

RESIDENTIAL ALTERATION CUSTOMER ASSISTANCE GUIDE



Charles County Government

Department of Planning & Growth Management

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CHARLES COUNTY MARYLAND
Where Eagles Fly™

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**CHARLES COUNTY GOVERNMENT
PLANNING & GROWTH MANAGEMENT
P.O. BOX 2150
LA PLATA, MD 20646**

August 3, 2015

WHEN IS A BUILDING PERMIT REQUIRED FOR A RESIDENTIAL ALTERATION OR REPAIR?

A permit is required for all interior or exterior structural alterations or repairs to single family dwellings. A permit is required for all interior or exterior structural alterations or repairs to residential detached accessory buildings, such as garages, with an aggregate area of more than 200 s.f.

If the proposed alteration increases the existing square footage by more than 70%, the alteration will require a sprinkler system. Example: 2,000 square foot house – alteration greater than 1,400 square feet would require a sprinkler system. For additional details, please contact the plan reviewer at 301-645-0730.

WHEN IS A BUILDING PERMIT NOT REQUIRED FOR A RESIDENTIAL REPAIR?

A permit is not required for ordinary repairs to structures. Ordinary repairs are non-structural repairs. Such repairs shall **NOT** include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load bearing support.

NOTE: Examples of the types of alterations that do not require a permit are: shingles, siding, carpet/tile, gutter, or drywall replacement. A window or door may be replaced without a permit, provided that existing opening sizes are not affected.

PROCEDURE TO OBTAIN A BUILDING PERMIT FOR A RESIDENTIAL ALTERATION OR REPAIR:

1. **Application:** Complete the attached building permit application (Attachment 1).
2. **Construction Drawings:** Two (2) complete sets shall include fully dimensioned floor plans. Provide plans as necessary to describe scope of work. All drawings shall be scaled to a minimum of ¼" = 1'0". All structural information shall be consistent with materials intended to be used at time of construction. Reference the attached drawing checklist (See Attachment 2).
3. **Site Plan:** If the footprint of the structure will not change, a site plan is not required. If the footprint will change, refer to the Residential Addition Customer Assistance Guide for instructions.
4. **Environmental Health Department Approval:** If the property is served by well and/or on-site sewage disposal system, approval from the Environmental Health Department is required. Same Day Permits require pre-approval. Submit a detailed scope of work, including the number of existing and proposed bedrooms, and a \$65.00 review fee to the Health Department. For more information, contact the Health Department at 301-609-6900.

5. Complete Load Path Form: The Complete Load Path is a series of wall and roof ties installed on a building which are designed to reduce up lift during high wind storms. This form shall be provided with the issued building permit and a completed copy shall be provided to the building inspector at the corresponding inspection (See Attachment 3).

In addition, the following information shall be provided for specific areas in Charles County:

Zoning

1. If your property is located within the neighborhoods of the Smallwood Village PUD – Huntington (including Sentry Woods), Bannister, Sheffield, and Wakefield – you may need to obtain the Planning Design Review Board (PDRB) approval from the Smallwood Village PDRB. You may contact them at:

SMALLWOOD VILLAGE – PDRB, 14G Irongate Drive, Waldorf
Telephone Number: 301-843-8111

2. If your property is located within the neighborhoods of the Westlake PUD – Hampshire, Lancaster, Dorchester, and any future neighborhoods – you may need to obtain PDRB approval from the Westlake Village PDRB. You may contact them at:

WESTLAKE VILLAGE – PDRB, 236 Smallwood Village Center, Waldorf
Telephone Number: 301-870-4304

3. If your property is located in Potomac Heights, you must submit the Review Committee approval letter. You may contact them at:

POTOMAC HEIGHTS – 200 Cedar Lane, Indian Head
Telephone Number: 301-753-9148

4. If your property is located in Swan Point, you must submit the Architectural Review Committee (ARC) approval letter and two copies of the stamped architectural drawings approved by the committee. You may contact them at:

SWAN POINT – 11550 Swan Point Boulevard, Issue
Telephone Number: 301-259-0054

Other Permits

1. Plumbing Permits: **Prior** to commencement of any plumbing and/or gas work, a plumbing permit shall be obtained from Codes, Permits, and Inspection Services. The plumbing permit application shall be signed by a Maryland Registered Master Plumber.
2. Electrical Permits: **Prior** to commencement of any electrical work, an electrical permit shall be obtained from Codes, Permits, and Inspection Services. The electrical permit application shall be signed by a Master Electrician licensed by the Board of Electrical Examiners and Supervisors of Charles County.

3. Mechanical Permits: **Prior** to commencement of any mechanical (HVAC) work, a mechanical permit shall be obtained from Codes, Permits, and Inspection Services. The mechanical permit application shall be signed by a Maryland Registered Master HVAC Contractor.

NOTE: Homeowners desiring to do his/her own plumbing and electrical work must complete an application and pass an examination. Exams are administered at the Charles County Government Building. Provide 24 hour notice by calling Codes, Permits, and Inspection Services at 301-645-0692. Any person wishing to take the exam shall have his/her application on file with Codes, Permits, and Inspection Services within a reasonable time prior to the date of the scheduled exam.

NOTE: Homeowners desiring to do his/her own electrical work must complete an application and provide it to the Charles County Board of Electrical Examiners. The Board will evaluate and then approve or disapprove the homeowner's application. Once the application has been approved or disapproved by the Board, the homeowner will be notified and if approved, an exam may be scheduled. Please contact the Board's secretary at 301-638-0804.

Fees **Fees are subject to change every July 1**

Please make checks payable to Charles County Commissioners.

1. Application Fee

A \$37.00 non-refundable application fee is due when you apply for your permit. Fee may be paid at issuance for Same Day Permits.

2. Plan Review Fee

\$0.43 per square feet of the gross building area of alteration. The minimum plan review fee is \$53.00. This non-refundable fee is due when you apply for your permit. Fee may be paid at issuance for Same Day Permits.

3. Inspection Fee

This fee is due when the permit is issued.

Footing - \$38.00	Load Path - \$25.00
Foundation - \$38.00	Energy - \$38.00
Rebar - \$38.00	Framing - \$73.00
Slab - \$33.00	Final - \$73.00

4. Technology Fee

A 4% Technology Fee surcharge will be added to all permits issued after July 1, 2014.

Contractor License Requirement

Maryland Home Improvement Commission (MHIC)

Use and Occupancy Certificate

The Use and Occupancy Certificate shall be obtained from Codes, Permits, and Inspection Services prior to using or occupying a building or structure. When requesting a Use and Occupancy Certificate, submit the Use and Occupancy Approval form signed by the building inspector from the inspection agency.

Codes, Regulations, and Standards for Construction in Charles County

See Attachment 3.

The following is a list of commonly requested telephone numbers for State and County agencies:

- Health Department 301-609-6900
 Web Site www.charlescountyhealth.org

- Inspection Agency 301-645-3302
 Building, Electrical, Plumbing, & Mechanical Inspections 301-870-8710
 Web Site www.planchekinc.com

- Planning & Growth Management
 Codes, Permits, & Inspection Services.....301-645-0692 or 301-870-3935
 Planning & Zoning301-645-0540 or 301-870-3896
 Engineering301-645-0618 or 301-870-3937
 Fax 301-645-0575
 Web Site www.charlescountymd.gov/pgm

- Soil Conservation..... 301-934-9588, Ext 3 or 301-870-3555
 Web Site www.charlesscd.com

- State Highway Administration..... 1-800-876-4742 or 410-333-1350
 Web Site www.marylandroads.com

- State Fire Marshal 443-550-6820
 Web Site www.firemarshal.state.md.us

Mission Statement

The mission statement of Charles County Government is to provide our citizens the highest quality service possible in a timely, efficient, and courteous manner. To achieve this goal, our government must be operated in an open and accessible atmosphere, be based on comprehensive long – and short – term planning, and have an appropriate managerial organization tempered by fiscal responsibility.

Vision Statement

Charles County is a place where all people thrive and businesses grow and prosper;
where the preservation of our heritage and environment is paramount;
where government services to its citizens are provided at the highest level of excellence;
and where the quality of life is the best in the nation.



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 200 Baltimore Street, P.O. Box 2150, La Plata, MD 20646
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www.charlescounty.org
 Inspections: (301) 870-8710 or (301) 645-3302

FOR OFFICE USE ONLY	
Date Received:	_____
Permit Number:	_____
Revision To:	_____
Plans on File #:	_____
Same Day:	Y or N
Time Received:	_____

BUILDING AND ZONING PERMIT APPLICATION

Property Tax Number	OR	Tax Map	Parcel	Grid
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Property Owner(s) Name	Address/E-Mail Address	City, State	Zip	Phone No.
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Applicant(s) Name	Address/E-Mail Address	City, State	Zip	Phone No.
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Contractor's Name	Address/E-Mail Address	City, State	Zip	Phone No.
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MD Homebuilders Registration No.	MD Home Improvement No.	MD State License No.
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Job Address (ADC Map #, House #, Street, City, etc.) _____

Subdivision Name	Lot No.	Section	Block	Acreage
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General Description of Work and Intended Use: _____

Total Disturbed Area	Flood Plain Elevation	Front Yard Setback	Rear Yard Setback	Right Yard Setback	Left Yard Setback
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State Road: <input type="checkbox"/> Yes <input type="checkbox"/> No	Chesapeake Bay Critical Area: <input type="checkbox"/> Yes <input type="checkbox"/> No	Stormwater Management:
County Road: <input type="checkbox"/> Yes <input type="checkbox"/> No	Resource Protection Zone: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Provided <input type="checkbox"/> Exempt <input type="checkbox"/> Waived
PDRB Approval: <input type="checkbox"/> Yes <input type="checkbox"/> No	Development District: <input type="checkbox"/> Yes <input type="checkbox"/> No	

Total Floor Area: _____	No. of Full Bathrooms: _____	Public: <input type="checkbox"/> Water <input type="checkbox"/> Sewer	Related Permits Required:
No. of Stories: _____	No. of 1/2 Bathrooms: _____	Private: <input type="checkbox"/> Well <input type="checkbox"/> Septic	Electrical: <input type="checkbox"/> Yes <input type="checkbox"/> No
No. of Bedrooms: _____	Rough-In Only: _____	Food/Drink: <input type="checkbox"/> Yes <input type="checkbox"/> No	Plumbing: <input type="checkbox"/> Yes <input type="checkbox"/> No

Estimated Construction Cost (Building Cost Only): Application Fee: _____ Plan Review Fee: _____ Soil Conservation Fee: _____ Inspections: _____ Total: \$ _____ Name on Check: _____	Commercial Business Trading As: <div style="text-align: center;">Treasurer's Validation</div>
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CAUTION: I/we have carefully examined and read this application and know the same is true and correct. I/we are also aware that whoever is indicated as the OWNER assumes full responsibility for this application and for the construction and will comply with all provisions of the Charles County ordinances and State laws whether herein specified or not. I/we further understand that to start construction before a building permit is issued and to use and occupy the premises before a Use and Occupancy Certificate is obtained is in violation of the law.

Signature of <input type="checkbox"/> Owner or <input type="checkbox"/> Authorized Agent	Printed Name	Date	Permit Specialist Initials
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Checklist for Residential Alteration Drawings

The provided checklist should be utilized as a tool to complete the required construction drawings for each permit type. The checklist should be used as a reference as to the adopted building codes local Charles County Ordinance requirements. Please use this checklist as a reference to insure each component of the structure to be built has been shown on the submitted designs. Not all items indicated on the checklist will pertain to your specific project. Please reference only those items you intend to utilize for your project. **Example;** Referring to the drawing checklist for a single family dwelling. Where the floor framing information is requested, and the dwelling will be constructed with a wood framed floor system, the items listed there must appear on the drawings submitted at the time of permit application. These checklists pertain only to the actual structure and do not represent what information will be required on the associated site plans as applicable.

- A permit is required for all interior or exterior residential alterations to a single family dwelling including repairs. This also includes alterations to accessory structures to include garages and sheds that have an area in excess of 200 square feet. Specific repairs are exempt from permit; see the related Customer Assistance Guide for details.
- All information on the existing structure or the proposed alterations that cannot be inspected for code and design compliance shall be signed and sealed by a Maryland registered design professional. Request a copy of the Charles County Certification Guidelines from Permit staff.
- Site plans are required for alterations involving a revision to a house type or elevation related to an issued single family dwelling permit. See the related Customer Assistance guide for details.
- Minimum scale of ¼” to 1’ for all drawings.

- **FLOOR PLANS**
 - Uses and dimensions of all areas provided?
 - All proposed areas involving demolition work has been shown?
 - The floor plan for the entire existing structure, to include the proposed renovations has been provided?
 - Indicated location and sizes of all doors and windows?
 - Location of any stairs provided?
 - Indicated if the existing structure has an automatic fire suppression system?
- **FRAMING INFORMATION**
 - Footing Details (as applicable)
 - Provided a detail of the existing footing where the proposed footing is to be placed?
 - Indicated if the existing structure has been placed on a crawl space, basement or slab on grade?
 - Depth of footing shown? Bottom to finished grade – minimum 24”
 - Depth of footing shown? Bottom to finished grade if located in an area of geotechnical concern – minimum 48”
 - Thickness of footing shown?
 - Width of footing indicated?

- Indicated method to be used to join the existing footing to the proposed footing?
- Foundation Walls (as applicable)
 - Type of wall indicated? (Poured concrete, CMU, etc.)
 - Thickness of wall indicated? (minimum 6" required)
 - Height of wall indicated?
 - Type of foundation anchors indicated? (sill plate anchors or bolts)
- Wall Construction (as applicable)
 - Indicated the species and grade of lumber to be used?
 - Indicated if metal studs to be used? Identification numbers provided?
 - Provided the wall framing information for the existing structure?
 - Height and spacing of the studs shown?
 - Provided a wall layout that indicates opening locations?
 - Provided all header sizes and material?
 - Indicated the interior wall covering method to be installed?
 - Indicated the type of exterior sheathing to be used?
 - Indicated the placement of the required water resistive barrier?
 - Indicated the type of exterior veneer to be installed?
 - Indicated the locations of all braced wall panels? (as applicable)
- Floor Construction (as applicable)
 - Indicated the species and grade of lumber to be used?
 - Indicated if metal joists to be used? Identification numbers provided?
 - Indicated if an engineered floor system to be used? Layout provided?
 - Provided the floor framing information for the existing structure?
 - Indicated the location and dimension of any and all existing cantilevers that are to be attached to with the proposed new framing?
 - Size and material of support beams provided?
 - Spans of support beams indicated? (distance between supports)
 - Size and material of support posts provided?
 - Size of floor joist indicated?
 - Spans for floor joist provided?
 - Spacing for floor joist indicated?
 - Stair construction provided? (as applicable)
 - Framing details shown?
 - Attic access (scuttle opening) provided? (as applicable)
 - Is the location shown?
 - Size of opening indicated?
 - Pull down stairs provided? (as applicable)
 - Is the location shown?
- Roof Construction (as applicable)
 - Gable roof provided?
 - Hip roof provided?
 - Gambrel roof provided?
 - Flat roof provided?
 - Indicated the degree of slope?

- Indicated the placement of the required ice shield underlayment?
 - Indicated the placement of the required water resistive barrier?
 - Indicated the type of roof covering?
 - Indicated the type of roof system to be used?
 - Provided the roof framing information for the existing structure?
- Pre-manufactured truss roof (as applicable)
 - Is the manufacturer's layout provided to indicate placement of support beams, with the permit drawings?
- Field framed roof system (as applicable)
 - Indicated the grade and species of the lumber to be used?
 - Provided the roof pitch?
 - Provided the rafter size?
 - Provided the rafter spacing?
 - Provided the rafter spans?
 - Provided the ceiling joist size?
 - Provided the ceiling joist spacing?
 - Provided the ceiling joist spans?
 - Provided the size and material of ridge beam? Or ridge board?
 - Provided the details for ridge beam support?
 - Indicated the dormer locations?
 - Framing information provided for the dormers, mirrors that for wall and roof requirements?
 - Indicated the type and amount of ventilation that is to be provided for attic space?
- Indicated the exterior wall covering material?
- Indicated the interior coverings? (**if provided**)
- Indicated the method of waterproofing for the foundation walls? (as applicable)
- Indicated the location of electrical components? (**if provided**)
- Indicated location of fuel burning appliances? (**if provided**)
- Indicated the location of plumbing components? (**if provided**)
- Indicated the Insulation 'R' values? (**all values shown are minimums**)
 - Floors – **R-19**
 - Wood framed walls – **R-20**
 - Attic – **R-49, an exception exists for R-38**
 - Mass walls (Concrete or Masonry) – **R-8**
 - Basement – **R-10, R-13**
 - Slab on grade – **R-10, minimum 2' of perimeter**

Complete Load Path and Wall Bracing Form

An inspection of the complete load path and wall bracing requirements must be performed prior to the building framing inspection. The complete load path is a series of wall and roof connections that are installed on a building that to reduce up lift during a high wind event. The sill plate, band board, engineered trusses or rafters and all components of the exterior walls are to be secured to the foundation utilizing prefabricated metal components that are approved for this purpose. These metal components are to be spaced as close as technically possible to the intervals for the required foundation anchors. All metal components are to be installed utilizing the prescribed nails and/or screws per the manufacturer specifications. Another means to meet complete load path requirements of the adopted building code is through the use of staggered structural sheathing. This method allows the wood sheathing installed on the exterior side of the exterior walls to overlap and be secured to the bottom plate and at minimum 18" above the total wall construction.

The wall bracing consists of three components; A BRACED WALL LINE, which is a straight line through the building plan that represents the location of the lateral resistance provided by the wall bracing. A CONTINUOUSLY SHEATHED BRACED WALL LINE; which is a *braced wall line* with structural sheathing applied to all sheathable surfaces including the areas above and below openings and a BRACED WALL PANEL. A braced wall panel is a full-height section of wall constructed to resist in-plane shear loads through interaction of framing members, sheathing material and anchors. The panel's length meets the requirements of its particular bracing method, and contributes toward the total amount of bracing required along its *braced wall line* in accordance with Section R602.10.1 of the adopted International Residential Code (IRC).

- A certified design of the complete load path and wall bracing requirements have been prepared by an architect or structural engineer signed and sealed will be presented at the time of inspection.
- I agree that I am solely responsible for complying with the 2015 Charles County Building Code for complete load path and wall bracing requirements. This form will be completed and presented to the inspector at the time of the inspection.
- Staggered structural sheathing installed covering the band board and sill plate with a minimum of 18" above the rim board on the second story.

A separate inspection and additional inspection fee will be required for the complete load path and provided wall bracing systems. Schedule this inspection prior to installation of the required moisture barrier on the exterior walls.

Signature of Owner/Builder

Print Name

Date

Signature of Architect/Engineer

Print Name

Date

Complete Load Path and Wall Bracing Compliance Form for Residential Projects

Building Permit Number _____

Load Path Placement	Method of Load Path Compliance	Nail/Screw Sizes and # Installed
Foundation Anchor		
Band Board to Sill Plate		
Band Board to Bottom Wall Plate		
Header Connection		
Wall Plates to Stud		
Floor to Floor anchors		
Truss/Rafter to top wall plate		
Joist hangers for decks		
Ledger Attachment for decks		

<u>LIB</u>	<u>CS</u>	<u>GB</u>	<u>CS-WSP</u>	<u>OTHER</u>

*Indicate which are applicable *See following attachment for related definitions*

Provide this completed form to the inspector on site at the requested load path and wall bracing inspection.

Wall Bracing Method Definitions;

LIB – (Let – In – Bracing); a diagonal brace inserted or let-into a stud.

CS – (Continuous Sheathed); references a wall bracing method that has structural sheathing applied to all sheathable surfaces including the areas above and below an opening

GB – (Gypsum Board); a panel whose gypsum core is paper faced on each side, and is used to cover walls and ceilings while providing a smooth surface that is easy to finish. Used as a substitute for plaster.

CS – WSP – (Continuous Sheathing Wood Structural Panel); see definition for CS, this method has width and wall height limits, reference table R602.10.5

CHARLES COUNTY GOVERNMENT
DEPARTMENT OF PLANNING AND GROWTH MANAGEMENT
P.O. BOX 2150, LA PLATA, MARYLAND 20646

CODES, REGULATIONS AND STANDARDS
FOR CONSTRUCTION IN CHARLES COUNTY

August 3, 2015

1. International Building Code/2015, International Mechanical Code/2015 and the International Energy Conservation Code/2015 as amended by periodic supplements and Charles County Bill No. 2015-05.
2. International Residential Code/2015 as amended by periodic supplements and Charles County Bill No. 2015-05.
3. National Electrical Code/2014
4. International Existing Building Code/2015 **(existing structures more than one year old)**
5. 2015 International Plumbing Code
6. 2015 International Fuel Gas Code
7. Code of Maryland Regulations 05.02.02 -Maryland Accessibility Code
8. Code of Maryland Regulations 05.02.06.02B - Maryland Safety Glazing Law
9. Code of Maryland Regulation 29.06.01 State Fire Prevention Code Incorporated by reference: NFPA 101 Life Safety Code/2012 and NFPA 1 Fire Code/2012
10. Code of Maryland Regulations 10.15.03 - Food Service Facilities
11. Code of Maryland Regulations 26.04.02 - On-Site Water Supply and Sewage Disposal
12. 2015 International Property Maintenance Code

PRESCRIPTIVE REQUIREMENTS WORKSHEET (R-VALUES) (METHOD 1, OPTION 1)

APPLICANT NAME _____

DATE _____

APPLICANT ADDRESS _____

PHONE NUMBER _____

BUILDING ADDRESS _____

PERMIT NUMBER _____

CRITERIA	REQUIRED	PROVIDED	ASSEMBLY DESCRIPTION
WINDOWS/DOORS – MAXIMUM U-FACTOR	.35		
MAX SHGC – GLAZED FENESTRATION	0.40		
SKYLIGHTS – MAXIMUM U- FACTOR	.55		
MAX SHGC	0.40		
CEILINGS	R-49		
WALLS (WOOD FRAMING)	R-20 or 13+5		
MASS WALLS	**R-8/13		
BASEMENT WALLS	*R-10/13		
FLOORS	R-19		
SLAB PERIMETER – R-VALUE AND DEPTH	R-10, 2ft		
CONDITIONED CRAWLSPACE	*R-10/13		

Insulation material used in layers, such as framing cavity insulation and insulation sheathing, shall be summed to compute the component R-value.

*** THE FIRST R-VALUE** applies to continuous insulation, the second to framing cavity insulation. “10/13 means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall”.

****THE SECOND R-VALUE** applies when more than half the insulation is on the interior of the mass wall.

- **THERMALLY ISOLATED SUNROOM, CHECK BOX IF APPLICABLE.**

Minimum ceiling R-value for Sunroom (R-19)

Minimum Wall R-Value (R-13)

New wall(s) separating a sunroom from conditioned space shall meet the building thermal envelope requirements.

I hereby certify that the building design represented in the attached construction documents has been designed to meet or exceed the requirements of the 2015 Edition of the International Energy Conservation Code (IECC)

BUILDER/DESIGNER/CONTRACTOR

COMPANY NAME

DATE

**PRESCRIPTIVE REQUIREMENTS WORKSHEET (EQUIVALENT U-FACTORS)
(METHOD 1, OPTION 2)**

APPLICANT NAME _____
 DATE _____
 APPLICANT ADDRESS _____
 PHONE NUMBER _____
 BUILDING ADDRESS _____
 PERMIT NUMBER _____

Criteria	Required	Provided	Assembly Description
Fenestration Max SHGC -glazed fenestration	.35 .40		
Skylight Max SHGC	.55 .40		
Ceilings	.026		
Frame Wall	.060		
Mass Wall	.098		
Floor	.047		
Basement Wall	.059		
Crawl Space Wall	.065		

GLAZING U-FACTORS must be tested and documented by the manufacturer in accordance with the National Fenestration Rating Council (NFRC 100) test procedure or taken from the Default Tables R303.1.3(1) and R303.1.3(2) in the 2015 IECC, Chapter 3. Non-fenestration U-factors must be determined from measurement, calculation, or approved sources for each component

I hereby certify that the building design represented in the attached construction documents has been designed to meet or exceed the requirements of:

- 2015 Edition International Energy Conservation Code (IECC)

 BUILDER/DESIGNER/CONTRACTOR COMPANY NAME DATE

TOTAL UA ALTERNATIVE (METHOD 1, OPTION 3)

PRESCRIPTIVE COMPLIANCE

BASED ON U-FACTORS

Provide all information as outlined in Chapter 4 “Residential Energy Efficiency” of the 2015 IECC.

Alternately, provide a copy of ResCheck calculations. The submitted ResCheck printout shall show all of the following specific information: orientation of each individual wall; insulation types, R-values and whether continuous or cavity; accurate square footage; and accurate window and door sizes and the specific wall in which they are located, along with the U factor.

Builders who have “Plans on File” plans shall provide the worst case orientation for the ResCheck (based on the orientation of the exterior walls). Subsequent submissions will indicate if each proposed building exceeds the worst case scenario or new ResCheck calculations shall be provided with the application.

If the total *building thermal envelope* UA (sum of U-factor times assembly area) is less than or equal to the total UA resulting from using the U-factors in Table 402.1.4 (multiplied by the same assembly area as in the proposed building), the building shall be considered in compliance with Table 402.1.2. The UA calculation shall be done using a method consistent with the ASHRAE *Handbook of Fundamentals* and shall include the thermal bridging effects of framing materials.

ResCheck™

Charles County accepts ResCheck™ program as a tool for energy code compliance. The ResCheck™ program can be downloaded at www.energycodes.gov. An online version of ResCheck™ (ResCheck Web) can be utilized without having to download or install any software on your computer.

TOTAL UA ALTERNATIVE WORKSHEET (METHOD 1, OPTION 3)

APPLICANT NAME _____
 DATE _____
 APPLICANT ADDRESS _____
 PHONE NUMBER _____
 BUILDING ADDRESS _____
 PERMIT NUMBER _____

EXTERIOR WALL ASSEMBLY

COMPONENT	DESCRIPTION	R-VALUE	U-FACTOR U = 1/R	AREA (ft ²)	A x U
Wall 1					
Wall 2					
Ceiling 1					
Ceiling 2					
Door 1					
Door 2					
Other					
Total					
Uo	Overall Uo for exterior wall = (A x U) total ÷ A total				

MEETS CODE

DOES NOT MEET CODE

FLOOR ASSEMBLY

COMPONENT	DESCRIPTION	R-VALUE	U-FACTOR U = 1/R	AREA (ft ²)	A x U
Floor 1					
Floor 2					
Other					
Total					
Uo	Overall Uo for floor assembly = (A x U) total ÷ A total				

MEETS CODE

DOES NOT MEET CODE

ROOF/CEILING ASSEMBLY

COMPONENT	DESCRIPTION	R-VALUE	U-FACTOR U = 1/R	AREA (ft²)	A x U
Ceiling 1					
Ceiling 2					
Other					
Total					
Uo	Overall Uo for Roof/Ceiling = (A x U) total ÷ A total				

MEETS CODE

DOES NOT MEET CODE

BASEMENT WALL ASSEMBLY

COMPONENT	DESCRIPTION	R-VALUE	U-FACTOR U = 1/R	AREA (ft²)	A x U
Basement Wall					

MEETS CODE

DOES NOT MEET CODE

CRAWL SPACE WALL ASSEMBLY

COMPONENT	DESCRIPTION	R-VALUE	U-FACTOR U = 1/R	AREA (ft²)	A x U
Crawlspace Wall					

MEETS CODE

DOES NOT MEET CODE

OVERALL ENVELOPE CONFORMANCE

ASSEMBLY	Uo	Urequired	TOTAL AREA	AxUo	AxUrequired
Exterior Wall					
Floor					
Roof/Ceiling					
Total (AxUo)					
Total (AxU required)					

If the Total AxUo is less than the Total AxU required the building complies with the IECC even though the individual components do not. Basement and crawl space walls must meet the requirements of the basic requirement table above.

I hereby certify that the building design represented in the attached construction documents has been designed to meet the requirements of the 2015 Edition International Energy Conservation Code (IECC)

 BUILDER/DESIGNER/CONTRACTOR COMPANY NAME DATE

METHOD 2

COMPLIANCE WITH PERFORMANCE REQUIREMENTS

R405 -SIMULATED PERFORMANCE ALTERNATIVE

The permit applicant shall submit documentation signed and sealed by a licensed design professional registered in Maryland, including:

1. Address of residence
2. Permit number
3. Analysis shall include heating, cooling and service water heating energy only
4. All mandatory requirements of the 2015 IECC (Residential) shall be met
5. Inspection checklist documenting the building component characteristics of the proposed design, see Table R405.5.2(1) of IECC
6. Accurate square footage
7. Mechanical system features
8. Name of individual completing the report.
9. Name and version of the compliance software tool

APPROVED COMPLIANCE SOFTWARE

RemRate

RemDesign

Energy Gauge

ENERGY EFFICIENCY CERTIFICATE OF COMPLIANCE

ADDRESS _____

RESIDENTIAL COMPLIANCE PATH

(ONLY **ONE** SHALL APPLY)

PERMIT NUMBER _____

Prescriptive R

Prescriptive U

Prescriptive UA

Performance

Building Envelope Air Leakage ____ Air changes Per Hour (Max 3)

Duct System Air leakage _____ cfm per 100sf

Post Const. Testing Rough-in Testing

Ceiling R or U-Value _____

Heating System Efficiency _____

Wood Frame Wall R or U-value _____

Cooling System Efficiency _____

Mass Wall R or U-value _____

Water Heating Efficiency _____

Floor R or U-value _____

Basement Wall R-value _____

Slab R-value _____ Depth _____

Crawl Space R-value _____

Crawl Space R-value _____

Gas Fired Unvented Room Heater

Fenestration U-value _____ SHGC _____

Electric Furnace

Skylight U-factor _____ SHGC _____

Baseboard Electric Heat

Room Heater

Ducts Outside of Thermal Envelope R-value: Supply R-8 Other R-6

I certify the information contained on this certificate is true and complete:

Builder/Designer _____ Signature _____ Date _____

IECC 2015 CHAPTER 4, Section R401.3 CERTIFICATE

A permanent certificate shall be completed and posted on or in the electrical distribution panel by the builder or registered design professional. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.

RESIDENTIAL INSPECTION/REPORT CERTIFICATE

RESIDENTIAL BUILDING PERMITS

Charles County Codes, Permits and Inspection Services (CPIS) will accept this report in lieu of inspecting the work noted below. This inspection must be certified by a contractor possessing a State of Maryland Master Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) license, or a professional engineer licensed in Maryland, or the permit holder.

Section 403.3.3 of the International Energy Conservation Code (IECC), 2015 Edition, requires that all ducts, filter boxes and building cavities used as ducts are tested for tightness. Duct tightness test is **not** required if the air handler and all ducts are located within the conditioned space.

TEST RESULTS

1. POST-CONSTRUCTION TEST

- Leakage to outdoors _____ per 100 ft² (9.29 m²) of conditioned floor area
- Leakage _____ per 100 ft² (9.29 m²) of conditioned floor area

When tested at a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler end closure, all register boots shall be taped or otherwise sealed during the test.

2. ROUGH-IN TEST

- Total Leakage _____ per 100 ft² (9.29 m²) of conditioned floor area

When tested at a pressure differential of 0.1 inch w.g. (25 Pa) across the rough in system, including the manufacturer's air handler end closure, all register boots shall be taped or otherwise sealed during the test. If the air handler is **not** installed at the time of the test, total leakage shall be less than or equal to 4 cfm (1.89 L/s) per 100 ft² (9.29 m²) of conditioned floor area.

CERTIFICATION OF TEST RESULTS

I certify this report is true and that the equipment has been tested in compliance with the IECC as appropriate. The certification represents the completion of this phase of construction.

MECHANICAL PERMIT NUMBER _____ DATE TESTED _____

NAME (PRINT) OF AUTHORIZED INDIVIDUAL

MD HVACR MASTER LICENSE NUMBER _____

MD PROFESSIONAL ENGINEER LICENSE NUMBER _____

PERMIT HOLDER

SIGNATURE _____

SEAL (PE ONLY)

**PROVIDE AN ORIGINAL COPY TO THE INSPECTOR AT THE JOB SITE
SUPPLEMENTAL TESTING REPORTS AND INSPECTION RECORDS SHALL BE
ATTACHED TO THIS REPORT**