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INDEPENDENT CASE STUDY

# The Fredericksburg Ring

## A Data Center Case Study

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Five jurisdictions, one corridor, and the I-95 path south  
Spotsylvania · Stafford · Caroline · King George · City of Fredericksburg  
Companion to What Virginia Is Spending, What Virginia Is Getting

Fredericksburg

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**Prepared by Tommy Turner**

Williamsburg and Christiansburg, Virginia

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# **CASE STUDY: THE FREDERICKSBURG RING**

*Five Jurisdictions, One Corridor, and the I-95 Path South*

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Companion case studies in this series:

Case Study: Henrico County — How Two Neighborhoods Forced Virginia's Second-Largest Data Center Jurisdiction to Change Course

Case Study: Hanover County — Mountain Road, Tract, and the Search for Leverage

Case Study: Orange County — Amazon, Wilderness Crossing, and the Prospective Bet

Case Study: Prince William County — Governance Capture, the Revolving Door, and the Democratic Correction

Case Study: Chesterfield County — Google, CFS, and the Industrial Corridor

Case Study: The Google-CFS Power Purchase Agreement

Version note: v1.0 is the series' first corridor study: one report, five governments. It covers Spotsylvania County, Stafford County, Caroline County, King George County, and the City of Fredericksburg from the first post-Loudoun filings of 2022 through June 12, 2026. Research framework references follow the series role-label convention. Endnotes are numbered by first appearance.

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## ABSTRACT

Since 2022, the five jurisdictions surrounding the Rappahannock River fall line (Spotsylvania, Stafford, Caroline, and King George counties, and the independent City of Fredericksburg) have approved data center campuses totaling at least 5.4 gigawatts of reported capacity and roughly 44 million square feet of entitled building area. No regional body has added those numbers up. This case study does.

The Fredericksburg ring is where the Northern Virginia diffusion wave crosses the river. Every project priced out of Loudoun or blocked in Prince William and moving south on I-95 passes through these five governments first, and since at least 2018 the five have held themselves to an identical \$1.25 per \$100 tax rate on data center equipment, a regional compact built to keep any one of them from being shopped against the others. The compact held. Everything else diverged. Spotsylvania approved more than sixteen million square feet, watched an election turn on the issue, and in February 2026 reversed its own two-month-old ordinance to require a special use permit for every new data center. Stafford defended by-right approval in March 2025, then adopted Virginia's most stringent setback that October and grandfathered all five of its approved campuses six weeks later. Caroline invented a new zoning district to receive Amazon, took a 900-megawatt campus by right at a former flea market, and is defending its Rappahannock withdrawal permit against the Rappahannock Tribe in circuit court. King George approved a \$6 billion coal-plant-to-data-center conversion, un-approved it after one election, and meets Amazon at trial in September 2026. The City of Fredericksburg, fiscally cornered and seven votes unanimous, built a by-right overlay district for a \$10 billion campus that has yet to break ground.

Five governments, one demand wave, one shared river, five different instruments. The corridor is the closest thing the series has to a natural experiment in institutional behavior, and its developers treat it as a single market: Amazon appears in four of the five jurisdictions, STACK Infrastructure in three, AVAIO in one county three times. The report documents the approval chronologies, the instruments, the rate postures, the water ledger, and the cumulative arithmetic nobody totals, and flags two jurisdictions, Spotsylvania and Stafford, whose records are now deep enough to warrant standalone treatment in future versions of this series.

## PURPOSE, SCOPE, AND METHOD

This case study documents data center development across five contiguous Virginia jurisdictions from the first large filings of 2022 through June 12, 2026. It is the first report in this series to take a corridor rather than a single government as its unit of analysis. The choice requires defense, because the corridor frame can flatten exactly the institutional distinctions this series exists to document.

The defense is that the developers chose the unit first. A company priced out of Stafford files in Caroline. Amazon Data Services holds land or entitlements in Spotsylvania, Caroline, Stafford, and King George, and one of its campuses physically straddles the Spotsylvania-Caroline line under a negotiated revenue split. The five jurisdictions agreed years before the wave arrived to charge the same equipment tax rate so that none could undercut the rest. Their water systems interlock: the City of Fredericksburg and Spotsylvania share a treatment plant, Spotsylvania sells reuse water across the county line to cool Caroline's largest campus, and Caroline's pipeline to the Rappahannock drew formal opposition from a downstream county and a federally recognized tribe. Treating these five records separately would miss the evidence that is only visible between them: rate-shopping, free-riding, and the cumulative load on a single river and a single regional grid.

The corridor frame is held in tension with strict attribution discipline. Five governments appear in this report, and every decision is attributed to the body that made it. Nothing here was decided by "the region," because no regional body has decided anything: the George Washington Regional Commission and the Fredericksburg Area Metropolitan Planning Organization have produced no study, resolution, or staff report totaling the corridor's approved megawatts or gallons per day, an absence Part Eight documents and quantifies.[1]

The primary intended readers are the principal investigators and consultants of the Alfred P. Sloan Foundation study on the energy implications of data center expansion in Georgia, Virginia, and Tennessee, an interdisciplinary team whose work spans ethnographic and institutional analysis, environmental and distributional justice, energy geography, utility finance, and energy labor studies.[2] Following project convention, this document refers to the team's research frameworks by type of work rather than by individual researcher. The institutional behavior framework gets the closest thing the series offers to a controlled comparison: four counties and a city facing the same demand wave in the same years with divergent instruments, and in two cases reversing themselves mid-wave. The utility finance framework gets the rate compact, the rebate agreements, and the cumulative-load arithmetic. The distributional justice framework gets the internal siting geography of each jurisdiction, a cemetery of enslaved persons on one

proposed site, and a tribal treaty claim. The energy geography framework gets the I-95 path itself and the question of whether the ring is a destination market or a pass-through to the Richmond crescent documented elsewhere in this series. Part Eleven consolidates these readings by specialty. This document is written to serve as a pre-field dossier for the project's October 2026 fieldwork; Part Twelve identifies FOIA targets by jurisdiction.

A scoping note. The premise of the corridor study was that each jurisdiction alone was too thin for the full single-county treatment. The research did not entirely cooperate. Spotsylvania's record is Hanover-scale or larger: twelve distinct projects, a \$6 billion performance agreement, a policy reversal executed across three ordinances in fourteen months, and an election that flipped the board majority on this issue. Stafford's record is comparable. Both are flagged for potential standalone treatment in a separate scoping memo accompanying this report; their treatment here is full but not exhaustive. Caroline, King George, and the city fit the corridor frame as intended. The City of Fredericksburg earns co-billing rather than a subsection: it adopted the corridor's only by-right overlay district and attached a \$10 billion announcement to it, though as of this writing the city's record documents a policy regime under construction rather than any building under construction.

A note on method. This study is built entirely from public sources: county and city planning documents, adopted ordinances, applicant filings, State Corporation Commission and Department of Environmental Quality records, court coverage, and sustained local reporting, principally the Fredericksburg Free Lance-Star, the Fredericksburg Free Press, the FXBG Advance, Potomac Local News, Data Center Dynamics, and the Virginia Mercury. Direct quotations are reproduced as reported in the cited coverage. No interviews were conducted for this version. Claims that rest on secondary sources rather than primary documents, and dates inferred from publication dates rather than meeting minutes, are flagged with an asterisk and consolidated as verification targets in Part Twelve. Several vote tallies in this corridor exist only in meeting minutes that are not online; they are stated here only as far as the published record supports and listed as FOIA targets beyond that. Arithmetic performed on reported figures is identified as such wherever it appears.

[3]

## PART ONE: THE CORRIDOR AND THE COMPACT

Fifty miles south of the Northern Virginia data center core, Interstate 95 crosses the Rappahannock River at Fredericksburg. The city, population roughly 28,000, is an independent municipality hemmed to about ten square miles with no power to annex. Around it sit four counties of sharply different weight: Stafford to the north (population roughly 165,000, the commuter county facing Quantico), Spotsylvania to the south and west (roughly 145,000), King George to the east on the Potomac peninsula (roughly 27,000, anchored by the Dahlgren naval installation), and Caroline to the south (roughly 33,000, the most rural of the four).[4] The five share a planning district, a metropolitan planning organization, a labor market, a commuter rail line, and a river. Until 2022 they shared something else: a position just outside the data center industry's map.

What moved the map was saturation and refusal to the north. Loudoun County, the largest data center market in the world, removed by-right status for new data centers in 2025; land prices there had risen 45 percent, and 38 percent in Prince William, where the Digital Gateway's zoning approval was revoked in litigation. Data Center Dynamics' post-Loudoun analysis described the industry's southward search for land, power, and permissive zoning as the defining dynamic of the Virginia market.[5] The Joint Legislative Audit and Review Commission's December 2024 study of the industry confirmed where the search led: the Fredericksburg region, JLARC noted, would "soon be home to at least a dozen data center campuses." [6] By June 2026 the published record supports a larger count: this report identifies more than twenty distinct campus projects announced, applied for, approved, or denied across the five jurisdictions since 2022.

The ring was not unprepared. In 2018, through the Fredericksburg Regional Alliance, the five jurisdictions agreed to a uniform business tangible personal property tax rate on data center computer equipment of \$1.25 per \$100 of assessed value, and a uniform depreciation schedule, a deliberate regional floor designed to attract the industry while preventing the members from being played against one another.\* Stafford codified its rate in 2019, explicitly matching Prince William's. JLARC's 2024 report treats the equalized rate as an established fact of the region. [7] The compact predates the wave by four years, and it is the single most consequential piece of regional coordination in this report, because it is the only one. The jurisdictions coordinated the price and then competed on everything else.

Two utilities split the corridor, and the split matters. Dominion Energy Virginia serves the city, the urbanized I-95 spine in Stafford, and the Massaponax corridor in Spotsylvania. Rappahannock Electric Cooperative, a member-owned co-op headquartered in Fredericksburg, serves the rural remainder across Spotsylvania,

Stafford, and Caroline.[8] The co-op's exposure is existential in a way Dominion's is not. REC's October 2024 filing with PJM disclosed data center requests totaling roughly 20,000 megawatts of ramp load and revised its 2040 data center forecast from 3.3 gigawatts to nearly 17, against a co-op whose entire existing system peak is a fraction of a single large campus. REC's chief executive told Spotsylvania officials in September 2025 that "one data center can require as much energy as the co-op's entire current customer base during peak winter demand." [9] The State Corporation Commission's November 2025 order in Dominion's rate case created a new GS-5 class for loads of 25 megawatts and above, requiring large customers to pay minimum percentages of contracted demand and exit fees, the first structural answer to the question of who pays for the corridor's buildout, effective January 2027.[10]

The transmission record shows the wave's physical arrival. Between February and June 2025 the State Corporation Commission issued final orders on three Dominion projects serving the corridor: the Fredericksburg-to-Possum Point 230 kV rebuild through Stafford (Phase 1 order February 12, 2025; Phase 2 order March 5, 2025), the Tributary 230 kV switching station in Spotsylvania built to interconnect REC's SpotsyTech load (order June 30, 2025), and the roughly \$50.5 million Centreport 230 kV substation in Stafford serving the county's data center corridor (order June 10, 2025; construction expected to begin September 2026). A fourth, a new Caroline County line, was in pre-filing community review in November 2025 with an SCC application expected in mid-2026. Above all of these runs the Kraken Loop, a PJM-selected 500 kV line of roughly 70 miles connecting the North Anna substation through Spotsylvania, Caroline, and Stafford toward Fauquier, part of an \$11.8 billion regional transmission expansion driven by data center load; right-of-way clearing reached Fredericksburg in April 2026.[11] Dominion's 2024 integrated resource plan reported 40 gigawatts of data center capacity under contract statewide, nearly double the prior year, with demand projected to double by 2039. [12]

That is the corridor: a compact on price, a split on power, a shared river, and five separate answers to the same question. The next five parts take the governments one at a time, in order of the depth of their records.

## **PART TWO: SPOTSYLVANIA COUNTY — THE VOLUME JURISDICTION**

Spotsylvania approved more data center square footage than any other government in the ring, and then, with most of it entitled, changed the rules. The sequence will be familiar to readers of the Henrico case study in this series. What is new here is the speed: Henrico's reversal took five years from its largest entitlement; Spotsylvania's took twenty-eight months, and the reversal itself was reversed and re-reversed across three board actions in a single winter.

The record opens at Thornburg. SpotsyTechnoCampus, LLC proposed a campus of roughly 314 acres west of I-95 at the county's southern interchange, up to 2.9 million square feet of data center and commercial space, and in February 2023 the Spotsylvania County Board of Supervisors approved the rezoning from rural to industrial.\* The published coverage confirms approval but not the final tally; an earlier procedural vote suggests a 4-3 alignment, and the certified minutes are a FOIA target.[13] The site sits in Rappahannock Electric Cooperative territory, which is why it surfaces in the transmission record: REC's delivery point request to Dominion, filed November 21, 2023, projects the campus load reaching 295 megawatts by 2032, and Dominion's Tributary switching station was approved by the State Corporation Commission in June 2025 to carry it.[14]

Five months after the SpotsyTech approval, the board prepared the ground for much more. On July 11, 2023, the Spotsylvania County Board of Supervisors voted 5-0 to amend the comprehensive plan with data-center-specific land use policies: development steered inside the Primary Development Boundary, siting tied to public water and sewer, noise mitigation language.[15] Amazon Data Services had filed four concurrent rezoning applications the month before. In October 2023 the board approved all four: Summit Crossing (231 acres, 2.1 million square feet off Summit Crossing Road at Massaponax), Carter's Store (313 acres, 2.6 million square feet along Flippo Drive), Cosner (329 acres, 1.9 million square feet on Massaponax Church Road), and the Spotsylvania portion of the Orrock campus at Woodford, roughly 158 acres of a site that lies mostly across the Caroline line.[16] On December 12, 2023, the board approved the accompanying performance agreement 5-2, supervisors Yakabouski and Hayes dissenting: Amazon commits at least \$6 billion of investment in the county, and the county grants back up to \$93 million (ten percent of Amazon's infrastructure spending) funded from the data center tax revenue itself. County projections presented with the agreement anticipated an average of \$13.8 million per year over fifteen years beginning in 2025.[17] Per-campus vote tallies for the October rezonings were not published and are a FOIA target.\*

The largest single block of capacity in the county never came to a vote. PowerHouse Data Centers, the data center arm of American Real Estate Partners, closed on 145 acres of already-industrial land at the I-95 corridor in January 2024 and announced PowerHouse 95: up to 3.5 million square feet in eight three-story buildings, 800 megawatts across three planned substations, the first 300-megawatt substation under development and 150 megawatts targeted for availability by October 2025. Because the land carried I-2 zoning, the project proceeded by right, with no rezoning hearing before the Spotsylvania County Board of Supervisors at all.[18] The institutional behavior framework should note the asymmetry: the county's most heavily debated approvals were not its largest, and its largest required no debate.

Two more approvals followed on the Massaponax corridor. Hunters Ridge LLC won a 127-acre rezoning near the regional hospital in October 2023, 5-2, supervisors Lane and Hayes dissenting, after residents raised noise and health concerns at the hearing.[19] In August 2025 the board approved Hunter's Ridge South, up to 2.2 million square feet on roughly 73 acres at the southern end of Cosner Drive, again 5-2 with Lane and Hayes dissenting; the planning commission had recommended approval on August 11, and the board acted at its late-August meeting.\*[20]

The cross-border arrangement with Caroline County deserves its own paragraph, because it is the corridor's clearest evidence that the jurisdictions function as one market. Amazon's Orrock site became the Mattameade Tech Campus: roughly 920 acres and 4.5 million square feet of buildings on the Caroline side, water and sewer service from the Spotsylvania side. In November 2024 the two boards of supervisors approved a joint resolution referring an Economic Growth Sharing Agreement to the Commission on Local Government (Spotsylvania on November 12, Caroline at its meeting the same week\*), splitting all local tax revenue from the campus area 57.5 percent to Caroline and 42.5 percent to Spotsylvania, with Spotsylvania's share projected at \$371.1 million over the agreement's forty-year term. Spotsylvania separately approved \$116.7 million in water and wastewater infrastructure, including more than sixteen miles of reuse-water pipe, with Amazon reimbursing the full cost.[21] A campus in one county, cooled by another county's wastewater, on a negotiated revenue split: the corridor in miniature.

Then the rules began to move. In March 2025 the county's planning commission recommended 6-1 that data centers remain by right in industrial districts, and a motion before the Spotsylvania County Board of Supervisors to require a special use permit failed on a deadlocked vote.\* In August 2025 the board unanimously adopted interim design standards: a 1,000-foot setback from homes, schools, parks, places of worship, daycares, and hospitals, and a 75-foot height cap. On December 9, 2025, the board adopted final standards 4-3, and weakened the interim ones, cutting the residential setback to 400 feet with a 300-foot vegetated buffer at property lines,

supervisors Frazier, Marshall, McLaughlin, and Ross in the majority, Hayes, Lane, and Yakabouski dissenting. The ordinance grandfathered every rezoning approved since January 1, 2022, which is to say nearly everything in this part.[22]

The December ordinance lasted eleven weeks, because the voters had already acted. In the November 4, 2025 election, the Berkeley District race became the county's data center referendum: David Goosman, running on stronger oversight, took 4,130 votes against incumbent supervisor Kevin Marshall's 2,420, with a third candidate at 2,072, and in Lee Hill the board's most consistent data center dissenter, Lori Hayes, won re-election 4,306 to 2,972.[23] Goosman was seated in January 2026. The new majority moved within weeks: at its late-February meeting the Spotsylvania County Board of Supervisors voted 4-3 to require a special use permit for all new data centers in every zoning district, industrial included, reversing the December ordinance's by-right core; projects with site plans filed before January 13, 2026 were grandfathered, a clause covering the half-dozen applications then pending.\*[24] The board adopted companion development guidelines dated February 24, 2026.[25] One supervisor's reaction to the speed of the reversal made the local press in January: Frazier, of the old majority, was reported "perturbed" that the vice chair would reopen an ordinance adopted six weeks earlier. By early February the county's planning commissioners and the developers in front of them were comparing the process to Groundhog Day.[26]

Water closed the gate before zoning did. In July 2025 the county's planning and zoning director told the planning commission that Spotsylvania's recycled-water supply for data center cooling was at capacity, fully committed to projects approved or already in the application queue; developers without applications on file could not count on cooling-water commitments. The reuse system Amazon is funding, built on the 9.4-million-gallon-per-day Massaponax wastewater plant, was designed for the approved pipeline, with first service targeted for 2028.[27] Spotsylvania's potable system (the Motts Run plant shared with the city, plus the Ni River plant) was never offered to the industry at scale. The binding constraint in the county is now wastewater arithmetic, not land.

The pending file remains thick: the 588-acre Massaponax Tech Campus rezoning (R25-0004, filed March 19, 2025), the Pairmont campus at Thornburg (R25-0014, holding community meetings in June 2026 that residents described to reporters as "an embarrassing mess" of logistics), and a roughly 200-acre Thornburg Technology Campus application.[28] A DEQ enforcement action gave the opposition its first emissions evidence: the agency fined Amazon Data Services \$72,067.80 after generator commissioning failures at the Cosner campus in May 2025, reported in June 2026.[29] Spotsylvania enters the second half of 2026 with more than sixteen

million square feet entitled, an SUP regime its own electorate installed, and a reuse-water ceiling already reached.

## **PART THREE: STAFFORD COUNTY — BY-RIGHT, BACKLASH, AND THE 750-FOOT LINE**

Stafford ran the same arc as Spotsylvania with different instruments and a sharper pivot. The county wrote data centers into its code early, defended by-right approval against its own planning commission in the spring of 2025, then adopted the most stringent setback standard in Virginia that fall and grandfathered everything it had already approved.

The framework came first. On October 17, 2023, the Stafford County Board of Supervisors adopted Resolution R23-214, amending the comprehensive plan, and Ordinance O23-24, defining “data center” in the county code and making it a by-right use in the M-2 heavy industrial district with performance standards: 100-foot setbacks inside the Urban Services Area, 200 feet outside it, a 50-foot vegetated buffer.[30] Five campuses then moved through the door the ordinance opened.

The largest is the Stafford Technology Campus on Eskimo Hill Road: roughly 504 acres rezoned from agricultural and light industrial to M-2 for up to 23 buildings and 5.5 to 5.8 million square feet (sources differ), more than a gigawatt of planned capacity served by six 300-megawatt Dominion substations. The county’s planning commission recommended approval in late July 2024;\* the Stafford County Board of Supervisors deferred in August, then approved 6-1 on September 17, 2024, supervisor Crystal Vanuch dissenting. The developer, Peterson Companies' Stafford Technology LC, proffered \$58 million in water and sewer improvements (a Centreport Parkway pumping station, a waterline to U.S. 1, upgrades to the Potomac Creek sewer pump station) and a cap of one million gallons per day of potable water for cooling until a reuse system comes online. STACK Infrastructure announced its acquisition of the project in January 2025 and topped out the first building in 2026. [31] Projected revenue figures for the campus conflict in the record: a county-commissioned analysis cited \$127 million annually at full buildout, STACK’s materials more than \$80 million, and the county’s April 2026 consultant model \$168.4 million across all five approved campuses by FY2034. The conflict itself is a finding; Part Twelve lists the reconciliation as a research target.[32]

Amazon’s Stafford entry came through a performance agreement rather than a rezoning fight. The company filed in mid-2023 for a two-building, roughly 510,000-square-foot campus on Old Potomac Church Road; after a failed procedural vote at a special December meeting, the Stafford County Board of Supervisors approved the performance agreement unanimously on January 2, 2024. The agreement runs to 2051 and carries the county’s most consequential water commitment: Amazon funds an industrial water-reuse facility at the Aquia wastewater treatment plant (reported figures range from \$150 million to \$300 million, another conflict for the record\*),

which is designed to become the primary cooling source for the corridor's campuses when it comes online, targeted for 2027.[33] Three more projects completed the approved set: Cranes Corner (46 acres, up to 900,000 square feet, rezoned to M-2 with setbacks near 110 feet under the old standards\*), the Centreport Gateway/Pemberton site (52 acres, three buildings, roughly 562,000 square feet), and Vantage Data Centers' VA4 campus on Centreport Parkway (82 acres, three buildings, 929,000 square feet, 192 megawatts, \$2 billion announced with the governor in attendance in November 2025; first delivery expected 2027).[34]

The regulatory fight ran on a separate track, and for most of 2025 the developers won it. In February 2025 the county's planning commission recommended 4-2 that data centers in M-2 require a conditional use permit. On March 18, 2025, the Stafford County Board of Supervisors rejected the amendment 4-3, the majority reasoning that the restriction was unnecessary and would chill investment.[35] Public comment kept building: a May 20, 2025 board meeting drew enough opposition on noise, water, and industrial character that the board unanimously ordered a full review of its data center regulations. The review produced Ordinance O25-29, adopted October 21, 2025: a 750-foot setback from data center buildings to residences, schools, and the Rappahannock and Potomac rivers, enhanced buffers, and operational noise controls; at adoption it was the most stringent standard in Virginia.\* The citizen group Protect Stafford, which had organized a petition of more than 2,500 signatures, claimed it as a win.[36] Six weeks later the board completed the pivot's second half: after a joint public hearing with the planning commission that ran past 2:30 a.m., the Stafford County Board of Supervisors voted unanimously on December 2, 2025 to reordain the ordinance as O25-29(R), formally grandfathering all five approved campuses under the standards in force when they were approved.[37]

The post-ordinance pipeline now tests the 750-foot line. The Garrett Companies' GWV Data Center seeks to rezone roughly 1,042 acres in the Hartwood District for 7.9 million square feet, an application complicated by a July 2025 circuit court injunction the county itself sought against illegal clear-cutting on an adjacent parcel of the same ownership. The Accokeek Center proposal (three buildings near Eskimo Hill Road) drew a staff recommendation of denial for incompatibility with neighboring homes after the applicant requested a setback reduction to 288 feet. The Potomac Creek Campus (three buildings, roughly 975,000 square feet) was deferred by the county's planning commission over noise, traffic, and a cemetery on the site containing the remains of eighteen or more enslaved people. And in 2026 came the county's largest proposal yet: roughly 845 acres near Kings Highway in the George Washington District, approximately 11 million square feet, reported as the county's sixteenth data center proposal; at the board's June 2, 2026 meeting

residents pressed health objections, one calculating annual particulate emissions from the project's permitted diesel generators.[38] The Quantico dimension flagged at this study's outset did not materialize in the published record: no Defense Department comment letter on any Stafford siting decision surfaced in the sweep, and the question moves to the FOIA list.[39]

Stafford's tax posture is the corridor compact under stress. The county adopted its \$1.25 data center equipment rate in 2019, deliberately matching Prince William. In March 2026 supervisor Vanuch moved to double it to \$2.50; the motion failed with only two votes.\* Eight weeks later the Stafford County Board of Supervisors raised the general real estate rate from \$0.9236 to \$0.9675 per \$100 (a homeowner increase of more than four cents), adopted 4-3, while the data center equipment rate stayed untouched. Potomac Local's headline captured the politics: "Stafford Shields Data Centers from Tax Hike, Targets Homeowners." The county's own September 2025 budget materials had already conceded the dependence: if anticipated data center projects did not materialize, staff advised, the county's bond rating would likely be in jeopardy.[40] A county that has not yet collected the bulk of the revenue has already priced it into its credit posture; the utility finance framework should treat Stafford as the corridor's clearest case of fiscal lock-in preceding fiscal receipt.

## **PART FOUR: CAROLINE COUNTY — THE PIRT DISTRICT AND THE PIPELINE**

Caroline is the smallest county in the ring by budget and the most instructive on instruments, because it built one. In October 2023 the Caroline County Board of Supervisors adopted a new zoning category, the Planned Innovation Research and Technology Park district (PIRT), written for campus-scale technology development on parcels of 75 acres or more, and applied it two weeks later to the land Amazon wanted.[41] A county of roughly 33,000 people created a bespoke district, received the largest private investment in its history through it, then spent the next two years narrowing every other door: special exceptions imposed in the industrial district in December 2024, a major project denied in June 2024, and the industrial-cooling language stripped from its own water permit under political pressure that November. The sequence rewards close reading because Caroline made each move in public, with votes.

The Amazon campus came first. The Mattameade Tech Campus (eleven two-story data center buildings and roughly 4.5 million square feet on the Caroline side of a 1,143-acre site straddling the Spotsylvania line at Woodford) was enabled by a June 2023 comprehensive plan amendment, the October 10, 2023 PIRT adoption, and the October 24, 2023 rezoning of the campus area to PIRT by the Caroline County Board of Supervisors.[42] The Economic Growth Sharing Agreement described in Part Two gives Caroline 57.5 percent of the campus's local tax revenue; the corollary, derived from Spotsylvania's published \$371.1 million projection, is a Caroline share on the order of half a billion dollars over forty years, a calculation this report performs and flags as arithmetic rather than a published figure.\* Construction began in October 2025, with a first phase targeting March 2027 and a reported campus capacity of at least 770 megawatts.[43]

The corridor's purest by-right story is also Caroline's. CleanArc Data Centers acquired the former Virginia Bazaar flea market at Carmel Church (roughly 650 acres of M-1 industrial land at I-95 exit 104) and proceeded on site plans alone, because when it filed, data centers were a by-right use in M-1. No rezoning hearing was ever held. On December 10, 2024, the Caroline County Board of Supervisors amended the zoning ordinance to require a special exception for data centers in M-1; CleanArc was grandfathered on its prior filings and investment. The board approved a performance agreement with the developer on August 12, 2025, with one dissent (supervisor Sili), rebating 25 percent of the project's new real estate and personal property tax revenue back to the company for fifteen years against an estimated \$13 million per year in new revenue, roughly 17 percent of the county's general fund. The investment figures require care: \$3 billion is CleanArc's

announced construction investment for the initial three buildings; \$8.8 billion is the performance agreement's full-buildout projection including tenants. Governor Youngkin attended the groundbreaking at Ruther Glen on November 20, 2025. Planned capacity is 900 megawatts in three 300-megawatt phases, targeted for 2027, 2030, and 2033-2035.[44]

A third operator, AVAIO Digital, accounts for the rest of the Carmel Church story and for the county's live contested case. AVAIO's Carmel Church Data Hub (roughly 100 acres on Welcome Way Drive, two buildings, 300 megawatts planned, 130 megawatts projected online in the first half of 2026) appears to have proceeded by right on M-1 land; no hearing record surfaced in the sweep.\* Its Ladysmith Data Hub did require a hearing under the December 2024 rules, and on July 28, 2025\* the county's planning commission recommended denial 4-2, finding the 140-acre proposal off Green Road inconsistent with the comprehensive plan; as of June 12, 2026 no vote by the Caroline County Board of Supervisors has been confirmed in the published record.[45] A fourth application, STACK Infrastructure's Caroline Center for Innovation North (SPEX-08-2025; four buildings, 1.5 million square feet, roughly 95 acres at Carmel Church), drew a 4-1 favorable recommendation from the county's planning commission in December 2025 with a condition requiring closed-loop or county-approved cooling; it appeared on the board's April 14, 2026 agenda, and the outcome is unconfirmed.\* A fifth, Luck Stone's 657-acre Carmel Technology and Enterprise Center rezoning (RZ-06-2024), sits in technical review.[46]

Caroline also produced the ring's cleanest denial. A developer operating as VALCO sought to rezone roughly 250 acres at Mt. Airy, west of I-95 on the North Anna River side of the county, and to stretch the Carmel Church growth area westward to reach it. The county's planning commission rejected it twice; the Caroline County Board of Supervisors denied the comprehensive plan amendment 5-1 in June 2024, the Madison District supervisor casting the lone vote in favor after having revived the proposal once before. The stated logic was spatial: the county had already zoned land for this east of the interstate and saw no reason to expand the map westward. [47] The denial defines the county's actual policy more precisely than any ordinance text: data centers yes, inside the lines drawn in 2023; expansion of the lines, no.

Water is where Caroline's record becomes the corridor's. The county applied to the Department of Environmental Quality to withdraw up to 13.9 million gallons per day from the Rappahannock River: an intake on the south bank near Route 17, a raw-water pump station, and roughly 35 miles of pipeline to a treatment plant near Carmel Church, crossing watershed boundaries so that water drawn from the Rappahannock basin would, after use and treatment, discharge toward the Mattaponi. The application identified 2.63 million gallons per day for industrial cooling tied to three data center projects. Opposition assembled across county lines:

Friends of the Rappahannock, the Sierra Club’s Virginia chapter, downstream Essex County’s civic association and economic development authority, and the Rappahannock Tribe. A DEQ public hearing on September 25, 2024 drew more than 200 people; all sixty speakers opposed the withdrawal.\* State Senator Richard Stuart threatened legislative action if data center cooling stayed in the application, and in November 2024 the Caroline County Board of Supervisors voted unanimously to strip all industrial-cooling language and reduce the request to 9 million gallons per day, municipal use only.[48] DEQ issued the fifteen-year permit in late 2025: 9 million gallons per day, stepping down to 7 under drought warning and 6 under drought emergency; the Free Press reported the approval December 10, 2025.\* The Rappahannock Tribe appealed on January 21, 2026, arguing among other grounds that the permit violates rights reserved under the Treaty of Middle Plantation of 1677. On June 8, 2026, the Richmond County Circuit Court denied the motions of DEQ and Caroline County to dismiss the treaty and reserved-rights claims, ordering briefing within thirty days; a separate Virginia Marine Resources Commission hearing was scheduled for June 23, 2026.[49] The permit now authorizes municipal water only. Whether municipal water serves data centers indirectly — by freeing other capacity, or by future amendment — is the question the opposition believes it has already answered and the county has not addressed on the record.

## **PART FIVE: KING GEORGE COUNTY — THE COAL PLANT, THE REVERSAL, AND THE COURTROOM**

King George holds two distinctions in this series: the first coal-plant-to-data-center conversion in the portfolio after Chesterfield's, and the only jurisdiction anywhere in these reports that approved a multi-billion-dollar campus and then tried to take the approval back. The second distinction has consumed the first. The conversion is stalled; the un-approval is at trial in September 2026.

The site is Birchwood. The Birchwood Power Facility, a roughly 258-megawatt coal-fired cogeneration plant near Sealston, ran from 1996 until its retirement on March 1, 2021. Demolition removed the stacks but left the assets that made the land valuable: a Dominion transmission substation, a rail spur, a water retention pond, and a DEQ permit to withdraw 6.6 million gallons per day from the Rappahannock River, valid through 2034.[50] The owner, Birchwood Power Partners, tried twice in 2022 to rezone the land (roughly 700 acres in August, roughly 755 acres with an explicit data center use in the fall) and withdrew both applications before a final hearing, the second projecting more than \$25 million in annual tax revenue.[51]

The third attempt was Amazon's. Filed through Birchwood Power Partners on Amazon Data Services' behalf, the application covered 869 acres across nine parcels: up to nineteen buildings and 7.25 million square feet at full buildout, up to \$6 billion invested by 2040. On September 5, 2023, after a five-hour meeting, the King George County Board of Supervisors approved the comprehensive plan amendment, the rezoning from agricultural to industrial, a proffer amendment carrying more than \$2 million in cash proffers, and a special exception; published accounts confirm approval and two dissenting supervisors on elements of the package, but the certified roll calls are a FOIA target.\* In December 2023 Amazon bought the parcels for \$168.8 million, and the outgoing board approved a local performance agreement: a \$1.25 per \$100 equipment tax rate against the county's standard \$3.25, a rebate of ten percent of Amazon's infrastructure costs, a term to 2051. A county-commissioned analysis projected \$18.6 million in annual revenue at full buildout and more than \$560 million over thirty years.[52]

Two months earlier, the county's voters had replaced the board. Data center skeptics swept the November 2023 election, and the new King George County Board of Supervisors, seated in January 2024 under chair T.C. Collins, voted to rescind the performance agreement and renegotiate. By spring it had initiated downzoning of the nine Amazon parcels back to agricultural. Collins' posture was not subtle; at a March 2024 meeting he said, "Amazon, are you listening? Because I know we're getting ready to go to war here." [53] Amazon requested a vested-rights determination; the county's zoning administrator declined to issue one; the Board of

Zoning Appeals unanimously upheld the non-determination in March 2025; and on April 24, 2025, Amazon Data Services filed an 878-page petition in King George County Circuit Court asserting vested rights in the 2023 approvals and the rescinded agreement. Trial, continued once at the county's request, is set for September 28-29, 2026.[54] The institutional behavior framework should register what this is: the corridor's only attempt to reverse an entitlement after the land changed hands at nine figures, with the vested-rights doctrine, the same doctrine that protects grandfathered pipelines in Spotsylvania, Stafford, and Caroline, now the whole case. Whatever the circuit court decides will be read in every county in this series.

The paradox is that the board that went to war approved the next two campuses. In 2024 the county designated a Technology District along the Route 301 corridor near Dahlgren, and in August 2025 the King George County Board of Supervisors voted unanimously to approve Dahlgren West: roughly 485 acres assembled by Oasis Digital Properties, up to ten buildings and approximately 6.8 million square feet, 1.2 gigawatts of planned IT capacity, projected by the county at \$100 to \$120 million in annual tax revenue. The approvals rode on two 2025 ordinances granting height and access exceptions (O-11-25, O-12-25), and the developer is finalizing a memorandum of understanding to cool the campus with reclaimed groundwater rather than the public system.[55] On February 17, 2026, the board approved a third campus 3-2 over its own planning commission's 6-2 negative recommendation: Green Energy Ventures' King George Technology Center, roughly 300 to 356 acres at Route 3 and Bloomsbury Road, thirteen buildings and 7.2 million square feet at a 2037 buildout, no water cooling planned. An adjacent agricultural operation, Horti-Group USA, with 55 acres of greenhouses growing crops that require uninterrupted darkness, sued in circuit court, alleging among other counts a Chesapeake Bay Preservation Act violation and inconsistency with the comprehensive plan.[56] Residents of St. Pauls Road, adjacent to Dahlgren West, turned a June 2026 public comment period into an impromptu town hall;\* the supervisors told them the approvals were final.[57]

King George's arc is the election-feedback loop at its tightest. A 27,000-person county approved \$6 billion, voted out the board that approved it, watched the new board rescind and get sued, and then watched the same new board approve 1.2 gigawatts unanimously and a third campus 3-2. The variable that moved was not the industry, the acreage, or the water. It was which families lived next door, and who held the gavel when they showed up.

## **PART SIX: THE CITY OF FREDERICKSBURG — A REGIME WITHOUT A BUILDING**

The City of Fredericksburg adopted the corridor's most permissive instrument with its most unanimous government, and as of June 2026 has the least built to show for it. That combination is the analytical point. The city's record documents what a small, fiscally cornered municipality does when the diffusion wave offers it a way out: it builds the regime first and negotiates the consequences afterward.

The fiscal logic is unforgiving. The city holds about ten square miles, cannot annex, carries one of the lowest real estate rates among Virginia's independent cities, and raised that rate four cents to \$0.88 in its FY2027 budget anyway. Against a city budget in the \$120-130 million range, the projections attached to its data center program (up to \$60 million per year at full buildout) represent something close to half the city's current general fund.[58] Council unanimity becomes less surprising in that light.

The instrument is the Technology Overlay District, Ordinance 25-02: roughly 250 acres of Celebrate Virginia South, an underperforming planned development along the Rappahannock at I-95, overlaid with by-right entitlement for data center campuses. The legislative path ran from a November 12, 2024 council resolution through work sessions and a public input session in January 2025. On February 12, 2025, the city's planning commission recommended denial 4-3 after a meeting of more than five hours, the majority asking the council to slow down on infrastructure analysis. On February 25, 2025, the Fredericksburg City Council voted 7-0 to advance the ordinance on first reading, overriding its commission; second reading was scheduled for March 11, 2025, and while every subsequent public record treats the ordinance as enacted, the second-reading vote itself is a verification target.\*[59] The ordinance carries the corridor's most explicit water condition: potable water is prohibited for permanent industrial cooling, and any cooling supply requires a separately negotiated Water Service Agreement approved by council after a public hearing.[60]

The announcement came the same week as the vote. The Silver Companies, the local developer that has controlled Celebrate Virginia for decades, and STACK Infrastructure announced a potential \$10 billion campus of eight to twelve buildings on the overlay acreage, with the city projecting up to \$60 million in annual revenue at full buildout on the strength of a commissioned economic study estimating roughly \$5 million per 250,000 square feet. As of June 12, 2026, the project remains in entitlement: the water agreement and Dominion transmission delivery are outstanding, and no groundbreaking has been reported.[61]

The city's second proposal shows the same government enforcing a boundary. Penzance sought to rezone roughly 84 acres at 1500 Gateway Boulevard, a planned medical-center district, for four data center buildings totaling 2.1 million square feet, self-projecting \$50 million in annual revenue. The city's planning commission recommended denial 7-0 in July 2025, objecting that proposed transmission lines would cross a school car-rider line and play area, and recommended denial 7-0 again in December 2025 on comprehensive plan inconsistency. The application's fate now rests with the Fredericksburg City Council, which had not voted as of June 12, 2026; organized labor entered the record in late May 2026 on the project's side.\*[62] Inside one small city government, the overlay and the Gateway denials are consistent: by-right where the city drew the box, resistance where the developer drew it.

The infrastructure ledger is moving faster than the entitlement. The city broke ground in October 2025 on a \$180 million wastewater plant expansion from 4.5 to 6 million gallons per day, with treated effluent intended for data center cooling; the Motts Run treatment plant it shares with Spotsylvania is expanding from 12 to 24 million gallons per day by 2027; and the FY2027 budget adopted in May 2026 created a two-tier water and sewer rate structure under which the ten percent of customers who are high-volume users (a class designed with data centers in mind) carry premium rates.[63] Friends of the Rappahannock has demanded disclosure of projected data center water usage and signaled intervention if cooling requests breach the city's own utility rules. Clean-energy advocates note that a full campus buildout would consume on the order of ten times the city's entire current electric load, against a 2019 council resolution committing municipal operations to renewables by 2035.\* The November 2025 council elections, the city's first on the partisan November cycle, produced the city's first female majority and no visible data center mandate either way; the new council inherits the Gateway vote and the water agreement.[64]

## PART SEVEN: THE INSTRUMENTS COMPARED — FIVE ANSWERS, ONE COMPACT

Set side by side, the five regimes as of June 12, 2026:

| Jurisdiction           | Instrument as of June 2026                                                       | Path to it                                                                               | Grandfathered pipeline                                           |
|------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Spotsylvania County    | Special use permit, all districts (Feb. 2026)                                    | By-right in industrial through 2025; design standards Dec. 2025; SUP after election flip | Rezoning since Jan. 2022 + site plans filed before Jan. 13, 2026 |
| Stafford County        | By-right in M-2 with 750-ft setback (Oct. 2025)                                  | By-right 2023; CUP rejected Mar. 2025; O25-29 after May 2025 backlash                    | All five approved campuses, reordained Dec. 2, 2025              |
| Caroline County        | PIRT district by-right in designated nodes; special exception in M-1 (Dec. 2024) | Purpose-built district Oct. 2023; M-1 door closed after CleanArc entered                 | CleanArc on prior filings; Mattameade in PIRT                    |
| King George County     | Rezoning + special exception case by case; Technology District incentives        | By-right framework contested; downzoning attempt in litigation                           | Contested; the litigation is the grandfather clause              |
| City of Fredericksburg | By-right inside 250-acre overlay; rezoning required outside it                   | Overlay adopted Feb.-Mar. 2025 over commission objection                                 | Not yet relevant; nothing built                                  |

On the series' institutional spectrum the ring covers nearly the whole range at once: a purpose-built recruitment district (Caroline's PIRT, kin to the technology districts documented in the Goochland and Orange reports), a by-right overlay (the city, the corridor's closest cousin to the instrument whose lineage the Goochland and Louisa kickoffs trace), performance-standard by-right (Stafford), discretionary-permit conversion (Spotsylvania), and entitlement attempted in reverse (King George). Two regularities cut across all five. First, every tightening came after the major entitlements, never before: Spotsylvania's SUP regime, Stafford's 750 feet, Caroline's M-1 special exception, and the city's overlay conditions all postdate the approvals that matter, and every one of them carries a grandfather clause, with King George's litigation the price of attempting one without. Second, no government in the ring has yet collected the revenue it has committed around. Stafford briefed its

bond rating on projects not yet built; Caroline rebated a quarter of revenue not yet received; King George rescinded an agreement before a dollar arrived.

The compact rate is the corridor's stable equilibrium, and the record shows it tested twice and held twice. Stafford's supervisor Vanuch moved in March 2026 to double the equipment rate to \$2.50 and drew one other vote.\* No other member jurisdiction has advertised a departure from \$1.25; Spotsylvania's adopted 2026 schedule confirms it, the city's code carries it against a standard rate of \$3.40, and Caroline's and King George's operative texts are verification targets — King George's especially, since its \$1.25 lived inside the rescinded Amazon agreement and its standard business rate is \$3.25.[65] The contrast with the Richmond-crescent jurisdictions in this series is sharp: Hanover moved within weeks of its big rejection to consider rates up to \$3.00, and the Henrico and Chesterfield rate debates ran publicly through 2026. The ring's members have so far priced regional solidarity above leverage, even as their electorates turned.

The rate-shopping evidence, the corridor study's unique contribution, is direct, and it comes from the officials themselves. Spotsylvania's planning commission chair, during the county's regulatory debate: "If we don't accept it here and they accept it over in Caroline, we lost out on funding that could've fixed some of the public works issues that we're having." A fellow commissioner described proposed regulations as "like putting up a don't come here sign." [66] Stafford's board majority rejected the March 2025 CUP amendment on explicitly competitive reasoning. The developers' filing patterns complete the picture. Amazon holds entitlements or land in four of the five jurisdictions — approved campuses in Spotsylvania and Caroline, an approved agreement in Stafford, and 869 downzoned acres in King George it is suing to recover. STACK Infrastructure bought into Stafford's largest campus, filed for Caroline's Center for Innovation North, and attached itself to the city's overlay the week it passed. AVAIO placed three separate projects in Caroline alone. CleanArc's chief executive has said publicly that the company targets jurisdictions with strong by-right industrial zoning\*; CleanArc landed on the one large by-right industrial parcel in Caroline weeks before the county closed that door. The pattern is not subtle: capital flows to the weakest instrument on the corridor at the moment of filing, and each government's tightening redirects rather than reduces the flow. Five governments compete; one market clears.

## PART EIGHT: THE ARITHMETIC NOBODY TOTALS

No regional body sums what the five jurisdictions have approved. The George Washington Regional Commission has produced no data center study, resolution, or staff report; the Fredericksburg Area Metropolitan Planning Organization's mandate is transportation and it has stayed inside it; JLARC's statewide 2024 report counted campuses in the region but aggregated no regional load.[67] The Interstate Commission on the Potomac River Basin tracks data center water consumptively for the Washington metropolitan area, but the ring drains mostly to the Rappahannock, where no equivalent body exists. A University of Illinois water-security study noted that Virginia lacks centralized tracking of data center water use altogether.[68] So the totaling falls to this report. The figures below are entitlement maxima and reported capacities for approved projects only — no pending applications, no withdrawn proposals, and no King George Birchwood acreage while the downzoning litigation holds it in suspension.

Reported power capacity, approved projects:

| Project                            | Jurisdiction | Reported capacity             |
|------------------------------------|--------------|-------------------------------|
| PowerHouse 95                      | Spotsylvania | 800 MW                        |
| SpotsyTech Campus                  | Spotsylvania | 295 MW (REC forecast by 2032) |
| Stafford Technology Campus (STACK) | Stafford     | 1,000+ MW                     |
| Vantage VA4                        | Stafford     | 192 MW                        |
| Mattameade Tech Campus (Amazon)    | Caroline     | 770 MW (minimum, by 2027)     |
| CleanArc VA1                       | Caroline     | 900 MW                        |
| AVAIO Carmel Church Data Hub       | Caroline     | 300 MW                        |
| Dahlgren West (Oasis)              | King George  | 1,200 MW                      |
| Total, reported figures only       |              | 5,457 MW                      |

Five and a half gigawatts is a floor, not an estimate. It omits every approved campus without a published megawatt figure: Amazon's four Spotsylvania-side campuses and its Stafford campus, Hunter's Ridge and Hunter's Ridge South, Cranes Corner, Centreport Gateway, King George's GEV campus, and the city's entire overlay. It also omits the stalled Birchwood campus and a pending file that includes Stafford's 7.9- and 11-million-square-foot applications. For scale: 5,457 megawatts exceeds the combined output of five North Anna-sized reactors, sited across five governments whose combined population is under 400,000, and it is consistent with, and partly

explains, REC’s forecast revision toward 17 gigawatts territory-wide by 2040 and the five SCC transmission orders of 2025. Entitled building area tells the same story: roughly 16.1 million square feet approved in Spotsylvania, 8.4 to 8.7 million in Stafford, at least 6 million in Caroline, 14 million in King George: approximately 44 to 45 million square feet, before the city’s overlay contributes a foot. The “50 million square feet” figure circulated by a city economic development official as a regional projection\* is, on this arithmetic, not promotional rounding; it is roughly what the boards have already signed.[69]

The water ledger resists a single total, which is itself the finding. The commitments are denominated in different instruments: Caroline’s 9 million gallons per day DEQ permit (municipal-labeled, its cooling component formally renounced), King George’s 6.6 million gallons per day legacy permit parked at a stalled site through 2034, Stafford’s 1 million gallon per day potable cap bridging to an Amazon-funded reuse plant, Spotsylvania’s reuse system fully subscribed as of July 2025, the city’s potable-cooling ban bridged by a \$180 million wastewater expansion. Summing a permit, a cap, a ban, and a subscription produces a number without meaning; what can be said precisely is that every jurisdiction’s binding water constraint is already engaged, that the cooling burden has been pushed corridor-wide onto wastewater reuse systems that mostly do not yet exist, and that the river they all share has exactly one adjudicated check on it — the Rappahannock Tribe’s appeal, pending in circuit court as of June 12, 2026.[70]

The megawatts above are loads, not generation, and they will be served by a grid whose costs the State Corporation Commission only began assigning to the load class in November 2025, effective 2027. Every approval in the table predates that assignment. The utility finance framework should treat the gap between those two dates, the years in which five local governments entitled 5.5 gigawatts while the cost-allocation question sat unanswered in Richmond, as the corridor’s quiet subsidy, paid by every REC member and Dominion ratepayer in the interim.

## PART NINE: THE RIVER — A COMMONS WITH FIVE KEYS

The Rappahannock is the one piece of infrastructure all five governments share, and the record shows five governments holding five separate keys to it with no common lock. The dependencies run in a chain. The City of Fredericksburg and Spotsylvania County share the Motts Run treatment plant, drawing river water against an off-stream reservoir, now expanding from 12 to 24 million gallons per day under cost-sharing terms that are themselves a FOIA target. Spotsylvania's wastewater, treated at Massaponax, becomes the reuse supply that cools Amazon's campuses on both sides of the Caroline line; Caroline's largest project depends on Spotsylvania's sewage. Stafford draws from Rappahannock-basin reservoirs (Lake Mooney's safe yield anchors a system total around 13.8 million gallons per day) and is bridging its campuses on capped potable water until Amazon's reuse plant at Aquia opens. King George's stalled Birchwood site holds the river's single largest data-center-adjacent entitlement, the 6.6 million gallon per day legacy permit, which survives the downzoning fight intact and runs to 2034 regardless of who wins in September. Caroline's pipeline would add a new intake forty river-miles of pipe away from its point of use, across a watershed divide.[71]

Each link was negotiated bilaterally. No body with jurisdiction over the river as a system has reviewed the chain whole: DEQ permits withdrawal by withdrawal, the localities contract pair by pair, and the regional commission, as Part Eight establishes, has not engaged. The two actors who have treated the river as a system are outside government: Friends of the Rappahannock, which has intervened or commented in every jurisdiction in this report and demanded usage disclosure from the city, and the Rappahannock Tribe, whose appeal of the Caroline permit asserts the oldest claim in the record, a 1677 treaty, against the newest infrastructure on the river. The June 8, 2026 circuit court ruling allowing the treaty and reserved-rights claims to proceed makes the Tribe, for the moment, the closest thing the watershed has to a cumulative-impact reviewer.[72] The distributional justice framework should note the inversion: the entity with the least formal power in the permitting process is the only one litigating the question every permitting body declined to ask.

A note for the fieldwork on what the inter-basin transfer means in Caroline's case. Water withdrawn from the Rappahannock and piped to Carmel Church does not return to the Rappahannock; after treatment it discharges toward Polecat Creek and the Mattaponi. The Rappahannock loses the flow entirely, while the Mattaponi gains effluent. Downstream Rappahannock users (Essex County's opposition was explicit on this) bear the loss without standing in Caroline's land use decisions, and

Mattaponi-basin communities receive the discharge without having been party to the permit. Two watersheds, four counties, one pipeline, no common forum.[73]

## PART TEN: THE DISTRIBUTIONAL GEOGRAPHY

Within each jurisdiction, the siting map repeats a pattern this series first documented in Henrico: the campuses land where land is cheap, zoning is industrial or agricultural, and the neighbors have the least practiced access to the hearing room. The ring contains affluent commuter geography in quantity: the Fawn Lake gated community in western Spotsylvania, the I-95 townhome belts of North Stafford, the city's historic core. None of it has a data center. The approvals cluster instead at Massaponax and Thornburg in southern Spotsylvania; on Eskimo Hill Road and Centreport Parkway in Stafford, beside the regional jail and the wastewater plant; at Carmel Church and Ruther Glen in Caroline, the county's working crossroads; at Sealston and along Route 301 in King George, farm country with a coal plant's ghost; and on the city's western edge, in a failed tourism development the floodplain has been chewing for twenty years.[74]

The record carries the pattern's human particulars. In Stafford, the Potomac Creek site's deferral turned in part on a cemetery holding the remains of eighteen or more enslaved people, and the Kings Highway hearings produced a resident's own particulate arithmetic on the project's diesel generators, schools a mile and a half away. In King George, the GEV approval's first formal challenger is a working farm whose greenhouse crops need uninterrupted darkness beside a campus that will never be dark, and the St. Pauls Road residents who came to protest Dahlgren West were told, accurately, that the time to come had passed. In Caroline, every one of the sixty speakers at the DEQ hearing opposed the withdrawal, and the permit issued. In Spotsylvania, the residents who fought the October 2023 approvals lost each vote and then won the election; the SUP regime they installed governs only what was not already entitled.[75] The distributional justice framework will recognize the temporal signature from Henrico and Prince William: participation arrives on schedule, after the entitlements.

What distinguishes the ring from Henrico's pattern is the interjurisdictional layer. When a county tightens, the wave does not stop; it crosses the nearest line. The Mt. Airy denial in Caroline preceded new filings in adjacent counties; Stafford's 750-foot rule left its pending applicants seeking setback reductions while new proposals tested King George; the city's commission killed Gateway twice while the overlay a mile north stood ready. Each government answers to its own electorate and only its own. The communities downstream, downwind, or across the line from another jurisdiction's approval have no vote anywhere. The corridor study exists because they have no report anywhere either.

## PART ELEVEN: READINGS BY RESEARCH SPECIALTY

For the institutional behavior framework. The ring is the series' natural experiment: hold the industry, the years, and the demand constant; vary the instruments. Five governments produced five regimes (Part Seven's table), two mid-wave reversals (Spotsylvania's SUP conversion, Stafford's setback pivot), one attempted entitlement reversal at trial (King George), one purpose-built district (Caroline), and one commission-overriding unanimous council (the city). Note the election mechanism's two clean firings: King George November 2023 and Spotsylvania November 2025, each followed within weeks by the new majority acting on the issue that elected it. Note also what never varied: every regime, however arrived at, grandfathered its pipeline.

For the utility finance framework. The corridor offers the \$1.25 compact (tested twice, held twice), the rebate structures (Spotsylvania's \$93 million at ten percent of infrastructure, Caroline's 25 percent for fifteen years, King George's rescinded ten percent), the bond-rating dependence in Stafford's budget record, and Part Eight's 5,457-megawatt floor against the SCC's late-arriving GS-5 cost assignment. The REC exposure deserves particular attention: a member-owned cooperative facing a seventeen-fold demand revision, where every transmission dollar lands on member rates until 2027's rate class takes hold.

For the distributional justice framework. Part Ten's siting geography; the Potomac Creek cemetery; the Horti-Group farm; the Rappahannock Tribe's treaty claim as the watershed's only cumulative review; the Essex County downstream objection; the participation-after-entitlement signature across all five jurisdictions.

For the energy, labor, and infrastructure framework. The reuse-water dependency chain (Part Nine), the generator emissions record opening at Cosner (\$72,067.80, the corridor's first DEQ data center enforcement), the 2:30 a.m. hearings as a labor condition of citizenship, and organized labor's late entry on the developer side at the city's Gateway fight.

For the energy geography framework. The ring is the I-95 path south made institutional: the post-Loudoun wave's first landfall, where displaced NoVa demand meets the Richmond crescent's northern edge. The open question this report cannot yet answer is whether the ring is a destination or a relay. The evidence for relay is already visible: Caroline's southern campuses sit closer to the North Anna substation than to Fredericksburg, the Kraken Loop stitches the corridor to Louisa, and the wave's documented next stops (Hanover's rejections, Louisa's and Goochland's instruments) are the subjects of their own reports in this series. The fieldwork should

ask each economic development office the same question: when a developer leaves your county, where do you believe it files next?

## **PART TWELVE: GAPS IN THE RECORD AND FOIA TARGETS**

This study is built on public sources. Items marked with an asterisk in the body rest on secondary sources or on dates inferred from publication rather than minutes. This section consolidates them with the primary-source targets for the October 2026 fieldwork, by jurisdiction.

Spotsylvania County. Certified minutes and roll calls for the February 2023 SpotsyTech rezoning and each of the four October 2023 Amazon rezonings (only the December 12, 2023 performance agreement tally, 5-2, is published); rezoning case numbers for the pre-2025 approvals; the full Amazon proffer statements; the executed performance agreement; the adopted text and roll call of the late-February 2026 SUP ordinance and the precise meeting date of the vote reported February 25, 2026; the March 2025 deadlocked SUP motion's tally; the regional depreciation schedule's adopted table; per-project committed water figures (GPD) from site plans; the status and disposition of R25-0004 (Massaponax Tech Campus); Army Corps permit NAO-2023-01952.

Stafford County. Case numbers, approval dates, and roll calls for Cranes Corner, Centreport Gateway/Pemberton (including the developer's identity), and the Vantage VA4 rezoning; the October 21, 2025 roll call on O25-29; the executed Amazon performance agreement of January 2, 2024 and the Aquia reuse facility's actual capital figure (\$150 million and \$300 million both circulate) and design capacity in MGD; the FY2027 adopted equipment rate (the \$1.25 retention is inferred from the failed March 2026 motion\*); the GWV application's current posture; any Quantico/Defense Department comment letters in any rezoning file; the PFM revenue model underlying the \$168.4 million FY2034 projection, for reconciliation against the \$127 million and \$80 million figures.

Caroline County. Roll calls and exact dates for the October 24, 2023 Mattameade PIRT rezoning, the November 2024 EGSA resolution, and the June 2024 Mt. Airy denial; the executed CleanArc performance agreement (and whether any tier above the confirmed 25 percent rebate exists; a 40 percent figure circulates unconfirmed); the August 12, 2025 tally beyond the single reported dissent; the Board of Supervisors' disposition of the Ladysmith special exception and of SPEX-08-2025 (on the April 14, 2026 agenda, outcome unpublished); RZ-06-2024 (Luck Stone CTEC) status; the \$1.25 rate's adopting ordinance and the 2018 regional agreement's instrument; the DEQ VWP permit text; the VMRC June 23, 2026 hearing outcome; the Tribe's appeal case number and briefing schedule.

King George County. Certified September 5, 2023 roll calls across all elements of the Birchwood package; the 2024 downzoning ordinance number, date, and tally, and whether it is stayed; the Amazon litigation file (Case No., the 878-page petition, the September 28-29, 2026 trial record); the executed December 2023 performance agreement; the Dahlgren West ordinances (O-11-25, O-12-25) and the reclaimed-groundwater MOU; the GEV approval's conditions and the Horti-Group complaint; the operative data center equipment tax classification outside the rescinded agreement; the Birchwood DEQ permit instrument and current holder; the Service Authority's capacity planning for large users.

City of Fredericksburg. The March 11, 2025 second-reading vote and the enacted text of Ordinance 25-02; the Water Service Agreement, when negotiated, in full; the Mangum Economics study underlying the per-building revenue figure; the council's eventual Gateway disposition; the Motts Run expansion cost-sharing agreement with Spotsylvania; any incentive agreement with STACK or Silver beyond the overlay itself; council campaign finance records against developer contributions (VPAP).

Regional and state. GWRC board minutes 2023-2026 for any data center agenda item (to convert Part Eight's absence-of-evidence into evidence of absence); FAMPO materials for any corridor traffic analysis tied to campus construction; SCC dockets PUR-2021-00291, PUR-2024-00170, PUR-2024-00181, and the Caroline line's expected mid-2026 filing; REC's large-load queue submissions to PJM; ICPRB's treatment, if any, of Rappahannock-basin data center demand; DEQ's centralized record, if one exists, of data-center-linked withdrawal and reuse permits in the basin.

A standing caution for all five files: this corridor's most heavily cited outlet, the Fredericksburg Free Press, is a small newsroom doing the only sustained gavel coverage in two of these counties. Its reporting has proven accurate where checkable, but single-sourced vote tallies and dates inherited from it carry the asterisk discipline above until minutes confirm them.

## APPENDIX: TIMELINE OF TURNING POINTS, 2018-2026

| Date               | Event                                                                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2018               | Fredericksburg Regional Alliance jurisdictions align on the \$1.25 equipment rate and uniform depreciation.*                                                                     |
| March 1, 2021      | Birchwood coal plant retires in King George; substation, rail, and 6.6 MGD river permit remain.                                                                                  |
| 2022               | Birchwood Power Partners files and withdraws two King George rezonings; first wave of corridor filings begins.                                                                   |
| February 2023      | Spotsylvania County Board of Supervisors approves SpotsyTech (Thornburg).*                                                                                                       |
| July 11, 2023      | Spotsylvania board amends comprehensive plan for data centers, 5-0.                                                                                                              |
| September 5, 2023  | King George County Board of Supervisors approves the Birchwood/Amazon package: 869 acres, up to 7.25M sq ft.                                                                     |
| October 10, 2023   | Caroline County Board of Supervisors adopts the PIRT district; applies it to Mattameade October 24.                                                                              |
| October 2023       | Spotsylvania board approves four Amazon campuses and Hunter's Ridge; Stafford board adopts O23-24 (data centers by right in M-2) October 17.                                     |
| November 2023      | King George voters replace the board; data center skeptics sweep.                                                                                                                |
| December 2023      | Spotsylvania approves Amazon performance agreement 5-2 (Dec. 12); Amazon buys Birchwood parcels for \$168.8M; outgoing King George board approves performance agreement.         |
| January 2, 2024    | Stafford County Board of Supervisors approves Amazon performance agreement 7-0.                                                                                                  |
| January 2024       | New King George board votes to rescind the Amazon agreement. PowerHouse closes on 145 by-right acres in Spotsylvania (Jan. 23).                                                  |
| June 2024          | Caroline County Board of Supervisors denies Mt. Airy 5-1.                                                                                                                        |
| September 17, 2024 | Stafford board approves Stafford Technology Campus 6-1 (504 acres, 1+ GW).                                                                                                       |
| November 2024      | Caroline board strips industrial cooling from its river application (unanimous); Spotsylvania and Caroline boards approve the Mattameade revenue-sharing resolution (57.5/42.5). |
| December 10, 2024  | Caroline board ends by-right data centers in M-1. JLARC publishes its statewide study December 9.                                                                                |
| February 25, 2025  | Fredericksburg City Council advances the Technology Overlay District 7-0 over a 4-3 commission recommendation to deny; STACK/Silver announce a potential \$10B campus.           |
| March 18, 2025     | Stafford board rejects CUP requirement 4-3.                                                                                                                                      |
| April 24, 2025     | Amazon sues King George in circuit court (878-page petition).                                                                                                                    |

|                  |                                                                                                                                                                                                                                                                                                          |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| July 2025        | Spotsylvania's reuse water declared at capacity; Caroline planning commission recommends denying Ladysmith 4-2; Fredericksburg planning commission recommends denying Gateway 7-0 (again 7-0 in December).                                                                                               |
| August 2025      | King George board approves Dahlgren West unanimously (1.2 GW); Spotsylvania board approves Hunter's Ridge South 5-2; Caroline board approves CleanArc performance agreement (Aug. 12).                                                                                                                   |
| October 21, 2025 | Stafford board adopts O25-29: the 750-foot setback.                                                                                                                                                                                                                                                      |
| November 2025    | Spotsylvania election flips the board majority on data centers (Nov. 4); CleanArc breaks ground (Nov. 20); SCC creates the GS-5 large-load class (Nov. 25); DEQ issues Caroline's 9 MGD permit (reported Dec. 10).*                                                                                      |
| December 2, 2025 | Stafford board grandfathers all five approved campuses unanimously, past 2:30 a.m. Spotsylvania board adopts design standards 4-3 December 9.                                                                                                                                                            |
| January 21, 2026 | Rappahannock Tribe appeals the Caroline permit.                                                                                                                                                                                                                                                          |
| February 2026    | Spotsylvania board requires SUPs in all districts, 4-3 (reported Feb. 25);* King George board approves GEV 3-2 over a 6-2 commission recommendation (Feb. 17); Horti-Group sues.                                                                                                                         |
| March 2026       | Stafford motion to raise the equipment rate to \$2.50 fails 2-5;* Birchwood Power Partners withdraws its remaining King George application.                                                                                                                                                              |
| June 2026        | Richmond County Circuit Court lets the Tribe's treaty claims proceed (June 8); Stafford's Kings Highway residents bring generator arithmetic to the board (June 2); King George residents protest approvals already final (reported June 3);* Amazon v. King George trial set for September 28-29, 2026. |

## ENDNOTES

[1] Absence verified by sweep of George Washington Regional Commission and FAMPO public agendas, minutes, and publications, 2022–June 2026; no data center load study, resolution, or staff report located. JLARC, Data Centers in Virginia, Report 598, December 9, 2024, counts regional campuses but aggregates no corridor load. Conversion of this absence into evidence of absence is a FOIA target (Part Twelve).

[2] The Alfred P. Sloan Foundation study, “Energy Implications of Data Center Growth in Georgia, Virginia, and Tennessee,” is led by a three-member principal investigator team with two project consultants, whose combined expertise spans anthropology and institutional analysis, environmental and distributional justice, geography and sustainability, utility finance, and energy and labor studies. The project launches in October 2026. Researcher-level attributions are maintained separately in project files.

[3] Principal outlets: Fredericksburg Free Lance-Star ([fredericksburg.com](https://fredericksburg.com)); Fredericksburg Free Press ([fredericksburgfreepress.com](https://fredericksburgfreepress.com)); FXBG Advance ([fxbgadvance.com](https://fxbgadvance.com)); Potomac Local News ([potomaclocal.com](https://potomaclocal.com)); Data Center Dynamics ([datacenterdynamics.com](https://datacenterdynamics.com)); Virginia Mercury. The companion report is Tommy N. Turner, What Virginia Is Spending, What Virginia Is Getting: A Fiscal Analysis of the Commonwealth’s Data Center Tax Exemptions, v4.0, March 2026.

[4] Populations are approximate mid-decade Census Bureau estimates: Spotsylvania ~145,000; Stafford ~165,000; Caroline ~33,000; King George ~27,000; City of Fredericksburg ~28,000. City land area approximately 10.5 square miles; Virginia independent cities have lacked annexation power since the statewide moratorium.

[5] Data Center Dynamics, “The future of Virginia data centers, post-Loudoun” (analysis): Loudoun by-right removal, land price escalation (~45% Loudoun, ~38% Prince William), Prince William Digital Gateway zoning approval revoked in litigation.

[6] JLARC, Report 598, December 9, 2024: “soon be home to at least a dozen data center campuses.” See also Fredericksburg Free Press, “JLARC data center report examines energy impact, sales tax exemption,” December 10, 2024.

[7] The 2018 regional rate agreement is described in Fredericksburg-area reporting and treated as established in JLARC Report 598; the instrument itself (whether compact, parallel ordinances, or memorandum through the Fredericksburg Regional Alliance) is unverified and a FOIA target.\* Stafford codification: GoStaffordVA, “Stafford County Sets New Tax Rates for Distribution and Data Centers,” April 2019 (rate matched to Prince William).

[8] Rappahannock Electric Cooperative serves roughly 29,600 customers in Spotsylvania among 183,000 across 22 counties; service in Stafford and Caroline confirmed; parcel-level boundaries per SCC certified service territory maps. Dominion Energy Virginia serves the city and the urbanized I-95 corridor segments.

[9] REC large-load disclosure: PJM Load Analysis Subcommittee materials, “Rappahannock Electric Cooperative 2024 Data Center Forecast,” October 25, 2024 (~20,000 MW of requests; ~17 GW forecast by 2040, revised from 3.3 GW). CEO quotation: Fredericksburg Free Press, “REC’s CEO: One data center requires as much power as entire current customer base,” September 26, 2025.

[10] Virginia Mercury, “SCC approves Chesterfield gas plant and Dominion rate hike, creates new rate class for data centers,” November 25, 2025: GS-5 class for loads  $\geq 25$  MW; minimum payment of 85% of contracted distribution/transmission demand and 60% of generation demand; exit fees; effective January 1, 2027.

[11] Fredericksburg–Possum Point 230 kV: SCC Case PUR-2021-00291, Phase 1 final order February 12, 2025; Phase 2 final order March 5, 2025 (Dominion project page). Tributary 230 kV switching station (Spotsylvania): SCC Case PUR-2024-00181, final order June 30, 2025. Centreport 230 kV substation (Stafford): SCC Case PUR-2024-00170, final order June 10, 2025; ~\$50.5M (2024\$); construction expected September 2026. Caroline line: Fredericksburg Free Press, “Public can comment on new Dominion power line Thursday in Caroline,” November 18, 2025; SCC filing expected Q2 2026. Kraken Loop: Fredericksburg Free Lance-Star, “Residents learn about massive Kraken Loop power project”; Potomac Local News, “Roadside Clearing in Fredericksburg Part of Power Grid and Data Center Upgrade,” April 23, 2026; PJM RTEP 2024 (\$11.8B systemwide).

[12] Data Center Dynamics, “Dominion Energy nearly doubles data center capacity under contract to 40GW” (2024 IRP); demand projected to double by 2039.

[13] Fredericksburg Free Lance-Star, “Spotsylvania approves rezoning, making way for 'techno campus'” (February 2023); Data Center Dynamics, “New 2.9 million sq ft technology park proposed in Spotsylvania County, Virginia.” Final roll call unpublished; an earlier procedural vote reported a 4-3 alignment.\* Site ~314–315 acres (sources differ by one acre).

[14] REC delivery point request to Dominion filed November 21, 2023 (7 MW initial; 295 MW projected by 2032), per Dominion’s Tributary application to the SCC (Case PUR-2024-00181); final order June 30, 2025.

[15] Fredericksburg Free Lance-Star, “Spotsylvania approves data center comprehensive plan updates” (July 2023); McGuireWoods client alert, July 2023 (5-0 vote, July 11, 2023).

[16] Data Center Dynamics, “10m sq ft: Amazon files for four data center campuses in Virginia’s Spotsylvania and Caroline counties” (June 2023); Data Center Frontier, “Amazon Plans Major Data Center Expansion in Virginia’s Spotsylvania County”; Fredericksburg Free Lance-Star October 2023 approval coverage. Acreage/square footage: Summit Crossing 231 ac/2.1M sq ft; Carter’s Store 313 ac/2.6M sq ft; Cosner 329 ac/1.9M sq ft; Orrock (Spotsylvania portion) ~158 ac.

[17] Fredericksburg Free Lance-Star, “Spotsylvania approves performance agreement on Amazon’s data center projects” (December 2023): December 12, 2023; 5-2 (Yakabouski, Hayes dissenting); ≥\$6B investment; county grants up to \$93M (10% of infrastructure spending) from data center tax revenue; ~\$13.8M/year average over 15 years from 2025.

[18] PowerHouse Data Centers / American Real Estate Partners: land closing January 23, 2024 (145 acres, already zoned I-2); 3.5M sq ft, 8 buildings, 800 MW across three substations; first 300 MW substation under development; 150 MW targeted October 2025. PowerHouse press releases; Data Center Dynamics groundbreaking coverage; PR Newswire, January 2024.

[19] Fredericksburg Free Lance-Star, “Rezoning approved for data center in Spotsylvania” and “Spotsylvania approves Hunter’s Ridge data center project” (October 2023): 127 acres, RU to I-2, 5-2 (Lane, Hayes dissenting); resident noise and health concerns at hearing.

[20] Fredericksburg Free Press, “Spotsylvania planning commission recommends approval of 2.2 million square foot data center campus,” August 11, 2025, and “Spotsylvania Board of Supervisors approve potential 2.2 million square foot data center campus,” August 27, 2025 (5-2, Lane and Hayes dissenting; a Hayes motion to defer failed 4-3). Board meeting date inferred from publication.\*

[21] Fredericksburg Free Press, “Spotsylvania and Caroline supervisors approve joint resolution for Mattameade Tech Campus,” November 15, 2024; Fredericksburg Free Lance-Star,

“Spotsylvania agrees to data center deal with Caroline” (December 2024); Commission on Local Government final report on the Spotsylvania-Caroline EGSA, December 2, 2024. Split 57.5% Caroline / 42.5% Spotsylvania; \$371.1M Spotsylvania projection over 40 years; \$116.7M water/wastewater package, Amazon-reimbursed, including 16+ miles of reuse pipe. Caroline’s companion vote came the same week; exact date and tally are FOIA targets.\*

[22] Planning commission by-right recommendation 6-1: Fredericksburg Free Press, March 20, 2025. Deadlocked SUP motion: Free Press, “Fit to be tied: motion to require special use permit for data centers fails by deadlocked vote in Spotsylvania,” March 26, 2025 (meeting date inferred).\* Interim standards (1,000-ft setback, 75-ft height), adopted unanimously August 12, 2025. Final standards: Free Press, “Spotsylvania Board of Supervisors approves data center design standards — but they may be short-lived,” December 10, 2025: December 9, 2025, 4-3 (Frazier, Marshall, McLaughlin, Ross for; Hayes, Lane, Yakabouski against); 400-ft residential setback, 300-ft buffer, 75-ft height, grandfathering of rezonings approved since January 1, 2022.

[23] Fredericksburg Free Press, “Data centers to face stronger opposition after Spotsylvania election results,” November 4, 2025: Berkeley — Goosman 4,130, Marshall 2,420, Garza 2,072; Lee Hill — Hayes 4,306, Garcia 2,972.

[24] Fredericksburg Free Press, “Spotsylvania Board of Supervisors vote to require SUP for data centers, set advertised tax rate,” February 25, 2026: 4-3; SUP required in all districts; grandfathering for site plans filed before January 13, 2026; roughly six applications pending at the time. Meeting date and full roll call are FOIA targets.\*

[25] Spotsylvania County, “Guidelines for Data Center Development,” adopted February 24, 2026 (county Document Center).

[26] Fredericksburg Free Press, “Spotsylvania supervisors reversing course on data centers; Frazier ‘perturbed’ by vice chair vote,” January 14, 2026; “‘Like Groundhog Day’: developers, Spotsylvania Planning Commission growing weary of data center discussion,” February 6, 2026.

[27] Fredericksburg Free Press, “Shut-off valve: Spotsylvania’s recycled water supply at capacity for data center cooling,” July 17, 2025 (planning and zoning director statement). Massaponax WWTP: 9.4 MGD enhanced nutrient removal facility; reuse system first service targeted 2028, completion by 2030.

[28] Spotsylvania County rezoning portal: R25-0004 (Massaponax Tech Campus, ~588 acres, filed March 19, 2025); R25-0014 (Pairmont Data Center Campus). Fredericksburg Free Press, “‘An embarrassing mess’: Spotsylvania residents decry logistics of data center meetings,” June 10, 2026. Thornburg Technology Campus: ~200.35 acres, application materials filed September 2025 (county document center).

[29] Fredericksburg Free Press, “DEQ issued air pollution violations on Spotsylvania data center campus in 2025,” June 4, 2026: \$72,067.80 civil charge against Amazon Data Services; minor NSR permit issued October 30, 2024 (186 non-emergency, 15 emergency generators); May 31, 2025 commissioning failure, reported and resolved.

[30] Stafford County Planning and Zoning, Data Centers page (staffordcountyva.gov): Resolution R23-214 and Ordinance O23-24, adopted October 17, 2023; data center defined at County Code Sec. 28-25; by-right in M-2 with 100-ft/200-ft setbacks and 50-ft buffer. See also Fredericksburg Free Press, February 20, 2025 (regulatory recap); McGuireWoods alert, October 2023.

[31] Data Center Dynamics, “Stack plans 1GW campus in Stafford County, Virginia” and “Stack tops out first building at 1GW data center campus in Stafford County, Virginia”; Fredericksburg Free Press, “Stafford Planning Commission recommends approval of 504-acre data center

campus,” July 26, 2024 (meeting date inferred from publication)\*; “Stafford’s largest data center gets green light,” September 19, 2024 (6-1, September 17, 2024; Vanuch dissenting); FXBG Advance, “Stafford Supervisors Approve Stafford Technology Center.” Case RC25156486 (reclassification/proffer amendment). Proffers: \$58M in CIP-relieving water/sewer improvements; 1 MGD potable cap pending reuse.

[32] \$127M/year: county-commissioned fiscal impact analysis reported at approval; >\$80M: STACK announcement materials; \$168.4M by FY2034 across five campuses: PFM model presented to the Stafford County Board of Supervisors, per Potomac Local News, “Stafford Supervisors Review Data Center Revenue Forecast,” April 22, 2026. Figures conflict; reconciliation is a research target.

[33] Data Center Dynamics, “Amazon proposes two-building campus in Virginia’s Stafford County” (~510,000 sq ft, Old Potomac Church Road); Fredericksburg Free Lance-Star, “Stafford officials approve data center agreement with Amazon” (January 2024; unanimous, January 2, 2024, after a failed time-sensitivity vote December 28, 2023) and “Stafford approves agreement with Amazon paying \$150 million for water improvements” (June 2024). A combined \$300M figure for Aquia reuse capital also circulates; the executed agreement is a FOIA target.\* Reuse online target 2027; agreement term to 2051.

[34] Cranes Corner (GAM 403 Mountain LLC, ~46 ac, ≤900,000 sq ft; setbacks near 110 ft under prior standards\*); Fredericksburg Free Press, September 1, 2025; Potomac Local News, December 1, 2025. Centreport Gateway/Pemberton (52 ac, 3 buildings, ~562,000 sq ft; developer identity unconfirmed\*); Potomac Local News, December 1, 2025. Vantage VA4: Data Center Dynamics, “Vantage plans 192MW data center campus in Stafford County, Virginia”; VEDP release, November 6, 2025 (\$2B); Construction Dive; first delivery expected 2027.

[35] Fredericksburg Free Press, “Data centers in Stafford County? You’ll need a permit for those,” February 20, 2025 (planning commission 4-2); “In Stafford, proposed data center regulation goes down by tight margin,” March 19, 2025 (board 4-3 rejection, March 18, 2025); FXBG Advance, “Stafford Supervisors Vote Down Amendment Making Data Center Use Conditional.”

[36] Potomac Local News, “Stafford Residents Push Back on Data Centers; County Promises Stricter Rules,” May 21, 2025 (May 20 board meeting; unanimous review order); “Protect Stafford urges immediate adoption of stronger data center standards,” October 20, 2025 (2,500+ signature petition); Fredericksburg Free Press, “A home run for data center critics? Stafford supervisors adopt 750-foot setback,” October 22, 2025 (O25-29 adopted October 21, 2025; roll call unpublished).\*

[37] Potomac Local News, “Stafford Revisits Data Center Rules, Proposes Grandfathering Five Major Projects,” December 1, 2025, and “Stafford supervisors grandfather five data center projects,” December 4, 2025; Fredericksburg Free Press, December 4, 2025 (O25-29(R), December 2, 2025, unanimous; joint hearing past 2:30 a.m.). The five: Stafford Technology Campus, Potomac Church, Centreport Gateway/Pemberton, Vantage VA4, Cranes Corner.

[38] GWV: Data Center Dynamics, “Data center proposed for 850 acres of land in Stafford County, Virginia”; FXBG Advance, “Developer Seeks Rezoning for 7.9 Million Square Foot Data Center in Stafford’s Hartwood District” (1,041.69 ac, 20 parcels, heights to 105 ft); Potomac Local News, “County Slaps Brakes on Timbering,” June 13, 2025; Fredericksburg Free Lance-Star, “Stafford seeks injunction to stop clear cutting in Hartwood” (injunction granted July 2025). Accokeek: FXBG Advance; Fredericksburg Free Press, January 22, 2025 (staff denial recommendation; 288-ft setback request). Potomac Creek: Fredericksburg Free Press, September 1, 2025; FXBG Advance (deferral; cemetery with remains of 18+ enslaved persons). Kings Highway/Forest Lane: The Center Square, “Stafford eyes 16th data center proposal” (~845 ac, ~11M sq ft); Potomac Local

News, “Kings Highway Data Center Plans Spark Health Concerns,” June 9, 2026 (June 2, 2026 meeting; resident particulate calculation).

[39] Stafford-MCB Quantico Joint Land Use Study (county JLUS page). No federal comment letter on data center siting located in the published record; rezoning-file agency correspondence is a FOIA target.

[40] GoStaffordVA, April 2019 (rate adoption). Vanuch \$2.50 motion: Potomac Local News, “Stafford Shields Data Centers from Tax Hike, Targets Homeowners,” March 4, 2026 (2-5; English joining; meeting date inferred).\* Real estate increase \$0.9236→\$0.9675, 4-3: Potomac Local coverage, late April 2026 (date inferred).\* Bond-rating dependence: September 2025 budget work session materials as characterized in Potomac Local News, April 22, 2026.\*

[41] McGuireWoods, “Central Virginia Data Center Update,” October 2023: PIRT district adopted October 10, 2023; 75-acre minimum; campus standards; town hall October 30, 2023.

[42] Same; Mattameade-area rezoning to PIRT October 24, 2023; June 2023 comprehensive plan amendment. Virginia Business, “Amazon eyes Caroline, Spotsylvania for 11-building data center campus.” Site: 13 parcels, ~1,143 ac total; Caroline portion ~920 ac, ~4.5M sq ft, 11 data center buildings plus office.

[43] Commission on Local Government final report, December 2, 2024; Data Center Dynamics, “Amazon requests permit for 11-building data center campus in Caroline County, Virginia” (USACE NAO-2024-01108; comment deadline March 15, 2025); construction start October 2025 and ≥770 MW by 2027 per industry trackers.\* Caroline’s ~\$502M 40-year share is this report’s arithmetic from the published Spotsylvania figure and the 57.5/42.5 split, not a published number.

[44] Fredericksburg Free Press, “Caroline officials announce 650-acre data center campus at former Virginia Bazaar site,” September 10, 2025; Caroline County, “Final Statement on Approval of Economic Development Performance Agreement with CleanArc” (county Document Center; August 12, 2025 vote; grandfathering rationale; December 10, 2024 ordinance cited); VEDP release, November 2025 (\$3B); Data Center Dynamics, “CleanArc breaks ground on 900MW data center campus in Virginia” (November 20, 2025; Youngkin attending); DC Pulse (\$8.8B full-buildout per agreement). Rebate: 25% of incremental real estate and personal property revenue, 15 years; ~\$13M/year new revenue estimate (~17% of general fund). Tally beyond Sili’s dissent unpublished.\*

[45] Carmel Church Data Hub: DatacenterMap and Baxtel entries (Welcome Way Drive; ~100 ac; 2 buildings; 300 MW planned; 130 MW H1 2026); approval path consistent with by-right M-1; no hearing record located.\* Ladysmith: Fredericksburg Free Press, “Caroline Planning Commission recommends denial of Ladysmith Data Hub after residents speak out,” July 28, 2025 (4-2; comprehensive plan inconsistency; 140.3 ac including 10-ac substation; meeting date inferred from publication).\*

[46] SPEX-08-2025 (SAC III Acquisition Co., LLC / STACK): planning commission 4-1 favorable, December 2025, amended Condition 13 (closed-loop or county-approved cooling), Rollins dissenting (commission minutes; CitizenPortal summary); Caroline County Board of Supervisors agenda, April 14, 2026; outcome unpublished.\* Luck Stone CTEC: RZ-06-2024, ~657 ac RP→PIRT, technical review (county Special Exceptions and Rezoning page).

[47] Fredericksburg Free Press, “‘Zombie’ data center project still has life in Caroline County,” May 12, 2024, and “Caroline supervisors reject proposed data center project — again,” June 20, 2024 (5-1 denial of the comprehensive plan amendment; Forehand dissenting; case RZ-06-2022; ~250 ac at Jericho Road/Mt. Airy).

[48] Fredericksburg Free Press, “Stuart’s mission to restrict data centers impacting Caroline water project,” November 11, 2024, and “Cool on industrial use: Caroline lowers Rappahannock River withdrawal request,” November 15, 2024 (unanimous; 13.9→9 MGD; 2.63 MGD industrial component removed). DEQ hearing September 25, 2024: 200+ attendees, 60 speakers, all opposed (Free Press; Rappahannock Times).<sup>\*</sup> Intake at Route 17/Tidewater Trail; ~35-mile line to a plant near Carmel Church.

[49] Fredericksburg Free Press, “DEQ approves Caroline’s application for Rappahannock River withdrawal,” December 10, 2025 (15-year VWP permit; 9 MGD; 7 MGD drought warning; 6 MGD emergency; permit decision date inferred from publication)<sup>\*</sup>; “Rappahannock Tribe challenging DEQ approval of Caroline County water permit,” January 29, 2026 (appeal filed January 21, 2026); “Judge rules Rappahannock Tribe’s appeal of Caroline water permit can move forward,” June 11, 2026 (June 8, 2026 ruling, Richmond County Circuit Court; 30-day briefing order); Bay Journal; Native News Online. VMRC hearing scheduled June 23, 2026.

[50] Global Energy Monitor and SourceWatch, Birchwood Power Facility (opened December 1996; ~220 MW dispatchable / 258.3 MW nameplate; J-POWER USA/GE ownership; retired March 1, 2021); Fredericksburg Free Lance-Star, “Birchwood power plant in King George will close next year”; REGlobal (planned solar-plus-storage conversion). Remaining assets and the 6.6 MGD DEQ withdrawal permit (through 2034; ~3.72 MGD daily average): Fredericksburg Free Lance-Star, “Power and water key issues with King George data center plan” (August 2023); Baxtel.

[51] Fredericksburg Free Lance-Star, “Birchwood Power withdraws latest plan for old power plant property” (November 2022; ~700-ac and ~755-ac applications; >\$25M projected annual revenue, ~\$20M from data centers); Data Center Dynamics, “Birchwood Power withdraws plans for potential data center redevelopment at coal plant in Virginia’s King George County,” March 2026 (recapping the withdrawal series).

[52] Data Center Dynamics, “Virginia’s King George County approves land rezoning for AWS data campus”; Fredericksburg Free Lance-Star, “King George approves rezonings for massive data center complex” (September 5, 2023; five-hour meeting; supervisors Collins and Binder reported against elements; certified roll calls unpublished)<sup>\*</sup>; Bisnow (\$2M+ cash proffers); Fredericksburg Free Lance-Star, “Outgoing majority of King George board approves Amazon agreement” (December 2023; \$1.25 rate vs. \$3.25 standard; ~10%/\$36M infrastructure rebate; term to 2051); GovTech, “Virginia court case could influence other data center fights” (Davenport analysis: \$18.6M/year; >\$560M over 30 years); \$168.8M parcel purchase, December 2023.

[53] Fredericksburg Free Press, “King George supervisors ready to ‘go to war’ with Amazon,” March 23, 2024; Data Center Dynamics, “King George County votes to renegotiate Amazon deal.” Downzoning of the nine parcels (~893 ac reported) initiated spring 2024; ordinance number, date, and tally are FOIA targets.<sup>\*</sup>

[54] FXBG Advance, “King George Board of Zoning Appeals Denies Request from Amazon Data Services” (March 2025, unanimous); “Amazon Data Services Files Appeal with King George Circuit Court” (April 24, 2025; 878-page petition); “Motions Filed This Week in Amazon Data Services v. King George County”; Data Center Dynamics, “Amazon takes King George County supervisors to court over denied data center project”; GovTech (trial rescheduled at the county’s request to September 28-29, 2026; discovery closed April 3, 2026).

[55] Data Center Dynamics, “Oasis Digital Properties gets greenlight for 1.2GW data center in King George County, Virginia” (August 2025; unanimous); Northern Virginia Magazine, August 21, 2025; News on the Neck, “King George approves 1st data center campus”; ordinances O-11-25 and O-12-25 (height above 50 ft; multiple Route 301 accesses); ~485 ac, ≤10 buildings, ~6.8M sq ft; \$100-120M/year county projection; reclaimed-groundwater cooling MOU in negotiation

(county materials). Technology District designation 2024: Data Center Dynamics, “9 million sq ft data center campus proposed in Virginia’s King George County” (the May 2026 Potomac Development Group report; relationship to the Oasis assemblage unverified).\*

[56] Fredericksburg Free Press, “King George Board of Supervisors approves 300-acre data center campus,” February 19, 2026 (February 17, 2026; 3-2; no amendments); King George planning commission action July 8, 2025 (6-2 against; comprehensive plan inconsistency; county minutes); FXBG Advance, “King George business files lawsuit” (Horti-Group USA, LLC; 156.6-ac farm, 55 ac of greenhouses; Chesapeake Bay Preservation Act, comprehensive plan, nuisance counts). GEV fiscal projections: \$18.6M/year at buildout; \$2.1M fire apparatus payment at first permit (applicant analysis).\* 13 buildings, 7.2M sq ft, buildout ~2037; no water cooling per applicant.

[57] Fredericksburg Free Press, “‘This should’ve happened last year’: King George residents protest already-approved data centers,” June 3, 2026 (meeting date inferred from publication).\*

[58] City budget: FY2027 adopted May 2026; real estate rate \$0.84→\$0.88; city manager’s recommended budget \$126.7M; school board FY2027 operating budget \$68.4M (Fredericksburg Free Press, March 3, 2026; Potomac Local News, March 19, 2026). Revenue projection at full buildout: up to \$60M/year (city release, February 2025).

[59] Fredericksburg Free Press, “Fredericksburg City Council approves Technology Overlay District,” February 26, 2025; Potomac Local News, February 26, 2025; city agenda packets. Path: council resolution November 12, 2024; joint work session January 14, 2025; public input January 22, 2025; planning commission recommendation to deny 4-3, February 12, 2025 (5+ hour meeting); first reading 7-0, February 25, 2025; second reading scheduled March 11, 2025 — final passage record unlocated; all subsequent records treat Ordinance 25-02 as enacted.\*

[60] Ordinance 25-02 conditions per city Data Centers page and Friends of the Rappahannock, “City of Fredericksburg — Technology Overlay District,” December 2024: potable water prohibited for permanent industrial cooling; vegetative buffers; separately negotiated, council-approved Water Service Agreement required.

[61] Fredericksburg Regional Chamber and city releases, February 2025 (Silver Companies + STACK; 8–12 buildings; “potential \$10 billion”); Fredericksburg Free Press, February 26, 2025; Data Center Dynamics, “Stack Infrastructure files for \$10bn data center in Fredericksburg, Virginia.” Per-building benchmark: Mangum Economics study for the city, February 7, 2025 (~\$5M local revenue per 250,000 sq ft).

[62] Fredericksburg Free Press, “Fredericksburg Planning Commission unanimously recommends disapproval of Gateway data center,” July 10, 2025 (transmission crossing of school car-rider line and play area), and “Second time not the charm for proposed Gateway Boulevard data center,” December 11, 2025 (7-0 on three votes; comprehensive plan inconsistency); Potomac Local News, December 11, 2025; Data Center Dynamics. Applications ZMA 2410-0005 / SUP 2411-0007 (~83.6 ac; 4 buildings; 2.1M sq ft; applicant-projected \$50M/year). Union backing: Potomac Local News, “Unions back Fredericksburg data center project,” May 29, 2026.\*

[63] Potomac Local News, “Fredericksburg Breaks Ground on \$180 Million Wastewater Plant Expansion,” October 14, 2025 (4.5→6 MGD; effluent reuse intended for TOD cooling); city Motts Run WTP page (12→24 MGD expansion, completion expected 2027); Potomac Local News, “Fredericksburg OKs FY 2027 budget; new two-tier water, sewer rates to fund infrastructure,” May 15, 2026 (high-volume threshold 25,000 gal/two-month cycle; top decile of users ≈ half of system volume; ~8% base increases July 1, 2026).

[64] Friends of the Rappahannock TOD page (disclosure demands; conditional non-support); Potomac Local News, “Fredericksburg data center approval raises questions over Dominion Energy prioritization,” March 4, 2025; clean-energy critique of the 2019 renewable resolution (~10x city load at buildout)\*; Potomac Local News, “Will city taxpayers pay the bill to supply drinking water to proposed data center?,” December 19, 2025; election results: Fredericksburg Free Press and Potomac Local News, November 4, 2025.

[65] Spotsylvania: county Tax Rates page (2025 advertised; 2026 adopted; \$1.25 on data center computer equipment). City: Code ch. 70 art. V via eCode360 (amendments Ord. 15-18, 22-05, 23-04); standard BTPP \$3.40. King George: county Business Personal Property page (\$3.25 standard; \$2.50 machinery and tools); the \$1.25 data center classification appears in the rescinded December 2023 performance agreement; the operative classification for future projects is a FOIA target.\* Caroline: \$1.25 reported (JLARC; regional coverage); adopting ordinance unlocated.\* Stafford: note 40.

[66] Fredericksburg Free Lance-Star, “Spotsylvania Planning Commission wrestles with data center regulations”: commission chair Allen Prickett (“If we don’t accept it here and they accept it over in Caroline, we lost out on funding that could’ve fixed some of the public works issues that we’re having”); commissioner Jennifer Maddox (“like putting up a don’t come here sign”).

[67] Note 1; JLARC Report 598 (regional campus count without load aggregation); FAMPO transportation mandate per its adopted work programs.

[68] Interstate Commission on the Potomac River Basin, “Data Centers and Water Use in the Potomac River Basin” (WMA data center peak consumptive use 14.3 MGD in 2025; ~58 MGD projected 2035; upstream consumptive use <0.1 MGD average). University of Illinois Center for Secure Water, “Data center expansion in Virginia: closing critical gaps for informed water planning and permitting” (no centralized Virginia tracking).

[69] Capacity table sources: notes 14, 18, 31, 34, 43, 44, 45, 55. Sum ( $800+295+1,000+192+770+900+300+1,200 = 5,457$  MW) and the square-footage aggregation ( $\approx 16.1$ M Spotsylvania; 8.4–8.7M Stafford;  $\geq 6$ M Caroline;  $\approx 14$ M King George) are this report’s arithmetic on reported entitlement maxima. The “50 million square feet” regional projection is attributed to the city’s economic development and tourism director in regional coverage.\* North Anna comparison: two units, ~1,892 MW combined summer capability (NRC data); 5,457 MW  $\approx$  2.9 North Anna stations, stated in the text as approaching five reactors of average unit size ( $\sim 946$  MW each;  $5,457/946 \approx 5.8$  — the text’s “exceeds five reactors” is conservative).

[70] Sources at notes 27, 33, 49, 50, 63. The Tribe’s appeal (note 49) is the only pending adjudication of any Rappahannock-basin withdrawal linked to this buildout as of June 12, 2026.

[71] Motts Run WTP (city page; shared city/Spotsylvania facility; 12→24 MGD); Stafford system: Lake Mooney WTP 12 MGD, Smith Lake WTP 10 MGD, safe yield ~13.8 MGD (county utilities reports); Aquia reuse (note 33); Birchwood permit (note 50); Caroline pipeline (note 48).

[72] Friends of the Rappahannock advocacy pages (Caroline comment calls May 2024, August 2025; city TOD; usage-disclosure demands); note 49 (June 8, 2026 ruling).

[73] Inter-basin transfer mechanics and Essex County opposition: Fredericksburg Free Press, November 2024 coverage; Essex County Civic Association, “Caroline County Water Intake” page; Essex EDA statement; Bay Journal.

[74] Siting locations per Parts Two through Six. Income and demographic overlays for the siting corridors are a fieldwork target; the qualitative contrast (Fawn Lake, North Stafford commuter

belts, and the historic core hosting no campuses; Massaponax, Thornburg, Eskimo Hill, Carmel Church, Sealston, and Celebrate Virginia hosting all of them) is stated from the location record.

[75] Potomac Creek cemetery: note 38. Kings Highway generator calculation: note 38. Horti-Group: note 56. St. Pauls Road: note 57. DEQ hearing: note 48. Spotsylvania election and grandfathering: notes 22-24.