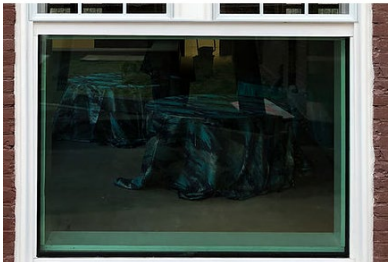

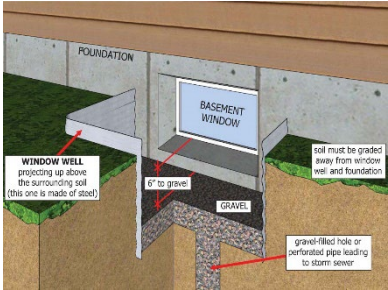


City of Rockville Flood Mitigation Assistance Program

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Affected Property Area	Practice	Description	City Review Requirements
Windows	Install permanent glass protection materials or floodproof windows	<p>During significant flooding events, moving debris or simple pressure can break windows that are not adequately protected.</p> <p>Permanent glass protection can prevent flood damage from flooding and other extreme weather events. Floodproof windows or those with glass protection are passive systems that protect from rising flood water and debris impact. They are typically hurricane impact-rated and tested to withstand more than 10' of water and large missile collision.</p> 	<p>Historic District Commission (HDC)</p> <p>HDC approval required for a project that will make a permanent alteration to a property located within a locally designated historic district: www.rockvillemd.gov/2177/Historic-Districts Contact number: 240-314-8236</p>
	Install basement window protection	<p>Fixed, translucent, water-tight covers installed on near grade or below grade basement windows provide increased protection against surface flooding.</p> <p>To significantly increase effectiveness, basement window protection should be custom fitted and installed, as studies have shown inexpensive, plastic models offer minimal protection.</p> 	<p>HDC approval required for a project that will make a permanent alteration to a property located within a locally designated historic district: www.rockvillemd.gov/2177/Historic-Districts Contact number: 240-314-8236</p>
	Install custom ground floor or basement window wells	<p>A ground floor or basement window well should have a central drain that is either connected to an interior or exterior drain tile system or to a line that runs to a stormwater drain or outside the residence. Installing a new drain requires soil excavation and either reinstalling or replacing the window well liner. Also, for the best protection against flooding, a window well should be custom fit and</p> 	<p>Historic District Commission (HDC)</p> <p>HDC approval required for a project that will make a permanent alteration to a property located within a locally designated historic district: www.rockvillemd.gov/2177/Historic-Districts Contact number: 240-314-8236</p> <p>Inspection Services Division (ISD)</p>

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		made of steel-reinforced polycarbonate plastic.	<p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits.</p> <p>www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>
Doorways	Install permanent doorway flood gate or panel	<p>The quickest way for surface flooding to enter a structure is through open doorways.</p> <p>Permanent doorway flood gates or panels are physical barriers that attach to external doorframe and can be quickly deployed to prevent floodwaters from entering a structure. Permanent floodgates can be an easier and faster alternative to sandbags; however, they require installation and, in most cases, custom fitting.</p>	No reviews or permits needed.
	Install temporary doorway flood gate or panel	<p>Temporary doorway flood gates and panels are similar to the permanent models described above; however, these type of flood gates are only deployed prior to flooding and do not require and pre-installation setup. Typically, these systems are not custom-made and can be installed in minutes. These systems are usually made of expandable steel tube frames that adjust to various sized doorways and while not completely water tight like permanent structures, they do offer excellent protection.</p>	No reviews or permits needed.



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Affected Property Area	Practice	Description	City Review Requirements
General Flood stoppage equipment	Purchase flood socks	<p>Flood socks are lightweight and flexible absorbent socks designed primarily for residential use. Using absorbent technology, flood socks absorb water and then bind together to create a flood protection system.</p> <p>If deployed at a basement or garage entrance, these socks can stop leaks and water seeps quickly and effectively. Because these socks absorb water on contact and are quick to deploy, they make an ideal sand bag equivalent.</p>	<p>No reviews or permits needed.</p>
	Purchase Quick Dams™	<p>Quick Dams™ are a proprietary product ideal for redirecting flowing water away from an area. The product's specialized cover lets water in, and an internal absorbent holds water to inflate the dam in just minutes. This technology acts as a replacement for sandbags and can be used repeatedly.</p>	<p>No reviews or permits needed.</p>
	Purchase sandless sandbags	<p>Sandless sandbags are compact, lightweight bags that expand when filled with water. Once filled, they act as a superior flood wall barrier. And because water is used as the main barrier, once they are no longer needed, the water can be let out and the bags stored until the next event.</p>	<p>No reviews or permits needed.</p>



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Affected Property Area	Practice	Description	City Review Requirements
Basement	Purchase and install/connect sump pumps and sump pump back-up systems	<p>A sump pump can be installed to divert groundwater away from basement areas. These pumps almost always run on electricity. Unfortunately, during extreme weather events, electricity can go out, leaving a basement unprotected against flooding just at the time it's needed most.</p> <p>A sump pump backup provides protection against power outages and ensures a sump pump will continue to work regardless of electric status.</p> 	<p>Inspection Services Division (ISD)</p> <p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits: www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>
	Install drain tiles below basement floor	<p>A drain tile is a sub-surface drain placed below a basement floor that alleviates ground water pressure build up. As water pressure builds, the drain tile carries it away.</p> <p>Drain tiles typically consist of perforated flexible plastic pipe buried in a bed of washed gravel that connects to a sump pit so that water that would otherwise end up on a basement floor is discharged from the basement by a sump pump.</p> 	<p>Inspection Services Division (ISD)</p> <p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits: www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>

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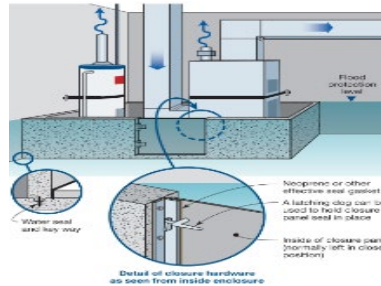
Affected Property Area	Practice	Description	City Review Requirements
	Install flood vents	<p>Flood vents are small openings that allow flood waters to pass through and drain out of an enclosed area of the home (e.g., garage, crawlspace, etc.) reducing the risk of damage to the structure by releasing water pressures.</p> <p>In a flood situation, if the water pressure inside and outside a residence may not be able to equalize quickly, resulting in the foundation of a home becoming compromised. If this occurs, a residence could quickly become unsafe.</p> <p>And while at first glance, allowing flood waters into a home seems counterproductive to mitigating damage, the purpose of flood vents is to reduce expensive structural damage. These vents accomplish this objective by allowing water to pass into or out of a building's exterior foundation walls unobstructed.</p>	<p>Inspection Services Division (ISD)</p> <p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits: www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>
	Disconnect or plug internal floor drains	<p>Most stairwell drains are connected to either sanitary or storm sewer laterals external to the residence.</p> <p>If these lines get clogged or back up, water flows backwards and discharges through the floor drain. Disconnecting or plugging these drains can reduce the chance of sewer backups occurring.</p>	<p>No reviews or permits needed.</p>



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Affected Property Area	Practice	Description	City Review Requirements
Utility Protection	Purchase utility flood covers	<p>Fast-installing, plastic utility flood covers are designed to protect utilities from flood and water damage. Utility flood covers look like plastic protective sleeves that are pulled up and fastened above a utility if flooding is forecasted. These covers, which can be installed and pulled up in minutes, can also protect the surrounding area if a water heater malfunctions or leaks.</p> <p>By installing a waterproof flood cover underneath a furnace, boiler and/or hot water heater, a homeowner can quickly provide up to six feet of flood water protection.</p>	<p>No reviews or permits needed.</p>
	Install interior concrete or masonry walls	<p>Elevating or enclosing large appliances in a basement or other areas vulnerable to flooding using concrete blocks, walls or other masonry products can reduce the risk of water damage in a flood event.</p> <p>These interior floodwalls can provide utilities or other key areas with up to four feet of flood protection.</p>	<p>Inspection Services Division (ISD)</p> <p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits: www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>



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Affected Property Area	Practice	Description	City Review Requirements
	Elevate electrical outlets, switches, sockets and circuit breakers	<p>When flood water gets into electrical systems, they are either ruined or at the very least, cannot be used again until they have been dried out and inspected by an electrician. Therefore, having a licensed and qualified electrician elevate outlets, switches, sockets and circuit breakers to be at least one foot above expected flood levels is an excellent way to avoid significant electrical damage during flood events.</p> 	<p>Inspection Services Division (ISD)</p> <p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits: www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>
	Install flanged /Quick Connect system	<p>In homes provided with a flanged connection (often called a “Quick Connect”) to connect a temporary generator to the main electrical panel, the flanged connection should be placed above the required flood elevation in a place that allows a generator to be brought onto the residence, quickly connected to the residence, and safely refueled when needed.</p> <p>Additionally, the generator should be located away from vents or windows to prevent exhaust gases from entering a residence or otherwise pose a risk to occupants.</p> 	<p>Inspection Services Division (ISD)</p> <p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits: www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>

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Affected Property Area	Practice	Description	City Review Requirements
	Elevate utilities and service equipment	<p>Elevating key components associated with a residence’s heating, ventilation, and air conditioning (HVAC) system, along with other major appliances such as washers, dryers, and hot water heaters from basement areas to a higher floor or the attic is the best way to mitigate against future flood damage.</p> <p>If elevation through relocation is not possible, homeowners can protect HVAC and appliances by elevating them in place. For external utilities such as heat pumps that lie within potential flood prone areas, consider elevating using riders and cement blocks.</p>	<p>Inspection Services Division (ISD)</p> <p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits: www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>
General Protective equipment	Install a flood alert system	<p>Flood alert systems can notify a homeowner when water first enters an area, enabling them to take immediate response actions to avoid more extensive flood damage.</p> <p>Current flood alert systems utilize existing home Wi-Fi networks, coupled with 20 to 30-foot water-sensing flood cables, to monitor for water intrusion. If water is detected, the flood alert system can notify a homeowner via text, call or email.</p>	<p>Inspection Services Division (ISD)</p> <p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits: www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>



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Affected Property Area	Practice	Description	City Review Requirements
	Purchase portable submersible water pumps and hoses	<p>Once flooding occurs, it can be difficult to clean up. Without working floor drains, water can remain in low lying areas until removed manually.</p> <p>A submersible water pump and hose can be used to prevent accumulation of flood water entering a building, or remove water after a flood event, mitigating damage to the building or supplies and expedites the recovery process.</p> 	No reviews or permits needed.
	Incorporate flood-resistant building materials	<p>After a flood event, replacing damaged building materials with flood resistant building materials, including cement board, vinyl and rubber flooring, concrete, lime plaster and decay-resistant wood can increase a home's resilience to flood events.</p> <p>Flood Resistant building materials are defined by FEMA as any building product [material, component or system] capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage. The term "prolonged contact" means at least 72 hours, and the term "significant damage" means any damage requiring more than cosmetic repair.</p> 	<p>Inspection Services Division (ISD)</p> <p>Approved Practices may require applying for and the issuance by ISD of building and/or mechanical, electrical, and plumbing permits: www.rockvillemd.gov/165/Permits-Inspections</p> <p>Contact number: 240-314-8240</p>

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	<p>Apply interior concrete sealers and waterproof paints</p>	<p>Water seepage through concrete basement walls is a common problem. Because of this, many companies have developed waterproofing sealers and paints. These products may be oil- or water-based, and they are heavier than conventional sealers and paints because they contain additives developed to create impermeable water barriers.</p> <p>Waterproofing compounds such as polyurethane and thick rubberized liquids one can brush, roll, dip and pour and can be applied to interior concrete surfaces to decrease their water absorbency. This can prevent serious damage in flood events.</p>	<p>No reviews or permits needed.</p>
<p>Exterior</p>	<p>Construct a protective flood wall</p>	<p>Although not common in urban residential areas, cinder block or similar materials formed into protective flood wall or similar barrier can prevent the intrusion of flood waters; especially for residences with subgrade, walk down basements.</p>	<p>Department of Public Works (DPW)</p> <p>Any proposed activity that involves the grading or land disturbance of more than 5,000 square feet (or 100 cubic yards) requires a Sediment Control Permit (SCP) issued by DPW: www.rockvillemd.gov/2372/Sediment-Control-Permit</p> <p>Any disturbance within the public right-of-way requires a PWK permit issued by DPW: www.rockvillemd.gov/2374/Public-Works-Permit-Protection-of-Right-of-Way</p> <p>Contact number: 240-314-8500</p> <p>Community Planning & Development Services (CPDS)</p> <p>Single family homes, contact CPDS (forestry inspector) if you have Forest Conservation Easements on the property. View the Forest Conservation Easements Map.</p> <p>Commercial, mixed use, and HOA properties, contact CPDS (forestry inspector) if the limits of disturbance for your project is within a critical root zone of any significant tree (6"</p>



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			<p>diameter or greater at 4.5' off the ground). If you are unsure, please contact CPDS (forestry inspector) for clarification.</p> <p>Homes in Historical Preservation Districts contact CPDS (forestry inspector).</p> <p>Contact number: 240-314-8233</p>
	<p>Perform surface grading</p>	<p>Surface grading can prevent flood waters from reaching home by redirecting storm water away from a residence. This is typically done by grading a slope away from a residential structure at a grade of at least 0.5 inch per foot for at least 10 feet.</p> <p>In addition, for surface grading to be effective, the graded soil must be mechanically compacted to prevent later settling.</p> 	<p>Department of Public Works (DPW)</p> <p>Any proposed activity that involves the grading or land disturbance of more than 5,000 square feet (or 100 cubic yards) requires a Sediment Control Permit (SCP) issued by DPW: www.rockvillemd.gov/2372/Sediment-Control-Permit</p> <p>Any disturbance within the public right-of-way requires a PWK permit issued by DPW: www.rockvillemd.gov/2374/Public-Works-Permit-Protection-of-Right-of-Way</p> <p>Contact number: 240-314-8500</p> <p>Community Planning & Development Services (CPDS)</p> <p>Contact number: 240-314-8233</p> <p>Single family homes, contact CPDS (forestry inspector) if you have Forest Conservation Easements on the property. View the Forest Conservation Easements Map.</p> <p>Commercial, mixed use, and HOA properties, contact CPDS (forestry inspector) if the limits of disturbance for your project is within a critical root zone of any significant tree (6" diameter or greater at 4.5' off the ground). If you are unsure, please contact CPDS (forestry inspector) for clarification.</p> <p>Homes in Historical Preservation Districts contact CPDS (forestry inspector).</p>

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	Construct an earthen berm	<p>An earthen berm is a small hill covered with grass or other plants that is built to divert runoff so that it will not affect a certain area. As opposed surface grading, this involves building “up” instead of grading “down.”</p> 	<p>Department of Public Works (DPW)</p> <p>Any proposed activity that involves the grading or land disturbance of more than 5,000 square feet (or 100 cubic yards) requires a Sediment Control Permit (SCP) issued by DPW: www.rockvillemd.gov/2372/Sediment-Control-Permit</p> <p>Any disturbance within the public right-of-way requires a PWK permit issued by DPW: www.rockvillemd.gov/2374/Public-Works-Permit-Protection-of-Right-of-Way</p> <p>Contact number: 240-314-8500</p> <p>Community Planning & Development Services (CPDS)</p> <p>Contact number: 240-314-8233</p> <p>Single family homes, contact CPDS (forestry inspector) if you have Forest Conservation Easements on the property. View the Forest Conservation Easements Map.</p> <p>Commercial, mixed use, and HOA properties, contact CPDS (forestry inspector) if the limits of disturbance for your project is within a critical root zone of any significant tree (6" diameter or greater at 4.5' off the ground). If you are unsure, please contact CPDS (forestry inspector) for clarification.</p> <p>Homes in Historical Preservation Districts contact CPDS (forestry inspector).</p>
	Install impermeable (water resistant) material around foundations	<p>In areas where standing water is a constant problem, homeowners can reduce intrusion of surface flood waters to the below ground structure by installing impermeable materials around the residence’s foundation.</p> <p>These materials can include waterproof boards and rubber seals. Excavation surrounding a residence’s foundation is</p> 	<p>Department of Public Works (DPW)</p> <p>Any proposed activity that involves the grading or land disturbance of more than 5,000 square feet (or 100 cubic yards) requires a Sediment Control Permit (SCP) issued by DPW: www.rockvillemd.gov/2372/Sediment-Control-Permit</p> <p>Any disturbance within the public right-of-way requires a PWK permit issued by DPW: www.rockvillemd.gov/2374/Public-Works-Permit-Protection-of-Right-of-Way</p>

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		likely required to install impermeable linings.	<p>Contact number: 240-314-8500</p> <p>Community Planning & Development Services (CPDS)</p> <p>Contact number: 240-314-8233</p> <p>Single family homes, contact CPDS (forestry inspector) if you have Forest Conservation Easements on the property. View the Forest Conservation Easements Map.</p> <p>Commercial, mixed use, and HOA properties, contact CPDS (forestry inspector) if the limits of disturbance for your project is within a critical root zone of any significant tree (6" diameter or greater at 4.5' off the ground). If you are unsure, please contact CPDS (forestry inspector) for clarification.</p> <p>Homes in Historical Preservation Districts contact CPDS (forestry inspector).</p>
	Install a French drain system around basement	<p>The purpose of a French drain is to direct surface run off water and groundwater away from the home's foundation. These types of drains are ideal because they reduce pressure and remove excess moisture from the soil by collecting surface water and groundwater.</p> <p>French drains are normally installed below areas prone to flooding to serve as a channel for water to flow away from a home. French drains can be installed to alleviate water from pooling in low-lying areas such as a ditch or basement. If water has collected at the surface, a shallow French drain can be installed to mitigate against father trouble.</p> 	<p>Department of Public Works (DPW)</p> <p>Any proposed activity that involves the grading or land disturbance of more than 5,000 square feet (or 100 cubic yards) requires a Sediment Control Permit (SCP) issued by DPW: www.rockvillemd.gov/2372/Sediment-Control-Permit</p> <p>Any disturbance within the public right-of-way requires a PWK permit issued by DPW: www.rockvillemd.gov/2374/Public-Works-Permit-Protection-of-Right-of-Way</p> <p>Contact number: 240-314-8500</p> <p>Community Planning & Development Services (CPDS)</p> <p>Contact number: 240-314-8233</p> <p>Single family homes, contact CPDS (forestry inspector) if you have Forest Conservation Easements on the property. View the Forest Conservation Easements Map.</p>

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