



Recommended Updates to Comprehensive Plan to Integrate Comprehensive Energy & Sustainability Master Plan (CESMP) Actions

November 18, 2025

Sustainability Commission Workgroup: Natural Resources/Adaptation

CESMP Actions:

- A.1: Develop Adaptation Plan for Critical Facilities
- A.2: Manage Stormwater Flooding Outside of the Floodplain
- A.4: Assess Shoreline Protection and Nature Based Solutions
- A.6: Encourage Technology for Residents to make Homes Adaptive
- B.2: Propose Green Building Regulations
- B.3: Encourage Energy Efficient and Electric New Construction
- B.4: Promote Energy Efficiency and Electrification Incentives
- E.1: Upgrade Public Transit Infrastructure
- E.2: Encourage Zero-Emission Vehicles and Charging
- E.3: Expand Public EV Charging Network
- E.4: Promote Existent Green Power Products
- E.5: Install Solar on County Government Facilities
- N.1: Adopt Natural Open Space Requirements
- T.2: Encourage Transit-Oriented Development
- T.3: Expand Existing Programs that Reduce Single Occupancy Vehicle Trips

Category 1: CESMP actions where proposed line edits fully address changes needed in the Comp Plan [Note: We're hesitant to say if our edits *fully* address all the changes needed since we're not experts in these specialties, and we may have missed something. Below are categories where the proposed edits will have a major impact.

- N.1: Adopt Natural Open Space Requirements
- T.2: Encourage Transit-Oriented Development
- T.3: Expand Existing Programs that Reduce Single Occupancy Vehicle Trips

Category 2: CESMP actions where proposed edits do not fully resolve the needed updates to the Comp Plan [Note: Our edits partially address the following actions]

- A.1: Develop Adaptation Plan for Critical Facilities
- A.2: Manage Stormwater Flooding Outside of the Floodplain
- A.4: Assess Shoreline Protection and Nature Based Solutions
- A.6: Encourage Technology for Residents to make Homes Adaptive
- B.2: Propose Green Building Regulations
- B.3: Encourage Energy Efficient and Electric New Construction
- B.4: Promote Energy Efficiency and Electrification Incentives

- E.1: Upgrade Public Transit Infrastructure
- E.2: Encourage Zero-Emission Vehicles and Charging
- E.3: Expand Public EV Charging Network
- E.4: Promote Existent Green Power Products
- E.5: Install Solar on County Government Facilities

Category 3: Important issues that are not covered within the 25 high-priority CESMP actions, but which should be considered in the context of the Comp Plan update

We need to add language for the county to monitor water and energy usage of data center applications. This should include an investigation into offset programs used by data center operators. Information on source of water (ground or public) and projected volume should be made available before an application goes before the Planning Commission or BOCS.

Summary of Suggested Edits

The majority of the edits here center around two elements: growing in a manner that incentivizes transit use, and the protection of natural resources. These are two areas that provide a large impact in greenhouse gas (GHG) reduction and sustainability. It is particularly significant that they are squarely within the county's ability to control, unlike some other factors in these areas.

Regarding transit, the concept is that we need to grow in a way that encourages high-capacity transit location and use in the county now and in the future. This means concentrating as much growth as possible near high-capacity transit availability (Metropolitan Washington Council of Governments (COG) recommends 75% of new residential units be located in Activity Centers as they use the term). The Activity Centers in Prince William County are North Woodbridge, Potomac Town Center, Potomac Shores, Gainesville, and Innovation. There are others in the City of Manassas, Manassas Park, City of Manassas Regional Airport and Yorkshire.

If we don't concentrate most of the new growth (particularly high-density development of transect T-3 and higher) in these hubs, we won't be able to provide the potential ridership to incentivize the extension and expansion of

high-capacity transit to the county. Achieving expanded ridership for transit is key to the county's GHG reduction strategy because of its status as the number two contributor, and it is one of the most impactful areas that is under the county's control through the BOCS and the county government.

We currently tend to label too many areas of the county as activity centers in the Comprehensive Plan, many that aren't near high-capacity transit. This dilutes the effort to concentrate high-density residential housing near actual COG Activity Centers and reduces the incentives for transit.

Regarding the edits around the protection of natural resources, these address carbon-uptake of GHG's and adaptation to climate and other environmental changes. The protection of natural terrain and natural open space becomes even more critical as we further develop the county and GHG's increase. The use of the term "Natural Open Space" as defined in the Zoning Ordinance needs to be specified in many areas so there's less confusion as to what counts as environmentally protective open space. Tree protection is an obvious key strategy, and the edits reflect that. Edits around limiting impervious surfaces in the Occoquan watershed are important for many reasons; PFAS and salt infiltration and groundwater recharge rates are major ones.

Edits around groundwater monitoring and protection are also an important part of resilience and protection of natural resources. Stream protections follow the same theme.

There are some other edits that follow, but these are the key areas. The edits are offered as a guide if the current Comprehensive Plan language is retained, and as a general indicator of how the concepts discussed above would fit into the plan if a different format is followed.

Proposed edits to the PWC Comprehensive Plan to incorporate CESMP Actions:

LAND USE POLICY 1: Provide a strategic arrangement of a variety of land uses in the County necessary to meet the needs of a growing and diverse population, existing and prospective businesses, and providing protection for cultural and natural resources in a fiscally sound and equitable manner that achieves a high-quality livable community.

ACTION STRATEGIES:

- LU1.1** Ensure adequate land uses necessary to provide a supply of land that allows the County to compete on a regional, national, and international basis for advanced technological industries and other economic development opportunities that will bring new jobs to Prince William County residents, particularly new professional and other high-paying jobs.
- LU1.2** Provide land uses that allow for diversity of housing unit types and employment opportunities throughout the County.

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- LU1.3** Periodically update the County's Build-Out Analysis and Residential Inventory to monitor the amount of available residential and non-residential development capacity.
- LU1.4** Advocate policies and public funding that align with the County's Strategic Plan, Budget, Capital Improvements Program, and Secondary Road Improvements Program that direct needed infrastructure improvements to achieve the Comprehensive Plan goals in the County.
- LU1.5** Review and amend, if necessary, the Zoning Ordinance to be consistent with the adopted Long-Range Land Use classifications, land use policies, and to provide flexibility for projects that meet the overall intent and goals of the Comprehensive Plan.

LU 1.6: Ensure that, as much as possible, all impacts of new development, particularly industrial development, are taken into account, such as infrastructure needs, natural resources impacts, auditory impacts and diversity of employment types. (CESMP A-1, A-2, A-3, B-2, B-3, B-4, E-2, E-3, E-4, N-1)

LAND USE POLICY 2: Encourage land use densities and intensities that promote efficient development patterns throughout the County.

ACTION STRATEGIES:

- LU2.1** Integrate land use intensity with access to transportation and proximity to public facilities.
- LU2.2** New development applications should have densities that are appropriate to the character areas in the County and are consistent with those reflected on the Long-Range Land Use Map.
- LU2.3** Direct new development to areas served by transit corridors, particularly designated activity centers, town centers, and redevelopment corridors, and appropriate areas within Small Area Plans.
- LU2.4** Provide height and density transitions between higher-intensity development areas and surrounding residential and rural communities.

LU 2.3: Direct new development, particularly T-3 transect and higher, to areas served by transit corridors, particularly designated activity centers, town centers, and redevelopment corridors, and appropriate areas within Small Area Plans. (CESMP T-2)

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LAND USE POLICY 6: Encourage site, building, and landscape designs that result in the creation of safe and accessible pedestrian circulation and community open space.

ACTION STRATEGIES:

- LU6.1** Encourage the provision of open spaces and community facilities in new developments and locate them close to active uses – commercial, community services, employment, and schools where appropriate.
- LU6.2** Encourage the provision of pedestrian links between and among commercial properties, community facilities, and nearby residential neighborhoods.
- LU6.3** Encourage the clear delineation of pedestrian ways in commercial parking lots and other thoroughfares for public use – through the use of landscaping, lighting, signage, contrasting pavement, pavement marking, or other innovative treatments.
- LU6.4** Encourage the provision of wider sidewalks or multi-use trails in non-residential areas with high levels of pedestrian activity. Encourage buildings along main streets in town centers to be oriented with their fronts adjacent to the sidewalk with preference for parking in the rear where possible.

Add: LU 6.5: Encourage the use of the term “Natural Open Space” instead of “Open Space” wherever possible to maximize the retention of mature trees. (CESMP N-1)

LAND USE POLICY 8: Purposefully integrate a variety of residential uses near transportation hubs, Activity, and Employment Centers to create vibrant multimodal communities.

ACTION STRATEGIES

- LU8.1** Support higher-density residential uses in transit-oriented developments such as Town Centers, Activity Centers, Redevelopment Corridors, and near employment areas. Higher residential densities are encouraged to be located near or with access to mass transit stations like the Virginia Railway Express, bus routes, and other transit nodes and facilities.
- LU8.2** Support affordable housing incentives with appropriate buffering and design in accordance with the bonus density applicable to each transect.
- LU8.3** Consider travel modes other than the automobile to better connect and integrate residential uses with non-residential uses.
- LU8.4** Strategically designate residential land use to encourage development of housing to accommodate the population growth projections with consideration for expanding affordable housing and multigenerational households.
- LU8.5** Adopt Complete Streets policies that improves safety and mobility in new residential development and study existing neighborhoods that need to improve the local street and pedestrian connections to enhance the community.
- LU8.6** Utilize the Multimodal System Plan to integrate land use and multimodal transportation planning.

~~LU 8.1: Support Limit higher-density residential uses in to high-capacity transit-oriented developments such as Town Centers, Activity Centers, Redevelopment Corridors, and near regional employment areas. Higher residential densities such as T-3 transects and higher are encouraged to should be located near or with access to mass transit stations like the Virginia Railway Express, bus routes, and other high-capacity transit nodes and facilities. (CESMP T-2, T-3)~~

~~LU 8.3: Consider Encourage travel modes other than the automobile to reduce vehicle use, vehicle miles traveled and to better connect and integrate residential uses with non-residential uses. (CESMP T-1, T-3)~~

~~LU 8.4: Strategically designate residential land use to encourage development of housing to accommodate the population growth projections with consideration for expanding affordable housing and multigenerational households while adhering to environmental standards that protect and expand resiliency and reduce GHG emissions. (CESMP T-2, T-3, A-2, A-4, A-6, B-2, B-3)~~

LAND USE POLICY 14: Advocate for land use policies that increase affordable housing options, access to amenities and open public spaces, and encourage the development of healthy neighborhoods that enhance quality-of-life for all residents.

ACTION STRATEGIES:

LU 14.1 Affordable housing should be provided in proximity to employment opportunities and availability to transit.

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- LU 14.2** Identify communities with unmet LOS needs and develop a plan to equitably meet those needs.
- LU 14.3** Land use and development decisions should involve an equity lens to be consistent, predictable, fair, and cost effective, while addressing impacts associated with gentrification.
- LU 14.4** Encourage as part of any redevelopment or revitalization efforts to identify appropriate opportunities to expand the supply of usable and accessible open space in the area through improvements to existing open space areas and the development of new public spaces.

LU 14.1: Affordable housing should be provided in proximity to employment opportunities and availability to high-capacity transit. (CESMP T-2, T-3)

LU 14.4: Encourage as part of any redevelopment or revitalization efforts to identify appropriate opportunities to expand the supply of usable and accessible natural open space in the area through improvements to existing open space areas and the development of new public spaces. (CESMP N-1)

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LAND USE POLICY 15: Identify and acknowledge communities that may not have equitable access to amenities, resources, or opportunities to better understand existing conditions as well as the area's history while directing planning efforts to address these deficiencies.

ACTION STRATEGIES:

- LU 15.1** Identify Equity Emphasis Areas within Prince William County and incorporate these areas into the County's GIS mapping system.
- LU 15.2** Identify effective opportunities to engage individuals of communities identified as Equity Emphasis Areas.
- LU 15.3** Provide enhanced mobility and accessibility options to the traditionally underserved population groups in the EEAs.
- LU 15.4** Establish methods for benchmarking equity and measuring outcomes in specific areas of the County and Countywide planning.
- LU 15.5** Study and identify food desert locations throughout the County using the USDA's methodology, County GIS, and utilize the Prince William County Department of Economic Development's Grocery Store Market Analysis and Study to explore opportunities to improve accessibility to affordable and healthy food are provided.
- LU 15.6** Utilize flexibility of uses in land use classifications that encourage economic and community-based opportunities such as farmer markets as an interim strategy to minimize the impacts of food desert locations.

LU 15.7: Ensure that EEA's have as much Natural Open Space as possible..(CESMP N-1)

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LAND USE POLICY 17: Promote sustainable land development that provides for a balance of economic opportunity, social equity including environmental justice, and protection of the natural environment.

ACTION STRATEGIES:

- LU17.1** Encourage a mix of complementary land uses and project designs that address the long-term sustainability including cultural, environmental, and economic health of both the individual development and the broader community.
- LU17.2** Residential subdivisions should be planned to conserve open space and natural resources, protect agricultural operations, reduce impervious footprints, use sustainable development practices, and provide community amenities, where appropriate and consistent with applicable laws.
- LU17.3** Encourage land use activities and patterns, such as buffers and open space, to protect surface and groundwater resources.
- LU17.4** Encourage development projects to restore, connect, and protect natural habitats and sensitive lands.
- LU17.5** Encourage adaptatively reuse of significant architectural resources for housing or community facilities.
- LU17.6** Provide complete streets in new development that offer multimodal transportation systems designed and operated to accommodate all users with less reliance on the automobile to reduce carbon emissions.
- LU17.7** Promote the adaptive use of existing buildings and infill development as effective sustainable best practices to minimize development pressures on undeveloped areas.

[LU 17.2: Residential subdivisions should be planned to conserve natural open space and natural resources, protect agricultural operations, reduce impervious footprints, use sustainable development practices, and provide community amenities, where appropriate and consistent with applicable laws. \(CESMP N-1\)](#)

[LU 17.3: Encourage land use activities and patterns, such as buffers and natural open space, to protect surface and groundwater resources. \(CESMP N-1\)](#)

LAND USE POLICY 18: Encourage a land use pattern that incorporates and protects environmental features in accordance with the goals and objectives of the Environment Plan of the Comprehensive Plan, Prince William County's 2021-2024 Strategic Plan, and contributes to the County's Climate and Resiliency goals.

ACTION STRATEGIES:

- LU18.1** Integrate new development into the natural landforms and encourage minimizing the amount of impervious surface areas in new development.
- LU18.2** Encourage using low maintenance pervious paving and, when appropriate, remove paved areas in existing developments to minimize runoff.
- LU18.3** Recognize existing forest areas as important features for carbon sequestration, protecting water quality, contributing to the overall beauty of the County, and promoting ecological diversity.
- LU18.4** Preserve and protect the natural terrain, drainage, and canopy areas in new development in accordance with the action strategies of the Environment Plan.

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- LU18.5** Preserve historic and champion trees and other specimen trees in cooperation with the County Arborist.
 - LU18.6** Encourage the integration of public open space areas with neighboring properties to avoid fragmentation of open spaces and natural areas.
 - LU18.7** Encourage the placement of buildings or other appropriate mitigation to minimize impacts to Environmental Resource Protection Areas, particularly near important natural resource areas, such as perennial streams.
 - LU18.8** Align new roads to follow the natural contours of the land. Consider DCSM road standards that will allow greater preservation of the natural terrain and vegetation especially areas with mature trees.
 - LU18.9** Encourage re-vegetation with appropriate indigenous species and the restoration of natural landscape features to mitigate the negative impact of development on native plant and animal communities.
 - LU18.10** Encourage the control of exotic nuisance plant species, where appropriate.
 - LU18.11** Protect and improve water quality through the application of stormwater control measures for new development and redevelopment projects.
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LAND USE POLICY 19: Encourage sustainable land use development that reduces Greenhouse Gas “GHG” emissions and the carbon footprint of development.

- LU19.1** Aspire to attain the COG targets for reduction in GHG emissions, attaining renewable sources goals ,and other action strategies of the Sustainable Growth goals as identified in the Prince William County 2021-2024 Strategic Plan, through land use planning best practices.
- LU19.2** Encourage land use development that offers multimodal options, including emphasis on pedestrian and bicycle facilities, advanced transportation technology, and alternative fuel sources.
- LU19.3** Encourage site development to use energy efficient and low impact design through the use of environmental features and landscaping.
- LU19.4** Promote the use of alternative energy sources, including renewable energy technology, microgrids, and energy storage that reduce the dependence on high emission energy sources and can provide systematic energy resilience.
- LU19.5** Evaluate and consider amending the Design and Construction Standards Manual to include design guidelines and incentives for energy efficiency for new and renovated buildings.
- LU19.6** New public facilities, rezoning, and special use permit applications should include designs that provide energy efficient construction of buildings that minimize the carbon footprint and explore the use of renewable energy when feasible.

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- LU19.7** Implement a retrofitting program for energy efficiency for all County facilities.
- LU19.8** Promote reforestation rural, semi-rural, and suburban areas to store forest carbon and restore watershed integrity and promote tree planting to increase tree canopy in urban areas to combat the urban heat island effect.
- LU19.9** Encourage high density development and the majority of future growth to occur within adopted Small Area Plans areas, Activity Centers, and Redevelopment Corridors.

LU 19.9: Encourage high density development and the majority of future growth to occur within adopted Small Area Plans areas, Activity Centers, and Redevelopment Corridors near high-capacity transit (CESMP T-2, T-3):

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LU 19.10: Promote the retention of natural open space, particularly mature trees, in all areas of the county. (CESMP N-1)

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GENERAL ENVIRONMENTAL POLICIES AND ACTION STRATEGIES

EN-POLICY 1: Consider environmental concerns at all levels of land use related decision-making.

ACTION STRATEGIES:

- EN1.1.** Develop and maintain Geographic Information System (GIS) mapping layers and other critical maps to be included as part of the Environment Plan, which may include the following layers and/or maps:
 - EN1.1.a** Maintain Tree Cover Map
 - EN1.1.b** Develop and maintain Impervious Area Map
 - EN1.1.c** Develop and maintain Vegetative Cover Types Map
 - EN1.1.d** Maintain Wetlands and Marshes Map
 - EN1.1.e** Develop and maintain Existing Conservation Easements Map
 - EN1.1.f** Maintain FEMA Floodways, 100 and 500-Year Flood Hazard Overlay Map
- EN1.2.** Update the Zoning Ordinance Environmental Constraints Analysis (ECA) requirements to add the following:
 - EN1.2.a** Delineation of all jurisdictional wetlands and waters.
 - EN1.2.b** Location of all Chesapeake Bay Resource Protection Areas (Preservation Area Site Assessment (PASA) submittal required).
 - EN1.2.c** All significant non-RPA streams.
 - EN1.2.d** Ponds and culverts.
 - EN1.2.e** Contributing drainage areas.
 - EN1.2.f** Existing structures, roads, and the locations of known utilities and easements.
 - EN1.2.g** Publicly available information on adjoining parcels regarding the location of 100-year floodplains, wetlands, stormwater infrastructure, and streams.
 - EN1.2.h** Identification of the adequacy of receiving surface waters into which stormwater will be proposed for discharge.
 - EN1.2.i** Proposed limits of disturbance.
 - EN1.2.j** Existing vegetation map of the entire site.
 - EN1.2.k** Location of all specimen trees.
 - EN1.2.l** Unique habitats of special concern.
 - EN1.2.m** Identification of environmental features proposed for preservation or conservation.
- EN1.2.n** Acreage of all Environmental Resources (ER) (i.e., per ER definition).

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- EN1.3.** Identify and pursue opportunities for open space preservation that preserve unique habitats of special concern with an emphasis on connecting to existing natural resources conservation areas.
- EN1.4.** Seek and consider as part of the rezoning or special use process, input from adjacent jurisdictions to promote regional green infrastructure planning efforts as well as other environmental concerns that have multi-jurisdictional impacts.
- EN1.5.** Encourage developers to incorporate into site planning various environmentally sensitive approaches to stormwater management, including Low Impact Development (LID) techniques and preservation and restoration of natural land forms, as discussed in this Plan and the Community Design Plan.
- EN1.6.** Upon completion of the Northern Virginia Regional Commission's conservation corridors project, review and update as needed, the Open Space and Corridors Map in the Parks, Open Space and Trails chapter.
- EN1.7.** During the rezoning or special use permit process, review the Open Space and Corridors Map in the Open Space Plan to identify and determine the value or ecological viability of certain corridors.

EN 1.3. Identify and pursue opportunities for natural open space preservation that preserve unique habitats of special concern with an emphasis on connecting to existing natural resources conservation areas. (CESMP N-1)

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EN-POLICY 2: Develop and implement a data collection, tracking, and analysis structure to monitor and establish the County's environmental baseline, resource status, and sustainability.

ACTION STRATEGIES:

- EN2.1** Utilize the information gathered through studies and assessments to establish criteria for protecting ecologically important areas during land use decision-making processes.
- EN2.2** Using available data, map all environmental resources to prioritize conservation planning, and make this information available on the County Mapper.
- EN2.3** As part of a public facility review, request an analysis of environmental resources, as identified in the ECA.
- EN2.4** All County offices, to include Prince William County Public Schools, involved in land use will coordinate with local, federal, state, and regional environmental organizations to facilitate the exchange of data and implementation of environmental protection measures.
- EN2.5** Develop a baseline analysis of tree cover from available historic data.

EN 2.6: Implement a groundwater study to assess the groundwater levels in the county and the trendlines for the future. (CESMP A-1)

EN 2.7: Establish a tracking system for industrial groundwater removal in the county. (CESMP A-1)

EN-POLICY 3: To further support a minimum of 39 percent of the total area in the County excluding acreage of Marine Corps Base Quantico, should be retained as protected open space.

ACTION STRATEGIES:

- EN3.1** Encourage cluster development to protect contiguous natural open space, as defined by the Zoning Ordinance.
- EN3.2** Amend the cluster ordinance to ensure that open space is permanently protected.
- EN3.3** Amend the DCSM to ensure that there is a defined buffer standard for public parks.

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- EN3.4** Amend the Zoning Ordinance and/or DCSM to prohibit the establishment of proffered conservation and preservation areas on residential lots.
 - EN3.5** Develop and publish guidelines for homeowner associations that detail how to manage conservation areas while providing information on responsibilities and a checklist of standard management measures and benefits.
 - EN3.6** Make information on conservation easements available to landowners, including distribution points at the Tax Assessment Department and other relevant County offices, to encourage the use of open space/conservation easements as tools to preserve environmental resources.
 - EN3.7** Encourage the use of open space/conservation easements or fee simple dedication to preserve open space in already developed areas in order to provide natural areas, protect environmentally sensitive resources, preserve wildlife habitat and ensure a scenic appearance over time. Consider development at the high end of the density range for those projects that preserve sensitive features, identified in the ECA, beyond the minimum preservation requirements such as buffers, RPA and floodplain.
 - EN3.8** The County shall review and implement opportunities for a Purchase of Development Rights (PDR) program.
 - EN3.9** Explore the use of available federal and state funding resources, including grants, foundations, and transportation related funds, to support green infrastructure planning initiatives and a PDR program.
 - EN3.10** Establish and continue partnerships with local agencies and organizations to initiate and provide public information programs aimed at conserving lands in the watershed through civic engagement community stewardship.
 - EN3.11** Investigate the benefits of involving a private conservancy for the purpose of purchasing privately held lands for preservation purposes and seeking perpetual conservation easements to preserve open space.
 - EN3.12** Support initiatives promoted by the County's Trails and Blueways Council to establish a Countywide trails and corridors system through the voluntary donation of land and conservation easements from interested property owners as a means of environmental protection.
 - EN3.13** Protect the biological diversity, processes, and functions of natural habitats, identify and prioritize a network of preservation corridors or large woodland areas to be incorporated into an overall habitat protection network.
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~~EN3.4: Amend the Zoning Ordinance and/or DCSM to prohibit the establishment of proffered conservation and preservation areas on residential lots. (CESMP N-1)~~

~~EN3.7: Define "already developed areas" (CESMP N-1)~~

~~EN 3.4: Amend the Zoning Ordinance and/or DCSM to prohibit the establishment of proffered conservation and preservation areas on residential lots.~~

Commented [s1]: Why would we want to do this? It isn't always possible to have a HOA, and we'd lose opportunities to protect open space.

Commented [s2]: Without a definition, this is ripe for abuse.

ENVIRONMENT

CLIMATE & AIR QUALITY POLICIES AND ACTION STRATEGIES

EN-POLICY 4: Monitor air quality and collaborate with the Virginia Department of Environmental Quality (DEQ), Metropolitan Washington Council of Governments (MWCOG), and other regional entities to identify and implement strategies to improve air quality.

ACTION STRATEGIES:

- EN4.1** Support and coordinate with the Climate, Energy and Environmental Policy Committee (CEEPC) and the Council of Governments (COG) Metropolitan Washington Air Quality Committee's (MWAQC) Air Quality Monitoring Program for the region and within the County.
- EN4.2** Analyze and suggest locations for air, water and energy monitoring sites to encourage COG and the Virginia Department of Environmental Quality (DEQ) to establish additional air quality monitoring stations in the County as applicable.
- EN4.3** Where applicable, review and consider air quality impacts for public and private industries and utilities in conjunction with the rezoning and/or special use permit application process.
- EN4.4** Maintain and extend regional COG agreements and contingency plans to deal with stationary and mobile sources of pollution to protect residents, especially sensitive residents (such as the young, the elderly, and sensitive populations).
- EN4.5** Develop a process to determine if adequate controls, including new technologies for disposing of compact fluorescent light bulbs, are in place to prevent metals, Polychlorinated Biphenyls (PCBs), and other carcinogenic materials from entering the trash stream.
- EN4.6** Request MWCOG or Virginia Department of Transportation (VDOT) to review air quality/transportation studies along major transportation corridors and at congested intersections in order to better define the impacts and trends of vehicle-generated pollution.
- EN4.7** Developments, including and not limited to transit-oriented and mixed use projects, shall optimize the use of transit and non-motorized trips in order to reduce pollution impacts from vehicles and shall contain the appropriate support facilities, such as bus shelters, dedicated bicycle lanes, bicycle parking facilities, trails, crosswalks, sidewalks, etc.
- EN4.8** Where appropriate, encourage VDOT, the County, and developers to preserve and/or re-establish vegetative buffers along arterial roadways as a means of filtering and absorbing pollutants.
- EN4.9** Reduce vehicle pollution by encouraging the use of alternative modes of transport including van/carpooling, public transit, bicycles, and pedestrian paths.
- EN4.10** Seek commitments during the rezoning and special use permit process to design and construct buildings and associated landscapes to conserve energy and water resources and to minimize short and long-term negative impacts on the environment and building occupants. Amend the DCSM to include building design guidelines for energy and water resource conservation.

EN4.11: Concentrate and incentivize higher-density housing and mixed-use developments (T-3 and above) in areas near high-capacity transit. The incentives could be on a sliding scale, with areas closest to current high-capacity transit receiving the highest incentives. (CESMP T-2, T-3)

ENVIRONMENT

WATERSHED PLANNING & SUSTAINABILITY POLICIES AND ACTION STRATEGIES

EN-POLICY 5: Protect and manage the County's soils and natural landscape to retain and enhance their associated economic, aesthetic and ecosystem benefits.

ACTION STRATEGIES:

- ENS.1 When designing a project, use the following priorities for protecting the natural landscape when compatible with the proposed land use:
- Development in the coastal plain in areas of 25% or greater slopes where shrink-swell soils exist should address slope stability through mitigation or avoidance.
 - Along significant non-RPA streams, discourage development in all areas of 25% or greater slopes at least 50 feet away from each side of all significant non-RPA streams.
 - Encourage the preservation of a natural buffer of existing woodland or forestation area of at least 50 feet along each side of all significant non-RPA streams.
 - Encourage mitigation where impacts are unavoidable.
 - Emphasize the preservation of jurisdictional wetlands over mitigation, including measures that ensure the sustainability of the wetlands.
- ENS.2 Amend the DCSM to require identification of all areas with shrink/swell soils, 15% slopes with an erodibility factor K of greater than 0.4, and/or with underlying marine clays. Where impacts are unavoidable, require mitigation.
- ENS.3 Utilize the ECA to evaluate and prioritize those sensitive landforms to be set aside for preservation/conservation and any appropriate mitigation.
- ENS.4 Use native plants that are adapted to local soil and weather conditions when re-vegetating disturbed areas.
- ENS.5 Develop, in coordination with the Community Design Plan general design evaluation guidelines, criteria and techniques that promote the preservation of natural landscapes, especially those that tend to be drought resistant and apply them in the evaluation of rezoning and/or special use permit applications.
- ENS.6 Where hazardous waste soil contamination is suspected, require that a rezoning and/or special use permit applicant submit an Environmental Site Assessment Phase II – Contaminated Sites and Remediation Plan as part of the application.
- ENS.7 If environmental clean-up efforts have been conducted at hazardous waste sites to meet state and federal standards, development can be proposed. Actively support and encourage "brownfield" redevelopment, where appropriate.
- ENS.8 Monitor the effectiveness of the Prince William County Erosion and Sediment Control Ordinance and upgrade as appropriate.
- ENS.9 Meet or exceed state standards for erosion and sediment control plan review and sediment control inspection frequencies for county development and transportation projects.

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- ENS.10 Request courtesy review of erosion control plans for all federal and state projects in Prince William County.
- ENS.11 Amend the Zoning Ordinance to establish minimum standards and thresholds that limit clearing and grading on cluster developments.
- ENS.12 Promote the use of vegetative or "soft" stabilization techniques along shorelines to maintain a natural buffer.
- ENS.13 Address issues of sea level rise along shorelines in the County. Utilize current data and information on sustainable shorelines to protect shorefronts and property and incorporate sea level rise into County policy.
- ENS.14 Utilize the ECA at the time of rezoning or special use permit to require development sites to be designed in a manner that limits clearing and grading to the minimum area needed to construct the proposed use.
- ENS.15 Update the DCSM to preclude the use of all invasive non-native species.
- ENS.16 Encourage identification, management, and protection of ecological communities and wildlife, especially critical habitats.
- ENS.17 Ensure the County considers the most recent information available on the status and location(s) of unique habitats of special concern identified by the Virginia Department of Conservation and Recreation.
- ENS.18 At the time of rezoning, special use permit, and all County projects, seek implementation of state and federal guidelines for the protection of rare, threatened, and endangered species and encourage preservation of habitats where these species could occur.

EN5.8: Update the Prince William County Erosion and Sediment Control Ordinance to reflect the more frequent and heavier rainfall events due to climate change. (CESMP A-2 and A-4)

EN-POLICY 7: Manage watersheds through a comprehensive watershed management planning-based approach.

ACTION STRATEGIES:

- EN7.1** Develop and maintain future watershed management plans. As appropriate, the following resources and/or components are to be considered:
- Existing impervious surfaces.
 - Stormwater management facilities.
 - Water quality monitoring stations.
 - Stormwater hotspots/flooding.
 - Forest cover/tree cover.
 - Topography.
 - Soils and geologic features.
 - Floodplains.
 - Hazardous waste sites.
 - Wells.
 - Land ownership (public/private).
 - Subwatershed area.
 - Land use, by zoning category.
 - Downstream water resources.

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- Include public input.
 - Address the protection, conservation and restoration of RPA and significant non-RPA stream corridors, riparian forest buffers and jurisdictional wetlands and waters.
 - Reflect the goals and objectives of improving habitat and water quality.
 - Determine the most vulnerable subwatersheds and evaluate restoration capabilities.
 - Rank priority subwatersheds for implementation and identify areas that merit prompt restoration actions.
 - Identify solutions for protecting and restoring streams and other natural resources in the watershed.
 - Identify implementation mechanisms such as amendments to the Open Space Corridors Map.
 - Include a mechanism to monitor progress.
- EN7.2** Present completed watershed management plans to the Board of County Supervisors and consider these in making land use and Capital Improvement Program (CIP) decisions.
- EN7.3** Utilize watershed plans to define the condition of County streams and waterways, and define streams in need of restoration. Produce a map to include streams in need of restoration.
- EN7.4** At the time of a rezoning and/or special use permit, seek commitments to improve the conditions of streams in need of restoration affected by the proposed project and other issues identified in the watershed plan.
- EN7.5** Expand public input opportunities during the watershed management planning process to ensure that community ideas are incorporated into watershed planning efforts and promote increased understanding of stormwater management and watershed issues.

EN7.1:

- Water quantity monitoring stations
- Tree cover
(CESMP A-1, A-4, and A-2)

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EN-POLICY 9: Ensure the high quality of public drinking water sources.

In addition to the policies and action strategies listed for surface and groundwater protection, the following action strategies will serve to implement this policy:

ACTION STRATEGIES:

- EN9.1** Amend the Zoning Ordinance to develop a Drinking Water Reservoir Protection Overlay District to protect the quantity and quality of public drinking water supplies, to include the following:
 - EN9.1.a** Minimum setbacks from reservoirs.
 - EN9.1.b** Minimum setbacks for the installation of septic fields, tanks, or other on-site subsurface sewage disposal systems from the shoreline of reservoirs.
 - EN9.1.c** Enhanced erosion and sediment control measures.
- EN9.2** Encourage farmers to develop conservation plans for agricultural activities undertaken within the Lake Manassas and Occoquan Reservoir watersheds.
- EN9.3** Continue to support the Occoquan Watershed Monitoring Laboratory (OWML), the Northern Virginia Regional Commission's technical studies, and the multi-jurisdictional Occoquan watershed program. Obtain annual reports for presentation to the Board of County Supervisors.
- EN9.4** Promote open space uses and acquire land along the Occoquan Reservoir for special use parks that are designed to promote an appreciation of the natural environment and facilitate passive recreation (such as fishing, hiking, and non-motorized boating).
- EN9.5** Actively support Fairfax Water efforts to increase compliance and enforce regulations established by its Occoquan Shoreline Easement Policy.
- EN9.6** Request that the Occoquan Watershed Monitoring Laboratory (OWML) continue to identify point/non-point pollution sources upstream from the reservoirs and to suggest ways that the non-point source pollution can be eliminated or controlled.
- EN9.7** Evaluate groundwater conditions for potential pollution using available data from DEQ (for leaking underground storage tanks) and the Prince William County Health Department (for failing septic systems) when reviewing rezoning and/or special use permit applications.
- EN9.8** Promote the use of secondary containment storage tanks for petroleum products and other hazardous materials for all development and redevelopment.

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- EN9.9** Require the use of pre-treatment devices for stormwater runoff and/or small spills or leakages on sites where petroleum products or hazardous wastes are handled as is currently required for all fuel dispensing facilities.
- EN9.10** Encourage conservation of natural features and limit impervious surfaces in areas where groundwater is the water supply. Develop procedures to protect or improve, if necessary, the quality of groundwater in areas where groundwater is the water supply.
- EN9.11** Based on recommendations from the Northern Virginia Regional Water Supply Plan, implement policies, strategies, and regulations necessary to ensure adequate supplies of potable water in areas that rely on groundwater for their water supply.

EN9.1.d: Establish minimum tree cover standards. (CESMP N-1)

EN9.12: Establish a groundwater measuring regime to continually monitor the groundwater levels in all areas of the county, particularly those areas that rely primarily on groundwater. (CESMP A-1)

EN-POLICY 11: Increase the environmental awareness of County residents, organizations, businesses, and government agencies.

ACTION STRATEGIES:

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- EN11.1** Make the following additional GIS layers available to the public on the County Mapper:
 - EN11.1.a** Wetlands.
 - EN11.1.b** Protected open space.
 - EN11.1.c** Update the Watershed layer to include the total number of acres and percentage breakdown of vegetative cover types and the percentage of impervious surfaces in sub watersheds.
- EN11.2** Conduct a series of workshops to educate, engage and increase communication among citizens, organizations, businesses, industries, government officials, and agencies about sustainable development, green infrastructure, and associated opportunities.
- EN11.3** Publish a webpage and associated e-notification component to provide information and updates on the County's green development and green infrastructure initiatives.
- EN11.4** Publish a webpage and associated e-notification component to promote and provide current information on local Farmer Markets and other sources of locally produced food.
- EN11.5** Continue to expand or exceed the recycling rate mandated by the DEQ and publish on the webpage developed through EN11.3 above.
- EN11.6** Update current informational brochures explaining the importance of soils and the proper maintenance of private sewer/septic systems including the importance of such maintenance to the owner and to the environment. Make this information available to users of these systems.
- EN11.7** Provide brochures on sustainable practices for home gardening and lawn care. Work with local nurseries and retail facilities that sell fertilizers to ensure these brochures are distributed to the public.
- EN11.8** Explore partnership opportunities with the U.S. Army Corps of Engineers and DEQ regional offices responsible for implementing federal and state regulations over streams and wetlands to regulate wetlands and other jurisdictional waters, including perennial and intermittent streams. Resource protection measures will include avoidance, impact minimization and compensatory mitigation, such as buffer protection and enhancement, as well as stream and wetlands restoration or creation.
- EN11.9** Work with local regulations (DCSM), the Service Authority, and the Virginia Cooperative Extension to promote low water use landscapes on new and existing development through conservation landscaping principles, including reducing lawn areas.
- EN11.10** Increase public awareness about how to utilize tree preservation to protect community appearance and property values, and provide other economic and community benefits.
- EN11.11** Through public education and outreach, promote the use of phosphorous-free lawn fertilizer.

EN11.10: Increase public awareness about how to utilize tree preservation to protect community appearance, watershed protection, wildlife preservation, stream health, human health enhancement, and property values, and provide other economic and community benefits. (CESMP N-1, A-1, A-4)

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EN-POLICY 13: Implement cost-effective energy-conservation measures at County facilities.

ACTION STRATEGIES:

- EN13.1** Remain active in the Environmental Protection Agency's (EPA) ENERGY STAR program and continue to use the EPA's Portfolio Manager to rate the energy performance of eligible County-owned buildings. Audit County facilities, including Fleet Management, for energy use and pursue projects with a payback period of less than 10 years.
- EN13.2** Consider giving priority to facilities that rate 75 or higher according to the ENERGY STAR Performance Rating when leasing new space for County use or when renewing existing leases.
- EN13.3** Consider designing and building any County facilities so they rate 75 or higher by using the ENERGY STAR performance rating system and measure performance annually using EPA's Portfolio Manager benchmarking tool.
- EN13.4** Consider designing and constructing County renovation projects consistent with energy performance standards at least as stringent as Leader in Energy and Environmental Design (LEED) Silver or Green Globes – 2 Globes ratings whenever those projects are valued at 50% of the assessed building value. When replacing or installing appliances and equipment in County facilities, select items that are ENERGY STAR compliant whenever available.
- EN13.5** Become a Green Partner with George Mason University (GMU), and encourage the use of transit to access the GMU-Prince William campus. Explore opportunities to partner with non-public schools and other transportation systems to reduce the energy used for public school transportation.
- EN13.6** Consider re-directing local consumer utility tax revenues to support new or enhance existing energy conservation-related funds, such as the existing state/federal weatherization assistance programs or developing a new low-interest revolving loan

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- EN13.7** fund for energy efficiency investments made by low-income homeowners and small businesses in the County. Require new residential development seeking rezoning and site plan approval to maximize opportunities for transit and to consider potential for solar/wind energy production in the development. Encourage construction that qualifies for ENERGY STAR Qualified Homes designation.

EN13.7: Existing strategy language does not pertain to county facilities as the policy requires and should be replaced with: Initiate a program to install solar facilities on county parking lots, to include commuter lots. Explore public/private partnerships and/or leasing opportunities with solar operators. (CESMP E-1, E-5).

such as Qualified Homes designation.

EN-POLICY 14: Provide recognition and incentives for energy conservation at non-government facilities and residences.

ACTION STRATEGIES:

- EN14.1** Consider establishing a separate, lesser rate of tax for energy efficient buildings as defined in Code of Virginia § 58.1-3221.2.
- EN14.2** Consider additional incentives (financial, tax, expedited permits, density bonuses, etc.) for development that builds to LEED, Green Globes, and/or ENERGY STAR standards.
- EN14.3** Recognize and publicize those in the community whose facilities achieve LEED, Green Globes, and/or ENERGY STAR certifications.

EN14.4: Initiate additional incentives (financial, tax, expedited permits, density bonuses, etc.) for private parking lot owners who install solar facilities. (CESMP E-2)

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EN-POLICY 15: Provide recognition and incentives for renewable energy application at non-government facilities and residences.

ACTION STRATEGIES:

- EN15.1** Evaluate current policies and ordinances to remove obstacles to renewable energy (wind, solar, biomass, landfill gas, geothermal, etc.) application.
- EN15.2** Evaluate and recommend incentives for projects that create on-site renewable energy application.
- EN15.3** Recognize and publicize those projects that use on-site renewable energy.

EN15.2: Add: "such as solar installations over parking lots". (CESMP E-2)

Note: I think we need to add language for the county to monitor water and energy usage of data center applications. This should include investigation into offset programs used by data center operators.