

Staff Analysis
Project: 1500 Gateway Data Center
ZMA 2410-0005/SUP2411-0007

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1. Introduction

The staff analysis below provides a review of technical components of the proposed project as it relates to the City's adopted policies and regulations and the potential impacts of the proposed 1500 Gateway Data Center project. Multiple City departments and divisions have been involved with the review of the proposed project, which are incorporated into this staff analysis.

2. Project Description

The Applicant, 1500 Gateway Venture, LLC, is requesting a conditional rezoning of 83.6 acres from Planned Development Medical Center (PD-MC) to General Industrial (I-2) to permit the construction of 2,100,000 gross square feet of data center buildings, along with a substation and associated accessory uses. Additionally, the Applicant seeks a Special Use Permit (SUP) to allow a building height of up to 90 feet, exceeding the 50-foot maximum permitted in the I-2 district by-right, and the use of water for data center cooling.

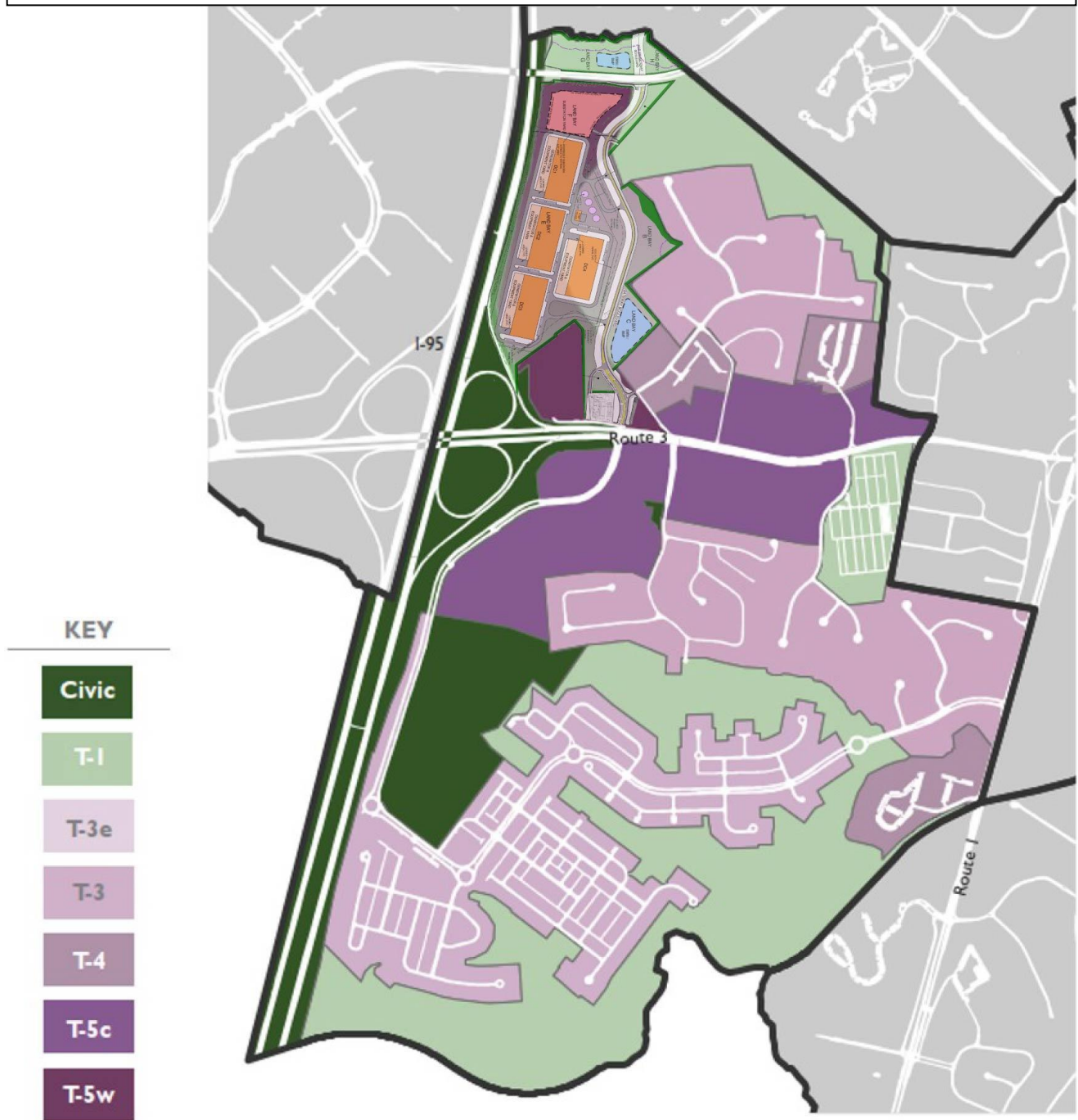
The Applicant has submitted a Proffer Statement outlining voluntary conditions associated with the rezoning request. Key proffers include:

- Permitted uses are limited to data center space (maximum 2,100,000 sq ft), major/minor utilities (substation/transmission lines), and specific accessory uses supporting the data center.
- Transportation improvements (Gateway Blvd extension, signal at Cowan, inner connections, etc.), to be completed prior to Certificate of Occupancy for the first building.
- Architectural and site design criteria (building differentiation, materials, screening).
- Use of water for data center cooling
- Noise limitations and requirements for noise studies.
- Cash proffers for public safety (\$455 per 1,000 sq ft of data center).
- Contribution of \$200,000 to the City's Career and Technical Education Program
- Conveyance of Land Bay A, B and/or H upon request of the City
- Emergency Action Plan and Fire Department training.
- Generator testing limits.
- Decommissioning plan for utility equipment.
- Construction Mitigation Plan.
- Substantial conformance to the Generalized Development Plan (GDP).

The proffer statement includes a timeline for the connection of Gateway Boulevard from Route 3 to Cowan. Improvements are to be constructed prior to the issuance of a Certificate of Occupancy for the first data center building. The construction of the Gateway Boulevard extension prior to the issuance of a Certificate of Occupancy will ensure a quicker response time from Fire Rescue than the original plan.

Since the transportation improvements would be completed prior to the Certificate of Occupancy for the first building, there may be additional buildings under construction after the roads are complete. As such, the Applicant has proffered the development of a construction mitigation plan to address traffic control measures during the construction of the site.

Figure 1: Future Land Use in Area 3 & Proposed General Development Plan



3. Comprehensive Plan Consistency

Special use permit (SUP) evaluation criteria – In harmony with the comprehensive plan

a. Small Area Plans

The Comprehensive Plan sets forth the City's vision for future development and includes specific guidance for the project area within Land Use Planning Area 3 (Plank Road/Route 3), utilizing a transect-based approach. The subject property falls within three transect designations: T-1 Preserved Open Space (northern portion), T-4 General Urban (eastern portion), and T-5W (western portion).

Transect	Comp Plan Vision	Project Proposal	Consistency
T-1 Preserved Open Space (northern portion)	Preserved or planned open space	Site preserved as open space with provision for Gateway Blvd extension	Partial: The on-site preservation of open space aligns with the T-1 intent. However, the possible off-site routing of transmission lines through T-1 /preservation areas represents a significant potential impact.
T-4 General Urban (eastern portion)	Sustainable, integrated, walkable, mixed-use residential	Mix of open space, stormwater facilities, and data center uses. The additional open space (Land Bay A-C) is a benefit of the project and provides additional buffering from the nearby residents. These land bays also contain sensitive environmental features that are important to protect.	Inconsistent: The core data center use is not consistent with the residential envisioned within T-4. The reduced building height and protection of sensitive environmental features is consistent with T-4.
T-5W Workplace (western portion)	High-quality office/institutional or commercial, mixed-use, high visibility gateway	Data center buildings, substation, and accessory uses	Partial: The use is a significant potential economic benefit and would provide some future employment opportunities. However, the development would not be a mixed-use walkable community as envisioned.

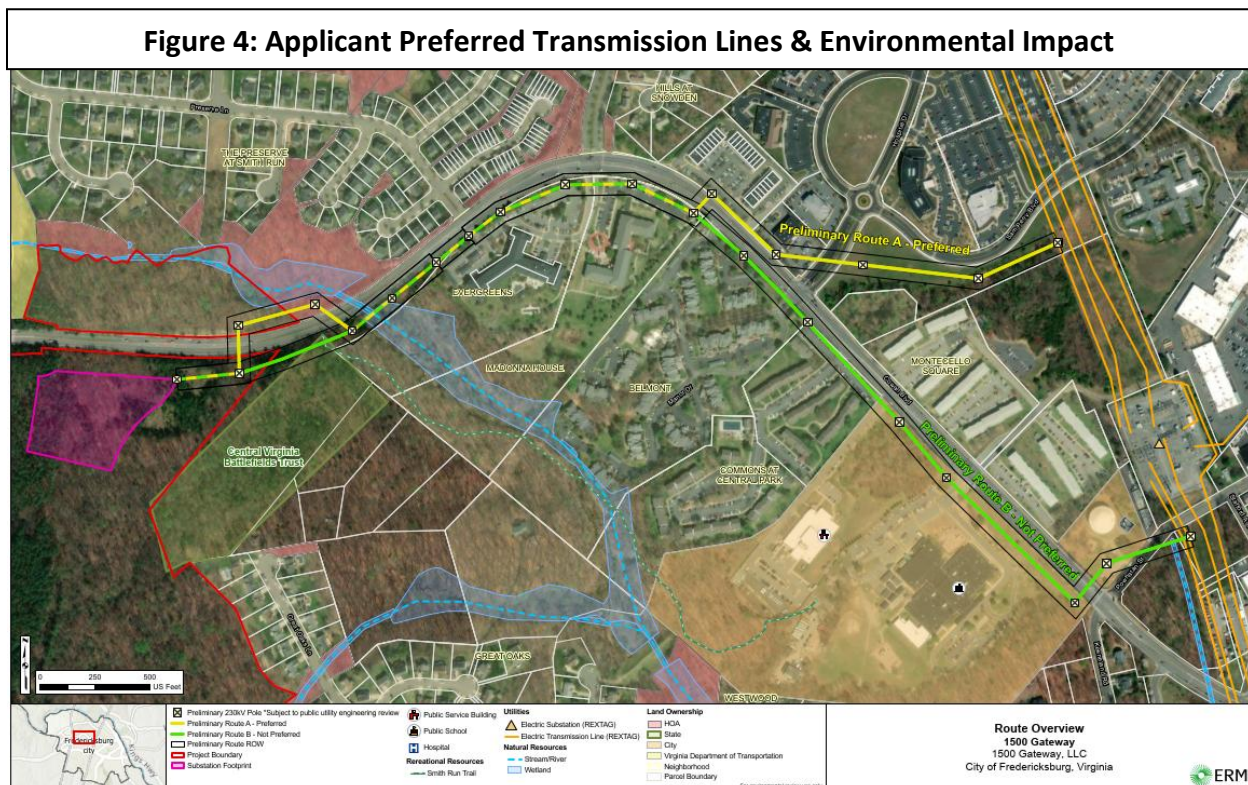
Figure 2: Comprehensive Plan Sample Design for this Parcel

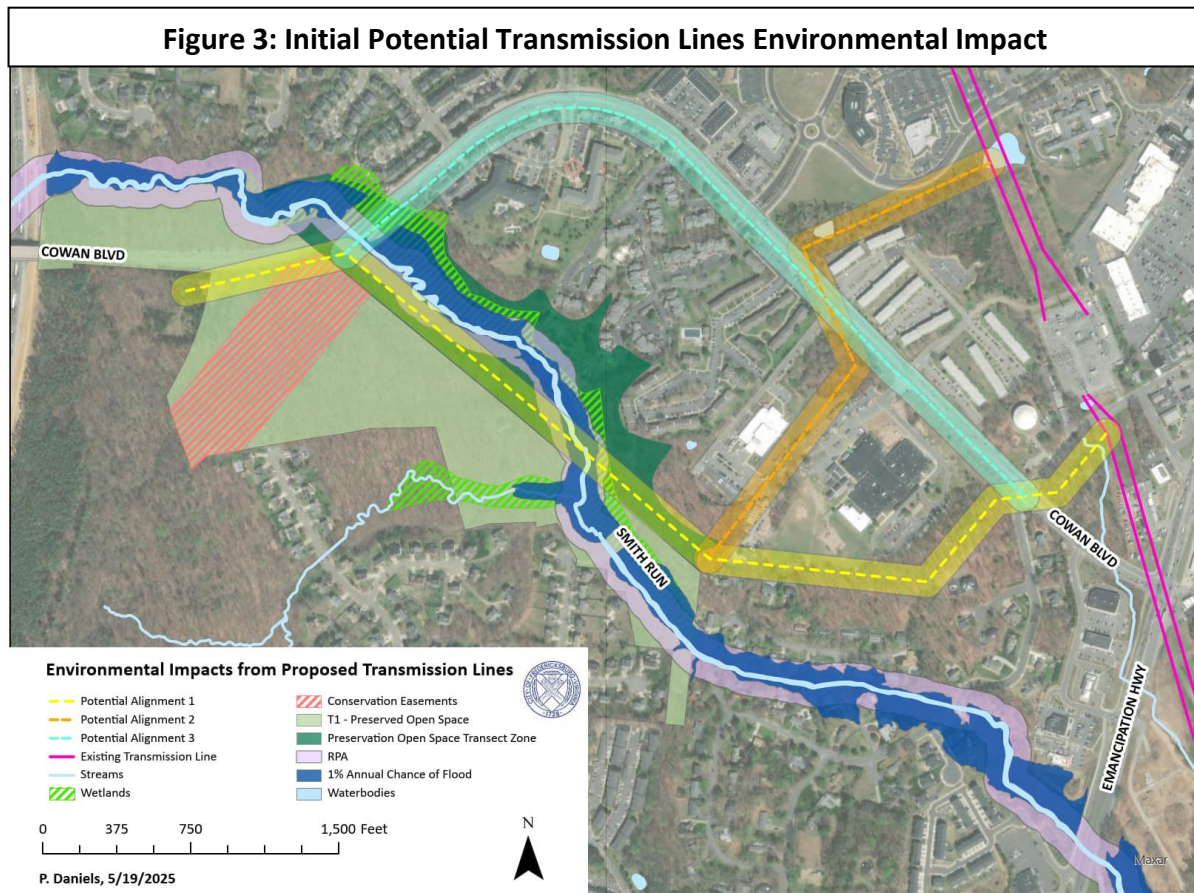
***T-1 – Potential Transmission Line Alignment:***

At 84 acres the Gateway site is smaller than the sites envisioned in the TOD and is in the center of the City. Data center sites are high power users and often require dedicated transmission lines to serve the use. The potential impact to sensitive environmental/public facility areas off-site due to the extension of transmission lines is a risk factor in evaluating this project. If approved by the City Council and constructed, Dominion Energy would be obligated to serve the site with power. If Dominion Energy determines the project's load request requires additional facilities (e.g., 230 kV transmission line(s) and substation(s)), then a detailed routing /siting study would be performed to evaluate new transmission line locations. Part of this analysis includes consideration of co-location on existing infrastructure, existing development, environmental features, topography, and cultural and historical resources.

After analyzing the options, Dominion Energy would meet with the City, property owners, HOAs, and other community stakeholders, and host a public community meeting to review the proposed routing scenarios and obtain feedback. The final determination on the transmission line pathway is subject to the State Corporation Commission (SCC). This determination is preceded by a 12–18-month public process associated with Dominion Energy’s application to authorize the construction of the transmission lines to the SCC. The Applicant expects the SCC process to commence in 2026.

To help understand the potential impacts of a transmission line, the Applicant provided an initial illustration showing potential transmission line locations, with their preferred pathway running along Cowan Boulevard. A newer map provided by the Applicant removes some of the original potential routes based on a proffer that, “No transmission line may connect to the Project’s substation facility where such transmission line corridor is, or is planned to be, routed along the property boundary of an existing City-owned school or park located within one (1) mile of the Project.” The Applicant has also provided standard transmission line dimensions and confirmed from Dominion Energy that the standard 230 kV right-of-way width is 100 feet. With regards to the potential transmission line locations, the Applicant is proffering to, “coordinate with all applicable public and private utility organizations and the City, as may be reasonably permitted, to avoid material impacts to residential (including mixed-use communities) and City-owned properties.”





The potential transmission line routes run down Cowan Boulevard or along Smith Run/through Hugh Mercer Elementary and the police station, and behind several residential developments. If constructed along the northern side of Cowan Boulevard, it would avoid impacts on the Elementary School and most of the environmentally sensitive areas. With this alignment there may be impacts to accessory structures, Mary Washington Hospital property, existing gas/fiber optic utilities, existing sanitary sewer infrastructure, and the transmission lines would cross Smith Run along the road alignment.

If constructed along Smith Run (Figure 3: Potential Alignment 1), canopy trees would be removed, and there could be impacts to Smith Run, resource protection areas, wetlands, floodplain, historic resources, and neighboring residences. Within the area between the existing transmission lines and the project area, there are approximately 79 acres of T-1 transect/Preservation Area. With the potential alignment of transmission lines along Smith Run, about 7 acres of this open space/preservation area would be directly impacted. The potential impact represents approximately 8.9% of the open space/preservation area. Other risk factors associated with the transmission lines are discussed further below.

As noted above, the Applicant has proffered that the substation would not connect to a transmission line that touches a City-owned school or park within one mile of the project area. However, while there is a public process associated with the siting of transmission lines, the final

location of the transmission lines is subject to the SCC. The Applicant has confirmed that Dominion Energy is “not legally authorized to condemn public land if the municipal owner is not willing to grant access to the land for the transmission line right of way.”

Staff Assessment:

The proposed project demonstrates partial consistency with the Comprehensive Plan transects. On-site, it aligns well with the T-1 transect designation through the preservation of open space, which also supports environmental protection goals. However, there is a potential impact on the T-1 transect areas off-site in the middle of the City around Smith Run. The Applicant proffers to coordinate with the transmission line siting process to avoid impacts on residential/City properties and to not connect the substation to any transmission line that crosses an existing City-owned school or park are intended to mitigate off-site risks. However, the City Attorney Office has indicated that the proffer restricting the substation connection may be unenforceable since the SCC controls the siting of transmission lines and not the City. Any proffers accepted by City Council should be enforceable. Alternatively, the Planning Commission could recommend that if the City Council approves the project that it also adopt an initiating resolution to amend the Comprehensive Plan to show a preferred transmission line route. If amended, the SCC would give weight to any feasible transmission route that is in a Comprehensive Plan. Ultimately, this project does contain some potential for off-site impacts that need to be weighed against the benefits of the project.

Most of the buildings are proposed within the T-5W transect. These three buildings align with the T-5W by providing significant economic benefits and employment opportunities. However, one building is shown within the T-4 transect. This building does not match the residential uses envisioned within the T-4 transect. In addition, the secure campus format of the use conflicts with the mixed-use, walkable community vision articulated for the T-4 and T-5W transects that cover most of the developable area. The applicant has reduced the building height for the building within the T-4 transect to not exceed the recommended height for the transect.

b. Mobility

The Comprehensive Plan emphasizes the construction of an extension of Gateway Blvd between Route 3 and Cowan Blvd with a 4-lane divided road with bicycle/ pedestrian facilities as shown in the Map entitled “Future Mobility Improvements” (Page 33) and described in Appendix A Table entitled “Transportation Projects Database”.

The Applicant proposes dedicating the full right-of-way (ROW) needed for the street and constructing a four-lane divided road from Route 3 to Cowan Boulevard with bicycle/pedestrian facilities along the eastern side of the road. Data center sites generally have less traffic than comparable retail, employment, or mixed-use developments; however, the construction of the ultimate transportation impacts for this area mitigate impacts during construction and avoid future potential conflicts with infrastructure serving the secure campus. In addition, they are proffering several transportation improvements associated with the extension of Gateway Boulevard, including: the construction of a signalized intersection at Cowan Boulevard/Gateway

Boulevard, inner parcel connections, project site driveways, a right-in/out intersection at Mahone Street, and improvements at Gateway Boulevard/Plank Road.

Proposed Use(s)	Zoning District	Average Total Daily Trips
Flex Warehouse, Medical Office, Professional Office, Retail, Single-family Attached, Multi-family	Planned-Development Mixed-Use	7728
Data Centers with substation and accessory uses	General Industrial	1575

A Transportation Impact Analysis (TIA) has been provided to support the request to construct the extension of Gateway Boulevard. Based on the low traffic figures generated by the proposed use, the proposed road would provide a sufficient level of service. By comparison, the data center project would have about 80% less traffic than the previously proposed mixed-use project. This reduction in proposed traffic is a positive aspect of the data center development.

The transportation chapter objectives also focus on creating an interconnected, safe transportation network that creates realistic mode choices for people. The project partially achieves these goals through the construction of a bicycle/pedestrian trail along the eastern side of Gateway Boulevard, which ensures the project functions with and connects to the City's existing multi-modal transportation infrastructure.

The interior of data center sites are secure and not open to the public. As such, this project design excludes the road connection across I-95 proposed in the Comprehensive Plan.

Staff Assessment:

Overall, the project is mostly in compliance with the Comprehensive Plan's transportation goals. The extension of Gateway Boulevard, along with the provision of bicycle and pedestrian facilities, is a positive contribution to the City's transportation network. However, the exclusion of the planned connection across I-95 represents a departure from the long-term transportation network vision for this area.

c. Public Facilities and Services, and Public Open Space

SUP Evaluation Criteria - Undue density of population or intensity of use in relation to the community facilities existing or available

Public Schools:

The application is for non-residential uses that will not generate the need for any additional public-school capacity. However, the applicant is proffering to contribute \$200,000 towards the City's Career and Technical Education program. This program serves students in grades 6-12 by helping students prepare for productive futures, while meeting the state's (and data center industry's) need for well-trained and industry-certified technical workers.

The high energy demand for data centers (approximately 600 megawatts for this project) requires the consideration of additional transmission line capacity to serve this site. To help understand the potential impacts of a transmission line, the Applicant has provided illustrations

showing potential transmission line locations (Figure 3 and 4 above). This site is geographically distinct from the TOD proposed in the western portions of the City. As such there is some potential for a transmission route to conflict with public facilities and infrastructure, such as the Hugh Mercer Elementary School and the police station.

Staff Assessment:

The Applicant's proffer towards the Career and Technical Education program is benefit of the project. Final siting of the transmission line route is approved by the SCC, after any local approvals for the proposed rezoning and SUP. As discussed above, a Comprehensive Plan amendment showing a preferred transmission line route would be taken into strong consideration by the SCC to help reduce the risk to public infrastructure.

Public Safety:

The Capital Impact Study (adopted in 2022 and updated in 2023) provides a framework for assessing the capital costs associated with new development, including impacts on public safety facilities. The Applicant is voluntarily proffering cash contributions to offset the anticipated need for additional public safety resources resulting from this development. The Applicant is voluntarily committing cash proffers to offset the anticipated costs to provide additional safety resulting from their proposed development. Their cash proffer includes \$455.00 per 1,000 gross square feet of data center buildings constructed on the Property. Proffers are to be paid after the final inspection and before the City's issuance of a final certificate of occupancy for each data center on the property. The project also includes a proffer for an emergency action plan and training for the Fire Department.

Staff Assessment

The Applicant's voluntary cash proffers for public safety align with the City's adopted Capital Impact Study. The proffer for an emergency action plan and training is also important for ensuring the Fire Department is prepared to respond to incidents at a data center facility; however, the approving authority for this plan should be corrected to the Fire Department rather than the Zoning Administrator.

Public Utilities:

The proposed development is requesting a SUP to use water for data center cooling purposes. The Applicant is proffering (similar to TOD development criteria) that no potable water, groundwater, withdrawal from a quarry, or raw water drawn from the river would be used for data center cooling. The Applicant is proposing the use of non-potable (reuse) water for data center cooling, with potable water used for temporary bridging while the reuse system is constructed (in addition to domestic use and fire suppression). If this project is approved, a water service agreement would be subject to separate approval by the City Council for the temporary use of potable water for data center cooling (following a public hearing on the agreement). Public Works would also need to confirm there is adequate capacity to serve the reuse system before any water service agreement could be implemented. Should Public Works determine that there is not enough capacity to serve a reuse system or temporary bridging, the applicant would need

to utilize an alternative cooling system such as air-cooling. The Applicant has proffered to finance/construct the reuse water cooling system necessary to serve the project.

The GDP does not include the amount of water that could be used for data center cooling (proposed 5,700 gallons per day for domestic use). Based on previous application submissions, it is assumed that water used for data center cooling could be up to 294,000 gallons per day for data center cooling (reuse water or potable water for temporary bridging). By comparison, the previous mixed-use project on the property (submitted in 2022) proposed to utilize 303,880 gallons of water per day. As proposed, the final amount of water used would not be determined until the site plan process, when water service agreements and Public Works approvals would be required.

The effluent from the proposed development would flow into the Smith Run, then to the Hazel Run Interceptors. A study by Whitman, Requardt, & Associates identified segments of these downstream interceptors that cannot accommodate additional flows without system improvements. Capacity constraints come from two issues: stormwater infiltration and inundation (I & I) and limited pipe sizes. The City is performing some advanced work on these items to respond to on-going development projects and is working on a Sewer and Water Masterplan. The proffers for this data center project do not include specific utility-related mitigation strategies, such as participation in a pro-rata sewer program or phasing development based on sanitary sewer availability. In comparison, the previous mixed-use proposal on this property proffered utility mitigation strategies.

Staff Assessment:

The Applicant has not committed to a specific data center cooling process with estimated amounts of water usage for cooling. However, the proposed proffers are in alignment with the TOD, which permits potable water cooling under a ‘bridging’ scenario until a non-potable water source (i.e., a purple line/reuse system) is available. This project is not within the TOD, but the TOD criteria provide a framework from recent consideration of data center uses elsewhere in the City.

The full impact of the project on the City’s water and sewer system would not be determined until the site plan process (other than potential for applicant to seek a Water Services Agreement), when the Applicant would need to provide sufficient information for the City to determine if there is capacity to serve the project for data center cooling. Should the City determine additional capacity is needed, the project would need to utilize an alternative system such as air-cooling.

In addition, the proposed data center development will contribute to flows in downstream sanitary sewer interceptors that have anticipated future capacity constraints. The City is working to address existing system constraints and upgrade the Water Treatment Plant. However, adequate sanitary sewer capacity must be verified before the project's build-out to avoid exacerbating existing constraints and potential service issues.

Public Parks:

In the Comprehensive Plan in Appendix B, the Table entitled “Public Open Space Database” identifies an 11-acre parcel adjacent to the site as a future open space area (labeled Vermont Ridge Open Space). The area is further described in the Area 3 Small Area Plan. The Applicant proposes to provide a road connection stub-out to this parcel to facilitate its future development as a park. However, the potential routing of the off-site transmission lines to serve the data center could impact this future park property if it crosses the northern boundary of this City property and is not located within the existing ROW.

Staff Assessment:

The project's inclusion of a road connection stub-out to the future Vermont Ridge Park property is a positive step towards facilitating its eventual development. However, the potential need for and siting of transmission lines could introduce a conflict with the planned use and character of this future park space. The potential transmission line could impact the existing Smith Run nature trail. The impact on the park parcel will depend on the final transmission line route decision made by the SCC upon request of Dominion Energy.

d. Environment

SUP Evaluation Criteria – Noise, lights, dust, odor, fumes, vibration, and other factors which adversely affect the natural environment

Noise:

Noise is one of the issues commonly cited concerning data center development. The application has provided a background and proposed noise analysis. To minimize noise impacts, the Applicant is proffering compliance with UDO Section 72-34.8(D)(6)-(7), which is the TOD regulations on noise/noise studies. This section provides limitations on noise, such as:

- Noise from data center or accessory uses will be limited to a maximum volume of 60 dBA during the day and 55 dBA at night (with some exceptions)
- Noise studies are required for pre- and post-development, showing compliance with the noise limits
- Annual noise studies are required once the center or any portion of the center is operational for an on-going period of ten years

The project has provided noise estimates for air-cooled and water-cooled systems that show estimates meeting the proffered TOD standards. The GDP shows generator yards placed between the proposed buildings and I-95. The buildings will provide additional shielding from the noise created by the generator yards.

Stormwater:

Environmental features such as stormwater facilities, resource protection areas, steep slopes, and landscaping are shown on the GDP. This property is also upstream of the Smith Run Pond (also known as “Pond D”). Pond D is a City owned in-line stormwater quantity control device within Smith Run. The Pond has limited capacity, and new development upstream should

attenuate a larger amount of stormwater than otherwise would be required under existing regulations.

The project is proposing to address stormwater by constructing retention ponds on the eastern and northern sides of the property. In addition, due to the limited throughput of Pond D, enhanced quantity controls are required on the site. The Applicant commits to exceed generally applicable stormwater controls by implementing appropriate storm water retention control consistent with the "100-YR Storm (Downstream Pond Protection)" as noted on the GDP. The Applicant will "provide attenuation of the 100-year (1%) storm to pre-developed levels" so that there will be no negative impact on Pond D because of the development.

Open Space:

The project area is a large site that will have extensive mass grading. To balance this impact, the project is proposing to set aside areas on the eastern side of the property and on the north side of Cowan Boulevard for preservation (Land Bays G, H, A, and B). In addition, Land Bay C will also contain open space but will require some modifications for the stormwater management facility and landscape buffering.

Land Bays A, B, G, and H contain sensitive environmental features, including: a stream bed adjacent to the Great Oaks neighborhood, wetlands, steep slopes, existing tree canopy, resource protection areas (RPA), and Smith Run. The preservation of this area will help ensure that no intrusion into the Resource Protection Area adjacent to Smith Run will occur. These set-asides are benefits of the project and are larger than proposed with the previous mixed-use rezoning request on this property. The Applicant is also offering to convey Land Bays A, B, and/or H to the City upon request for the City to use as open space.

Buffering:

Currently, the Unified Development Ordinance (UDO) does not require buffering along Interstate 95. A "Type D Opaque" buffer is proposed between the site and the adjoining residential zoning district and the adjoining commercial properties.

Decommissioning:

Should the property be abandoned, then the Applicant has proffered that any utility use equipment would be dismantled, and the property restored to its natural state.

Air Pollution:

To minimize air pollution particulate, the TOD requires that all generators be of equal or greater equivalent of Tier 4 or use natural gas microgrid power. Tier 4 standards are emission standards set by the Environmental Protection Agency for nonroad diesel engines. In addition, the TOD includes clean energy goals on the implementation of the City's Environmental Sustainability Program Goals. The Applicant has proffered that on-site generators will be Tier-4 or greater, or utilize natural gas microgrid power, and compliance with the clean energy goals included in the TOD.

Staff Assessment:

The project site contains various environmental features, and the development has potential environmental impacts, both on-site and off-site. The potential off-site environmental impacts arising from necessary transmission lines are a significant risk factor in evaluating this project.

However, the proposal includes appropriate treatment of on-site environmental features, with the project providing large open space areas, buffering, decommissioning, clean energy goals, and additional stormwater measures.

e. Economic Development

SUP Evaluation Criteria – Discouragement of economic development activities that may provide desirable employment or enlarge the tax base

The economic development policies in the Comprehensive Plan encourage activities that enhance the City's economic competitiveness and diversify the City's economic base. Based on the Financial Impact Analysis (FIA) provided by the Applicant, the project is projected to generate significant economic benefits:

- **Construction Phase Impacts:**
 - Estimated 1,090 to 2,256 construction and operation jobs during the build-out period.
 - Estimated \$278.5 million to \$783.3 million in new economic output within the City during construction.
- **Operational Phase Impacts (Full Build-Out):**
 - Estimated 228 new permanent jobs.
 - Estimated \$678.9 million in economic output annually.
 - Estimated new annual tax revenue of \$3 million before operations begin.
 - Estimated peak annual tax revenue of \$56.6 million in 2032.
 - Estimated stable annual tax revenue of \$50.1 million from 2038 onwards.

Staff Assessment:

The proposed data center project aligns strongly with the Comprehensive Plan's policies by projecting significant positive economic impacts that would enhance the City's economic competitiveness and diversify the City's economic base. The estimated generation of permanent jobs, substantial annual tax revenue, and considerable economic output would support economic activity and the enlargement of the City's tax base. These economic benefits are a positive aspect of the proposed development, though the nature of the jobs and tax contributions differs from those typically associated with the office/institutional or commercial uses envisioned in the T-4 and T-5W transects.

f. Substation Compliance Review (Code of Virginia § 15.2-2232 Review)

As part of this project, the Applicant is working with Dominion Energy to develop a substation to serve the proposed data center buildings. Under Virginia Code §15-2.2232, the siting of any public utility facility requires the Planning Commission to find that the facility is in substantial

accordance with the Comprehensive Plan. This review applies to the proposed on-site substation. Local authority over the siting of transmission lines of greater than 138 kilvolts is limited by the ultimate authority for siting by the SCC pursuant to Virginia Code §56-46.1, although the SCC's considerations include any locally adopted transmission line that can feasibly serve a site.

The Applicant is proposing the substation on Land Bay F (as shown on the GDP). The substation is intended to be setback 100 feet from all public roads (Gateway Boulevard, Cowan Boulevard) and the adjacent commercial property (Land Bay D), incorporating a landscape buffer along Cowan Boulevard as required by the Gateway Corridor Overlay District. A modification to the UDO setback is requested based on common ownership of lots to reduce the setback between the substation (Land Bay F) and the adjacent data center land bay (Land Bay E) from the standard 100 feet for utility facilities to 0 feet.

Staff Assessment:

The proposed substation, as a necessary public utility facility for the data center, requires a finding of substantial conformance with the Comprehensive Plan. While the Comprehensive Plan does not specifically contemplate the proposed substation, there are buffers and setbacks to help mitigate the visual impact of a substation. In addition, there are large open space areas designated in the plan that would preserve sensitive environmental features, including those designated as T-1 Preserved Open Space in the Comprehensive Plan. The preservation of these areas aligns with those preservation goals in the Comprehensive Plan. While the Comprehensive Plan Area 1 Small Area Plan does mention the addition of up to four new substations within the TOD area (page 2(1)-16), there is no such express provision as to the location of this project. On the other hand, the economic development section of the Comprehensive Plan includes a policy to diversify the City's economic base by attracting businesses in emerging and high-growth sectors. A data center is a high-growth business sector that requires a substation to operate, and the substation could be construed as consistent with the character, extent, and location of public facilities contemplated by the Comprehensive Plan. Transmission line siting would be governed by other applicable law.

4. Conformance with the Unified Development Ordinance (UDO)

SUP evaluation criteria – In harmony with the purpose and intent of the zoning district regulations

Technology Overlay District Criteria – The City Council adopted resolution 24-76 on November 12, 2024, to acknowledge the continued support for data center development in the City. Building on the preliminary work begun by a previous City Council in 2018, the resolution:

- *identified a geographic focus – the area generally known as Celebrate Virginia South,*
- *environmental performance goals, and*
- *general limitations on the amount of land suitable for data center development in the City (2% of total land area and 5 million total building square feet).*

This initiative led to the adoption of a Technology Overlay District (TOD) in March of 2025 and its application to 250 acres in the western portion of the City. The TOD standards established in

resolution 24-76 are not directly applicable to this project but provide a useful comparator to evaluate the current data center proposal at 1500 Gateway Boulevard.

a. Adopted TOD Standards

The City of Fredericksburg recently adopted a Technology Overlay District (TOD), which includes specific criteria for data center uses within the overlay. The TOD is a useful comparator because it specifically articulates the desire for large technology campuses and sets out specific considerations for mitigating impacts through development criteria. The proposed development does not request inclusion into the TOD, and the Applicant has declined to fully match the TOD criteria, even though it represents the City's recent articulation of data center campus development criteria. Below is a table of the TOD criteria and consistency with the project based on Staff Analysis.

TOD Criteria	TOD Requirement	Proposed Project	Staff Comment
Use of Water for Cooling	Reuse water with bridging	Reuse water with bridging	Consistent with TOD
Setbacks	200 ft to residential 100 ft to commercial 25 ft to public road	200 ft to residential 100 ft to commercial 25 ft to public road	Consistent with TOD
Campus Size	150 acres	Approx. 84 acres	Inconsistent with TOD
Perimeter Buffers	Type D	Type D	Consistent with TOD
Lighting	Per §72-58	Not specified	Will need to meet §72-58
Minimizing Air Pollution	Tier 4 generators or use natural gas microgrid power	Tier 4 generators or use natural gas microgrid power	Consistent with TOD
Noise Limitations	Pre/post studies 60dBA day 55dBA night	Proffered compliance with TOD	Consistent with TOD
Building Height	90 ft	90 ft	Consistent with TOD

b. Other UDO Standards

The UDO also contains Principal Use Standards for data centers (apart from the TOD), which would apply to this project. This project would be expected to conform to these standards at the time of site plan submission, unless specifically proffered otherwise. Currently, the project proposes alternative language regarding accessory equipment screening but complies with UDO standards for differentiated surfaces and façade materials. The proffered accessory equipment screening language is more specific on the types of equipment subject to screening than provided in the UDO.

In addition to the rezoning and SUP, the following modifications to the Unified Development Ordinance (UDO) are also requested as part of this application:

- Decrease in the I-2 front setback for Land Bay E from 50 feet to 25 feet (same setback permitted under the Technology Overlay District)

- Decrease in the substation setback between Land Bay F and E from 100 feet to 0 feet (same as the Technology Overlay District provision for interior lot line setbacks)
- Increase in fence height from six feet up to eight feet (also permitted under the Technology Overlay District)

Staff Assessment:

The proposed I-2 zoning district is appropriate for the intended data center use and the project is in alignment with the recently adopted TOD except for campus size and geographic siting in the City. The project aligns with the TOD for setback along a public street, setback reductions between the substation and data center (Land Bay F and E), and the increased fence height.

While the project is requesting a SUP for height within the 1-2 zoning district, the proposed heights align with the permissible height in the TOD and the T-5W and T-4 transects.

The proffered architectural and screening standards mostly align with the Principal Use Standards but should be modified to fully incorporate the accessory equipment screening requirements in the UDO.

The project also deviates from the TOD in campus size. By size comparison, the adopted TOD in the area generally known as Celebrate Virginia South is 250 acres or approximately 3.8% of the City's land area. The area is cited such that it can be served by new utilities with limited conflicts and is suitably sized to host a technology campus that is a minimum of 150 acres in size. The Gateway proposal is for an 84-acre site that is more centrally located in a more highly developed area the City. The addition of the Gateway site to the land area set aside for the TOD is 334 total acres, or 5% of the City's land area. The difference in the size of the site and its geographic location results in potential impacts, most notably from new transmission alignments, that are more substantial than the TOD.

5. Additional Special Use and Rezoning Review Criteria

a. Neighboring Uses

SUP Evaluation Criteria – In harmony with the existing uses or planned uses of neighboring properties

This development project is surrounded by a mixture of commercial and residential uses, including those listed below. The impacts of this project on neighboring development are discussed within each specific topic area as relevant (ex: noise).

- North: Open space and residential.
- South: Commercial development
- East: Residential development
- West: I-95 and commercial development

b. Building Mass and Scale

SUP Evaluation Criteria – Massing and scale of the project

Scale (Height):

This Applicant is requesting an increase in the building height to 90 feet for buildings within the T-5W transect. The Comprehensive Plan states that buildings to the west of Gateway Boulevard should consist primarily of 4-8 stories (within the T-5W transect). By comparison, a 90-foot building may have approximately 7-9 stories, which meets the T-5W transect. Within the T-4 transect, building heights are to be 1-3 stories and up to 4 stories with special review. As such, the building within the T-4 transect (DC4) is to be a maximum of 50 feet tall.

In the I-2 district, the by-right building height is 50 feet. Alternatively, the TOD Ordinance permits building heights of up to 90 feet. The Applicant believes that data center industry standards generally require taller buildings. To support the requested height, examples of data center building heights are provided:

- The Spotsylvania County Cosner Tech Campus consists of 1.9 million square feet of data center, utility, and accessory uses that require a maximum of 75' for the data center buildings.
- The Stafford County Stafford Technology Campus consists of approximately 5.8 million square feet of data center, utility, and accessory uses that require up to 105 feet for its data center buildings.

The Applicant has provided viewshed renderings of the project from Cowan Boulevard, Great Oaks, and Plank Road. The renderings show the mass and scale of the proposed buildings. The Great Oaks viewshed shows that the existing mature landscape will generally screen the buildings. The Cowan Boulevard rendering shows replanted landscaping at full maturity, partially screening the building. The Plank Road rendering shows the existing landscaping and buildings on adjacent properties as partially screening the proposed buildings.

Mass:

The application does not include building elevations for the four proposed data center buildings. However, there are proffered building design features and materials. These proffers correspond with the data center principal use standards for differentiated surfaces and building materials (as revised with the TOD). The proffers require differentiation in the buildings every 100 feet, high-albedo roof materials, primary/accent façade materials, provisions for windows/doors, and shrouds for exhaust stacks, primary/accent materials.

There are also screening requirements for accessory structures in the Principal Use Standards for data centers that were updated in March with the TOD. This section requires that ground-level and rooftop accessory equipment shall be screened except for electric substations, transmission, and distribution facilities. The proffered screening is more specific in its applicability to ground level and rooftop *mechanical* equipment and all electrical equipment, electrical yards, or electrical switching stations visible from public roads. The Principal Use Standard for screening accessory equipment is a little broader of a term than proffered.

c. Historic Resources

SUP Evaluation Criteria – Destruction of, or encroachment upon, conservation or historic districts

This property is not within a historic district. However, there are a few spots ranked medium-high to high on the City's Archaeological Predictive Model, located along the easternmost portions of the project. These areas are shown within the proposed open space. In addition, the City's property abutting the project area to the east contains historic resource easements. The construction of the proposed extension of Gateway Boulevard would provide additional access to this City property. However, the proposed transmission lines might potentially cross a portion of the easement area.

The Applicant previously completed a cultural and archaeological study, which led to a Memorandum of Agreement between the owner, the US Army Corps of Engineers, and the VDHR regarding the archaeological features identified on the site.

d. Other Code Requirements

SUP Evaluation Criteria – Conformity with federal, state, and local laws, as demonstrated and certified by the Applicant

The project would need to conform with all federal and state laws. The site plan process ensures compliance with all local regulations and SUP conditions, as modified by the rezoning request.

Staff Assessment:

The project design offers both benefits and areas of concern. The proposed open space provides buffers to adjacent residential areas, thereby limiting the impacts on residents. In addition, the adjacent City property would be both positively impacted by a new access point and potentially negatively impacted by transmission lines.

The SUP for additional height in the I-2 district meets TOD standards. However, to correspond with the height, the proffers should be updated to fully meet the UDO Principal Use Standards on screening for data center uses, which is expected for all data centers. These standards help limit the visual impacts of this type of development.