



The Road Home

BUILDING A SAFER,
STRONGER, SMARTER LOUISIANA

Protocols for Estimating Replacement Housing Costs v10

15 December 2006

THE ROAD HOME
Protocols for Estimating Replacement Housing Costs
Version Control

Version Number	Date Revised	Description of Revisions
9.0	11/02/06	<ol style="list-style-type: none"> 1. <i>Type 1 and Type 2 Evaluations Defined:</i> The concept of Type 1 and 2 Evaluations introduced and defined. Not defined in v8. 2. <i>Square Footage Replacement Cost For Single Family Homes:</i> A single allowance of \$130/square feet for all size of houses replaced a size-based allowance in Version 8. 3. <i>Manufactured House Replacement Allowance:</i> Replacement allowances were developed for single-, double-, and triple-wide manufactured homes. If damage to a manufactured home exceeds \$5,200, the homeowner will receive a replacement allowance. No allowance in v8. 4. <i>Manufactured House Elevation Allowance:</i> An allowance of \$15/square feet will be provided to homeowners that need to elevate. No allowance in v8. 5. <i>Exemption of Housing Components Discovered After the Home Evaluation:</i> Only those damaged housing components disclosed or discovered at the time of the evaluation are eligible to receive compensation. Was not considered in v8. 6. <i>Limit on Complete HVAC Units:</i> One complete HVAC unit will provided per home; the allowance is adequate to compensate homeowner for a variety of configurations based on different house types. No cap in v8. 7. <i>Limit on Hot Water Tanks:</i> A maximum of two hot water heaters per home will be provided. No cap in v8. 8. <i>Addition of Line Drawing That Illustrate Replace/Repair Areas:</i> Appendix B was included to provide illustrations that show how repair/replace and elevation areas are to be determined for Type 1 and Type 2 Evaluations. Appendix B not included in v8.

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Version Number	Date Revised	Description of Revisions
10.0	12/12/06	<p>9. <i>Changed title of Section 6.2.3 from “Attached Garages” to “Garages”.</i> Deleted language in this section indicating that detached garages converted into living space are eligible for compensation.</p> <p>10. <i>Inserted new Section 7: Duplex Home Replacement.</i> This section includes a discussion on the protocols for performing Type 1 home evaluations on duplexes.</p> <p>11. <i>Inserted new Section 8: Duplex Home Repair.</i> This section includes a discussion on the protocols for performing Type 2 home evaluations on duplexes.</p> <p>12. <i>v9 Section 6 renamed Section 9 in v10: Manufactured (Mobile) Home Replacement.</i> Modified the table in this section that provided allowances for the replacement of single-, double-, and triple-wide manufactured homes. Modifications to the table include the removal of dimensions from the table (lengths and widths) and square foot ranges. Dimensions and square foot ranges were added to the paragraph that follows the table.</p> <p>13. <i>Type 1 Evaluation of Manufactured Homes:</i> Added a discussion to the Type 1 evaluation of manufactured homes in Section 9 to include an allowance for the replacement of structures added to the manufactured home (e.g., a 10 foot by 10 foot room added to a single-wide, which would result in an additional 100 sf that would receive an allowance of \$35/sf to rebuild). Included an allowance of \$500 for utility connections.</p> <p>14. <i>Deletion of Type 2 Evaluations of Manufactured Homes:</i> Removed Section 7 from v9, which included protocols for conducting Type 2 evaluations on manufactured homes. All manufactured will be evaluated as Type 1’s.</p>



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SAMPLE



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1. Introduction

Louisiana's Road Home Program was created "to provide compensation to Rita and Katrina homeowners through renovation, while providing families with safe, secure and affordable homes." A fundamental element of the program is home evaluations. Home evaluations are conducted to quantify storm damage and provide an estimate of the cost to replace housing and elevate homes located in flood plains. This document is intended to provide the protocols and general framework for estimating replacement/repair housing cost estimates.

The basic values considered in the development of the protocols include:

- Performance and durability
- Historically sensitive exteriors, where applicable
- Life cycle costs
- Affordable operating costs

Applicable Laws and Regulations

The Road Home program is designed to provide a reasonable standard of living for home owners whose homes were destroyed or damaged by Hurricane Rita and Katrina. The Program is committed to ensuring that homes are replaced or repaired in full compliance with the following statutory and regulatory requirements:

- Building Code: The International Residential Code (IRC)
- Housing Code: The Local Housing Code
- Federal Housing Code: Housing Quality Standards
- Life Safety Code: Life Safety Code
- HAZMAT: HUD CDBG requirements for specific programs
- Energy: The International Energy Code 2003 and EPA's Energy Star Program¹
- Louisiana Division of Historic Preservation²

The housing developer shall seek guidance and strive to conform to the following codes:

- Accessibility: ANSI standards for handicapped accessibility
- HAZMAT: HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing
- Exceptions: On a case-by-case basis deviations from the minimum requirements of this standard will be permitted with approval of the Office of Community Development (OCD).

¹ The Road Home Program will strive to meet applicable standards under EPA's Energy Star Program

² Properties listed in the National Register of Historic Places will not be modified until Section 106 consultation is completed



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Repair/Replacement Quality Classification

For the purpose of *The Road Home* program, the following repair/replacement classifications are used: low, moderate, and high. These classifications are generally consistent with the classifications defined in the 2006 National Gulf Coast Reconstruction Cost Book. Low, moderate, and high quality as used in this protocol is equivalent with economy, standard, and deluxe, respectively, as defined in the Gulf Coast Reconstruction Cost Book.

These designations refer to the quality of an item and the need for durability. For example, for the interior replacement of a passage door a moderate standard was used, i.e. hollow core, pressed wood product with brass plated bedroom lockset, jam, and casing. Based on professional judgment, this standard was considered consistent with the overall objective of providing a reasonable standard of living for home owners whose homes were destroyed or damaged. On the other hand, for the exterior replacement of a door a high standard is used, i.e. steel six panel doors may be installed at entrances not visible from the front street. This is again based on professional judgment that an exterior door should meet a higher standard than an interior door.

Cost Data Sources

The following cost data sources will be used, in the order listed, as the basis for determining structural element allowances:

1. National Gulf Coast Reconstruction Cost Book. Standard and economy grade unit prices will be used with an 8% local area modifier (LAM) and a 20% mark-up to account for contractor overhead and profit. If unit prices for a particular element are not included in this document, data source No. 2 will be used.
2. Home Tech Cost Estimating for New Orleans, Louisiana – Zip 70125. If unit prices for a particular element are not included in this document, data source No. 3 will be used. Prices obtained from this data source include subcontractor profit.
3. A Road Home provided calculation will be used incorporating local market research when unit prices for an element are not included in data source Nos. 1 or 2.



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Reliance on Owner Supplied Information

The Road Home grants program is intended to provide qualified homeowners with an opportunity and incentive to replace or repair their homes to a reasonable pre-Katrina and Rita condition. The program acknowledges that grant programs should take prudent measures to minimize the occurrence of fraud and other forms of deceit. Therefore, this program instituted safeguards to ensure that grant monies are properly dispersed. To help meet that objective, the program will not use owner-supplied receipts, estimates, or proposals as a basis for determining replacement housing costs. The home evaluators will, however, note owner-supplied information, if provided, but it will not be used in the calculation of replacement costs.

The home evaluation process also includes measures to document cases where the home evaluators have reason to suspect the homeowner is providing questionable information. This process entails the home evaluator including a description of the questionable information in the “notes” section of the software used to collect information. For items the home evaluators feel are egregious or tending toward fraud, they are instructed to add a specification referred to as “142”, which is titled “Verify Owners Measurements” on the cost estimate report. A system of subsequent quality assurance/quality control checks was developed to ascertain whether the homeowner intended to deceive the home evaluators. In addition to specification “142”, specification “143” was developed to identify evaluations that may need a policy interpretation to determine whether an item is eligible or not.

2. Eligible Repairs and Replacements

The Road Home grants program is intended assist homeowners in replacing and/or repairing Katrina or Rita storm damage to an acceptable standard, which is defined elsewhere in this document. Housing rehabilitation experts and consultants working on behalf of *The Road Home* program considered a wide range of typical repair and replacement items associated with storm damage and in consultation with the Louisiana Office of Community Development (OCD) developed a list of items eligible for the grant program. The Protocols for Estimating Replacement Housing Costs document includes protocols and standards for the repair or replacement of eligible major elements of a house. Only eligible housing components that are discovered and disclosed prior to or at the home evaluation will be included in the compensation total; therefore, conditions discovered by a homeowner after the evaluation are not eligible.

3. Role of Home Evaluator

The role of the home evaluator is to collect sufficient data from a damaged property to estimate a repair or replace allowance. The home evaluator is not a decision maker. With the exception of basic homeowner information (e.g., name, address, living area, or number of stories), the home evaluator does not have any specific information about the owner’s application. The home evaluator must defer

any homeowner questions regarding potential allowances to their assigned housing advisor. The home evaluator should be prepared to collect information from the homeowner, including a room by room description of what was present before the storm, what was damaged during the storm and what work was done to repair or replace the damaged property.

A step-by-step description of each activity the home evaluator should perform is beyond the scope of this document. A summary of the home evaluation process is provided below.

1. Home evaluator receives work order to conduct an evaluation.
2. Home evaluator (or dispatcher) makes an appointment with homeowner.
3. Home evaluator arrives at the home with appropriate “tools” to conduct evaluation, including PC tablet with cost estimating software, measuring tapes, flashlights, and cameras.
4. Home evaluator explains to homeowner that he/she is a representative of *The Road Home* program and that he/she is there to interview and collect information about their damaged property.
5. Home evaluator interviews the homeowner to collect information about the homeowner’s damage. If the homeowner offers receipts, proposals, cost estimates for repairs, the home evaluator may note this in the report, but the home evaluator is not to receive copies of these documents
6. Home evaluator should conduct an overview of the structure and a room by room inspection of the areas subject to storm damage and take measurements, as needed, to document damaged areas.
7. After the home evaluation, the evaluator should remind the homeowner to contact their home advisor if they have questions regarding the home evaluation.
8. To facilitate the completion of scheduled evaluations in a timely manner, the home evaluator and homeowner may share contact information. Home evaluators are trained to report any suspected fraudulent activities with their supervisors who will in turn report this to *The Road Home* program.

4. Types of Home Evaluations

For the purpose of *The Road Home* program, home evaluators perform two types of evaluations, Type 1 and Type 2. Type 1 Evaluations consist of obtaining data (house dimensions and compensation area) that allows the computation of a replacement allowance for the home and an elevation allowance. Type 2 Evaluations consist of a component by component assessment of damages to the home, as well as the determination of an elevation allowance.



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For Type 2 Evaluations, *The Road Home* makes the determination of what Evaluation Type cost estimate to use in award calculations by approximating the percentage damage to the home, which is determined as follows:

$$(Evaluation\ Type\ 2\ Cost\ Estimate / Evaluation\ Type\ 1\ Cost\ Estimate) \times 100 = \% \text{ Damage}$$

To facilitate the calculation shown above, a Type 1 cost estimate is calculated by *The Road Home* for Type 2 Evaluations. If the percentage damage as calculated above for a Type 2 evaluation is equal to or greater than 51%, then the Type 1 cost estimate is used in the award calculation. If the percentage damage is less than 51%, then the Type 2 Evaluation cost estimate is used in the award calculation. If the home has been cleared or demolished or the home evaluator finds it otherwise impossible to complete an Evaluation Type 2, the home evaluator will make a note that Evaluation Type 2 could not be completed and complete Evaluation Type 1. The home in this instance is considered equal to or greater than 51% damaged.

5. Single-Family Home Replacement

In cases where homes were totally destroyed by hurricanes Katrina or Rita, the homeowner will be eligible to receive \$130/square foot³ to replace their home. In the context of *The Road Home* program totally destroyed homes are given a Type 1 Evaluation. The replacement allowance is based on the “compensation area” of the home, which is generally comparable to living area. Several line drawings that illustrate typical housing configurations and how replacement area is calculated are provided in Appendix B.

The unit rate is based on replacing a total loss home with a reasonable standard of living; it is not intended to compensate a homeowner to replace a custom or semi-custom home. For the purposes of the program compensation area is defined as interior, conditioned spaces, and for single-story homes is considered to be equal to the footprint of the house, which is the primary dimension measured during Type 1 home evaluations. Exterior spaces such as porches and garages are not considered in the square feet (SF) calculation of compensation area unless they share a common wall and roof with the main structure. The determination of compensation area in destroyed, multi-storied homes is based on multiplying the footprint by the number of stories, minus any non-livable space on the second or third, etc. stories.

³ Unit price includes demolition costs, but not elevation costs. It should be noted that some homeowners may have received a FEMA grant for demolition. In this case, the built-in demolition allowance should be backed out of the square footage allowance. Many demo properties will be cleared by FEMA even after intake period. Many may receive demo services after Road Home Grant awarded.

6. Single-Family Home Repair Allowances

An interior and exterior component by component damage assessment is performed for Type 2 evaluations, i.e., work in progress, partially damaged, and completed repairs. The following section includes a discussion of units of measurement and allowances and caps, where appropriate. Several line drawings that illustrate typical housing configurations and how repair area is calculated are provided in Appendix B.

6.1 Units of Measurements

During the home evaluation process conventional units of measurements and quantities, e.g. square feet and linear feet will generally be used to determine quantities of materials damaged or requiring replacement. It should be noted, however, that a unit of measurement was developed especially for *The Road Home* program to expedite the calculation of materials and associated costs in situations where a whole floor or large area of the house required repair or replacement of certain elements (for example, the entire first floor of a two-story that requires the replacement of all the drywall and baseboard). This unit of measurement (and associated unit of cost) is referred to as square feet of house (SH) units in *The Road Home* program. Square feet of house units relate to the living area or footprint of the house (expressed in square feet) to those housing components expressed in linear feet (e.g. baseboard) or in square feet (e.g., drywall). For example, when an evaluator needs to calculate the linear feet of baseboard in a house, the living area of the house is multiplied by a factor of 0.33 to determine SH units of baseboard, likewise, when an evaluator needs to calculate the square feet of baseboard in a house, the living area of the house is multiplied by a factor of 4.0 to determine SH units of drywall.

In addition to the above, a relationship between the foot print of a house and the roof area of a house was developed to expedite the estimation of quantities of roofing materials. To calculate square footage of roofing, the footprint of a house is multiplied by a factor 1.4 to determine square footage of roofing materials. A factor of 1.4 takes into account typical roof pitch and overhangs.

6.2 Site Improvements

6.2.1 Home Elevation

The home elevation repair and replacement standard for single-family homes is indicated below. Issues may arise for duplexes having two owners. If, for example, one owner participates in the grant program and the other owner doesn't, the home elevation process becomes complicated. Duplexes typically share a common foundation and it is not possible to raise only one side of the common foundation.



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The home elevation repair and replacement policy does not address extenuating circumstances; it is assumed that they will be addressed programmatically.

Estimating the cost to replace a house with a slab; only includes that portion of the house that is a living area. For example, for those homes with garages **attached** to the main living area via a breezeway--the slab area is not included in the cost estimate.

STANDARD:

Homes shall be elevated to a minimum of one foot above the advisory base flood elevation or to the local freeboard requirement with a maximum allowance of \$30,000 per structure.

Homes may be raised to create an eight foot high parking and storage under home with a maximum allowance of \$30,000.

For *The Road Home*, the following categories and elevation-based allowances were established for two common types of new and existing home foundations.

Foundation Type	Elevation Increase (feet)	Unit Rate (\$/square feet)
New Frame*	0 to 8	\$15.00
Existing Slab	0 to 4	\$52.27
	4.1 to 8	\$84.94
Existing Frame	0 to 4	\$26.14
	4.1 to 8	\$39.20

*The elevation allowance is based on a new frame if *The Road Home* determines that the home sustained equal to or more than 51% damage.

6.2.2 Paving and Walks

REPAIR ALLOWANCE:

Moderate

All existing driveways, walkways, and paving ramps may be compensated as a loss.

REPLACEMENT ALLOWANCE:

Moderate

Essential walks and drive replaced with concrete.

6.2.3 Garages

REPAIR ALLOWANCE:

Moderate

Attached garages and detached garages connected to main house via a breezeway are eligible for compensation. See Section 6.3.1 for exterior cladding allowance and Sections 6.6.1 and 6.6.2 for roofing allowances.

REPLACEMENT ALLOWANCE:

Moderate

Attached garages and detached garages connected to main house via a breezeway are eligible for compensation using the total house replacement rate based on the square footage of the house.

6.2.4 Trees

Trees that have damaged a house or represent an imminent risk to inhabitants of a dwelling and/or the public are eligible for compensation. Up to \$1,500 may be used to remove trees and perform stump grinding.

6.3 Exterior Surfaces

To the extent that eligible properties are located in historical districts, they will be eligible for compensation assuming conformance to the architectural guidelines of that district, up to maximum amount allowed for a particular item.

6.3.1 Exterior Cladding

REPAIR/REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that all siding and trim will be brought to an intact, weather proof and deterioration-free state. Additional assumptions are that exterior wood shall be spot primed and top coated in a lead safe manner and that masonry cladding will be matched as closely as possible. Maximum allowances for various types of exterior cladding are provided below.

Brick Siding:	Maximum allowance of \$21.28/square foot
Shake Siding (wood):	Maximum allowance of \$4.52/square foot
Shake Siding (cement):	Maximum allowance of \$4.77/square foot
Vinyl Siding:	Maximum allowance of \$4.59/square foot
Aluminum Siding:	Maximum allowance of \$5.60/square foot

6.3.2 Exterior Porches

REPAIR ALLOWANCE:

Moderate

Allowances will assume that unsafe or unsightly porches will be repaired to conform to porches in the neighborhood. It is further assumed that porch repairs will be structurally sound, with smooth and even decking surfaces.

REPLACEMENT ALLOWANCE:

Moderate

Allowances will assume that existing porches may be removed and replaced with historically correct structures, as required by the local historic structures commission. Maximum allowances for porch components are provided below.

Porch Post: Maximum allowance of \$265.01 each

Porch Flooring Maximum allowance of \$20.67/square foot

6.3.3 Exterior Railing and Steps

REPAIR ALLOWANCE:

Moderate

Allowances will assume that handrails will be present on one side of all interior and exterior steps or stairways with more than two risers and around porches or platforms over 30" above ground level. It is also assumed that railing repairs will be historically sensitive, and that steps and stairs will be structurally upgraded to current building code requirements; free from all deterioration.

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that existing railings that do not meet the current code will be removed and replaced with wrought iron or preservative treated lumber that meets requirements of the local historic structures commission. It is also assumed that replacement steps and stairways will be constructed of preservative treated lumber or concrete in conformance with the current required building codes. Maximum allowance for steel frame and railing wood steps with landing is \$914.20. Concrete steps allowance is \$440.64.

6.4 Structure

6.4.1 Structural Walls

REPAIR/REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that all structural members will be free from deterioration, rot and termite damage and be sized in conformance to current building code. It is further assumed that any member considered below current building code will be doubled up and re-supported. The repair allowance for structural walls is \$36.15 per linear foot and for insulation \$1.96/square foot.

6.5 Windows and Doors

6.5.1 Interior (Passage) Doors

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that a hollow core, pressed wood product door with brass plated bedroom lockset, a jam, and casing will be used. Transom grade is assumed to be consistent with door grade. The maximum allowance is \$642.84 per door. The maximum allowance for transom replacement is \$281.23.

6.5.2 Exterior Doors

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that all replacement doors at the front of the property will conform to those typically used in the neighborhood when required in a historic district. It is further assumed that steel six panel doors may be installed at entrances not visible from the front street, and that dead bolt locks will be installed on all doors. Replacement allowance includes all necessary jams, casing, stain or paint, and hardware. Side-lite grade is assumed to be consistent with door grade.

Metal Door & Frame:	Maximum allowance of \$967.78/door
Wood Door & Frame:	Maximum allowance of \$1,656.77/door
French Door & Frame:	Maximum allowance of \$1,163.60/door
2 Door French & Frame:	Maximum allowance of \$1,818.13/door
Side-Lite:	Maximum allowance of \$352.51/panel
Sliding Patio Door:	Maximum allowance of \$1,226.15/door
Storm/Screen Door:	Maximum allowance of \$673.49/door

6.5.3 Windows

REPAIR ALLOWANCE:

Moderate



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Allowances assume that windows will be weather tight, include a locking device and will operate freely.

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that double glazed, glass, wood or aluminum windows that meet minimum Energy Star requirements will be used; historically similar windows will be used when demanded by historic district regulations. The replacement allowance does not include shutters.

36" X 72" double hung aluminum: Maximum allowance of
\$531.88/window

36" X 72" double hung wood: Maximum allowance of
\$775.53/window

6.6 Roofing

6.6.1 Flat and Low Slope Roofing

REPAIR ALLOWANCE:

Moderate

Allowances assume that built-up roofing, flashing and accessories will be repaired when damaged area is less than 250 square feet (when a 5-year leak free warranty is available from a certified roofing company). The maximum allowance is \$574.13.

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that when damaged area is greater than 250 square feet, roof will be replaced with fully adhered ethylene propylene monomer or modified bitumen over insulation board and structurally sound decking. The maximum allowance is \$2.88/square foot.

6.6.2 Pitched Roofs

REPAIR ALLOWANCE:

Moderate

Allowances assume that missing and leaking shingles and flashing will be repaired on otherwise functional roofs when damaged area is between 35 and 250 square feet (with a minimum repair area of 35 square feet. It is further assumed that slate, concrete, metal, and tile roofs will be repaired when at all possible. Antennae shall be removed. The maximum allowance is \$16.94/square foot.

REPLACEMENT ALLOWANCE:

Moderate



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Allowances assume that when damaged area is greater than 250 square feet roof will be replaced with fiberglass, asphalt, 3 tab, class A shingles weighing at least 200 and up to 240 lbs. with a prorated 25 year warranty with a continuous ridge vent. The maximum allowance is \$2.04/square foot.

6.6.3 Gutter, Soffit, and Fascia

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that aluminum gutters, vinyl soffits, and vinyl fascia will be replaced when extensive damage has occurred. Maximum replacement allowance for aluminum gutters is \$7.89/linear foot, for vinyl soffits \$8.46/linear foot, and 6"-12" wide fascia \$6.51/linear feet.

6.7 Insulation and Ventilation

6.7.1 Attic Ventilation

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that attics will be ventilated with 1 square foot of vent for each 300 square feet of roof split between a ridge vent and soffit vents. Flat roofing will have one way vents every 20 feet. Maximum allowance of \$83.98 per vent.

6.7.2 Bath Ventilation

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume exterior ducted, 100 CFM, 20 somes max, with separate switch in all baths. The maximum allowance is \$258.30 per unit.

6.7.3 Insulation

REPAIR ALLOWANCE:

Moderate

Allowances assume that attic areas and crawl space will be insulated. The assumption for ceiling insulation is R30 blown ceiling insulation (13 inch). The maximum allowance is \$2.99/square foot.

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that the entire building will conform to the required energy code upon completion. The maximum allowance is \$1.96/square foot for walls and \$8.78/square house for walls and ceiling.

6.7.4 Kitchen Ventilation

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that all kitchen hoods or exhaust fans will be exterior ducted with less than 20 elbows and at least 120 CFM. The maximum allowance is \$336.31.

6.8 Interior Areas

6.8.1 Eligible Replacement Items

Fireplaces, freezers, trash compactor, double wall oven, oven, gas and electric cook top, built-in microwave, washer and dryer are eligible for replacement compensation at the following allowance levels.

Item	Allowance
Gas cook top	\$781.62
Electric cook top	\$687.66
Gas wall oven	\$1,083.84
Electric wall oven	\$1,022.54
Built in microwave oven	\$455.28
Refrigerator	\$1,743.51
Dishwasher	\$999.60
Clothes washer (hook-up only)	\$715.39
Fireplace box and brick face	\$3,126.08

6.8.2 Accessibility Improvements

Compensation for accessibility improvements for wheelchair bound homeowners is available upon request by disabled family member.

REPAIR/REPLACEMENT ALLOWANCE:

Moderate

Allowances assume Repair/Replace to ANSI visitability and Universal Design Center standards. The maximum allowance is \$3,690.06 for handicap accessibility in the home and \$1,899.94 for a wheelchair ramp.

6.8.3 Interior Walls and Ceilings

REPAIR ALLOWANCE:

Moderate

Allowances assume that holes, cracks and deteriorated and unkeyed plaster and drywall will be repaired to match the surrounding surfaces. All visual surfaces shall be stabilized to minimize lead paint hazards using premium vinyl acrylic, primer and topcoat. The maximum allowance to repair up to a 4' by 8' area is \$140.23.

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that walls will be plumb, ceiling level drywall with a smooth finish on at least 1/2" gypsum on 16" centers or 5/8" on 24" centers. Maximum allowance for replacement of areas greater than 4' by 8' is \$2.63 per square foot. Additional Reference: American Gypsum Association

6.8.4 Flooring

REPAIR ALLOWANCE:

Moderate

Allowances assume that bathroom and kitchen floors will be covered with water resistant vinyl flooring. Damaged wood floor will be repaired up to a maximum of 120 square feet. Ceramic tile flooring will be repaired; wood floors will be sanded and refinished.

Wood floor:	Maximum allowance of \$4.47/sq. ft.
Re-grouting/ caulking ceramic tile:	Maximum allowance for of
\$2.68/sq. ft	

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that baths will receive vinyl sheet goods over plywood underlayment. Kitchens will be vinyl composition tile or sheet goods over plywood underlayment. New slabs will be at least 4" thick and a 6 mil vapor barrier. Other rooms maybe carpet, vinyl, or tile with appropriate underlayment or pads.

Carpet:	Maximum allowance of \$5.39/square foot
Vinyl:	Maximum allowance of \$7.30/square foot
Ceramic tile:	Maximum allowance of \$7.14/square foot

6.8.5 Kitchen

REPAIR ALLOWANCE:

Moderate

Allowances assume that damaged kitchen components will not be repaired but will be replaced using the following maximum allowances.

Kitchen Cabinets:	Maximum allowance of \$7,617.84
Double sink/disposal:	Maximum allowance of \$1,311.42
Stove/Oven:	Maximum allowance of \$1,022.54
Range hood and light:	Maximum allowance of \$267.36
Refrigerator/freezer:	Maximum allowance of \$1,743.51
Dishwasher:	Maximum allowance of \$928.71
Built in Microwave:	Maximum allowance of \$455.28

REPLACEMENT ALLOWANCE:

Moderate.

Allowances assume that complete kitchens include a maximum of 22 feet of cabinets (base and upper) of moderate cost wood cabinetry, plastic laminate countertop, vinyl flooring, double sink and garbage disposal, stove/oven, range hood and light, refrigerator, and dishwasher. The maximum allowance is \$12,891.39.

6.8.6 Bathrooms

REPAIR ALLOWANCE:

Moderate

Allowances assume that damaged bathroom components will not be repaired but will be replaced using the following maximum allowances.

24-inch vanity	Maximum allowance of \$1,671.10
Tub	Maximum allowance of \$2,152.79
Shower	Maximum allowance of \$1,920.02
Ceramic Toilets	Maximum allowance of \$1,041.08

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that every dwelling will have a 3-piece bath. 3 and 4 bedroom units will have an additional 1/2 bath and a compartmentalized main bath. Complete bathrooms include single lever, metal faucets and shower diverters with 15-year drip-free warranty, white ceramic toilets, 24" vanity, fiberglass tub surrounds and steel enameled 5' tubs, exhaust fan with heater, door, full height utility cabinets, surface-mounted medicine cabinet, and all required hardware. The table below indicates the maximum allowance for bathrooms.

Bath Component	Allowance
3 Piece Bath (lavatory, commode, shower)	\$6,346.29
2 Piece Bath (lavatory, commode)	\$4,193.51

6.9 Electric

6.9.1 Specialized Circuit Breakers

REPAIR/REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that non functioning ground fault circuit interrupters (GFCI) will be replaced. Basement and kitchen receptacles within 6 feet of a sink, all bath receptacles and at least one exterior receptacle will be protected by a GFCI. The maximum allowance is \$61.60 per GFCI receptacle (device only).

6.9.2 Passage Lighting

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that all common halls and stairways between living space will be well lighted with a fixture controlled by 3 way switches at both ends of the hall or stairway. Surface mounted raceway may be assumed in some cases. Maximum allowance of \$177.14 per eligible area.

6.9.3 Smoke Detectors

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that directly-wired smoke detectors will be installed on each dwelling floor. CO detectors will be installed on all fuel burning furnaces. Maximum allowance for smoke detector (including wiring) is \$88.93 per unit. Maximum allowance for CO detector (including wiring) is \$101.89 per unit.

6.9.4 Interior Electric Distribution

REPAIR ALLOWANCE:

Moderate

Allowances assume that exposed knob and tube will be replaced. Every room will have a minimum of two duplex receptacles, placed on separate walls and one light fixture or receptacle switched at each room entrance. Where the source wiring circuit is accessible (i.e., first floor above basements, in gutted rooms, etc.), receptacles will be grounded. All switch, receptacle, and junction boxes will have appropriate cover plates. Wiring shall be free from hazard and all circuits will be

properly protected at the panel. Floor receptacles will be removed and a metal cover plate installed. Exposed conduit is assumed in some cases. It is further assumed that when a room's wall finishes are removed it will be rewired to the latest version of the current required code. The maximum allowance is \$80.74 per receptacle (includes receptacle, box and wire).

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that all rooms will be rewired to the latest version of the required code using historically correct (when required) or moderately expensive fixtures and devices. It is assumed that a rewire of room or house will include smoke alarms.

Rewire room (includes receptacles):	Maximum allowance of \$927.65
Replace receptacles (one room):	Maximum allowance of \$259.51
Complete house rewire:	Maximum allowance of \$7.86/SH

6.9.5 Service and Panel

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that two hundred (200) amp service with a main disconnect panel containing at least 30 circuit breaker positions will be installed. Attached garages may be fed with up to 100 amp sub panels. Maximum allowance of \$1,652.40 per breaker.

6.10 Plumbing System

6.10.1 Water Heaters

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that high efficiency, pilot less, 50-gallon gas fired or dual element electric water heaters with at least R-9 insulation and an 8-year replacement warranty will be installed. The maximum allowance is \$895.67; no more than two water heaters will be allowed per home.

6.10.2 Water Supply

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that all inoperable or leaky main shut off valves will be replaced. Lead pipe and exposed galvanized pipe will be replaced with copper pipe or PVC. Maximum allowance for shut off valves is \$617.54. The maximum allowance for supply lines is \$132.84/linear foot.

6.11 Heating, Ventilation, and Air Conditioning

6.11.1 Heating and Air Conditioning

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that heating and air conditioning of easily accessible rooms using the most affordable duct (either ceiling or floor), using a unit with a minimum 3 COE, SEER 14. The maximum replacement allowance for a complete heating, venting and air conditioning (HVAC) unit is \$10,988.40 per house. This allowance is adequate for up to two air compressor units. The maximum air conditioning air compressor unit replacement allowance is \$3,786.91 (note: air compressor unit(s) allowance should not be included if an allowance for a complete HVAC system is provided).

6.11.2 Chimneys

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that fireplace flues will not be reconstructed, rather, replacement furnace flues when required will be metal double or triple walled as recommended by the furnace manufacturer.

6.11.3 Distribution System

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that ductwork in unconditioned, non-habitable space shall be insulated to R-6 and sized to maintain 70°F in all serviced rooms. Habitable space will be insulated to R-8 and tested to eliminate leakage. The maximum allowance is \$2.20/square house. This allowance should not be included if an allowance for a complete HVAC unit is provided.

6.11.4 Heating Plant

REPAIR ALLOWANCE: No Allowance Developed

REPLACEMENT ALLOWANCE:

Moderate

Allowances assume that condensing gas furnaces rated over 86 AFUE and heat pumps over 14 SEER with super heaters and air-to-air heat exchangers are eligible for this program. Dual heat pumps are assumed in larger, two story homes. The maximum allowance for a gas furnace and heat pump is \$1,743.77 and \$8,260.19, respectively. This allowance should not be included if an allowance for a complete HVAC unit is provided.

7. Duplex Home Replacement

Homeowner replacement protocols are based upon the ownership structure of the duplex structure. The replacement allowance is \$130/square feet. In the context of *The Road Home* program totally destroyed homes are given a Type 1 Evaluation. The replacement allowance is based on the "compensation area" of the home, which depends on the ownership structure of the home.

The unit rate is based on replacing a total loss home with a reasonable standard of living; it is not intended to compensate a homeowner to replace a custom or semi-custom home. For the purposes of the program compensation area is defined as interior, conditioned spaces. Exterior spaces such as porches and garages are not considered in the square feet (SF) calculation of compensation area unless they share a common wall and roof with the main structure. The determination of compensation area in destroyed, multi-storied homes is based on multiplying the footprint by the number of stories, minus any non-livable space on the second or third, etc. stories.

The following replacement protocols will be used dependent upon the ownership structure:

Single Owner Duplex: In this ownership structure the owner typically lives in one side of the duplex and rents or leases the other side. In this case, the owner of the duplex can receive a maximum award of \$150,000. The home evaluator will obtain the square footage of the entire duplex and will base the replacement allowance on

the total footprint of the structure. The elevation allowance will be based on the total footprint of the structure (i.e., includes both sides of the duplex).

Multiple Owner Duplex: In this situation it is assumed that there are two owners of the duplex structure and that each owner submits an application. Each owner can receive a maximum of \$150,000. A Type 1 evaluation will be conducted of each side of duplex. The home evaluation will base the replacement allowance on each side of the duplex. The total square footage will be measured and calculated for the entire duplex excluding utility and garage space. Each living unit will be measured for its pro-rata share of the compensatable square footage. This ratio, expressed as a percentage, shall be used for prorating all common building components that are equally shared, for example, the roof, insulation, foundation, exterior siding, site improvements, utility services, and exterior porches. Each applicant will receive an elevation allowance based on the pro rata share of the total structure footprint.

Mixed-Use Duplex: Homeowners living in duplex structures in which a portion is dedicated to commercial use will be conducted on the portion of the property that the homeowner resides in. The homeowner will receive an elevation allowance based on the pro rata share of the foundation beneath the residential side of the duplex.

8. Duplex Home Repair Allowances

The Road Home will use the repair allowances and units of measures for duplexes that have been developed for single-family homes. There are some differences in how the Type 2 duplex home evaluations will be done based on the type of ownership structure. Examples of three ownership/use scenarios and associated home evaluation protocols are discussed below.

Single Owner Duplex: In this ownership structure the owner typically lives in one side of the duplex and rents or leases the other side. In this case, the owner of the duplex can receive a maximum award of \$150,000. The home evaluation will be conducted as if the home is a single-family residence (i.e., a component by component analysis). The duplex owner under this scenario will also be allowed two each of the following housing components: kitchens, HVAC, smoke detectors, electric service panels, and hot water tanks.

Multiple Owner Duplex: Each side of the duplex will be treated as a separate unit. Each owner submits an application. The home evaluation on each side of the duplex will be performed as if it was a single-family home. The following three protocols will be used to allocate common area components:

- 1. Pro-rata Square Footage.** The total square footage of compensatable area will be measured and calculated for the entire duplex excluding utility and garage space. Each living unit will be measured for its pro-rata share of the compensatable square footage. This ratio expressed as a percentage shall be used for prorating all common building components that are equally

- shared, for example, the roof, insulation, foundation, exterior siding, site improvements, utility services, and exterior porches.
2. **By Ownership and Use Agreement.** Components that can be allocated by use or ownership to a specific unit shall be included in that unit's calculation. For example, if one half of a duplex per a lease agreement has use of the attached garage, then that unit would receive full calculation of the garage, or if the owner of one-half of a duplex uses the entire interior utility room for storage, it should be included in the primary user's calculation. The evaluators will interview the owners and allocate per the reported ownership.
 3. **By Unit.** Individual building components that are clearly associated with the unit, for example, doors and windows, shall be included in the individual unit's count.

Mixed-Use Duplex: Homeowners living in duplex structures in which a portion is dedicated to commercial use will have a Type 2 evaluation conducted on the portion of the property that the homeowner resides in. The homeowner will receive an elevation allowance based on the pro rata share of the foundation beneath the residential side of the duplex. Common areas that are damaged would be allocated using the three protocols above.

9. Manufactured (Mobile) Home Replacement

The Road Home will provide compensation for eligible owners of manufactured (mobile) homes destroyed by Katrina or Rita that are on land owned or leased by the applicant. All manufactured homes will be evaluated as 100% destroyed (i.e., a Type 1 evaluation will be conducted on all manufactured homes.).

The following unit rates will be used to determine total replacement allowances:

Manufactured Home Type (square feet)	Unit Rate Allowance (\$/square feet)
Single Wide	35
Double Wide	40
Triple Wide	45

Older single-wide manufactured homes are generally between 46 and 56 feet long in length and between 10 and 12 feet in width. The living area of older manufactured homes generally ranges between 740 and 960 square, but can be less. Newer single-wide manufactured homes are typically 76 feet long and between 14 and 16 feet wide and have between 1,064 and 1,216 square feet of living area. Double-wide manufactured homes are generally between 24 and 32 feet in width and between 48 and 56 feet in length and have between 1,152 and 1,792 square feet of living area. Triple-wide manufactured homes generally have a minimum of width of 28 feet with a portion of the unit having a width up to 56 feet (this is gained by "stacking two 28 feet wide units). Triple wide manufactured homes have lengths between 48 and 56 feet. Generally a manufactured home having a living area in excess of 1,800 square feet would be a considered a triple.



Protocols for Estimating Replacement Housing Costs, v10

The home evaluators will determine whether the manufactured home is a single-, double-, or triple-wide and use the corresponding unit rate to determine a replacement allowance. Any additional living space added to the basic structure will receive a square footage allowance based on the unit rate used to determine the replacement allowance. For example, if a 10 foot by 10 foot room was added to a single-wide manufactured home an additional 100 square feet of area would be added to the area of the basic manufactured home. In this example an additional \$3,500 would be added to the replacement allowance.

The unit rate allowances indicated above include transportation, set-up, and skirting. A separate allowance of \$500 will be granted for utility connections. For manufactured homes that require elevation, a \$15/SF allowance will also be included.

SAMPLE

APPENDIX A

Ineligible Repair and Replacement Components

SAMPLE

The following repairs and replacements ARE NOT covered under *The Road Home* Program:

Exterior

- Detached garages and outbuildings
- Boat ramps, docks
- BBQ grills
- Landscaping, including tree removal for aesthetic purposes
- Aluminum patio covers, not to include carport covers
- Pools, pool houses, jetted tubs
- Exterior showers
- Decks and patios
- Aluminum or wooden awning
- Solar heating and power systems
- Skylights (not for replacement; skylight repair is eligible)
- Window shutters
- Security bars on windows
- Specialty roofing (minimum allowance only)

Interior

- 2nd kitchens (in single family homes)
- Crown molding, wainscoting
- Entertainment systems (in-wall speakers, wiring, etc.)
- All special construction not found in moderate-cost housing
- Cabinets in excess of 22 linear feet in any room
- Custom shelving in walk-in closets
- Wallpaper
- Countertop appliances
- Jacuzzi-style tubs
- Washers and dryers
- Wood floors (repair only)

Utility Related

Cable TV and telephone connections, security systems

APPENDIX B

Line Drawings That Illustrate The Calculation of Type 1 and 2 Repair/Replace Allowances

(Note: References to Specification Nos. in the following drawings refer to the nomenclature used in the HDP software that is used to capture data about damages to the home and is included to provide guidance to home evaluators)

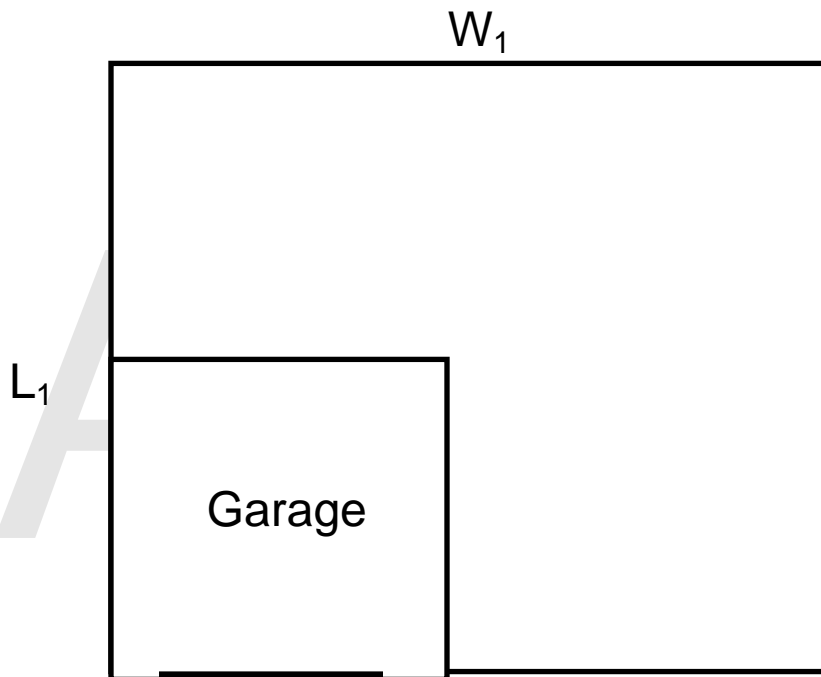
Example 1: House with attached Garage

Type 1 (100% Destroyed)

- Rebuild: Area= $W_1 \times L_1$ (Should be used for Spec 8822)
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 10008)

Type 2 (Work in Progress, Completed Work, Partially Damaged)

- Repair: Area= $W_1 \times L_1$ (All housing components within this area eligible)
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 30 – 10001 and 10003)
- General Requirement, Spec 150: Area = $W_1 \times L_1$ (Total Area Under Common Roof)



Discussion:

General Requirement Spec 150 “Total Area Under Common Roof” is used by *The Road Home* to calculate the rebuilding allowance for a house that is evaluated as non-100% destroyed (i.e., work in progress, etc.). It is important to note that this area includes the cumulative area of all stories. Total area under roof refers to that part of a house that is covered by a single gabled, hipped, gambrel, flat, shed, or other roof type which connect structures that share a common wall. With the exception of carport covers, this definition does not include patios or porches with “awning style” coverings, which generally are not structurally integrated with the main structure of a house or detached structures.

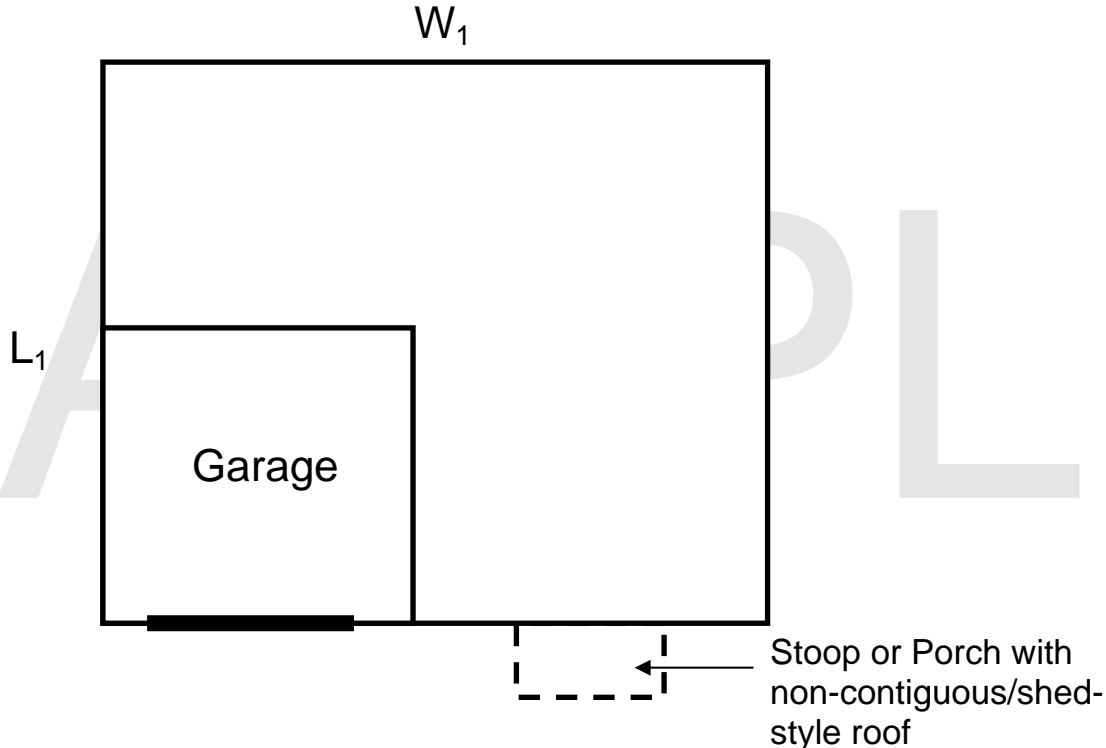
Example 2: House with attached Garage and semi-attached Porch/Stoop under non-contiguous roof

Type 1 (100% Destroyed)

- Rebuild: Area= $W_1 \times L_1$ (Should be used for Spec 8822)
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 10008)

Type 2 (Work in Progress, Completed Work, Partially Damaged)

- Repair: Area= $W_1 \times L_1 + \text{SF of stoop/porch}$
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 30 – 10001 and 10003)
- General Requirement, Spec 150: Area = $W_1 \times L_1$ (Total Area Under Common Roof)



Discussion:

General Requirement Spec 150 “Total Area Under Common Roof” is used by *The Road Home* to calculate the rebuilding allowance for a house that is evaluated as non-100% destroyed (i.e., work in progress, etc.). It is important to note that this area includes the cumulative area of all stories. Total area under roof refers to that part of a house that is covered by a single gabled, hipped, gambrel, flat, shed, or other roof type which connect structures that share a common wall. With the exception of carport covers, this definition does not include patios or porches with “awning style” coverings, which generally are not structurally integrated with the main structure of a house or detached structures.

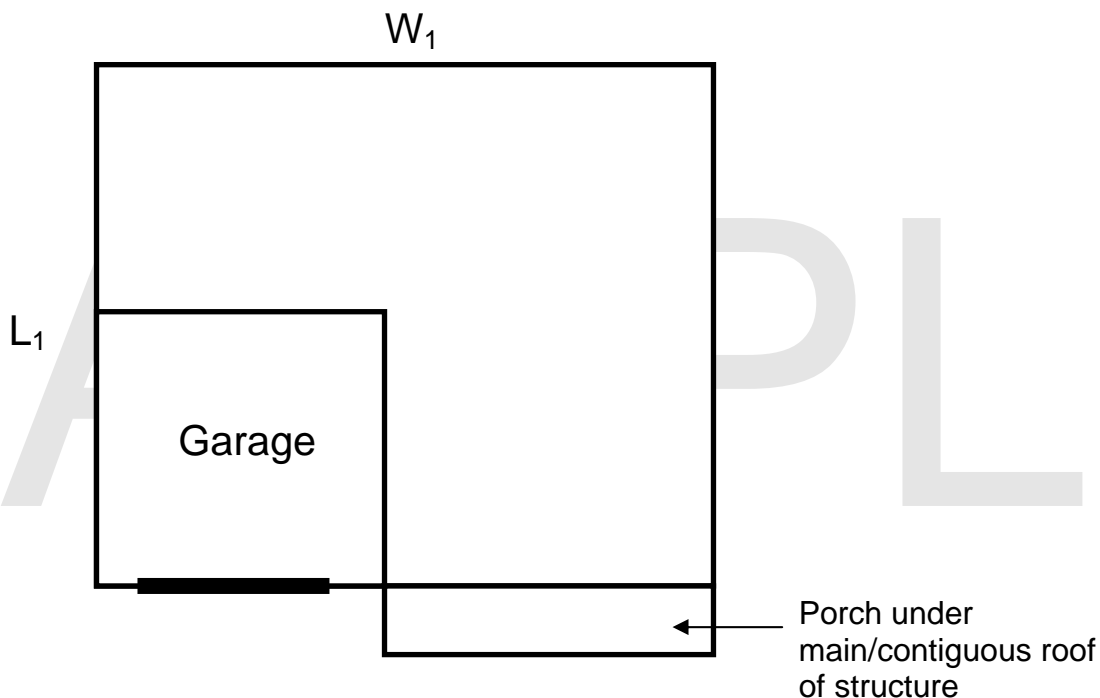
Example 3: House with attached Garage and Porch under contiguous roof:

Type 1 (100% Destroyed)

- Rebuild: Area= $W_1 \times L_1 + \text{SF porch}$ (Should be used for Spec 8822)
- Elevation: Area= $W_1 \times L_1 + \text{SF porch}$ (Should be used for Spec 10008)

Type 2 (Work in Progress, Completed Work, Partially Damaged)

- Repair: Area= $W_1 \times L_1 + \text{SF porch}$
- Elevation: Area= $W_1 \times L_1 + \text{SF porch}$ (Should be used for Spec 30 – 10001 and 10003)
- General Requirement, Spec 150: Area = $W_1 \times L_1$ (Total Area Under Common Roof)



Discussion:

General Requirement Spec 150 “Total Area Under Common Roof” is used by *The Road Home* to calculate the rebuilding allowance for a house that is evaluated as non-100% destroyed (i.e., work in progress, etc.). It is important to note that this area includes the cumulative area of all stories. Total area under roof refers to that part of a house that is covered by a single gabled, hipped, gambrel, flat, shed, or other roof type which connect structures that share a common wall. With the exception of carport covers, this definition does not include patios or porches with “awning style” coverings, which generally are not structurally integrated with the main structure of a house or detached structures.

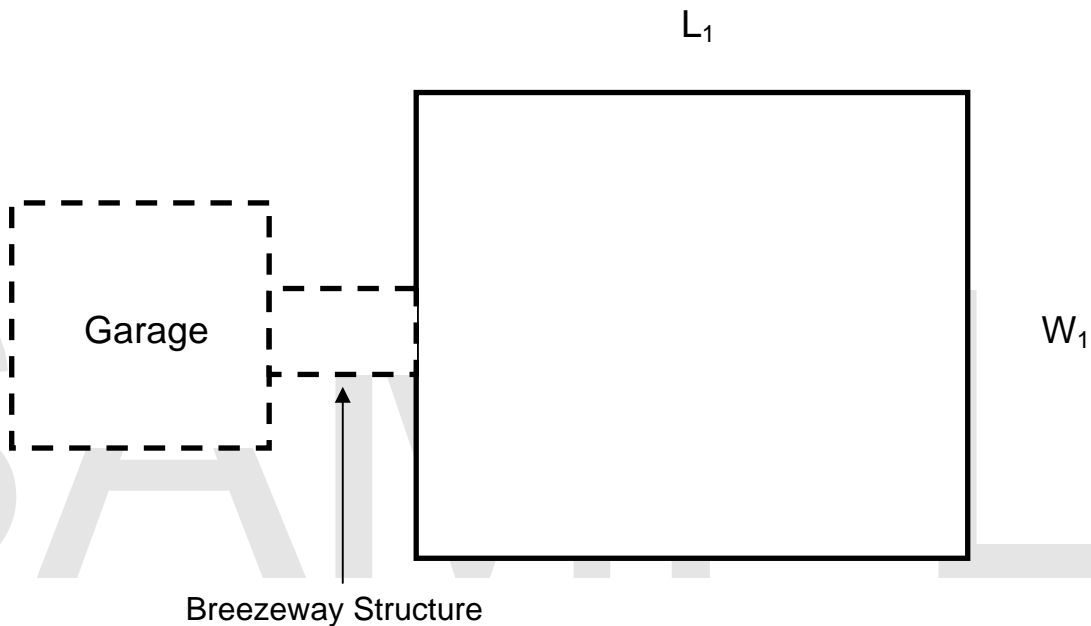
Example 4: House with semi-attached Garage and Breezeway, not sharing a common wall

Type 1 (100% Destroyed)

- Rebuild: Area= $W_1 \times L_1$ + Breezeway and Garage⁴ (Should be used for Spec 8822)
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 10008)

Type 2 (Work in Progress, Completed Work, Partially Damaged)

- Repair: Area= $W_1 \times L_1$ + Breezeway and Garage¹
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 30 – 10001 and 10003)
- General Requirement, Spec 150: Area = $W_1 \times L_1$



Discussion:

General Requirement Spec 150 “Total Area Under Common Roof” is used by *The Road Home* to calculate the rebuilding allowance for a house that is evaluated as non-100% destroyed (i.e., work in progress, etc.). It is important to note that this area includes the cumulative area of all stories. Total area under roof refers to that part of a house that is covered by a single gabled, hipped, gambrel, flat, shed, or other roof type which connect structures that share a common wall. With the exception of carport covers, this definition does not include patios, breezeways, or porches with “awning style” coverings, which generally are not structurally integrated with the main structure of a house or structures that do not share a common wall with the main structure of the house (e.g., Example 4).

⁴ For Type 1 evaluations, garages that are connected to the main structure via a breezeway that are constructed of framed walls or trussed roofs should be included in the calculation of total area for replacement. For Type 2 evaluations they should be included in the exterior component of the assessment.

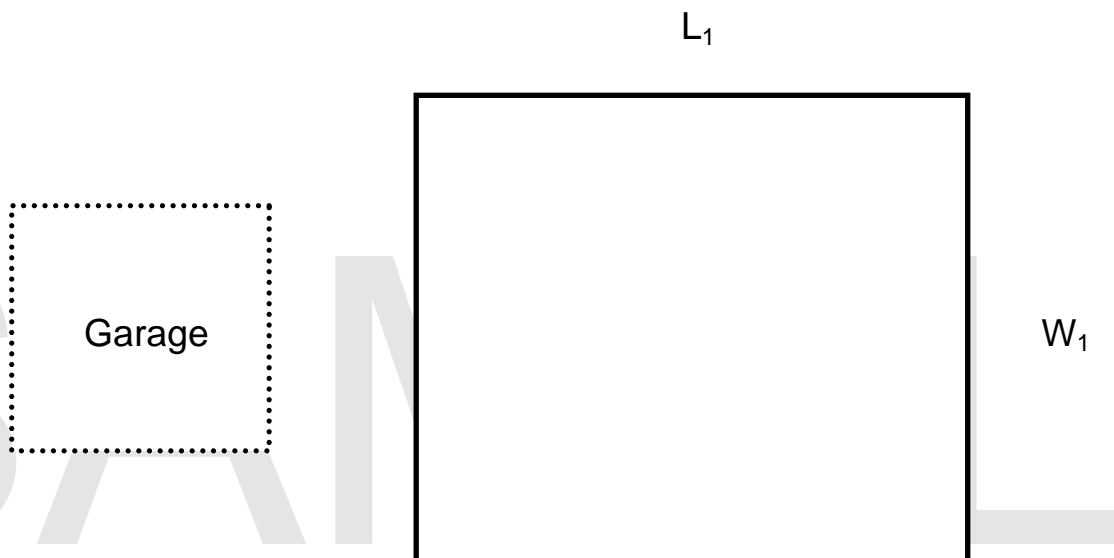
Example 5: House with detached Garage:

Type 1 (100% Destroyed)

- Rebuild: Area= $W_1 \times L_1$ (Should be used for Spec 8822)
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 10008)

Type 2 (Work in Progress, Completed Work, Partially Damaged)

- Repair: Area= $W_1 \times L_1$
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 30 – 10001 and 10003)
- General Requirement, Spec 150: Area = $W_1 \times L_1$ (Total Area Under Common Roof)



Discussion:

General Requirement Spec 150 “Total Area Under Common Roof” is used by *The Road Home* to calculate the rebuilding allowance for a house that is evaluated as non-100% destroyed (i.e., work in progress, etc.). It is important to note that this area includes the cumulative area of all stories. Total area under roof refers to that part of a house that is covered by a single gabled, hipped, gambrel, flat, shed, or other roof type which connect structures that share a common wall. With the exception of carport covers, this definition does not include patios or porches with “awning style” coverings, which generally are not structurally integrated with the main structure of a house or detached structures.

Example 6: House with attached Carport:

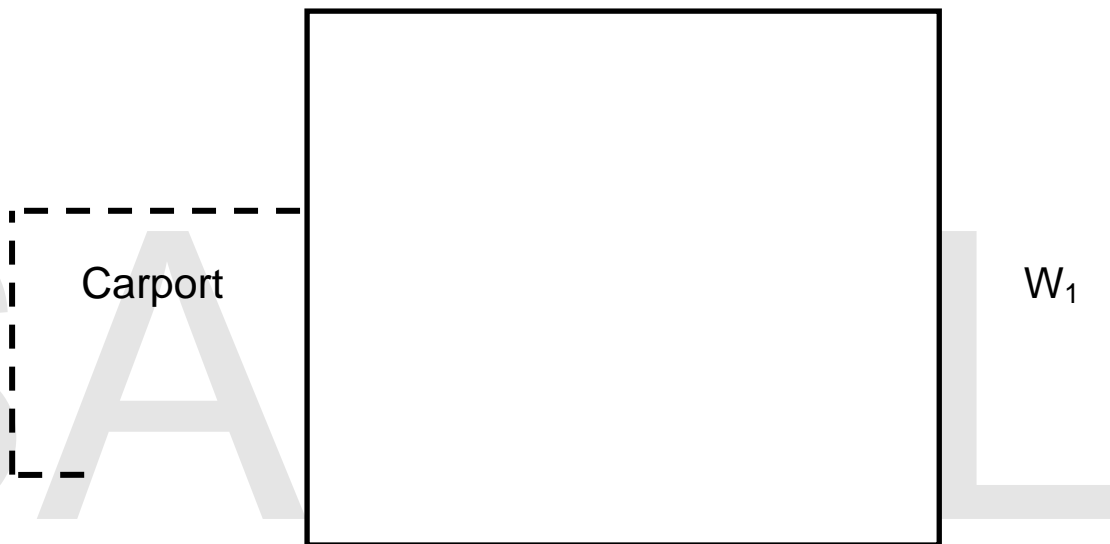
Type 1 (100% Destroyed)

- Rebuild: Area= $W_1 \times L_1 + \text{Carport}^5$ (Should be used for Spec 8822)
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 10008)

Type 2 (Work in Progress, Completed Work, Partially Damaged)

- Repair: Area= $W_1 \times L_1 + \text{Carport}$
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 30 – 10001 or 10003)
- General Requirement, Spec 150: Area = $W_1 \times L_1$

L_1



Discussion:

General Requirement Spec 150 “Total Area Under Common Roof” is used by *The Road Home* to calculate the rebuilding allowance for a house that is evaluated as non-100% destroyed (i.e., work in progress, etc.). It is important to note that this area includes the cumulative area of all stories. Total area under roof refers to that part of a house that is covered by a single gabled, hipped, gambrel, flat, shed, or other roof type which connect structures that share a common wall. With the exception of carport covers, this definition does not include patios, breezeways, or porches with “awning style” coverings, which generally are not structurally integrated with the main structure of a house or structures that do not share a common wall with the main structure of the house.

⁵ In this example a rebuild allowance for a carport should only be provided for a framed or block-wall carport structure that has a trussed roof.

2 Story House with attached Garage (same formula to be used for one and a half story homes with 1.5 substituted for 2):

Type 1 (100% Destroyed)

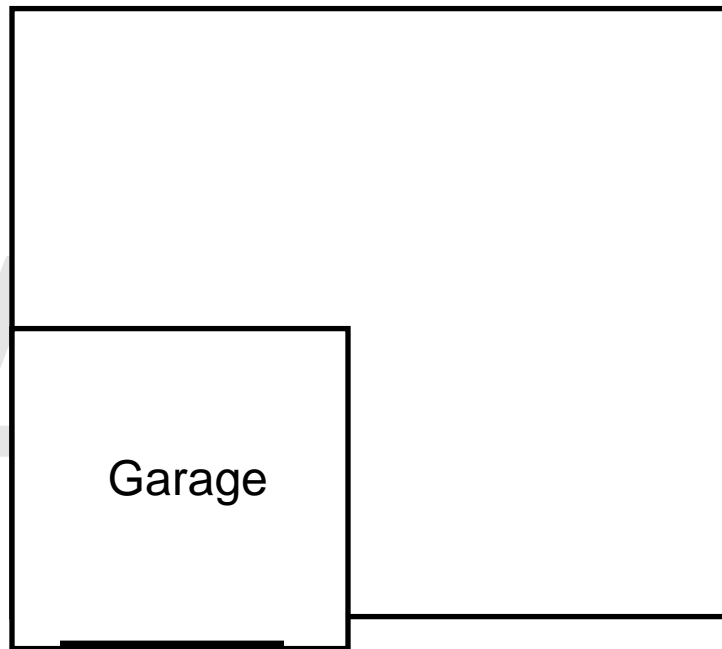
- Rebuild: Area= $2 (W_1 \times L_1)$ (Should be used for Spec 8822)
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 10008)

Type 2 (Work in Progress, Completed Work, Partially Damaged)

- Repair: Area= $2 (W_1 \times L_1)$
- Elevation: Area= $W_1 \times L_1$ (Should be used for Spec 30 – 10001 or 10003)
- General Requirement, Spec 150: Area = $2 (W_1 \times L_1)$

W_1

L_1



Discussion:

General Requirement Spec 150 “Total Area Under Common Roof” is used by *The Road Home* to calculate the rebuilding allowance for a house that is evaluated as non-100% destroyed (i.e., work in progress, etc.). It is important to note that this area includes the cumulative area of all stories. Total area under roof refers to that part of a house that is covered by a single gabled, hipped, gambrel, flat, shed, or other roof type which connect structures that share a common wall. With the exception of carports, this definition does not include patios or porches with “awning style” coverings, which generally are not structurally integrated with the main structure of a house or detached structures.