

Using MHT's Architectural Survey Form for Hazard Mitigation Planning

Introduction

Purpose

Maryland has 6,945 miles of tidal shoreline and 12 watersheds with hundreds of miles of riverine shorelines.¹ Although many natural hazards – including wind events, coastal storms, erosion, earthquakes and fire – threaten historic places, flooding is the most prevalent natural hazard in Maryland. Historic resources are generally concentrated near and along waterways as the water provided a route of travel, natural resources that can be exploited, and a pleasant place in which to live. Because of this concentration, historic resources in riverine and coastal locations are at increased risk to flooding from rising seas, coastal storms, flash flooding, riverine flooding and stormwater runoff. The Maryland Historical Trust (MHT) and our state and federal partners realize that historic resources are an important part of our cultural identity, and that historic places are non-renewable resources that provide social and economic value to their communities. MHT and our partners encourage planners to think of historic resources as assets in need of protection. To that end, although not required, the Maryland Emergency Management Agency (MEMA) recommends that communities include historic resources in their local hazard mitigation plans.

This form was created specifically to help local jurisdictions conduct a risk assessment for historic structures vulnerable to flooding and integrate that information into the jurisdiction's local hazard mitigation plan. To learn more about conducting a risk assessment for historic structures and other cultural resources in your community, please refer to FEMA's *Integrating Historic Property and Cultural Resources Considerations into Hazard Mitigation Planning* (<https://www.fema.gov/media-library/assets/documents/4317>).

When to Use This Form

Some jurisdictions may use this form to assess vulnerable historic resources that are already listed in the Maryland Inventory of Historic Properties (MIHP)² or in the National Register of Historic Places (NR). In some cases, this form may be used to assess previously undocumented historic sites. Please note that information collected via the *Architectural Survey Form for Hazard Mitigation Planning* will not meet the standards for inclusion in the MIHP. MHT will, however, accept the documentation along with either a narrative explaining the scope of work and data collection methods; or as part of the submittal with a survey district (see below for description), which will be included in MHT's Library.

¹ Maryland Geological Survey, "Land Areas, Inland-Water Areas, and Length of Shorelines of Maryland's Counties," http://www.mgs.md.gov/geology/areas_and_lengths.html Accessed September 15, 2015.

² References to the Maryland Inventory of Historic Properties are abbreviated as MIHP, whereas references to the Maryland Inventory of Historic Properties Form are abbreviated MIHP Form.

Prior to using this form, please contact Heather Barrett, MHT's Administrator of Research and Survey, to develop a scope of work for the survey, as well as to discuss required deliverables (http://mht.maryland.gov/research_survey.shtml).

What does the *Architectural Survey Form for Hazard Mitigation Planning* cover?

On the form, you will identify physical characteristics of the structure, the type of flooding, and the grounds surrounding the building, as well as information on the property's location, use, and value, and whether or not it has been part of a previous investigation.

This information will be used to: assess the vulnerability of the building to damage by flooding; estimate the replacement cost for the building; and determine appropriate flood mitigation actions and recommendations for further architectural and historical investigation.

Combining the *Architectural Survey Form* with MIHP Survey District Documentation

If the geographic area that you plan to survey contains one or more potential historic districts (e.g., a complex, a crossroads community, village, or commercial corridor), MHT's Administrator of Research and Survey may ask that you submit documentation for a survey district in addition to the *Architectural Survey Forms*. Using a single MIHP form, the preparer can look at the hazard mitigation and risk assessment survey area as a cohesive whole with a shared history. Survey district documentation will include: identification of the boundaries of the study area; a list of properties that are included within the boundary by address and resource status (address chart); a description of the overall setting and architectural descriptions for representative examples of the resources; as well as a developed historic context. The *Architectural Survey Forms for Hazard Mitigation Planning* will accompany the survey district documentation for inclusion in the MIHP.

Survey district documentation for the MIHP can provide the beginning framework for a future National Register historic district nomination, should one be desired. Recording survey districts also helps identify resources that may be eligible for inclusion in the National Register of Historic Places. While the State Historic Preservation Officer must concur on formal eligibility, this information can be used when developing hazard mitigation priorities and as part of the historic preservation review process for federal or state undertakings.

Who should complete this form?

Ideally, hazard mitigation survey and risk assessment for historic resources will be conducted by a team who can identify a property's architectural components and significant character-defining features **and** judge the building's condition. The team should also include a member who understands how natural hazards can affect the building and who can identify building, ground, and hazard attributes that contribute to a building's risk of being damaged (or withstanding damage).

The person who completes the architectural portions of the form should be either someone who meets or is supervised by someone who meets the professional qualifications in the Secretary of the Interior's *Standards for Archeology and Historic Preservation* (36 CFR 61).

The person who completes the flood hazard information should have experience in hazard mitigation planning, emergency management, and/or be a Certified Floodplain Manager.

How to Complete the Form

Use a single form for each building that is part of your survey and risk assessment. See B. Standing Structures on the Property for how to record the presence of multiple buildings on a property.

TOP SECTION

This section can be completed prior to going out into the field to conduct the survey.

Name of the Property – If the property is in the Maryland Inventory of Historic Properties, the property's MIHP form will list the name of the property.

If the property is not listed in the MIHP but has either a historic name or a colloquial, more common name, enter that under Name of Property. In some circumstances, there is reason to use a common name for the property rather than the historic name. In this situation, enter “preferred” after the appropriate name and explain the reason in Section X. Continuation Sheet under a corresponding heading. Be consistent throughout the form—use the historic or preferred name for all labels, including maps, drawings, and photographs.

If the property being documented is part of a survey district, please include the name of the survey district in parenthesis to the right of the historic or preferred name.

Date of Visit – Record the month, day, and year of the site visit.

Property Address – This should include the street name and number, city, county, state (MD) and zip code where the property is located. It is important that this information be as precise as possible. The address can be checked for accuracy at the Maryland State Department of Assessment and Taxation website using the Real Property Data Search (<http://sdat.dat.maryland.gov/RealProperty/Pages/default.aspx>) or using the U.S. Postal Service's “Look Up a Zip Code” address search (<https://tools.usps.com/go/ZipLookupAction!input.action>).

If the road has a route number rather than a name, give the number and indicate whether it is a federal, state, or county road. If a property does not have a specific address, give the name of the nearest roads and the property's relationship to the roads (i.e., ½ mile east of Middletown Road; or northwest corner of Hampton Road and Smith Avenue).

Owner Name and Contact Information – Owner information is found in the Maryland State Department of Assessment and Taxation website using the Real Property Data Search (see link above). This information is important to record so that the owner can be contacted regarding potential mitigation projects and/or additional architectural or historical investigations. This should include the street name and number, city, county, state and zip code where the property is located. As with the property address, the owner’s address can be checked for accuracy against the U.S. Postal Service’s “Look Up a Zip Code” address search (see link above). Use the Continuation Sheet (Section X) to record information for multiple owners under a corresponding heading.

Owner Type – Publicly owned property is owned by a local, state or federal government or one of its agencies, divisions or entities. Privately owned property is land/structures not owned by the government. There are some instances where ownership of a property is shared between the government and a private entity, please indicate “both” where this is the case.

Inspector Name and Contact Information – Please complete these fields so that the inspector can be contacted regarding questions about what was recorded on the form. This should include the street name and number, city, county, state and zip code of the place of business where the inspector is employed, as well as a telephone number and an email address.

PROPERTY ADDRESS (TOP OF PAGE)

This field appears at the top of all pages after page 1 as a means of keeping hard copies of completed forms together. Enter the street name, number, and city in this field. If the property being documented is part of a survey district, please include the name of the study area in parenthesis to the right of the historic or preferred name.

A. STRUCTURE TYPE, USE, AND PREVIOUS SURVEY

This section can be completed prior to going out into the field.

“Previous Survey” refers to previous any resource that has been previously documented using MHT’s MIHP form, NR form, or Determination of Eligibility (DOE) form. If the property is included in the MIHP, the property’s MIHP form should contain the information in this section.

The MIHP forms for previously documented resources are available for free online in MHT’s Medusa Cultural Resource Information System (<https://webapps.mdp.state.md.us/Apps/DigitalLibrary/Search.aspx>) or by contacting the Office of Research, Survey and Registration at the Maryland Historical Trust for information on the MIHP, NR, and DOE forms and access to GIS information (http://mht.maryland.gov/research_survey.shtml).

If no information can be found in the Medusa Cultural Resource Information System, please contact the Office of Research, Survey and Registration to confirm that the structure is not a contributing resource to a historic district or that it is not listed under another address.

If the property has not been previously surveyed, only complete the “Category” and “Current Function” fields and leave the remainder of the section blank. Categories are limited to:

- District: A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. Examples include residential areas, industrial complexes, rural villages, transportation networks, and large landscaped parks.
- Building(s): A building, such as a house, church, hotel, or similar construction, serves principally to shelter any form of human activity. The term building may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.
- Structure: The term structure is used to distinguish from buildings those functional constructions usually made for uses other than human shelter. Examples include bridges, corncribs, kilns, historic vessels, and roadways.
- Site: A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure. Examples include gardens, ruins, shipwrecks, designed landscapes, and land areas having cultural significance.
- Object: The term object is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and are simply constructed. Although it may be movable by nature or design, an object, as referred to here, is associated with a specific setting or environment. Examples include monuments, boundary markers, and sculptures.

The Current Function of the building should be noted in the space provided and the historic function or use should be described in Section X. Continuation Sheet under a corresponding heading. For additional guidance on Current Function and Category, refer to National Register Bulletin 16A *How to Complete the National Register Registration Form* (<http://www.nps.gov/nr/publications/bulletins/nrb16a/>).

B. STANDING STRUCTURES ON PROPERTY

This section can be completed prior to going out into the field to do the survey, using the MIHP form or NR nomination form.

Identify other structures on the property and if they have MIHP Numbers, include that information in this section so that if you are recording information for those structures on a

separate Architectural Survey Form for Hazard Mitigation Planning, they can be cross-referenced to the main structure.

C. GEO-LOCATION

List the name of the United States Geological Survey quadrangle. The scale used by MHT is 1:24,000.

Latitude and longitude are numeric fields that should be formatted as decimal degrees with up to three numbers left of the decimal, and unlimited numbers to the right of the decimal (for example, “- 123.123456”). All latitude measurements must be between -90 and 90 degrees and all longitude measurements must be within the -180 to 180 degree range.

D. LEGAL DESCRIPTION AND PROPERTY VALUATION

The information for this section can be found in the Maryland State Department of Assessment and Taxation (SDAT) website using the Real Property Data Search (see Resources for link). Hard copies of the legal description of a property are also located in the land records office in the courthouse for the county or city in which the property is located.

Information in this section is needed for estimating the replacement value of the structure when conducting a risk assessment and when developing appropriate mitigation measures to protect the building from flooding or other natural hazards.

E. FLOOD INSURANCE RATE MAP (FIRM)

F. FLOOD AND EROSION HAZARDS

These sections can be completed prior to going out into the field.

These sections should be completed by the hazard mitigation planner, environmental planner, Certified Floodplain Manager or the person qualified to complete the hazard sections of this form. This information can be found by visiting the Maryland DFIRM (Digital Flood Insurance Rate Map) Outreach Flood Risk Application online (<http://www.mdfloodmaps.com/>), the FEMA Map Service Center online (<http://msc.fema.gov/portal>), and by contacting the community’s floodplain management office (email Kevin.Wagner@maryland.gov for contact information). Prior to contacting the floodplain management office, it is a good idea to do the preliminary research to get as much flood hazard information from the FIRM as possible. The Maryland DFIRM Outreach Flood Risk Application is the best place to begin as it will provide FIRM information, a link to create a FIRMette (a portion of the FIRM that depicts the flood hazard of a small area), and the contact information for the local floodplain management office.

Flood Zone – as defined in the FIRM; this information is also recorded on an Elevation Certificate

Base Flood Elevation (BFE) – Can be estimated using the FIRM, however, you may want to contact the local floodplain management office to see if they have determined the BFE for locations within the floodplain or if they have an Elevation Certificate on file for the property (which will contain the BFE). Knowing the property’s location in relation to the BFE is important for developing mitigation measures to protect the building from flooding.

FIRM Effective/Revised Date – as identified on the FIRM; this information is also recorded on an Elevation Certificate. It is important to know the date of the FIRM, as maps are updated every few years and the information may change, such as BFE and location of floodplains, as data is refined.

FIRM National Flood Insurance Program (NFIP) Community Name and Panel Number - as identified on the FIRM; this information is also recorded on an Elevation Certificate

Elevation Certificate on file? – The Elevation Certificate is used to determine the proper flood insurance premium rate and to document information necessary to ensure compliance with a community’s floodplain management regulations. To determine whether or not an Elevation Certificate has been completed for a specific property or properties, contact the local floodplain management office.

If a community participates in the National Flood Insurance Program’s Community Rating System, there will be Elevation Certificates on file for all buildings in the Special Flood Hazard Area that have been substantially improved. While buildings that meet the NFIP’s definition of “historic structures” may be exempt from meeting NFIP floodplain management requirements, buildings that have not been previously documented using the MIHP form may not meet the definition of “historic structure” and therefore may have an Elevation Certificate on file if they have been substantially improved. To better understand the NFIP requirements for historic structures, please refer to *NFIP Floodplain Management Bulletin: Historic Structures*, FEMA Publication Number P-467-2 (<http://www.fema.gov/media-library/assets/documents/13411?id=3282>).

Type of Flooding – Check all that applies and describe in comments and/or Section X, Continuation Sheet under a corresponding heading, if additional information is needed to describe the flooding that occurs at the site:

- Coastal Flooding: Per the NFIP, Special Flood Hazard Areas (SFHAs) along the coasts that have additional hazards due to wind and wave action. These areas are identified on Flood Insurance Rate Maps (FIRMs) as zones V, V1-V30 and VE.
- Riverine Flooding: Per FEMA, when a channel receives too much water and the excess flows over its banks and into the adjacent floodplain. The flooding that occurs along a channel is called riverine flooding. A channel is a defined feature on the ground that carries water through and out of a watershed. They may be called rivers, creeks, streams

or ditches. They can be wet all the time or dry most of the time. These areas are identified on Flood Insurance Rate Maps (FIRMs) as zones A, A1-A30 and AE.

- Tidal Flooding: Flooding that occurs due to high tides, including “king tides,” which are the highest predicted high tide of the year at a particular coastal location. Visit the U.S. Environmental Protection Agency (EPA)’s website for more information on king tides at <http://www2.epa.gov/cre/king-tides-and-climate-change>.
- Storm Sewer: Also known as “urban drainage” flooding. Per FEMA, an urban drainage system comprises the ditches, storm sewers, retention ponds and other facilities constructed to store stormwater runoff or carry it to a receiving stream, lake or the ocean. When most of these systems were built, they were typically designed to handle the amount of water expected during a 10-year storm. Larger storms overload them, and the resulting backed-up sewers produce shallow flooding.
- Other flooding:
 - Sheet flow: Per FEMA, these are the areas where there are inadequate or no defined channels, floodwater spreads out over a large area at a somewhat uniform depth in what’s called sheet flow. These areas are identified on Flood Insurance Rate Maps (FIRMs) as zone AO.
 - Ponding: Per FEMA, in some flat areas, runoff collects in depressions and cannot drain out, creating a ponding effect. Ponding floodwaters do not move or flow away. Floodwaters will remain in the temporary ponds until they infiltrate into the soil, evaporate or are pumped out. These areas are identified on Flood Insurance Rate Maps (FIRMs) as zone AH.

Flooding Source – Where is the water coming from? Examples of flooding sources include, but are not limited to: the Chesapeake Bay, the Potomac River, an unnamed tributary of the Sassafras River, and the storm sewers, etc.

Number of feet/miles (identify which) from closest edge of building to flooding hazard – Estimate using mapping software or measure it on the ground using survey equipment or a tape measure. Also indicate the direction (N, NE, NW, etc.) of the flooding source and whether or not the distance was estimated or not.

100-Year Floodplain – Determine based on FIRM. As defined by FEMA - flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30.

500-Year Floodplain – Determine based on FIRM. As defined by FEMA - Moderate flood hazard areas, labeled Zone B or Zone X (shaded) are also shown on the FIRM, and are the areas

between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded).

Coastal A Zone (LiMWA) – Determine based on FIRM for coastal counties. As described by FEMA, the Coastal A Zone or Limit of Moderate Wave Action (LiMWA) is the limit of the 1.5-ft wave. Both recent post-disaster assessments and wave tank research have shown that waves as small as 1.5-ft can cause significant structural damage. ASCE 24-14, *Flood Resistant Design and Construction*, a referenced standard in the 2015 International Building Code and 2015 International Residential Code, requires that buildings in the Coastal A Zone are treated like buildings in the Coastal V Zones if FEMA has delineated a LiMWA (this is being done in Maryland), or if the community has designated at Coastal A Zone. FEMA’s *Highlights of ASCE 24 Flood Resistant Design and Construction* calls out specific information from the sections of ASCE 24-14 that complement the NFIP’ minimum requirements on Building Performance; Flood-Damage Resistant Materials; Utilities and Service Equipment, and Siting Considerations (<https://www.fema.gov/media-library/assets/documents/14983>).

In Floodway – Determine based on FIRM. As defined by the NFIP - Floodway means that portion of the floodplain which is effective in carrying flow, within which this carrying capacity must be preserved and where the flood hazard is generally highest, i.e., where water depths and velocities are the greatest. It is that area which provides for the discharge of the base flood so the cumulative increase in water surface elevation is no more than one foot.

Description of Previous Flood Damage and Date of Event(s) – This information may or may not be readily available. Possible sources for identifying previous flooding at the site are: the local hazard mitigation plan, local emergency management/public safety personnel, the property owner, or newspaper articles.

Vulnerable to Sea Level Rise

Vulnerable to Storm Surge

Properties listed in the MIHP, National Register of Historic Places (NR), and properties with easements managed by MHT are all available as map layers and can be imported into GIS and manipulated. Visit MHT’s GIS page for information on how to obtain the MIHP GIS layers: http://mht.maryland.gov/research_gis.shtml.

For a static map view, use MHT’s Sea Level Rise and Historic Properties interactive map to view the location of specific resources in relation to sea level rise or storm surge (http://mht.maryland.gov/Sea-Level_rise.shtml). Note that this map is only for viewing information and cannot be saved. Use the dropdown menu on the black bar at the top of the screen under Layers to select sea level rise or storm surge and other information to customize the map. To get more information on the property, zoom to the property, then click on it: this will

open a data box the property's name and MIHP Inventory Number and a link to the SDAT data, which can be found by scrolling through the page using the arrow on the black bar at the top of the data box. Properties can be found by address (street number, street name, and city) by typing that information in the search field at the top of the screen.

Vulnerable to Coastal/Riverine Erosion – This can be determined during the site visit by a visual inspection at the site or through other means such as a comparison of historic and present day shorelines or . Maryland's Coastal Atlas (<http://gisapps.dnr.state.md.us/coastalatlantis/iMap-master/basicviewer/index.html>) contains data on shoreline erosion, sea level rise, and storm surge to which informational layers can added (e.g. MIHP, MHT preservation easements and properties listed in the NR) or imported.

Data can only be viewed in the Coastal Atlas, however properties listed in the MIHP, NR, and properties with easements managed by MHT are all available as map layers and can be imported into GIS and manipulated. Visit MHT's GIS page for information on how to obtain the MIHP GIS layers: http://mht.maryland.gov/research_gis.shtml. Shoreline rates of change are found under the contents tab, and the MIHP layers are found under the Add Data tab on the left side of the screen.

Number of feet from closest edge of building to erosion hazard - Estimate using mapping software or measure it on the ground using survey equipment or a tape measure. Also indicate the direction (N, NE, NW, etc.) of the flooding source and whether or not the distance was estimated or measured.

G. ROOF

The type, materials, shape and condition of the roof system contribute to a building's vulnerability to wind hazards, snow loads, and shedding rainwater. Accurately recording details about the roof system is helpful when creating a mitigation retrofit to protect the roof from the effects of natural hazards.

Age of Surface - If unknown, leave blank.

Type - Select only for top layer of roofing. If multiple layers are visible, describe in the Conditions & Comments. If type is not among listed choices, describe in Conditions & Comments.

Shape – If shape is not among listed choices, describe in Conditions & Comments.

Flashing Material - If material is not among listed choices, describe in Conditions & Comments.

Dormers – Please choose yes or no, list the number and style.

Conditions & Comments – Please briefly describe the condition of the roof. Does it sag in places? Are there patches? If yes, estimate the square footage and describe location. Are there

multiple layers of roofing materials? If yes, describe them briefly. If needed, use Section X. Continuation Sheet under a corresponding heading to continue comments.

H. GUTTERS/SITE DRAINAGE

Shedding water from roof surfaces and conveying water away from the structure can help to reduce flooding.

Gutter Type – Select the appropriate type and if painted, indicate the color of the paint. Where no gutters are present, please indicate if this is a purposeful part of the roof design or if there were gutters installed that are missing in the Conditions & Comments.

Gutter & Spout Material – Please select the material type. If the material is not listed here, please describe in the Conditions & Comments.

Surface Grading – Adequate surface grading slopes away from the building. Flat surface grading indicates that the building sits on a level or near-level plane. Slopes toward building is self-explanatory.

Site Drainage – Adequate Drainage means that the site appears to drain in a reasonable amount of time after an average rain event. Needs Improvement could be indicated by a lack of bare spots where water has eroded the vegetation on the ground surface, the presence of bowls or areas that would retain water (but are naturally occurring or were not constructed for that purpose), or by standing water. This requires a bit of finesse in reading the ground around the site. Please use the Conditions & Comments and/or Section X. Continuation Sheet under a corresponding heading if you feel that a detailed description of the drainage issues at the site is warranted.

Exterior Water Run-off – This is the culmination of how well the gutter and downspout system, surface grading, and site drainage function to get water off of and away from the building. If marginal or poor, please briefly describe how or why these components fail to carry water away from the building.

Conditions & Comments – Please describe the condition of the gutters. If conditions are not visible, indicate that here. Please use this section to briefly describe any site conditions that may exacerbate flooding. If needed, use Section X. Continuation Sheet under a corresponding heading to continue comments.

I. EXTERIOR SURFACES

Painted – Please indicate if the exterior surface of the building is painted and the color.

Siding Type – Please select one of the options for the type of covering (“siding”) on the exterior of the building. If the exterior covering is not listed, please check the last option box and indicate the siding type on the line adjacent to the last box.

Brick or Stone Pattern – If the exterior surface of the building is masonry, please indicate the pattern of the masonry (i.e. pattern could be common bond, English bond, coursed stone, etc.).

Sandblasted – If the exterior surface of the building is masonry, please indicate whether or not it has been sandblasted.

Cornice – If present, please indicate the material from which the cornice was made. If the material is not listed presented, please indicate the material in the Conditions & Comments. If no cornice is present, please select No.

Exterior Stair Railings – If present, please indicate the material form which the exterior stair railings are constructed.

Deck – Defined as a flat floored, roofless area adjoining a building. Please indicate the material from which the deck is constructed.

Porches – Defined as a flat floored, roofed area adjoining a building. It may or may not be enclosed by walls. Please indicate the material from which the porch is constructed.

Conditions & Comments – Please briefly describe the condition of the exterior of the structure and its components. If needed, use Section X. Continuation Sheet under a corresponding heading to continue comments.

J. STRUCTURE

The type, materials, shape and condition of the structure and its foundation contribute to a building's vulnerability to flooding, wind hazards, earthquakes and other natural hazards. Accurately recording details about the construction and condition of the structure is vital for determining the appropriate mitigation retrofit to protect the building from the effects of natural hazards.

Date of Structure – This information can come from a variety of sources. If the property has an MIHP form, please use that information to complete this field. Although not required for hazard mitigation survey, if you have done deed research or other research and know the specific date of construction, please utilize that information and indicate the source of the information in the Conditions & Comments.

If the property has not been studied in a previous survey or other investigation, please utilize the date provided in the Maryland State Department of Assessment and Taxation website using the Real Property Data Search (see Resources) and note in the Conditions & Comments that SDAT is the source of the information.

Number Stories – Please indicate the number of stories – in whole or half numbers, as appropriate.

Architectural Style – Please indicate the architectural style of the building. If needed, additional description or explanation can be provided in Section U. Architectural Features.

Condition of Structure? – Yes means that the building appears to be structurally sound. No means that the building has some obvious catastrophic issue such as a missing roof, holes in the exterior walls, etc. Some Deficiency is a catchall for conditions in between Yes and No. Further description of the building’s condition should be provided in Conditions & Comments.

Construction Methods – Please indicate the construction materials (“methods”). If the construction method is not listed, please check the last option box and indicate the construction method on the line adjacent to the last box.

Foundation – Please indicate the type of foundation from the options provided. If the foundation type is not listed, please check the last option box and indicate the foundation type on the line adjacent to the last box.

Note that the foundation types on this form do not conform to the building diagrams found in the Elevation Certificate. If there is an Elevation Certificate for the building, please indicate the building diagram number in the Conditions & Comments.

Foundation Material – Please indicate the type of foundation material from the options provided. If the foundation material is not listed, please check the last option box and indicate the foundation material on the line adjacent to the last box.

Foundation Settlement – Using your best judgement, please indicate any observed foundation settlement. Please use the Conditions & Comments to describe severe settlement.

Termites – If you observe termite activity or damage, please indicate that here and describe the extent of the activity in the Conditions & Comments.

Conditions & Comments – Please briefly describe the condition of the structure and its foundation. If you have indicated that there is some deficiency with the soundness of the structure, foundation settlement, and/or termite damage or activity, please describe it here. If needed, use Section X. Continuation Sheet under a corresponding heading to continue comments.

K. CHIMNEYS

Please indicate the number of chimneys, whether or not they are attached to the exterior of the building or enclosed in the interior, and the material from which they are constructed. Please describe the condition of the chimneys in the Conditions & Comments.

L. WINDOWS

Type – Please indicate the type of window from the options provided. If the type is not listed, please indicate the window type in the Conditions & Comments.

Framing – Please indicate the material of window from the options provided. If the material is not listed, please indicate the window material in the Conditions & Comments.

Glazing Pattern – Please indicate the glazing pattern (e.g. 1:1, 3:1, 6:6).

Storm Windows – Please indicate the presence of storm windows, the material of their construction and whether they are mounted on the interior or exterior of the building. Please use the Conditions & Comments to record any additional information about the storm windows.

Shutters – Please indicate the presence of shutters, whether or not they are operational, and their appearance. Please use the Conditions & Comments to record any additional information about the shutters.

Conditions & Comments – Please describe the condition of the windows and record any observations here such as if they are replacement windows or potentially the original windows.

M. EXTERIOR DOORS

Please record information about the type, material, and presence of transoms or sidelights here. Please describe the condition of the doors and record any observations in the Conditions & Comments.

N. BASEMENT/CRAWLSPACE

This section should be used to provide additional information about the condition of the basement or crawlspace to supplement the information provided in the Conditions & Comments from Section J. Structure. Additional information can be provided in Section X. Continuation Sheet under a corresponding heading.

It is *not* the intent of this form that the preparer of the form go inside a building to complete the form. Rather, if there is an invitation by the resident or owner to go inside the building, it is a good idea to check the basement for signs of moisture or evidence of previous flood events.

Do not complete this section if you do not have permission to enter the building or do not have permission to get close enough to the building to look under the crawlspace.

O. FLOOD OPENINGS/VENTS

This section should be completed by the hazard mitigation planner, environmental planner, Certified Floodplain Manager or whoever is focusing on the hazard sections of this form. The proper term for these foundation components is *flood openings*, however the term *flood vents* is often used interchangeably, though incorrectly.

If there is an Elevation Certificate for the property, the information for this section can be found on the Elevation Certificate.

If there is no Elevation Certificate, please note whether or not flood openings are present in the foundation (if required per the NFIP), the number of openings, and the total net area of the openings.

P. LOW OPENING

This section should be completed by the hazard mitigation planner, environmental planner, Certified Floodplain Manager or the person qualified to complete the hazard sections of this form. The purpose of this question is to understand where water may be entering the building, so that when mitigation measures are being developed, they can address all sources of floodwater infiltration.

Please indicate whether or not a low opening is present and if present, what that low opening is (i.e. a subgrade window or vent, a coal door, etc.).

Q. ATTIC VENTILATION

Please indicate the type of attic ventilation and make a judgment, based on your experience with buildings and architecture as to whether or not the attic is well (good cross-ventilation), marginally (undersized or inappropriate ventilation), or poorly ventilated (no ventilation).

R. ADDITIONS/ALTERATIONS

If the structure has been altered or has been added to, please describe the addition or alteration. What is the foundation? What is the structure and what materials is it made of? What type of roof and roofing materials does it have? How many stories is it? What is the estimated square footage of the footprint of the addition?

The description of the addition or alteration should mirror that of the information recorded for the structure itself, albeit briefly. If needed, please use Section X. Continuation Sheet under a corresponding heading to continue description.

S. GROUNDS

Vines on Building – Please indicate the presence of vines on the building and describe coverage in terms of square feet and which elevations are affected in the space provided after the Yes check box.

Trees/Shrubs – Please indicate the presence of trees adjacent to the house. Good is for healthy trees. Diseased/dead is for trees that appear diseased or have many dead limbs that overhang the house or for trees that are dead and adjacent to the house. Good may be selected in conjunction

with Need Trimming for healthy trees whose limbs are not resting on or close to resting on the roof.

Handicapped Access to Building – Please indicate the presence of handicapped access into the building and the type of access provided.

Fence Type – Please indicate whether or not a fence is present, the type of fence, and the material from which it is constructed.

Pathways – Please indicate whether or not pathways such as sidewalks, garden paths, etc. are present, the primary type of pathway, and the material from which the primary pathway is constructed. Please use the Conditions & Comments to describe secondary pathways, how many pathways are present and where they are located.

Drive – Please indicate whether or not driveways are present, the primary type of driveway, and the material from which the primary driveway is constructed. Please use the Conditions & Comments to describe secondary driveways, how many driveways are present and where they are located.

Patio – Please indicate whether or not a patio is present and the material from which the primary patio is constructed. Please use the Conditions & Comments to describe secondary patios, how many patios are present and where they are located.

Fuel Tank – Please indicate the presence of a fuel tank on the exterior of the house.

Fuel Tank Anchored – Please indicate if the fuel tank is anchored to prevent flotation. If you are uncertain, please ask the hazard mitigation planner, environmental planner, Certified Floodplain Manager, or whoever is completing the hazard portions of this form.

Conditions & Comments – Please describe the condition of the grounds and record any observations here, for example it is important to note when there are dead trees adjacent to the house or trees with large limbs that overhang the roof, which could fall in a windstorm and damage the house.

T. FLOOD AND EROSION MITIGATION

This section should be completed by the hazard mitigation planner, environmental planner, Certified Floodplain Manager or the person qualified to complete the hazard sections of this form.

Flood Mitigation Observed – Please indicate the type of flood mitigation observed. For Height, measure from the lowest adjacent ground surface and record in feet and inches.

Erosion Mitigation Observed – Please indicate the type of erosion mitigation observed. Note that erosion could be due to poor drainage and not necessarily coastal or riverine processes.

U. ARCHITECTURAL FEATURES

This section should be completed by either someone who meets or is supervised by someone who meets the professional qualifications in the Secretary of the Interior's *Standards for Archeology and Historic Preservation* (36 CFR 61).

Provide a brief architectural description of the significant character-defining features and the condition of the structure. This is important to document so that when mitigation measures are being developed, an adverse impact to the character-defining features can be avoided or minimized and because these properties might not be part of a future investigation or survey. This site visit may be the only opportunity to record architectural and historical information about the property.

V. HAZARD MITIGATION CONSIDERATIONS

This portion of the form should be completed after discussion between the hazard mitigation planner and the cultural resources specialist (the person who meets the professional qualifications in 36 CFR 61).

Briefly describe recommendations or observations related to hazard mitigation planning or potential mitigation measures. This section is the first opportunity to identify mitigation measures that could protect the structure, while minimizing or avoiding an adverse impact to the historic integrity of the structure and its materials. It is intended that this section be the culmination of a discussion about mitigation between the hazard mitigation planner and cultural resources specialist who completed the *Architectural Survey Form for Hazard Mitigation Planning* and who directly observed and understand the conditions on the ground, the condition of the building, the hazards that may affect the building, and the significant or character-defining features of the building.

W. PHOTOGRAPHS AND MAPS

Each form should be accompanied by:

- An aerial photograph with the location of the building indicated in TIFF format;
- A section of the USGS Quadrangle at a scale of 1:24,000 with the location of the building indicated in TIFF format;
- At least two photographs of the building from an oblique view in color, in TIFF format;
- At least one photograph of the property that meets MHT's *Standards for Submission of Digital Images to the Maryland Inventory of Historic Properties* (http://mht.maryland.gov/documents/pdf/research/Survey_DigitalPhotos_2008.pdf).

The aerial photography, USGS Quadrangle section, and the two photographs should be embedded in this section of the form.

X. CONTINUATION SHEET

Please use this section if more space is needed to describe conditions or components than was provided in the Conditions & Comments in previous sections. Please indicate the name and letter of the section for the information, sequentially that appears on the continuation sheet.

Resources

Association of State Floodplain Managers (ASFPM). ASFPM Certified Floodplain Manager Program Information. <http://www.floods.org/index.asp?menuid=426>

U.S. Department of the Interior. Secretary of the Interior's *Standards for Archeology and Historic Preservation* (36 CFR 61). http://www.nps.gov/history/local-law/arch_stnds_9.htm

U.S. Environmental Protection Agency (EPA). King Tides and Climate Change. <http://www2.epa.gov/cre/king-tides-and-climate-change>

Federal Emergency Management Agency (FEMA). 2015. *Highlights of ASCE 24 Flood Resistant Design and Construction*. <https://www.fema.gov/media-library/assets/documents/14983>

FEMA. 2005. *Integrating Historic Property and Cultural Resources Considerations Into Hazard Mitigation Planning*, FEMA Publication Number 386-6. <https://www.fema.gov/media-library/assets/documents/4317>

FEMA's Flood Map Service Center. <http://msc.fema.gov/portal>

FEMA Region III Flood Risk MAP. Coastal Flood Zones. <http://www.riskmap3.com/node/22>

National Flood Insurance Program (NFIP)/FEMA. 2012. *Elevation Certificate and Instructions*. <http://www.fema.gov/media-library/assets/documents/160>

NFIP/FEMA. 2008. *NFIP Floodplain Management Bulletin: Historic Structures*, FEMA P-467-2. <http://www.fema.gov/media-library/assets/documents/13411?id=3282>

Maryland DFIRM Outreach Program. Source for Digital Flood Insurance Rate Maps for the State of Maryland. <http://www.mdfloodmaps.com/>

Maryland Department of Natural Resources (DNR). Maryland's Coastal Atlas. <http://gisapps.dnr.state.md.us/coastalatlus/iMap-master/basicviewer/index.html>

Maryland Historical Trust (MHT). Office of Research, Survey and Registration, http://mht.maryland.gov/research_survey.shtml

MHT. 2000. *State Guidelines for Architectural and Historical Investigations in Maryland*. http://mht.maryland.gov/research_mihp.shtml

MHT. 2015. *Standards for Submission of Digital Images to the Maryland Inventory of Historic Properties*. http://mht.maryland.gov/documents/pdf/research/Survey_DigitalPhotos_2008.pdf

MHT. Medusa Cultural Resource Information System (MIHP electronic files)
<https://webapps.mdp.state.md.us/Apps/DigitalLibrary/Search.aspx>

MHT. Sea Level Rise and Historic Properties (also includes storm surge mapping).
http://mht.maryland.gov/Sea-Level_rise.shtml

MHT. Geographic Information System (GIS) Data. http://mht.maryland.gov/research_gis.shtml.

Maryland State Department of Assessment and Taxation (SDAT). Real Property Data Search.
<http://sdattax.maryland.gov/RealProperty/Pages/default.aspx>

National Park Service (NPS). National Register Bulletin 16A, *How to Complete the National Register Registration Form*. <http://www.nps.gov/nr/publications/bulletins/nrb16a/>

U.S. Postal Service (USPS). Look Up a ZIP Code.
<https://tools.usps.com/go/ZipLookupAction!input.action>