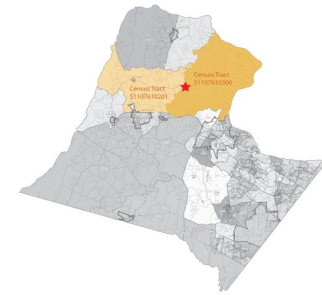


Health Situation Analysis - Data Description

Waterford, VA: Waterford Mill Historic Adaptive Reuse Concept

Census Tract: 51107610300 (Secondary: 51107610201)

Owner: Waterford Foundation



Design Ideas	Environmental Health Focus Areas					Metric	Relevant Community Metric
	Flood	Vector-borne Disease	Heat	Wildfire	Obesity/Hypertension		
Building							
Raise occupied floors above flood plain	x					Linear feet above flood plain	<p>Loudoun County Draft April 2022 Zoning Ordinance Chapter 5: Overlay Districts. 5.03. Floodplain Overlay District.</p> <p>I. Floodplain Overlay District Development Standards. 1. General Development Standards. b. Non-Residential Construction. New construction or substantial improvement of any commercial, industrial, or non-residential building (including manufactured homes) shall have the lowest floor, including basement, elevated to or above the base flood elevation. Non-residential buildings may be flood-proofed in lieu of being elevated provided that all areas of the building components lower than 1 foot above the base flood elevation are water tight with walls impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.</p> <p>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (2017)</p> <p>Guidelines. Resilience to Natural Hazards.</p> <p>Recommended: Implementing local and regional traditions (such as elevating residential buildings at risk of flooding or reducing flammable vegetation around structures in fire-prone areas) for adapting buildings and sites to specific natural hazards, when appropriate.</p>
Protect entries and building systems from water intrusion	x					Percent doors, windows, and building systems on and below the lowest occupied level of the building protected from water intrusion	<p>Loudoun County Draft April 2022 Zoning Ordinance Chapter 5: Overlay Districts. 5.03. Floodplain Overlay District.</p> <p>I. Floodplain Overlay District Development Standards. 1. General Development Standards. b. Non-Residential Construction. New construction or substantial improvement of any commercial, industrial, or non-residential building (including manufactured homes) shall have the lowest floor, including basement, elevated to or above the base flood elevation. Non-residential buildings may be flood-proofed in lieu of being elevated provided that all areas of the building components lower than 1 foot above the base flood elevation are water tight with walls impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.</p> <p>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (2017)</p> <p>Guidelines. Resilience to Natural Hazards.</p> <p>Recommended: Undertaking work to prevent or minimize the loss, damage, or destruction of the historic property while retaining and reserving significant features and the overall historic character of the building, its site, and setting.</p>

Design Ideas	Environmental Health Focus Areas					Metric	Relevant Community Metric
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Install impermeable, washable building materials and FFE (furniture, fixtures, equipment) on occupied floors that are at risk of flood damage	x					Percent building materials and FFE on flood-prone floors that are impermeable and washable	Loudoun County Draft April 2022 Zoning Ordinance Chapter 5: Overlay Districts. 5.03. Floodplain Overlay District. 1. Floodplain Overlay District Development Standards. 2. Space Below the Lowest Floor. In FOD (Major Floodplain), fully enclosed areas, of new construction or substantially improved structures, which are below the base flood elevation shall meet the following minimum standards: b. Such areas shall be constructed entirely of flood resistant materials below the base flood elevation.
Cool roof/pavement or garden roof	x		x			LEED credit	Waterford Historic District Guidelines 1.D.4. Green Guidelines for New Construction in Historic Districts. a.iv. Consider the use of reflective roof materials to minimize heat gain. The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings (2011) Guidelines. Roofs -- Cool Roofs and Green Roofs. Recommended: Installing a cool roof or a green roof on a flatroofed historic building where it will not be visible from the public right of way and will not negatively impact the building's historic character. Selecting sustainable native plants that are drought resistant and will not require excessive watering of a green roof. Loudoun County Energy Strategy 2020 (10-2022 update) Goal 3, Strategy 2: Reduce residential and commercial building emission and energy use
Net zero upgrades to insulation, mechanical systems, lighting, windows			x			% reduction greenhouse gas emissions compared with code minimum. Equation: estimated annual greenhouse gas emissions / code threshold for annual greenhouse gas emissions. Metric: tons carbon equivalent	Waterford Historic District Guidelines 1.D.3. Green Guidelines for Existing Structures. g. Insulate any attic, basement, and crawl spaces. 1.D.4. Green Guidelines for New Construction in Historic Districts. a.vii. Consider the use of structural insulated panels (SIPs) as an alternative to conventional framing for floors, walls and roofs. These panels provide insulation sandwiched between the interior and exterior sheathing materials. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (2017) Guidelines (Rehabilitation). Windows. Recommended: Using low-e glass with the least visible tint in new or replacement windows. The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings (2011) Guidelines. Windows. Recommended: Retrofitting historic windows with high-performance glazing or clear film, when possible, and only if the historic character can be maintained. Installing clear, low-emissivity (low-e) glass or film without noticeable color in historically clear windows to reduce solar heat gain. Guidelines. Weatherization and Insulation. Recommended: Developing a weatherization plan based on the results of the energy analysis of the building's performance and potential. Eliminating infiltration first, beginning with the least invasive and most cost-effective weatherization measures, such as caulking and weather stripping, before undertaking more invasive weatherization measures. Insulating unfinished spaces, such as attics, basements and crawl spaces, first.

Design Ideas	Environmental Health Focus Areas				Metric	Relevant Community Metric
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						<p>Guidelines. Heating, Ventilating and Air Conditioning (HVAC) and Air Circulation. Recommended: Commissioning or examining the performance of the HVAC system and continuing to examine it regularly to ensure that it is operating efficiently.</p> <p>Loudoun County 2019 General Plan SUS (Sustainability) Policy 8: Promote sustainability efforts throughout the County SUS Policy 9: Encourage sustainable development practices, including long-term water conservation, green building principles, sustainable site design, renewable energy, preservation and adaptive re-use of historic structures, and integrated energy management planning.</p> <p>Loudoun County Energy Strategy 2020 (10-2022 update) Goal 3, Strategy 2: Reduce residential and commercial building emission and energy use</p>
Operable windows with screens		x	x		Percent windows operable	<p>Waterford Historic District Guidelines 1.D.3. Green Guidelines for Existing Structures. c. Keep double-hung wooden sash windows and transoms operable to provide airflow and reduce the need for air conditioning.</p> <p>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (2017) Guidelines. Windows. Recommended: Identifying, retaining, and preserving windows and their functional and decorative features that are important to the overall historic character of the building. Sustaining the historic operability of windows. Guidelines. Daylighting. Recommended: Reopening historic windows that have been blocked in to add natural light and ventilation. Adding new window openings on secondary and less visible facades, where appropriate, to allow more natural light into the historic building.</p> <p>The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings (2011) Guidelines. Windows. Recommended: Maintaining windows on a regular basis to ensure that they function properly and are completely operable. Repairing or reopening historically-operable interior transoms, when possible, to improve air flow and cross ventilation.</p> <p>Loudoun County Energy Strategy 2020 (10-2022 update) Goal 3, Strategy 2: Reduce residential and commercial building emission and energy use.</p>
Enhanced filtration inside building				x	LEED credit	none
Campus/Neighborhood						

Design Ideas	Environmental Health Focus Areas				Metric	Relevant Community Metric
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Low impact development	x	x	x	x	LEED credit	<p>Waterford Preserving the Landmark 2022 Fix the Drainage and Manage the Stormwater goals</p> <p>The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings (2011) Guidelines. Site Features and Water Efficiency. Recommended: Adding features, such as bioswales, rain gardens, rain barrels, large collection tanks and cisterns, if compatible, to the historic building site to enhance storm-water management and on-site water reuse.</p> <p>Loudoun County 2019 General Plan RSCR (River and Stream Corridor Resources) Policy 2. The County will protect natural ecosystems, restore water quality, serve Loudoun's population, and support the built environment through healthy surface and groundwater resources.</p>
Plant vegetation that repels deer, attracts vector predators, places a 3 ft space/ barrier between humans and plants, and reduces wildfire risk		x		x	x	<p>% site covered with vegetation meeting vector-borne disease and wildfire guidelines</p> <p>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (2017) Guidelines. Resilience to Natural Hazards. Recommended: Implementing local and regional traditions (such as elevating residential buildings at risk of flooding or reducing flammable vegetation around structures in fire-prone areas) for adapting buildings and sites to specific natural hazards, when appropriate.</p> <p>Loudoun County 2019 General Plan NHR (Natural Heritage Resources) Policy 6. Preserve, protect, and create a network of privately and publicly protected open space, favoring large contiguous areas rather than smaller disconnected areas; maintaining natural, environmental, and heritage resource assets; preventing habitat fragmentation; and reinforcing the unique character of the diverse communities in the County</p> <p>Loudoun County Health Department Reduce the Number of Ticks in Your Yard. http://www.loudoun.gov/lyme</p> <p>Loudoun Lyme Disease Commission. Create a Tick-Safe Zone Through Landscaping Techniques and Deer Resistant Plants http://www.loudoun.gov/lymecommission</p>
Rainwater storage and filtration	x					<p>Percent rainwater captured, filtered, and reused on-site</p> <p>Waterford Historic District Guidelines 1.D.2. Green Guidelines for Sites. f. Capture rainwater runoff from gutters and collect in grey water cistern to use for watering site plantings.</p> <p>Waterford Preserving the Landmark 2022 Fix the Drainage and Manage the Stormwater goals</p> <p>The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings (2011) Guidelines. Site Features and Water Efficiency. Recommended: Using to advantage existing storm-water-management features, such as gutters, downspouts and cisterns, as well as site topography and vegetation that contribute to the sustainability of the historic property.</p> <p>Loudoun County 2019 General Plan SUS (Sustainability) Policy 8: Promote sustainability efforts throughout the County</p>

Design Ideas	Environmental Health Focus Areas					Metric	Relevant Community Metric
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Design encourages physical activity					x	LEED/WELL credit	<p>Loudoun County 2019 Countywide Transportation Plan Transportation Network Goal 1. Enhanced multimodal safety for all system users. Transportation Network Goal 2. A reliable and efficient multimodal transportation network that manages the travel demands of the County while maintaining fiscal and environmental sustainability. Transportation Network Goal 3. Transportation choices that connect people to their communities, employment centers, educational institutions, activity centers, and other amenities.</p> <p>2022 Loudoun County Community Health Needs Assessment Health Concern - Obesity; Neighborhood, Community, and Environment: Limited access to opportunities for physical activity. Obesity identified by 24% of responses to 2020 CHNA as one of the most important health issues in the county.</p>
Community							
Compact, multi-use development near transit and bike/ped infrastructure	x	x	x	x	x	Linear feet of sidewalks and protected bike lanes	<p>Loudoun County 2019 General Plan Quality Development (QD) Policy 2: Where appropriate to the Place Type, create compact, walkable development patterns.</p> <p>Loudoun County 2019 Countywide Transportation Plan Rural Bicycle and Pedestrian Policies 3-4.15 Priority Facilities along primary roads and within the Towns and Villages will be prioritized in order to provide mobility within and between rural activity centers. 3-4.16 Villages Within the Villages, sidewalks will be provided along both sides of all public and private streets.</p> <p>2022 Loudoun County Community Health Needs Assessment Transportation options identified by 23% of responses to 2020 CHNA as "what would most improve the quality of life for our community"</p>

Design Ideas	Environmental Health Focus Areas					Metric	Relevant Community Metric
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Dedicated hike/bike trail. Design to avoid fragmenting deer habitat and separate from dense vegetation		x			x	Linear feet of hike/bike trails	<p>Loudoun County 2019 General Plan Policy 4: When appropriate for the Place Type, design spaces to maximize pedestrian, bicyclist, and other multimodal activity, comfort, and convenience. RHV (Rural Historic Villages) Policy 1. Strategy 1.4. Business and commercial uses in RHV should be 1) small scale, 2) compatible with existing development patterns, 3) generate limited vehicular traffic, and 4) meet local community needs or support rural tourism. NEHR (Natural, Environmental, and Heritage Resources) Policy 1. Strategy 1.4. Link natural, environmental, and heritage resources to create opportunities for open space corridors for the enjoyment of current and future generations. Open Space Fiscal Policy 3: Retain the County's unique combination of urban, suburban, and rural communities by using open space to protect natural resources and habitat, to create a network of high-quality active and passive recreation spaces, and to delineate our built environments. (Bike lane/roadside trail and Potential trail corridor come to the Mill.) Rural Historic Villages Design Guidelines. 3. Sidewalk and trail networks within the Rural Historic Villages should be expanded to provide connections to surrounding trail networks in the RPA.</p> <p>Loudoun County Energy Strategy 2020 (10-2022 update) Goal 3, Strategy 1: Reduce transportation emissions -- reduce vehicle miles traveled</p> <p>Loudoun County 2019 Countywide Transportation Plan 2-2.13 Connectivity The County shall actively seek to establish connections to local and regional trail networks</p> <p>2022 Loudoun County Community Health Needs Assessment Health Concern - Obesity; Neighborhood, Community, and Environment: Limited access to opportunities for physical activity</p>

Design Ideas	Environmental Health Focus Areas				Metric	Relevant Community Metric
	Flood	Vector-borne Disease	Heat	Wildfire		
On-site water and/or solar power generation and battery storage. Link to community microgrid	x		x		<p>kW generation from on-site renewable power.</p> <p>kWh battery storage.</p> <p>Number of nearby properties served.</p>	<p>Waterford Historic District Guidelines</p> <p>1.D.4. Green Guidelines for New Construction in Historic Districts.</p> <p>a.v. In non-visible locations, consider the use of solar shingles to reduce energy consumption.</p> <p>The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings (2011)</p> <p>Guidelines. Solar Technology.</p> <p>Recommended: Installing a low-profile solar device on the historic building so that it is not visible or only minimally visible from the public right of way: for example, on a flat roof and set back to take advantage of a parapet or other roof feature to screen solar panels from view; or on a secondary slope of a roof, out of view from the public right of way.</p> <p>Installing a solar device on the historic building in a manner that does not damage historic roofing material or negatively impact the building's historic character and is reversible.</p> <p>Loudoun County 2019 General Plan</p> <p>SUS (Sustainability) Policy 9: Encourage sustainable development practices, including long-term water conservation, green building principles, sustainable site design, renewable energy, preservation and adaptive re-use of historic structures, and integrated energy management planning.</p> <p>Electrical Fiscal Policy 6. Strategy 6.1. Encourage local electrical generation in appropriate locations throughout the County.</p> <p>Loudoun County Energy Strategy 2020 (10-2022 update)</p> <p>Goal 2, Strategy 1: Facilitate clean energy development</p> <p>Goal 2, Strategy 2: Facilitate access to clean energy (i.e., Northern VA solarize)</p> <p>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (2017)</p> <p>(Related to the possibility of rehabilitating the waterworks of the mill)</p> <p>Standards for Preservation 1. 1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces and spatial relationships.</p>