litigation or dispute between Seller and Buyer concerning the release of the Monies, the sole responsibility of the broker, Title Company or escrow agent holding any Monies or other deposits or funds shall be to, at such person's option, (i) pay the Monies into the court in which such litigation is pending, or (ii) pay the Monies into a court of proper jurisdiction by an action of interpleader. Buyer and Seller agree that, upon payment of the Monies into court as set forth herein, neither Buyer nor Seller shall have any further right, claim, demand or action against such party regarding the release of the Monies, except for claims arising out of the gross negligence or willful misconduct of such party. Nothing contained herein or elsewhere in the Contract shall be construed to limit the applicability of Section 14 below.

| SELLERS INITIALS | BUYERS INITIAL'S | BUYERS INITIAL'S |
|------------------|------------------|------------------|
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- 14. ARBITRATION CLAUSE. Any controversy or claim arising out of or relating to the Contract shall be settled by arbitration administered by the American Arbitration Association in accordance with its Commercial Arbitration Rules. Judgment on the award rendered by the Arbitrator(s) may be entered in any Court having jurisdiction. The place of arbitration shall be a location acceptable to each of the parties. If Buyer and Seller cannot determine a mutually acceptable locale, the locale will be determined in accordance with the Commercial Arbitration Rules. The parties may, without waiving any remedy under the Contract, as modified by this Addendum, seek from any court having jurisdiction any interim or provisional relief that is necessary to protect their rights or property, pending the arbitral tribunal's determination of the merits of the controversy. Each party shall bear its own costs and expenses and an equal share of the arbitral tribunal fees and administrative fees. The award shall be in writing, shall be signed by a majority of the arbitrators in the tribunal, and shall include a statement regarding the reasons for the disposition of any claim. Except as may be required by law, neither a party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of all parties.
- 15. LIQUIDATED DAMAGES PROVISION. Upon termination of the Contract by Seller in accordance with Section 13 hereof, Seller shall notify in writing the title company, escrow agent or broker holding any Monies of such termination and upon receipt of such notice, the person holding the Monies shall, without any further instruction by or notice to any party, deliver the Monies to Seller. The parties agree in the event of the default or breach by Buyer, that Seller's actual damages would be difficult or impossible to determine. Therefore, the parties agree that the Monies represent the best estimate of Seller's actual damages.
- 16. LIMITATION OF DAMAGES. BUYER AGREES THAT ITS SOLE AND EXCLUSIVE REMEDY IN THE EVENT OF ANY SELLER DEFAULT IS TO TERMINATE THE CONTRACT AND RECEIVE A REFUND OF ANY MONIES ACTUALLY PAID BY BUYER, IN WHICH EVENT THE PARTIES SHALL BE RELIEVED OF ALL OBLIGATIONS UNDER THE CONTRACT, EXCEPT FOR BUYER'S INDEMNIFICATION **OBLIGATIONS.**
- 17. INVALID PROVISION/SEVERABILITY. If any provision of the Contract, as modified by this Addendum, is held to be illegal, invalid or unenforceable, such provision shall be fully severable, and the Contract, as modified by this Addendum, shall be construed and enforced as if such illegal, invalid or unenforceable provision had never comprised a part of thereof. All other provisions of the Contract, as modified by this Addendum, shall remain in full force and effect and shall not be affected by such illegal, invalid or unenforceable provision or by its severance.
- 18. BUSINESS DAYS. The term "Business Day" shall mean any day other than a Saturday, Sunday or holiday on which national banking associations in the state where the Property is located are authorized or required to be closed. If any action is required under the provisions of the Contract, as modified by this Addendum, to occur by or on a date that is not a Business Day, such date shall be extended to the first Business Day thereafter.
- 19. CONSULT YOUR ATTORNEY. This is a legally binding contract. READ IT CAREFULLY. If you do not understand the effect of this contract, consult your attorney BEFORE signing. BY SIGNING THIS ADDENDUM, BUYER ACKNOWLEDGES THAT IT UNDERSTANDS ALL TERMS, PROVISIONS, AND WAIVERS CONTAINED HEREIN, THAT IT HAS VOLUNTARILY AND KNOWINGLY CONSENTED TO SUCH TERMS, PROVISIONS AND WAIVERS, AND AGREES TO BE BOUND THEREBY.
- 20. SURVIVAL. Unless specifically stated herein to the contrary, no portion of the Contract shall merge into the Deed, and no provision shall survive Closing or termination of the Contract. In all events, the Buyer Release (as defined below) and Buyer's Indemnification Obligations shall survive Closing and/or termination of the Contract, as applicable.
- 21. TERMINATION. Any termination of the Contract shall also include termination of this Addendum.
- 22. <u>RELEASE</u>. Except to the extent expressly prohibited by applicable law, Buyer, for itself, its agents, representatives, inspectors, licensees, invitees, guests, successors and assigns (collectively, the "Buyer Parties"), hereby unconditionally and without limitation, forever releases and discharges Seller, its agents, sub-agents, employees, representatives, successors and assigns, and any officer or partner of any one of them and any other person, firm or corporation who may be liable by or through them (collectively, the "Seller Parties"), from, and forever waives its right to assert against any of the Seller Parties, any and all claims, losses or demands, including, but not limited to, claims, losses and/or demands for damages, personal injuries and/or property damage sustained by any of the Buyer Parties upon the Property, and all lead-based paint hazards, environmental hazards, defects in the sewage disposal and/or water service systems, or any other defects or conditions on the Property (the "Buyer Release"). The Buyer Release shall survive Closing and/or termination of the Contract, as applicable.
- 23. INTEREST ON DEPOSIT AND OTHER MONIES. The Buyer acknowledges and understands that in no event shall Buyer be entitled to interest accrued on the Deposit or any Extension Fee.
- 24. NOTICES. Any notice required or permitted under the Contract, as modified by this Addendum, shall be in writing and shall be effective (i) when delivered personally, or (ii) the next Business Day after being sent by a nationally recognized overnight express mail carrier (Federal Express, U.S. Post Office Express Mail, DHL UPS, etc.), or (iii) the same day sent by facsimile to a party provided a written facsimile confirmation confirms delivery of the facsimile and a copy is also mailed by regular U.S. mail postage prepaid, addressed as set forth below or to such other address as may be given by any party to the other party by notice in writing.

| SELLERS INITIALS | BUYERS INITIAL'S | BUYERS INITIAL'S |
|------------------|------------------|------------------|
|                  | F                | Page 8           |

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| If to Buyer:   |  |  |                     |
|--|--|--|---------------------|
|  | Attention:Facsimile:   | _  |                     |
| If to Seller:  | SunTrust Mortgage, Inc.  |  |                     |
|  | Attention: Facsimile:  | _  |                     |
| agent, whether by e-mail, fac-<br>deemed effective upon delive<br>If no address for Seller is writ<br>personally, or (ii) five (5) Busi  | esimile, regular mail, hand delivery, or otherwise. If leary by any of the above methods to the last known a ten in the blanks above, then notices to the Seller siness Days after being sent by a nationally recognize.   | shall be deemed effective upon delivery to Buyer's real estate Buyer has no real estate agent, then notices to the Buyer shall address of Buyer. shall be deemed effective (i) five (5) Business Days after delive zed overnight express mail carrier (Federal Express, U.S. Post Semmes Avenue, MTG 1001, Richmond, Virginia 23224,   | ered                |
| signed by a duly authorized o  | officer of Seller, on behalf of Seller. Buyer understand purporting to act on behalf of Seller shall not be bir  | tract shall be effective or binding against Seller unless and unti<br>ands that any writing or other document signed by any real esta<br>inding upon Seller unless and until actually signed by duly   |                     |
| until all of the following condit<br>and insurable fee simple title<br>has received any and all requ<br>modified by this Addendum (of<br>the Closing Date, as exten-<br>shall be entitled to receive a r | tions precedent have been satisfied as of the Closin to the Property, whether through foreclosure, deed uisite approval and/or consent from applicable third collectively, the "Conditions Precedent"). In the evoled, if applicable, Seller shall be entitled to, at its direfund of any Monies actually paid by Buyer, and the | eller shall be under no obligation to proceed to Closing unless and Date, as extended, if applicable: (i) Seller has obtained good in lieu of foreclosure, re-purchase, or otherwise; and (ii) Seller I parties to sell the Property in accordance with the Contract, as vent either of the Conditions Precedent has not been satisfied a discretion, either: (a) terminate the Contract, in which event Buy he parties shall be relieved of all obligations under the Contract is described in this Addendum and attempt to satisfy the | d<br>s<br>is<br>ver |
| neither they nor their agents scontained. NO ORAL STATE PART OF THE CONTRACT. executors, administrators, per   | shall be bound by any terms, conditions, statements EMENT, REPRESENTATION, PROMISE OR INDU-<br>The parties mutually agree that the Contract, as mersonal representatives, successors and assigns, as pocated. It is further agreed that this Addendum and  | ains the final and entire agreement between the parties, and ts, warranties or representations, oral or written, not herein JCEMENT SHALL HAVE ANY VALIDITY NOR SHALL BE A nodified by this Addendum, is binding upon them, their heirs, interpreted and construed in accordance with the laws of the I the Contract may be executed in counterparts, each of which  |                     |
| 28) OTHER PROVISIONS.  |  |  |                     |
|  |  |  |                     |
|  |  |  |                     |

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# SunTrust Mortgage Addendum to Contract for Sale (signature page)

| SELLER:   |      | BUYER   | :                     |        |
|---|------|---------|-----------------------|--------|
| SunTrust Mortgage Inc., its subsidiaries, successors and assi | gns. |         |                       |        |
| By:<br>Name:<br>Title:  |      |         | (signature)           | (SEAL) |
| Title:  |      |         | (printed name)        |        |
| DATE:   |      | DATE: _ |                       |        |
|   |      |         |                       | (SEAL) |
|   |      |         | (signature)           |        |
|   |      |         | (printed name)        |        |
|   |      | DATE: _ |                       |        |
|   |      |         | (signature)           | (SEAL) |
|   |      |         | · -                   |        |
|   |      | DATE: _ |                       |        |
|   |      |         |                       |        |
|   |      |         |                       |        |
| LISTING REALTOR:  |      |         | CO-OPERATING REALTOR: |        |
| DATE:   |      | DATE: _ |                       |        |
|   |      |         |                       |        |
|   |      |         |                       |        |
|   |      |         | •                     |        |
|   |      |         |                       |        |
|   |      |         | •                     |        |
|   |      |         | •                     |        |
|   |      |         | •                     |        |
|   |      |         | •                     |        |
|   |      |         |                       |        |
|   |      |         | •                     |        |
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|   |      |         | ·                     |        |

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SELLERS INITIALS

paint hazards.

BUYERS INITIAL'S \_



# **EXHIBIT A TO ADDENDUM TO CONTRACT FOR SALE**

|   |  | LATENT DEFECTS IN THE PROPERTY KNOWN TO SELLER   |  |  |  |  |
|---|--|--|--|--|--|--|
|   | 1.   |  |  |  |  |  |
|   | 2  |  |  |  |  |  |
|   |  |  |  |  |  |  |
|   |  |  |  |  |  |  |
|   |  | EXHIBIT B TO ADDENDUM TO CONTRACT FOR SALE   |  |  |  |  |
|   | DISC   | LOSURE OF INFORMATION ON LEAD-BASED PAINT AND LEAD-BASED PAINT HAZARDS   |  |  |  |  |
|   |  | (see attached)   |  |  |  |  |
|   |  | (See attached)   |  |  |  |  |
| THIS Dis  | sclosure of Ir   | nformation on Lead-Based Paint and Lead-Based Paint Hazards is attached on a separate sheet of paper to the Contract For Sale, between the undersigned Seller, and Buyer(s).   |  |  |  |  |
|   |  | LEAD WARNING STATEMENT   |  |  |  |  |
| present exposu<br>children may pri<br>impaired memo<br>to provide the b | ire to lead fro<br>roduce perm<br>ory. Lead poi<br>buyer with ar | prest in residential real property on which a residential dwelling was built before 1978 is notified that such property may be provided by the control of th |  |  |  |  |
|   |  | SELLER'S DISCLOSURE  |  |  |  |  |
| 1.  | Presen   | ce of lead based paint and/or lead-based paint hazards (check item a or b below):  |  |  |  |  |
| If che  | a. ecked, the fo   | Known lead-based paint and/or lead-based paint hazards are present in the housing. llowing explanation is provided:  |  |  |  |  |
|   | nal knowledg   | Seller has no knowledge of lead-based paint and/or lead based paint hazards in the housing. Seller is a lender which has gh foreclosure, deed in lieu of foreclosure, or similar proceeding, has not lived in the property, does not have the ge to make an accurate disclosure about the property, and makes no representations, guarantees, or warranties condition.   |  |  |  |  |
| 2.  | Record   | s and reports available to Seller (check item a or b below):   |  |  |  |  |
|   | a. <sub>-</sub>  | Seller has provided Buyer with all available records and reports pertaining to lead-based paint and/or lead-based paint necked, the following documents were provided:   |  |  |  |  |
|   |  |  |  |  |  |  |
|   | b. <u>.</u>  | Seller has no reports or records pertaining to lead-based paint and/or lead-based paint hazards in the housing.  BUYER'S ACKNOWLEDGMENT  |  |  |  |  |
| BY BUYER'S E  | EXECUTION  | BELOW, BUYER ACKNOWLEDGES THAT:  |  |  |  |  |
| 1.  |  |  |  |  |  |  |
| 2.  | Buyer h  | nas received the pamphlet Protect Your Family from Lead in Your Home.  |  |  |  |  |
| 3.  | Buyer h  | nas either:  |  |  |  |  |
|   |  | received a 10-day opportunity (or mutually agreed-upon period) to conduct a risk assessment or inspection for the presence of lead-based paint and/or lead-based paint hazards; or   |  |  |  |  |

waived the opportunity to conduct a risk assessment or inspection for the presence of lead-based paint and/or lead-based

BUYERS INITIAL'S \_

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### **AGENT'S ACKNOWLEDGMENT**

# BY AGENT'S EXECUTION BELOW, AGENT ACKNOWLEDGES THAT:

Agent has informed Seller of Seller's obligations under 42 U.S.C. §4852d and is aware of his or her responsibility to ensure compliance.

# **CERTIFICATION OF ACCURACY**

The following parties have reviewed the information above and certify, to the best of their knowledge, that the information they have provided is true and accurate. Each of the following parties has duly executed and delivered this attachment before the execution and delivery of the above-referenced contract of even date herewith.

| SELLER:   |        | BUYER:  | :           |                |        |
|---|--------|---------|-------------|----------------|--------|
| SunTrust Mortgage Inc., its subsidiaries, successors and as | ssigns |         |             |                |        |
| By:Name:  |        |         | (signature) |                |        |
| Title:  |        |         |             | (printed name) |        |
| DATE:   |        | DATE: _ |             |                | -      |
|   |        |         | BUYER:      |                |        |
|   |        |         |             | (signature)    | (SEAL) |
|   |        |         |             | (printed name) |        |
|   |        |         | DATE:       |                |        |
|   |        |         |             |                | (SEAL) |
|   |        |         |             | (signature)    |        |
|   |        |         |             | (printed name) |        |
|   |        |         | DATE:       |                |        |
|   |        |         |             |                |        |
| AGENT:  |        | AGENT:  |             |                |        |
| DATE:   |        | DATE: _ |             |                | -      |

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# **EXHIBIT C TO ADDENDUM TO CONTRACT FOR SALE**

### HOMEBUYER'S GUIDE TO COMMON ENVIRONMENTAL HAZARDS

(see attached)

# HOMEBUYER'S GUIDE TO COMMON ENVIRONMENTAL HAZARDS

This Guide is a general overview of common environmental hazards that may be found in any residential properties being sold. It is intended to help educate prospective buyers on the potential environmental hazards associated with residential property. This publication is not intended to be inclusive of all environmental hazards and is not intended to be a substitute for pre-sale property inspections. This Guide is not a statement of the law. If a prospective buyer requires legal or other expert/professional assistance, the buyer should obtain the services of such an expert or professional.

# **ASBESTOS**

### What is Asbestos?

Asbestos is a generic term, which describes a group of diverse, naturally occurring, fibrous minerals. These minerals occur as bundles of strong, flexible fibers that are chemically inert, do not burn, and have good insulating properties.

### Where is asbestos found in the home?

Asbestos has been used in many products found in the home to provide insulation, strength, and fire protection. In 1989, the U.S. Environmental Protection Agency (U.S. EPA) announced a phased ban of asbestos products to be completed by 1996. The most common items in the home that may contain asbestos are:

- vinyl flooring;
- duct wrapping on heating and air conditioning systems;
- insulation on hot water pipes and boilers, especially in homes built from 1920 to 1972;
- some roofing, shingles, and siding;
- ceiling and wall insulation in some homes built or remodeled between 1945 and 1978; and
- in sheetrock taping compounds and some ceiling materials.

Asbestos that has been sprayed on ceilings often has a spongy, "cottage cheese" appearance with irregular soft surfaces. Asbestos troweled on walls has a textured, firm appearance. The manufacturers can provide information on the asbestos content of home products. A Certified Asbestos Consultant can be hired to determine whether or not asbestos is present and to give advice about how to take care of it safely.

### How is asbestos harmful?

Intact or sealed (painted or taped over) asbestos is not harmful unless it becomes friable.

Friable means the material can be easily crushed or pulverized to a powder by hand pressure. Friable materials have a higher potential to release fibers. Asbestos fibers that are released into the air and inhaled can accumulate in the lungs and pose a health risk. This risk can be divided into two general categories: 1) risk of asbestosis; and 2) increased risk of cancer. Most persons diagnosed with asbestosis have been exposed to asbestos in the work place. Therefore, this booklet focuses on the increased risk of cancer associated with asbestos exposure.

The U.S. EPA classifies asbestos as a known human carcinogen. If asbestos fibers are inhaled, the likelihood of contracting lung cancer or mesothelioma (cancer of the lining of the chest or abdomen) increases. As more asbestos is inhaled, the risk of developing cancer further increases. Smokers who are exposed to high levels of asbestos have a much greater risk of developing lung cancer than nonsmokers exposed to the same level. Symptoms of cancer may not develop until 10-40 years after the first exposure.

# Is there a safe level of asbestos?

In theory, inhalation of one fiber of asbestos can increase the risk of developing cancer. However, from a practical standpoint this statement is misleading since breathing ambient air in an urban area results in the inhalation of about 20,000 asbestos fibers per day. As a result of this exposure to asbestos in ambient air for a lifetime, it is estimated that 3-30 cases of lung cancer and 4-24 cases of mesothelioma will occur for every one million Americans. Those cancer cases are in addition to the numerous lung cancer cases due to other causes, particularly smoking. Obviously, inhalation of additional asbestos fibers increases the risk of developing lung cancer and unnecessary exposure should be avoided.

# How can asbestos content in materials be determined?

When asbestos is suspected to be present in building materials, it is important to have the materials tested by a qualified laboratory.

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Visual inspection alone is not enough to identify the presence of asbestos. However, such testing may not be warranted if the material is in good condition, in which case it is best to leave it in place. If the material is damaged, or will be disturbed during normal household activities or remodeling, it should be tested.

### How should asbestos be repaired or removed?

Repair or removal of asbestos by the homeowner may be unwise if the damage is severe, since it may result in unnecessary exposure to airborne fibers. However, small repairs of pipe or duct insulation can be made with paint or duct tape. Other materials, such as sprayed-on acoustical ceilings are not easily repaired by the homeowner. In cases where planned remodeling projects are expected to damage asbestos-containing materials, it is wise to hire a qualified contractor to remove the material. The homeowner should use the following guidelines in choosing a qualified contractor:

- Check to see if the contractor is licensed for doing asbestos work.
- Be aware that some contractors may remove material incorrectly and still charge a substantial fee.
- Require references from the contractor and check them to see if the contractor's work is satisfactory.
- Require the contractor to specify his safety procedures in writing.

The homeowner may expect to pay three times as much for the removal than if asbestos was not present. For a small job, the cost may be more than three times the normal cost, since it is expensive for a contractor to set up all the necessary safety equipment. Consider hiring a certified asbestos consultant to review safety procedures and oversee the performance of the contractor.

### Does the law require mitigation?

Asbestos mitigation is at the discretion of the homeowner. Even if the material contains asbestos, the homeowner may choose to leave it alone or, if necessary, repair it.

# **Hotlines:**

\* For information concerning the identification and abatement of asbestos hazards in the home, and on the asbestos content of certain consumer products, call the EPA Asbestos Hotline at: (800) 368-5888

# **Publications:**

\* Asbestos in the Home
This publication is available at no cost from:

American Lung Association Environmental Health Department 909 12th Street Sacramento, CA 96814 (800) LUNG-USA [(800) 586-4872]

\* The Inside Story -- A Guide to Indoor Air Quality This publication is available at no cost from:

Indoor Air Quality Information Clearinghouse P.O. Box 37133
Washington, D.C. 20013-7133
Telephone: (800) 438-4318
Web: <a href="https://www.epa.gov/iag/ia\_faqs/">www.epa.gov/iag/ia\_faqs/</a>

# **FORMALDEHYDE**

### What is formaldehyde?

Formaldehyde is a colorless, pungent gas that is soluble in water and most organic solvents. It is used as a raw material in the manufacture of paints, plastics, resins, photographic materials, and in building materials such as fiberboard and some foam insulation. Formaldehyde is found in the outdoor air at an average concentration of approximately 2.9 ppb.

# What are the sources of formaldehyde found in residential properties?

Formaldehyde is emitted from products in which formaldehyde has been used in their manufacture. These include composite wood products,

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urea-formaldehyde foam used in insulation, and curtain and upholstery textiles treated with formaldehyde resins for wrinkle resistance. Formaldehyde may also be emitted from gas stoves and kerosene heaters. Composite wood products are probably the most significant source of formaldehyde in the home.

# What are composite wood products?

Plywood, particleboard, and oriented strandboard are Composite wood products that are bound together with formaldehyde-containing resins. The two most commonly used resins are urea-formaldehyde and phenol-formaldehyde. Composite wood products used within the home include:

- particleboard, used for sub-flooring, shelving, and in furniture;
- hardwood and plywood paneling, used in furniture and as a wall coveting;
- medium density fiberboard, used as cabinet doors, table tops, furniture, and shelving; and, oriented strand-board and softwood plywood, for exterior use and sub-flooring; both are manufactured using phenol-formaldehyde resins.

### Why is formaldehyde emitted from these products?

In the production of the resins, not all formaldehyde is bound as urea-formaldehyde or phenol-formaldehyde. Unbound or free formaldehyde can be released later as a gas from composite wood products. Formaldehyde emissions are highest from new products and decrease as the product ages. Emissions ordinarily decrease to undetectable levels over time. If properly manufactured, composite wood products that incorporate phenol-formaldehyde resins do not release significant amounts of formaldehyde. Urea-formaldehyde resins have higher emission rates than phenol-formaldehyde resins.

# How is formaldehyde harmful?

The Office of Environmental Health Hazard Assessment has concluded that exposures to formaldehyde can cause cancer in humans. Exposure to airborne formaldehyde may also cause non-cancer symptoms, such as irritation to the eyes, skin and respiratory tract, coughing, sore or burning throat, nausea and headaches. Reducing exposures to formaldehyde will reduce these health risks.

# How can formaldehyde be detected and measured?

Levels of formaldehyde can be measured by chemical analysis of air samples. In general, ambient air monitoring of formaldehyde is done on a 24-hour basis using standard analytical techniques and methods established by federal and state agencies. A useful indicator of the presence of indoor formaldehyde is knowledge of the formaldehyde content of products. This information can be obtained from the manufacturer.

# Is there a safe level of formaldehyde?

Most people experience eye and throat irritation when exposed to formaldehyde at levels above 0.1 ppm. Because people differ in their sensitivity to toxic effects, it is difficult to precisely define a concentration of formaldehyde that would be harmless to all people under all circumstances. Levels in the outside air may be considered as the safest and lowest levels that can practicably be achieved in the home. There are no safe levels for carcinogenic effects. The Office of Environmental Health Hazard Assessment has established an acute (94 ug/m3) and chronic (3 ug/m3) level to address the levels at which one might experience adverse non-cancer health effects.

# What can be done to reduce indoor formaldehyde levels?

Immediate measures include opening windows to increase ventilation and reducing the number of new composite wood products in a home. Where possible, replace composite wood products with products made from solid wood or non-wood materials. Formaldehyde emissions increase with increasing humidity and temperature. Therefore, reducing the temperature and humidity in the home will reduce formaldehyde levels. Where the source of formaldehyde is wood paneling or sub-flooring, these measures may not be adequate. In this case, removal of paneling and sub-flooring may be necessary. Local trade organizations and builder's associations may be helpful in finding a contractor to do this work.

# **Publications:**

\* The Inside Story -- A Guide to Indoor Air Quality \*An Update on Formaldehyde These publications are available at no cost from:

Indoor Air Quality Information Clearinghouse P. O. Box 37133 Washington, D.C. 20013-7133 Telephone: (800) 438-4318

Web: <a href="https://www.epa.gov/iaq/ia\_faqs/">www.epa.gov/iaq/ia\_faqs/</a>
\* Formaldehyde in the Home-Indoor Air Quality Guideline #1 and Supplement-www.arb.ca.gov/research/indoor/formald.htm

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### **HAZARDOUS WASTES**

### What are hazardous wastes?

Hazardous waste means a waste that has the potential to harm human health or the environment. The characteristics that make a waste hazardous are that it may be toxic, corrosive, ignitable, or reactive. Many different industries such as oil and gas, petrochemical, electronics, and smaller businesses such as dry cleaners and print shops generate hazardous waste.

Following the generation of hazardous waste, most of it is treated where it was generated. The remainder is shipped to off-site facilities for treatment or storage. Disposal must be in a special type of landfill designed only for hazardous waste. Hazardous waste that is not properly managed may escape into the environment and contaminate soil or ground or surface water, or pollute the air. These hazardous waste releases can occur through leaking underground storage tanks, poorly contained landfills or ponds, hazardous waste spills, or illegal dumping directly on land.

### How can the prospective homeowner determine whether a home is affected by a hazardous waste site?

State law requires certain written disclosures to be made to prospective buyers of residential property. Under many state laws, a seller is required to disclose whether he or she is aware that the property has any environmental hazards such as asbestos, formaldehyde, radon, lead-based paint, fuel or chemical storage tanks, and/or contaminated soil or water.

In addition to the information contained in this booklet, a homeowner or prospective homeowner may hire a registered environmental assessor to further investigate a known environmental hazard at a property.

#### Hotlines:

\* For information on the federal Superfund program and the National Priorities List (NPL), contact the US EPA RCRA, Superfund, EPCRA hotline at: (800) 424-9346

### **Publications:**

\* Ensuring Safe Drinking Water (600M91012) This publication is available at no cost from:

U.S. Environmental Protection Agency Public Information Center 401 M Street, SW Washington, D.C. 20468 Telephone: (800) 490-9198

\* Is Your Drinking Water Safe? (PB94-203387)
This publication is available for \$19.50 plus \$4 shipping from:

National Technical Information Service 5285 Port Royal Road Springfield, VA 22161 Telephone: (800) 553-6847

Web: www.ntis.go

### **HOUSEHOLD HAZARDOUS WASTE**

# What is household hazardous waste?

Although generation of hazardous wastes is associated with industrial processes, each year residential properties are responsible for discarding tons of hazardous waste in trashcans or down drains. To determine whether a product is hazardous, the following factors may be considered.

- Is it poisonous when ingested, touched, or inhaled?
- Does ignite easily?
- Is it corrosive?
- Could it explode if it is improperly stored, spilled, or mixed with other products?

If the answer is "yes" to any question, then the product is hazardous. Generally, information about a product's hazardous properties can be found on the container label. The words "caustic", "flammable", "toxic", and "ignitable" indicate that the product is hazardous. Some products are

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hazardous in more than one-way: For example, bleach is poisonous, and when mixed with ammonia-based cleaners releases hydrazine, a poisonous gas. Other examples of household products that are hazardous are listed below. In many cases, non-hazardous materials can be used instead.

Examples of household hazardous products are:

- cleaning products: ammonia, drain cleaners, rug cleaners, oven cleaners, metal polishes, and bleaches;
- garden supplies: weed and insect killers, rat poison, fertilizer, charcoal lighters, kerosene, and gasoline;
- automotive supplies: antifreeze, motor oil, gasoline, batteries and brake fluid, and
- paint supplies: paint, varnish, paint removers, glues, and waxes.

### How should hazardous household products be stored?

Safe storage of hazardous products requires a cool, dry and secure location. Places to store hazardous products include locked cupboards, locked drawers, or a high shelf out of the reach of children and pets. To prevent spillage during an earthquake, shelves should be firmly secured to the wall and have a restraining bar along the side. The following guidelines will help in the proper storage of household hazardous products.

- Sort the products into hazardous waste categories (i.e., poisonous, flammable, corrosive, and reactive) and store them as separate categories. For example, flammable products such as charcoal lighter and waste oil should be stored apart from corrosive products such as drain cleaner and acid batteries. It is important to store reactive products in separate locations.
- Thus, bleach and ammonia-based cleaners should be stored in separate cupboards so that, if a spill does occur, mixing and release of poisonous gas is avoided.
- Poisonous products should always be stored apart from other products.
- Where possible, products should be stored in the original container. Household hazardous products should not be transferred to a previously used container, in order to avoid reaction with incompatible products.
- Labels should be legible and securely affixed to the container.
- Containers should be tightly sealed and regularly inspected for deterioration. Where rust or leaking is observed, the deteriorating container should be placed inside a larger container and clearly labeled.

# What is the best way to dispose of household hazardous waste?

The best way to dispose of household hazardous wastes is to sort them into categories according to their hazardous properties and take them to the community household hazardous waste collection center. Unused supplies of hazardous products should not be disposed of by pouting them down the drain. In most states, it is illegal to dispose of used oil and paints by pouting them down the drain, including the storm drain, onto land, or by burning. Waste motor oil, oil filters, antifreeze and used batteries can be recycled and should be taken to a recycling center.

### **Publications:**

\* Household Products Management Wheel This publication is available at a cost of \$4.95 from:

Environmental Hazards Management Institute 10 New Market Road P. O. Box 932 Durham, NH 03824 Telephone: (603) 868-1496

### **LEAD**

# How is lead harmful?

Lead is a common environmental toxin that was used extensively in consumer products such as paint and gasoline. Much of that lead remains in residential environments where people may become exposed. Children are commonly exposed to lead through normal hand-to-mouth behavior, which occurs as they explore their environment. When children crawl or play on the floor, put toys in their mouths, or suck on their fingers, they may ingest lead dust. This kind of daily, frequent exposure can result in lead poisoning. Some children eat paint chips, which can cause severe poisoning with irreversible health effects, including brain damage, mental retardation, convulsions, and even death. As lead poisoning can go undetected, it may result in behavior problems, reduced intelligence, anemia, and serious liver or kidney damage. Children under the age of six are particularly susceptible to lead poisoning.

Lead is also harmful to adults. Lead poisoning can cause reproductive problems (in both men and women), high blood pressure, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain. Adult lead poisoning is most often the result of occupational exposure, or exposure following unsafe home renovation.

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### Where is lead found in the home?

Many houses and apartments built before 1978 have paint that contains lead. In 1978, the Consumer Product Safety Commission banned paint containing high levels of lead for residential use. If a home or apartment was built before 1978, you should assume it has lead paint.

**Lead-based paint** that is peeling, chipping, chalking, or cracking is a hazard and needs immediate attention. Lead-based paint may also pose a hazard on surfaces children can chew, or in areas with heavy wear. These areas include windows, windowsills, doors and doorframes, stairs, railings, banisters, porches, and fences. When painted surfaces bump or rub together they generate lead dust. Likewise, dry-scraping, sanding, or heating lead paint during repainting or remodeling also creates huge amounts of poisonous lead dust. This lead dust can poison your family.

**Soil** can become contaminated with lead from deteriorating exterior paint, and from leaded gasoline emissions. Lead in soil can be a hazard to children who play in bare soil. It can also contaminate the home when people bring soil into the house on their shoes.

Other Sources: Lead can be found in jobs such as battery repair or recycling, radiator repair, palming or remodeling, lead smelting, etc. Lead from the workplace poses a hazard for workers' families. Workers can bring lead into their homes on their work clothes, shoes, and bodies without knowing it. Some hobbies use lead. These include ceramics, stained glass, fishing weights, and bullet casting or firing. Lead can leech into food cooked, stored, or served in certain imported dishes or handmade pottery. Lead can be present in drinking water of older homes that have plumbing with lead or lead solder.

### How can I check a home for lead hazards?

To inspect a home for lead hazards, hire an individual or contractor who has been certified by the relevant state agency. A certified inspector/assessor can determine the lead content of every painted surface in a home and identify any sources of serious lead exposure (such as peeling paint and lead dust). The assessment should outline the actions to take to address these hazards.

A certified inspector/assessor may use a variety of methods to assess lead hazards in a home. These include visual inspection of paint condition; laboratory tests of paint samples, surface dust tests, and/or a portable x-ray lead testing (fluorescence) machine.

You may have seen home lead test kits in your local hardware store. Recent studies suggest, however, that they are not always accurate. To protect your family's safety, do not rely on these kits. They are not always dependable.

# How can I reduce lead hazards safely?

If a house has lead hazards, you can take action to reduce your family's risk. First and foremost, if you have young children, be sure they are tested for lead. This is particularly important if a home has recently been renovated or remodeled.

Second, a home should be kept as clean and dust-free as possible. Clean floors, window frames, windowsills and other surfaces weekly. Use a mop and regular detergent. Use paper towels to clean windows and window wells.

Wash children's hands often, especially before meals and bedtime. Keep play areas clean. Wash bottles, pacifiers, toys, and stuffed animals regularly. Feed your children nutritious meals with foods high in iron and calcium. Give children regular meals and snacks. Children with full stomachs and nutritious diets tend to absorb less lead.

# How can I significantly reduce lead hazards?

In addition to dust control and good nutrition, you can temporarily reduce lead hazards by repairing damaged painted surfaces and planting grass to cover soil with high lead levels. These actions are not permanent solutions and need ongoing attention.

To **permanently** remove lead hazards, you should hire a lead "abatement" contractor. Abatement methods include removing, sealing or enclosing lead-based paint with special materials. Simply painting over lead-based paint with regular paint is not enough. Hire a certified individual or contractor. They have the proper equipment to clean up thoroughly. They will employ trained and certified workers. They will also follow strict safety roles set by the State and federal government. These safety measures will protect you and your family from lead hazards.

### What are my responsibilities if I am selling, renting, or remodeling a home built before 1978?

In general, if you are planning to buy, rent, or renovate a home built before 1978, federal law requires sellers, landlords, and re-modelers to disclose certain information prior to finalizing contracts.

### Landlords must:

- 1) Disclose known information on lead-based paint hazards; and,
- 2) Give you a lead hazard pamphlet before leases take effect. Leases will also include a federal form about lead-based paint.

### Sellers must:

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- 1) Disclose known information on lead-based paint hazards; and,
- 2) Give you a lead hazard pamphlet before selling a house. Sales contracts will also include a federal form about lead-based paint. Buyers will have up to 10 days to cheek for lead hazards.

### Renovators must:

Give you a lead hazard pamphlet before starting to work.

# What precautions should I take when remodeling a home?

Before you begin any remodeling or renovations that will disturb painted surfaces (such as scraping or sanding paint, or tearing out walls) test the area for lead-based paint first. To fully protect your family from unsafe renovation hazards, hire a certified individual or contractor.

Never use a dry scraper, belt-sander, propane torch, or heat gun to remove lead-based paint. These actions create large amounts of poisonous lead dust and fumes. This lead dust can remain in a home long after the work is done, and can make your family very sick. It is important to move your family (especially children and pregnant women) out of a home until the work is completed, and the area has been properly cleaned.

#### What is the source of lead in water?

The source of lead in water is most likely to be lead in water pipes, lead solder used on copper pipes, and some brass plumbing fixtures. Lead pipes are generally found only in homes built before 1930. The use of lead-based solder in plumbing applications in homes and buildings was banned in 1988. However, many homes built prior to 1988 may contain plumbing systems that use lead solder. The levels of lead in water from these homes are likely to be highest during the first five-years after construction. After five years there can be sufficient mineral deposit, except where the water is soft, to form a coating inside the pipe; this coating prevents the lead from dissolving.

### How can lead levels in water be determined?

If lead contamination in drinking water is suspected, samples of water may be submitted to a certified laboratory. Consult with the laboratory on the proper procedures for sample taking.

Information on the corrosivity of household water, which may result in lead being leached from household plumbing, may be obtained from the water utility serving your area.

# What level of lead is considered safe in drinking water?

Historically, the standard for lead in drinking water was based on the level of lead in the source water being used by the water utility. This standard was 50 parts per billion. It was very rare for this level to be exceeded ha source water since lead is only infrequently a contaminant in nature. A much more common source of lead in drinking water is the result of the lead being leached from household plumbing. Based on this fact, the U.S. EPA promulgated the federal Lead and Copper Rule that became effective on January 1, 1992. Unlike any other federal drinking water standard, this rule applies to the quality of water as it comes from the household tap rather than the quality of the water at the source. Public water systems are to take corrective action to control corrosion when it results in increases in lead (or copper) in the tap water due to the lead being leached from the household plumbing. The water system is to take such action when the concentration of lead in a first draw tap sample (collected after the water has stood unused for at least 6 hours) exceeds 15 parts per billion in a specified percentage of the homes designated as being most susceptible to corrosion of lead from household plumbing.

# How can levels of lead in water be reduced?

Lead levels can be reduced by removing lead piping or lead solder, by installing a home treatment system, or regularly flushing each tap before consuming the water. Another alternative for homeowners is to purchase bottled water. Home treatment methods that are effective ha removing some or all lead ha water include distillation and reverse osmosis. The cost for a home treatment system varies depending on the type of system and whether the system is designed for a single tap or the entire house.

Where there are elevated lead levels in water, homeowners who choose not to install a treatment system or use bottled drinking water should flush each tap before the water is consumed. Water which has been standing in the water pipes for more than six hours should be flushed from the tap until the temperature changes and then about fifteen seconds more. Because lead is more soluble in hot water, the homeowner should not drink or prepare food using hot water from the tap. The flushed water should be saved and used for non-consumptive purposes such as washing clothes or watering plants.

# How can I protect my family from lead poisoning?

The most important step you can take to protect your children is to have them tested for lead poisoning.

A simple blood test can measure levels of lead in the blood. All children age 5 and under should be tested. Family members who might have high levels of lead should also be tested.

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Your doctor or health center can conduct this test. The test is covered by health insurance plans. Children from families with modest incomes can be tested at no cost through CHDP--the Child Health and Disability Prevention Program. The test is part of well-child checkups.

Poisoning is the result of contact with lead. The "treatment" begins with identifying the source of lead, and then removing or isolating it. Medical management depends on many factors, including the severity, and duration of exposure. Adults and children with lead poisoning need regular testing to monitor levels of lead in the body.

### **Hotlines:**

- \* For more information on lead in drinking water and federal regulations about lead in drinking water, contact the U.S. EPA Safe Drinking Water Hotline in Washington, D.C. at: (800) 426-4791
- \* For information on how to protect children from lead poisoning contact The National Lead Information Center at: (800) Lead-FYI [(800) 532-3394]
- \* For other information on lead hazards, call The National Lead Information Center Clearinghouse at: (800) 424-LEAD [(800) 424-5323]
- \* To request information on lead in consumer products, or to report an unsafe consumer product or a product-related injury, contact the Consumer Product Safety Commission at: (800) 638-2772

### **Publications:**

\* Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing This publication is available for \$45 from:

Department of Housing and Urban Development (HUD) Information Services, HUD User PO. Box 6091 Rockville, MD 20849 Telephone: (800) 245-2691 Web: www.huduser.org

\* Lead in your Drinking Water
This publication is available at no cost from:

U.S. Environmental Protection Agency Public Information Center 401 M. Street, SW Washington, D.C. 20460 Telephone: (202) 260-2080

\* The Inside Story. A Guide to Indoor Air Quality This publication is available at no cost from:

Indoor Air Quality Information Clearinghouse P.O. Box 37133 Washington, D.C. 20013-7133 Telephone: (800) 438-4318 Web: www.epa.gov/iaq/

\* Lead Poisoning Prevention Wheel
This publication is available for \$3.95 from:
Environmental Hazards Management Institute
10 New Market Road
P.O. Box 932
Durham, NH 03824
Telephone: (603) 868-1496

Web: www.ehmi.org

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### MOLD

### What are molds?

Molds are simple, microscopic organisms, present virtually everywhere, indoors and outdoors. Molds, along with mushrooms and yeasts, are fungi and are needed to break down dead material and recycle nutrients in the environment. For molds to grow and reproduce, they need only a food source -- any organic material, such as leaves, wood, paper, or dirt -- and moisture. Because molds grow by digesting the organic material, they gradually destroy whatever they grow on. Sometimes, new molds grow on old mold colonies. Mold growth on surfaces can often be seen in the form of discoloration, frequently green, gray, brown, or black but also white and other colors. Molds release countless tiny, lightweight spores, which travel through the air.

### How am I exposed to indoor molds?

Everyone is exposed to some mold on a daily basis without evident harm. It is common to find mold spores in the air inside homes, and most of the airborne spores found indoors come from outdoor sources. Mold spores primarily cause health problems when they are present in large numbers and people inhale many of them. This occurs primarily when there is active mold growth within a home, office or school where people live or work. People can also be exposed to mold by touching contaminated materials and by eating contaminated foods. Molds will grow and multiply whenever conditions are right: when sufficient moisture is available and organic material is present. The following are common sources of indoor moisture that may lead to mold problems:

- Flooding
- Leaky roofs
- Sprinkler spray hitting the house
- Plumbing leaks
- Overflow from sinks or sewers
- Damp basement or crawl space
- Steam from shower or cooking
- Humidifiers
- Wet clothes drying indoors or clothes dryers exhausting indoors
- HVAC Units

Warping floors and discoloration of walls and ceilings can be indications of moisture problems. Condensation on windows or walls is also an important indication, but it can sometimes be caused by an indoor appliance and air circulation problems.

# What symptoms are commonly associated with mold exposure?

Molds produce health effects through inflammation, allergy, or infection. Allergic reactions (often referred to as hay fever) are most common following mold exposure. Typical symptoms that mold-exposed persons report (alone or in combination) include:

- Respiratory problems, such as wheezing, difficulty breathing, and shortness of breath
- Nasal and sinus congestion
- Eye irritation (burning, watery, or reddened eyes)
- Drv. hacking cough
- Nose or throat irritation
- Skin rashes or irritation
- Headaches

# How much exposure to mold is hazardous?

For some people, a relatively small number of mold spores can trigger an asthma attack or lead to other health problems. For other persons, symptoms may occur only when exposure levels are much higher. Nonetheless, indoor mold growth is unsanitary and undesirable. Basically, if you can see or smell mold inside a home, steps should be taken immediately to identify and eliminate the excess moisture and to cleanup and remove the mold.

### Are some molds more hazardous than others?

Allergic persons vary in their sensitivities to mold, both as to the amount and the types to which they react, in addition to their allergic properties, certain types of molds, such as Stachybotris chartarum, may produce compounds that have toxic properties, which are called mycotoxins. Mycotoxins are not always produced, and whether a mold produces mycotoxins while growing in a building depends on what the mold is growing on, conditions such as temperature, pH, humidity or other unknown factors. When mycotoxins are present, they occur in both living and dead mold spores and may be present in materials that have become contaminated with molds. While Stachybotrys is growing, a wet slime layer

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covers its spores, preventing them from becoming airborne. However, when the mold dies and dries up, air currents or physical handling can cause spores to become airborne.

At present there is no environmental test to determine whether Stachybotrys growth found in buildings is producing toxins. There is also no blood or urine test that can establish if an individual has been exposed to Stachybetrys chartarrum spores or its toxins.

### As a prospective homebuyer, should I be concerned about indoor mold?

Yes, if indoor mold contamination is extensive, it can cause very high and persistent airborne spore exposures. Persons exposed to high spore levels can become sensitized and develop allergies to the mold or other health problems. Mold growth can damage furnishings, such as carpets, sofas and cabinets. Clothes and shoes in damp closets can become soiled. In time, unchecked mold growth can cause serious damage to the structural elements in a home.

When purchasing a new construction, certain implied warranties that the property is fit for its intended use may apply. This is not the case when purchasing a property from a seller who is not also the builder. In such instances, the property is often sold "as is," placing the burden on the buyer to perform all necessary inspections and to identify any defects in the property that may impact the property's value. As detailed below, inspection for mold is a difficult task and can be complicated by an improper or incomplete remediation previously performed. For example, a previous homeowner or resident may have simply cleaned or painted over a patch of mold without eliminating the source of moisture. Such an instance would make detection of mold at a buyer's inspection very difficult and without elimination of the source of moisture, the mold growth is likely to return.

### How can the presence of mold a residential property be determined?

You may suspect the presence of mold on visual inspection if you see discolored patches or cottony or speckled growth on walls or furniture or if you smell an earthy or musty odor. You also may suspect mold contamination if mold-allergic individuals experience some of the symptoms listed above when in the house. Evidence of past or ongoing water damage should also trigger more thorough inspection. You may find mold growth underneath water-damaged surfaces or behind walls, floors or ceilings.

# Should I have a home tested for mold in connection with the buyer's inspection?

Reliable air sampling for mold can be expensive and requires expertise and equipment that is not available to the general public. Owners of individual private homes and apartments generally need to pay a contractor to carry out such sampling, because insurance companies and public health agencies seldom provide this service. Mold inspection and cleanup is usually considered a housekeeping task that is the responsibility of homeowner or landlord, as are roof and plumbing repairs, house cleaning and yard maintenance.

Most state health departments do not recommend testing for mold contamination because there are few available standards for judging what is an acceptable quantity of mold. In all locations, there is some level of airborne mold outdoors. If sampling is carried out in a home, an outdoor air sample also must be collected at the same time as the indoor samples, to provide a baseline measurement. Because individual susceptibility varies so greatly, sampling is at best a general guide.

The simplest way to deal with a suspicion of mold contamination is, if you can see or smell mold, the property likely has a problem and steps should be taken as outlined below. Mold growth is likely to recur unless the source of moisture that is allowing mold to grow is removed and the contaminated area is cleaned.

# Assessing the Size of a Mold Contamination Problem:

No mold problem should be ignored. Certain published guidelines suggest that there will be a significant difference in the approach used for a small mold problem - total area affected is less than 10 square feet -- and a large contamination problem -- more than 100 square feet. In the case of a relatively small area, the homeowner using personal protective equipment should be able to handle the cleanup. However, for much larger areas, published guidelines recommended that an experienced, professional contractor be retained. For medium cases, between 10 and 100 square feet, the type of containment and personal protection equipment to be used will be a matter of judgment.

# **General Cleanup Procedures:**

- Identify and eliminate sources of moisture
- Identify and assess the magnitude and area of mold contamination
- Clean and dry moldy areas -- use containment of affected areas
- Bag and dispose of all material that may have moldy residues, such as rags, paper, leaves, and debris.

Clean-up should begin after the moisture source is fixed and excess water has been removed. Wear gloves when handling moldy materials. Spores are more easily released when moldy materials dry out, so it is advisable to remove moldy items as soon as possible. Detailed cleanup procedures are available in the New York Department of Health's Guidelines on Assessment and Remediation of Fungi in Indoor Environments, which can be found online at <a href="https://www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html">www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html</a>.

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### How can indoor mold problems be prevented?

A residential property should be inspected regularly for the indications and sources of indoor moisture and mold. One should take steps to eliminate sources of water as quickly as possible. If a leak or flooding occurs, it is essential to act quickly:

- Stop the source of leak or flooding.
- Remove excess water with mops or wet vacuum.
- Move wet items to a dry, well-ventilated area. Move rugs and pull up wet carpet as soon as possible.
- Open closet and cabinet doors and move furniture away from walls to increase circulation.
- Run portable fans to increase air circulation. Do NOT use the home's central blower if flooding has occurred in it or in any of the ducts. Do NOT use fans if mold may have already started to grow -- more than 48 hours since flooding.
- Run dehumidifiers and window air conditioners to lower humidity.
- Do NOT turn up the heat or use heaters in confined areas, as higher temperatures increase the rate of mold growth.
- If water has soaked inside the walls, it may be necessary to open wall cavities, remove baseboards, and/or pry open wall paneling.

### **Publications:**

\*Biological Pollutants in Your Home
This publication is available at no cost from:

U.S. Environmental Protection Agency IAQ Information Clearinghouse Telephone: (800) 438-4318 Web: www.epa.gov

\*Repairing Your Flooded Home
This publication is available on the Internet or at no cost from:

American Red Cross 8928 Volunteer Lane, Sacramento, CA 95826 Telephone: (916) 368-3131 Web: www.redcross.org

### RADON

# What is radon?

Radon is a naturally occurring chemically inert radioactive gas that is formed from radioactive decay of radium and uranium. Since radon cannot be seen, tasted, or smelled, special instruments are necessary for its detection. The unit of measurement for radon is picocuries per liter of air (pCi/L).

# Where is radon found?

Radon is typically present in rocks containing uranium such as certain granites and shales. The amount of radon that can enter soils and ground water depends on the concentrations of uranium in the underlying rock. Radon can also be found in the air at very low concentrations. Radon gas can also enter and concentrate in homes and buildings. In the United States, the average level indoors is 1.3 pCi/L, but radon levels have been found to range from 0.25 to over 3,000 pCi/L.

# How is radon harmful?

The U.S. EPA classifies radon as a known human carcinogen. Long-term exposure to high levels of radon may increase a person's risk of lung cancer. It is believed that tobacco smokers who are exposed to high radon levels account for a large percentage of the lung cancer deaths believed to be associated with radon exposure in the United States. Therefore, the risk is substantially less for nonsmoker.

Exposure to radon does not result in any immediate symptoms. For example, it does not result in acute respiratory effects such as colds or allergies. Any cancer resulting from inhaling radon is not likely to arise for at least 20-30 years after exposure begins and both the level of exposure and duration of exposure are factors which determine the risk of developing lung cancer.

# How does radon enter the home?

Radon enters the indoor air in the home from the soil through cracks and openings in concrete slabs, crawl spaces, floor drains, sumps, and the many tiny pores in hollow-wall concrete blocks. When the pressure within a home is lowered, more radon can be drawn from the soil and enter the home. Indoor air pressure may be lower during colder months when heated air rises from the floor level to the ceiling (or second story) level in

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the house. Indoor pressure may also be lowered in tightly sealed houses through use of exhaust fans such as those in many kitchens and bathrooms.

If radon is present in tap water, it can be released when water is used indoors for showering, washing dishes, or washing clothes. Radon is of most concern when water is obtained directly from a well that draws water from a source exposed to uranium and radium. Most of the radon in water obtained from a surface source, such as a reservoir or well water stored in an open tank has been released before it reaches the home. Building materials are not a significant source of radon except where they incorporate rocks rich in radium or uranium.

# Where are the highest levels of radon in the home?

Generally, the living area closest to the soil surface has the highest level of radon. Upper stories have lower levels of radon. Consequently, radon is rarely a concern in high-rise apartment buildings, other than at ground level.

#### Do adjacent houses have similar levels of radon?

Because of the variability of the uranium and radium content of soil and differences in house construction and use, it cannot be assumed that houses in the same neighborhood have the same radon levels. In order to determine radon levels in any particular house, measurements must be made

### Is there a safe level of radon?

Although there is consensus that the greater the exposure to radon the greater the risk of developing lung cancer, there is insufficient data to define a radon level which is harmless. Both the length of time during which radon is inhaled and the level of radon in the air are determining the risk of developing lung cancer. It is also believed that important in smoking may be a large contributing factor to lung disease associated with radon exposure.

### How can radon levels be measured?

Several types of passive radon detectors or active devices can measure the level of radon in a house. Passive detectors are devices left in place for a period of time that require no ongoing activity or power. To obtain accurate results, the homeowner should carefully follow the manufacturer's instructions. Although short-term measurements of radon levels are more convenient, health risk can be more accurately determined from measurements made over a year.

Active devices require a source of power and are used by professional radon testers to monitor radon levels. These devices are usually used during real estate transactions.

# What actions are required to reduce indoor radon levels?

The U.S. EPA recommends that homeowners should attempt to reduce radon levels in any home that has an annual average level of radon at or above 4 pCi/L. The mitigation method chosen will depend on the construction of the house, extent of radon reduction required, and cost. After installing a mitigation system, it is recommended that radon levels be monitored at regular intervals to verify that the mitigation remains effective.

A qualified contractor should install the radon mitigation system unless the homeowner fully understands the principles of the mitigation system.

### When should water be tested for radon?

When indoor levels of radon are at or above 4 pCi/L, homeowners should consider a water test. If the water comes from a water system, information about the source of the water and any radon tests done on it can be obtained from the water company that supplies the water.

If the water comes from a private well, the radon concentration may be measured by analyzing a water sample at a laboratory certified to test for radon in water. It must be emphasized that the method of sample collection is critical.

### How can levels of radon in water be reduced?

Radon levels in water can be reduced by 99 percent by installation of a GAC unit (granular activated carbon unit) on the water line entering the house. As radon accumulates in the GAC unit, the unit becomes radioactive as the radon decays. Thus, GAC units installed to remove radon in household water must be shielded or located in areas remote from the house to protect occupants from radiation. The GAC filters also require special handling during replacement and disposal: Aeration may also remove radon from water. This technique may be more costly but avoids the problem of radiation build up.

Selection of the proper water treatment technology depends primarily upon its removal efficiency (other contaminants in the water may adversely affect this), safety, initial costs, and operating and maintenance costs. Therefore, professional guidance is strongly advised.

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# Does the law require mitigation?

Mitigation of radon is generally not required by law and is at the discretion of the homeowner.

# **Publications:**

- \* A Citizen's Guide to Radon
- \* Homebuyers and Sellers Guide to Radon
- \* How to Reduce Radon Levels in your Home
- \* Model Standards for Radon in New Residential Buildings

These publications can be downloaded at the EPA Indoor Air Quality website www.epa.gov/faq

\* The Inside Story. A Guide to Indoor Air Quality

This publication is available at no cost from:

Indoor Air Quality Information Clearinghouse P. O. Box 37133 Washington, D.C. 20013-7133 Telephone: (800) 438-4318 Fax: (202) 484-1510 Web: www.epa.gov

Additional Information may be found at:

# U.S. Department of Housing and Urban Development (HUD)

Office of Lead Hazard Control 451 7th Street, Room B133, SW Washington, D.C. 20410 Telephone: (202) 755-1785 Web: www.hud.org

# U.S. Environmental Protection Agency (US EPA)

Public Information Center 401 M Street, SW Washington, D.C. 20460 Telephone: (202) 260-2080 Web: www.epa.gov

Note: Telephone numbers, addresses and prices were correct at the date of publication of this Guide, but are subject to change. For local assistance, contact your county or city Department of Health, Housing, or Environmental Health Department.

# **GLOSSARY OF TERMS**

**AERATION:** A technique by which air is introduced into a liquid; bubbles and aero are generated and dissolved gases released. For example, water aerated by passing through a showerhead will release dissolved radon gas.

**ACTIVATED CARBON:** A material made from burnt wood, which is used to remove organic solutes, such as pesticides, and some inorganic solutes, such as chlorine, from water. Dissolved organic solutes are removed from the water by absorption onto activated carbon. The activated carbon must be periodically replaced when it becomes saturated and unable to adsorb any more solute. Activated carbon is not effective in removing heavy metals, such as lead.

**ANNUAL AVERAGE LEVEL:** The average of measurements taken at different times over the period of one year or the level measured by a device left in place for a year.

CARCINOGEN: A substance that causes cancer.

**CERTIFIED LABORATORY:** A laboratory that has demonstrated that it can meet the federal and state standards for accuracy and precision for a given analytical procedure.

**DISTILLATION:** As referenced in this booklet, distillation is a technique used to purify water by removal of inorganic contaminants such as salts through heating solution and condensing the steam. The resultant distilled water has a reduced concentration. Distillation is not effective in removing pesticides and volatile organic contaminants such as chloroform and benzene.

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**EXPOSURE:** Contact with an agent through inhalation, ingestion, or touching. For example, exposure to radon is primarily through inhalation; exposure to lead is primarily through ingestion.

**FILTRATION:** Purification of water by removing un-dissolved solids or sediment passing the water through a filter or sieve. Filtration does not remove dissolved salts or organic contaminants.

LEVEL: Another term for concentration; also, the amount of a substance in a given volume of air, liquid or solid.

LITER: Metric unit of volume equivalent to 1.057 quarts of liquid. One gallon is equivalent to about 4 liters.

MILLIGRAM: A unit of weight. There are 1,000 milligrams in one gram and about 28 grams in one ounce.

**PARTS PER MILLION:** A unit of concentration. For example, air that contains 1 part per million formaldehyde contains 1.2 milligrams formaldehyde in 1 million milligrams, i.e., 1,000 liters, of air. Also, water which contains 1 part per million lead contains 1 milligram lead in 1 million milligrams water, i.e., 1 kilogram, water. One part per million can be compared to one cent in ten thousand dollars.

**PASSIVE DETECTOR:** A measuring device that functions without any energy input or ongoing attention from the user. For example, use of a passive radon detector to measure radon requires only that the detector be left in place for a specified time.

**PICOCURIE:** A unit of amount used in measurement of radioactive substances. For example, five picocuries of radon are five trillionths of a curie and are equivalent to 11 radioactive radon atoms decaying every minute.

**RADIOACTIVE:** A term used to describe atoms that are unstable and break down or decay to form another kind of atom. For example, radium breaks down to form radon. In the process of decay some high-energy particles are emitted. The detection of these particles by special instruments indicates that a substance is radioactive. The high-energy particles and gamma rays are called radiation.

**REVERSE OSMOSIS:** A technology used to purify water by removing the salts from water. Osmosis involves the diffusion of water from a dilute to a concentrated solution across a semi-permeable membrane that allows only the passage of water. In reverse osmosis, water is forced through a semi-permeable membrane from a concentrated solution to a stream of purified water. For example, in the desalination of seawater, reverse osmosis is used to separate the salts from the water generating drinking water and a residue of salts.

**RISK:** In the context of this booklet, risk indicates the chance of developing a disease after exposure to an environmental hazard. Risk depends on the time period for which a person is exposed to a particular hazard and the level of the hazard.

SOFT WATER: Water that does not contain large amounts of dissolved minerals such as salts containing calcium or magnesium.

**SOLDER:** A metallic compound used to seal joints between pipes. Until recently, most solder contained about 50 percent lead. Lead solder is now banned for plumbing applications.

**TOXICITY:** The extent to which a material is toxic.