Potential Changes to the Design & Construction Standards Manual and Zoning Ordinance

The proposed outline of changes to the Zoning Ordinance and DCSM focuses on the following three objectives:

⇒ Minimizing impacts on sensitive areas and neighborhoods.
⇒ Encouraging environmentally responsible practices.
⇒ Establishing clear and transparent standards and expectations for developers and the community.

Please take the time to review the proposed language and provide feedback on each topic below. Completed forms should be emailed to maguilera@pwcgov.org by Monday, 11/25/2024.

Existing	Proposed
Data Center shall mean a use involving a building/premise in which the majority of the use is occupied by computers and/or telecommunications and related equipment, including supporting equipment, where information is processed, transferred, and/or stored.	A facility where the principal use is the storage, management, processing, and/or transmission of digital data, and containing one or more large-scale computer systems and/or related equipment. Such facility or use typically may include air handlers, water cooling and storage facilities, utility substations and infrastructure, back-up power generation, fire suppression systems, and/or enhanced security systems. Alternative power generation and other supplemental equipment may require additional approvals or special use permits, as applicable.
	Provide new definition for alternative power generation: A system or facility that produces energy from other energy sources, including but not limited to nuclear and natural gas. This definition encompasses all structures, equipment, and technologies used to harness these energy sources for the purpose of generating electricity or thermal energy. Such facilities may require special use approval to be utilized in certain zoning districts and may be subject to certain safety parameters.

1. **What feedback do you have on the proposed definition?**

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Separation and Buffers

Existing	Proposed
School sites should be separated from industrial and commercial facilities, pollution, heavily traveled roadways, and other hazards.	Add language that data center properties shall be located at least 500 feet from the property line of any current or planned park or school sites.
Stream valleys, storm drainage areas, areas with a high water table, areas with excessively steep slopes, and areas encumbered by major utility lines are undesirable or unsuitable for general construction or park development. Playgrounds should be located where there are no dangerous areas or physical barriers.	A data center structure shall be located at least 100 feet from any floodplain, wetland, excessively steep slope, or perennial water body.
Minimal utility crossings can be included within a buffer area with the approval of the Public Works director.	Minimal utility crossings may be included within a landscape buffer area upon approval of the director of Public Works, as long as comparable performance standards are maintained. Any required crossings of buffer yards shall be designed to minimize impacts to the buffer yard.
In Office zoning districts, setbacks are as follows: 20′ from ROW; 25′ from side/rear property lines when abutting an agricultural or residential district; In Industrial zoning districts, setbacks are as follows: 20′ from ROW; 50′ from side/rear property lines when abutting an agricultural or residential district.	Increase front setbacks for all data center sites, and provide rear and side setbacks for other non-residential uses: 1. All data centers shall be set back at least 30 feet from any street right-of-way. 2. All data centers shall be set back at least 15 feet from the side or rear of a lot when abutting another non-residential use.
	Data center buildings shall be located at least 200 feet from any residentially or agriculturally-zoned property or any property planned residential or agricultural. Substations and all mechanical equipment must be located at least 300 feet from any residentially or agriculturally-zoned property or any property planned residential or agricultural.

2. **What feedback do you have on the proposed separation and buffers standards?**

Architectural Standards

Existing	Proposed
Allows for existing vegetation and the principal buildings to be used as screening. Allows for "visually solid" screens. Only requires screening from major arterials, interstates, and abutting residentially zoned or planned properties.	Screening of all external mechanical equipment shall be required to be provided by opaque walls. Roof equipment shall be screened by parapets. All ground-mounted mechanical equipment, including electric substations, shall be separated from adjacent residential or agricultural properties by a principal building or a minimum of 300 feet from any residentially or agriculturally-zoned property or any property planned residential or agricultural.
N/A	Buildings shall incorporate heat-reflective roofing.
Fencing along streets cannot be chain link or barbed wire.	Fencing of the property is permitted, provided that fencing along public or private streets, or adjacent to residentially-zoned property is not chain link, with or without slatted inserts, and does not include barbed wire or other similarly visibly intrusive deterrence device. All fencing shall be a minimum of eight feet in height and shall be installed interior to any buffer. This fencing allowance does not relieve a property owner from complying with all fire and access code requirements.

Principal building facades shall include at least two of the following design elements: 1. Change in building height; 2. Building step-backs or recesses; 3. Fenestration; 4. Change in building material, pattern, texture, color; or 5. Use of accent materials. For buildings with more than one principal façade, each principal façade shall be consistent in terms of design, materials, details, and treatment.	Principal building facades shall include all building facades that are visible from a public right-of-way. When a building has more than one principal façade, such principal building facades shall be consistent in terms of design, materials, details, and treatment. Principal building facades associated with new construction shall meet the following standards: 1. Principal building facades shall avoid the use of undifferentiated surfaces by including the following design elements: a. Change in building height; b. Building step-backs or recesses; c. Change in building material, pattern, texture, or color; or d. Use of accent materials. 2. Fenestration shall comprise at least 30% of the total surface coverage area of all principal facades. Fenestration shall be separated and distributed evenly vertically and horizontally across all principal facades.

3. **What feedback do you have on the proposed architectural standards?**

Water Supply

Existing	Proposed
Private wells are allowed in developments located in the rural area.	Prohibit the use of onsite private water well systems to service data center developments.
Geothermal well systems	Consider restrictions on use of private groundwater wells to service geothermal cooling systems for data centers.
Water Use Study	Consider new requirements for all data center developments (and large-scale water users) to submit a Water Usage Study for review and acceptance by Prince William Water prior to rezoning or site plan approval; identifying level of demand, maximum daily usage projections, best practices and water management strategies, cooling system design, potable vs. non-potable water sources, recirculation and reuse, onsite pretreatment of effluent, and water usage effectiveness.
	Considerations for onsite storage, treatment, and re-use requirements of potable water sources for data center developments.
Onsite Sewage Disposal System	Prohibit the use of private onsite sewage disposal systems to service data centers.
N/A	Any potentially hazardous materials shall be stored at least 50′ from any water source or water body, wetland, or stormwater facility. These storage areas are required to be shown during the development process.
N/A	Require use of recycled water or air chillers for cooling where possible. Require as part of the water study to show impacts of potable water usage on local water supply.

4. **What feedback do you have on the proposed water supply standards?**

Power / Energy

Existing	Proposed
N/A	All new power lines including distribution lines and substation and transmission feeder lines shall be placed underground.
N/A	Encourage the use of renewable energy. Allow for exemptions from height restrictions and maximum impervious coverage requirements specifically for renewable energy facilities.
N/A	Encourage commitment to a PUE (Power Usage Effectiveness, essentially a measure of how efficiently a data center uses its energy) of 1.5 or less.
	Require buildings to meet the standards of the LEED Certification (standard administered by US Green Building Council).

5. **What feedback do you have on the proposed power and energy standards?**

Site Layout and Building Configuration

Existing	Proposed
N/A	Mechanical equipment shall be oriented internal to the site, away from rights-of-way and/or adjacent residential properties. Screening of all external mechanical equipment, including electric substations, shall be separated from adjacent residential or agricultural properties by a

	principal building or a minimum of 300 feet from any residentially or agriculturally-zoned property or any property planned residential or agricultural.
Currently, depending on the district, 15-20% open space is required for data center developments. For commercial, industrial, and institutional developments, 10% of the site is required to have tree canopy cover at 10-year maturity.	The current required open space percentage of a site shall be landscaped with 100% tree canopy at 10-year maturity. Tree canopy planting must be consistent with DCSM Section 802. The Director of Planning or designee may approve alternative compliance requests which meet the intent of this regulation. This may include changes to landscape layout, provided recreational amenities, or other environmentally positive proposals.
Data centers within the overlay district are allowed to have a greater Floor Area Ratio (FAR) than that of the underlying zoning district (up to 1.0 FAR) as long as all other requirements of the underlying district are met. Data centers outside the overlay may request an increase in FAR with a special use permit.	Remove Floor Area Ratio (FAR) as a development requirement.
N/A	Require detailed site plan, elevations, and 3D renderings showing all buildings, infrastructure, and mechanical equipment at the time of rezoning request or SUP review.

6. **What feedback do you have on the proposed site layout standards?**

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Bulk and Massing

Existing	Proposed
The Board of County Supervisors may approve a greater maximum height for structures if the following standards are met: 1. Maximum height must be proffered by the applicant for a rezoning application and made a condition of approval for a Special Use Permit application; 2. The proposed height is more appropriate than rezoning to a different district where that height is permitted; 3. The proposed height won't have an adverse impact on nearby properties; 4. The Fire Marshal has certified that the proposed building can still be protected; 5. All other application/approval requirements have been met; 6. The proposed building won't be hazardous for aerial navigation.	Require data center developments to meet the maximum height limitations included with the Zoning Ordinance.
Maximum building heights range from 45 – 75 feet.	The maximum height for a data center building shall be linked to its proximity to residential and agricultural zoning. For example, within 400' of residential and agricultural zoning, the lowest height maximum is

	required, between 400′ and 1000′ a higher height maximum is allowed, and the highest height maximum is permitted for developments over 1000′ feet from residential or agricultural zoning.
N/A	A visual impact analysis is required for data center developments meeting the following criteria: 1. Any height measured above 45′ building height. 2. Within 500′ of residential zoning districts or cultural, historical, or natural resources identified by PWC. The analysis shall demonstrate project siting and proposed mitigation, if necessary, so that the facility minimizes impact on the visual character of the County. The applicant shall provide accurate, to scale, photographic simulations showing the relationship of the facility and its associated amenities and development to its surroundings. The photographic simulations must show such views of all structures from locations such as property lines and roadways, as deemed necessary by the County to assess the visual impact of the facility. Additionally, a statement regarding any site and viewshed impacts, including direct and indirect impacts to national or state forests and grasslands, national or state parks, County parks, wildlife management areas, conservation easements, recreational areas, or any known historical or cultural resources is required. Wetlands, rivers and streams, and floodplains must be inventoried, delineated, and mapped to provide baseline data for the evaluation of the current proposal. The inventory and mapping of floodplain shall not be construed to allow development within regulatory floodplain areas.

7. What feedback do you have on the proposed bulk and massing standards?

Substations and Generators

Existing	Proposed
Mechanical equipment must be screened from major arterials, interstates, and abutting residentially zoned/planned properties. Screening can be either a principal building or existing vegetation. If neither of those methods of screening or used, mechanical equipment must be screened by an opaque fence, screen wall or panel, or parapet wall that is made of materials similar with those used for the principal building. If mechanical equipment is found not to have an adverse impact on adjacent roads and properties, it doesn't need to be screened.	In order to minimize visibility from adjacent roads and adjacent properties, ground-level and rooftop mechanical equipment shall be screened from major arterials, interstates, and abutting residentially-zoned or planned properties. This screening may be provided by a principal building. Mechanical equipment not screened by a principal building shall be located a minimum of 300 feet from any residentially or agriculturally zoned property and screened by an opaque wall or parapet wall, or other visually solid screen that shall be constructed with materials compatible with those used in the exterior construction of the building. Screening for rooftop mechanical equipment shall match that used in the exterior construction of the principal building. 1. Rooftop mechanical equipment shall be limited to and inclusive of the maximum height of the principal building. 2. Ground-level mechanical equipment shall not be located in any required yard or required open space and located a minimum of 300 feet from any residential or agricultural property.

	3. Screening of ground-level mechanical equipment shall be required to be at a minimum the height of the equipment.
Substations have to be screened from adjacent major roads (with the buffering and landscaping requirements of the DCSM) and from adjacent residentially zoned/planned properties (by a 10' tall opaque fence).	All mechanical equipment, both on ground and roof-mounted equipment, to include substations, shall be attenuated through sound mitigation measures.

8. **What feedback do you have on the proposed standards for substations and generators?**

Construction

Existing	Proposed
Traffic Impact Analysis	Requirement for data centers to include construction and truck traffic analysis in their TIAs.
Erosion and Sediment Control General Policy	Expand 750.02C to include a provision that all data center projects/owners submit a stormwater, erosion control, and pollution prevention plan; including posting conservation escrows and securing a grading permit **for all temporary offsite hauling and disposal sites**

	disturbing in excess of 2500 sf, regardless of agricultural status, prior to onsite and offsite grading activities.
N/A	Amend 750.01A to include offsite borrow and disposal sites located in the Agricultural zoning district.
Erosion and Sediment Control Submission Requirements	Amend 750.01A or add subsection 750.01E to include that all erosion and sediment control plans submitted for offsite borrow and disposal sites used in conjunction with data center developments must consider reducing PM time before 10 PM and adding construction vehicle (hauling and disposal trucks) restrictions after dark and require a Construction Truck Routing plan (including roadway routes, hours of operation, temporary pull-off areas, disposal sites, etc.) in combination with the site plan approval.

9. **What feedback do you have on the proposed construction standards?**

Decommissioning / Electronic Waste

Existing	Proposed
N/A	Require a decommissioning plan be submitted during site plan review and reviewed by Prince William County's Public Works department to show how this site after it has ceased use will be returned to a neutral state, that is one that can be easily taken over by similar uses. Hazardous materials would need to be cleaned up and disposed of properly according to DEQ standards. E-

	Waste would need to be cleaned up according to DEQ standards.
N/A	All electronics recycling and disposal shall be done in accordance with the Virginia DEQ guidance and mandatory regulations concerning E-Waste for businesses.

10. **What feedback do you have on the proposed decommissioning and e-waste standards?**

11. **What other comments or questions do you have for the project team?**