

ZONING SYNOPSIS

Petition Number(s): Z26-05

REQUEST SUMMARY:

Databank Holdings Ltd, applicant, requests a change in zoning from H-I (Heavy Industrial) to “T” (Technology) with for the construction of a 200 MW +/- Critical IT Data Center.

APPLICANT INFORMATION AND PROPERTY DESCRIPTION

Applicant: Databank Holdings Ltd
Representative: Brandon Bowen, Esq.
Location: 218 Industrial Park Road. (Parcel ID C059-0001-001).
Total Acreage: 68.77 +/- acres

LAND USE INFORMATION

Current Zoning: H-I (Heavy Industrial)
Proposed Zoning: T (Technology)
Proposed Use: Data Center

Current Zoning of Adjacent Property:

North: H-I and County I-2 (Heavy Industrial)
South: H-I
East: H-I
West: County I-2

Tract Information:

District: 5th **Section:** 3rd **LL(S):** 201 & 202
Ward: 6 **Council Member:** Alyssa Cordell

The Future Development Map designates adjacent properties as: Workplace Center

The Future Land Use Map designates adjacent or nearby city properties as: Industrial

ANALYSIS

City Departments Reviews

Electric: Takes no exception.

Fibercom: Takes no exception.

Fire: No comments at this time.

Gas: Takes no exception.

Planning and Development: Takes no exception. The proposed project is aligned with the future land use map, and the existing land uses within the existing industrial park.

Public Works: No comments received.

Water/Sewer: This project is in the City of Cartersville water service area and Bartow County sewer service area. Cartersville Water Department takes no exception to Zoning Request Z26-05. We would need the industrial pretreatment questionnaire completed.

Bartow County Water Dept: We met with the Developer a while back and it seems their sewer flows are not enough for us to require them to perform upgrades to our sewer system. We haven't received anything in writing confirming their expected flows yet, but other than that we don't have any more comments. Gerardo Becerra

Cartersville School District; NA

Public comments: Several general inquiry calls were received after the Development of Regional Impact (DRI) application was made public in early July. There have been no inquiries to the Planning Office since the DRI application release.

STAFF SUMMARY:

Applicant, Databank Holdings Ltd, requests to rezone the 67+/- acre industrial property from H-I, Heavy Industrial, to "T", Technology, for the development of a new 200Megawatt Critical I.T. Data Center campus. Redevelopment of the site will include the construction of two (2) data center warehouses, two (2) power substations, parking areas, and stormwater detention areas. The site is developed but the office and manufacturing facility is closed and non-operational.

There are no adjacent residential zonings or land uses. The nearest residential zoning or land use is along Old Grassdale Road to the northeast of the site (County zoning R-1) and near Hwy 411 east

and south of the site (County Zoning A-1). The zoning and/ or land uses are in unincorporated Bartow County and are approximately 2,000ft from the property boundary. See maps.

In addition to the rezoning request, two (2) concurrent variances are also being requested:

- 1) To reduce the required parking spaces based on warehouse square footage from 1,313 to 286 spaces; and,*
- 2) To allow the Front Building Façade of the building closest to Industrial Park Road to be oriented away from Industrial Park Road. The “Front Building Façade” is not defined in the zoning ordinance, but it is intuitively meant to mean the façade wall containing the primary entrance or front door of the structure.*

Bartow County and the City of Cartersville utility departments have reviewed the zoning proposal and generally take no exception to the proposal. There is information regarding sewer flows and industrial pretreatment that is needed for engineering calculations.

MEAG Power is currently performing a study to determine power supply needs and transmission routing.

Due to the size of the development a DRI application (Development of Regional Impact #4761) review was performed by the local government stakeholders in June/July. The DRI report is included.

If approved the developer would begin development activities in 2027 with a staged delivery of facilities from 2028 through 2032.

STANDARDS FOR EXERCISE OF ZONING POWERS.

- A. *Whether the zoning proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property.*
The zoning proposal may permit a use that is suitable in view of the use and development of adjacent and nearby property. The adjacent properties are zoned Heavy Industrial with heavy industrial land uses and operations.
- B. *Whether the zoning proposal will create an isolated district unrelated to adjacent and nearby districts.*
The proposed zoning will create an isolated district; however, the industrial warehousing land use seems appropriate for an Industrial Park.
- C. *Whether the zoning proposal will adversely affect the existing use or usability of adjacent or nearby property.*
The proposed zoning should not adversely affect the existing use or usability of adjacent property.
- D. *Whether the property to be affected by the zoning proposal has a reasonable economic use as currently zoned.*
The property has a reasonable economic use as currently zoned.

- E. *Whether the zoning proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.*
The zoning proposal should not result in a use that will have an excessive or burdensome use of streets, transportation facilities, utilities or schools. A study is underway to determine energy supply, demands, and routing. Water capacity is available.
- F. *Whether the zoning proposal is in conformity with the adopted local Comprehensive Land Use Plan.*
The proposed zoning does not conflict with the city's Comprehensive land use plan for the property (Industrial).
- G. Whether the zoning proposal will result in a use which will or could adversely affect the environment, including but not limited to drainage, wetlands, groundwater recharge areas, endangered wildlife habitats, soil erosion and sedimentation, floodplain, air quality, and water quality and quantity.
The zoning proposal should not have an adverse environmental effect. Preliminary analysis does show standing water and an intermittent stream on the western side of the property. The applicant will take appropriate steps to avoid disturbance.
- H. Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the zoning proposal.
No additional conditions are known.

RECOMMENDATION: Staff does not oppose the rezoning with the following condition added:

- 1 The zoning approval is conditioned to the submitted concept site plan, elevations and project descriptions. **Planning Commission added, "including closed-loop cooling system technology".**

The Concurrent Variance requests are as follows:

1. Reduce the required off-street parking spaces from 1,313 to 286 per the concept site plan. (Sec. 17.6.18).
2. Allow the front building facade to be oriented away from the Industrial Park Road right-of-way for the data center building closest to Industrial Park Road. (Sec. 10.4.3 (J)).



Overview



Legend

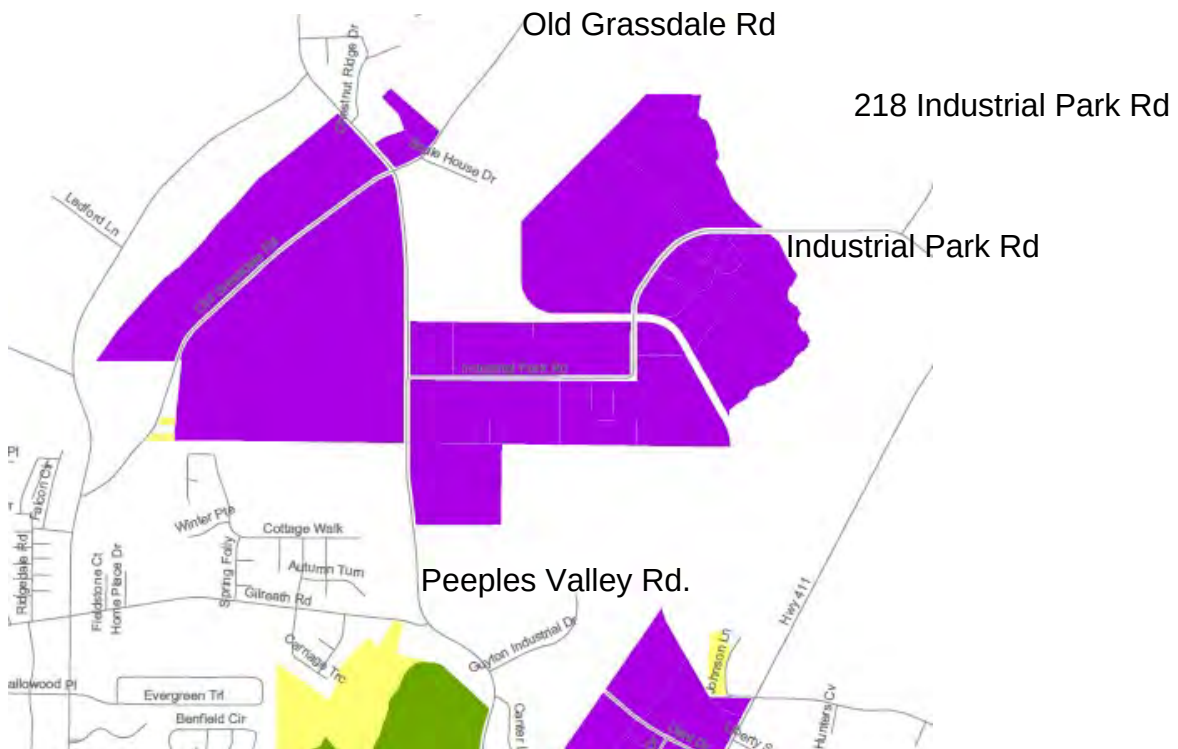
- Parcels
- Roads

Parcel ID	C059-0001-001	Alternate ID	36676	Owner Address
Sec/Twp/Rng	n/a	Class	Industrial	2870 FORBS AVE
Property Address	218 INDUSTRIAL PARK RD	Acreage	68.77	HOFFMAN ESTATES, IL 60192
				C059-0001-001-COLOID ENVIRONMENTAL TECH CO
District	Cartersville			
Brief Tax Description	LL 201-202-231-232 LD 5 CETCO Minerals			
	(Note: Not to be used on legal documents)			

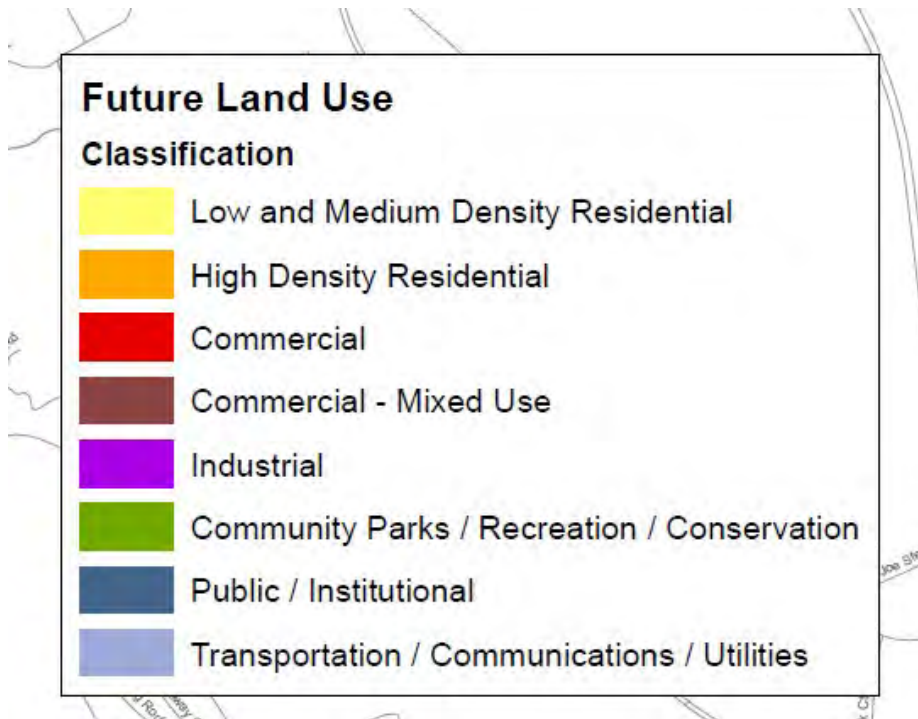
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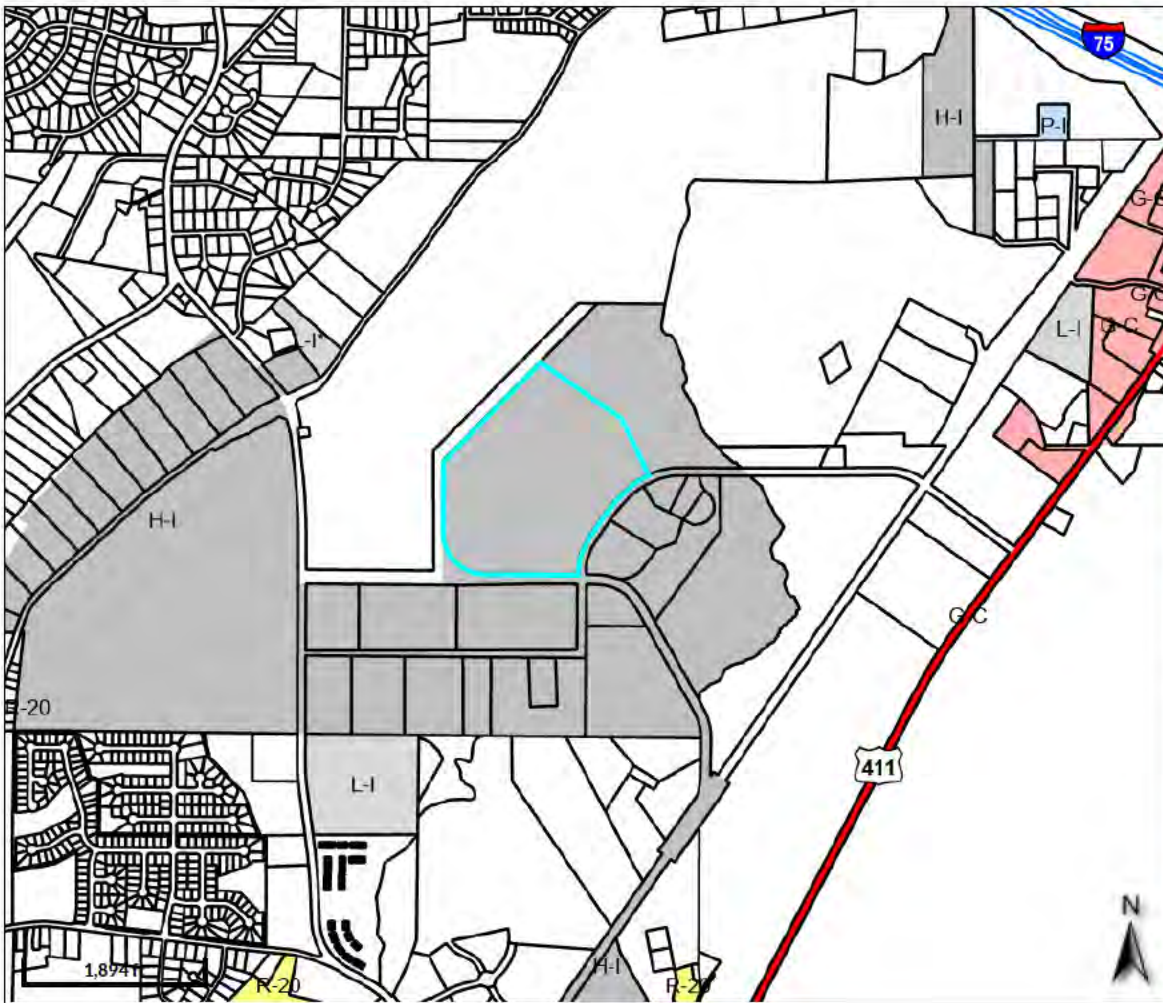
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GEOSPATIAL



Sections from 2017 Future Land Use Map





Overview



Legend

Parcels

Roads

Cartersville Zoning

- AG
- DBD
- G-C
- G-C*
- H-I
- H-I*
- L-I
- L-I*
- M-U
- M-U*
- MF-14
- MF-14*
- MN
- O-C
- O-C*
- P-D
- P-D*
- P-I
- P-S
- P-S*
- R-10
- R-10*
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- R-20*
- R-7
- R-7*
- R-D
- RA-12
- RA-12*

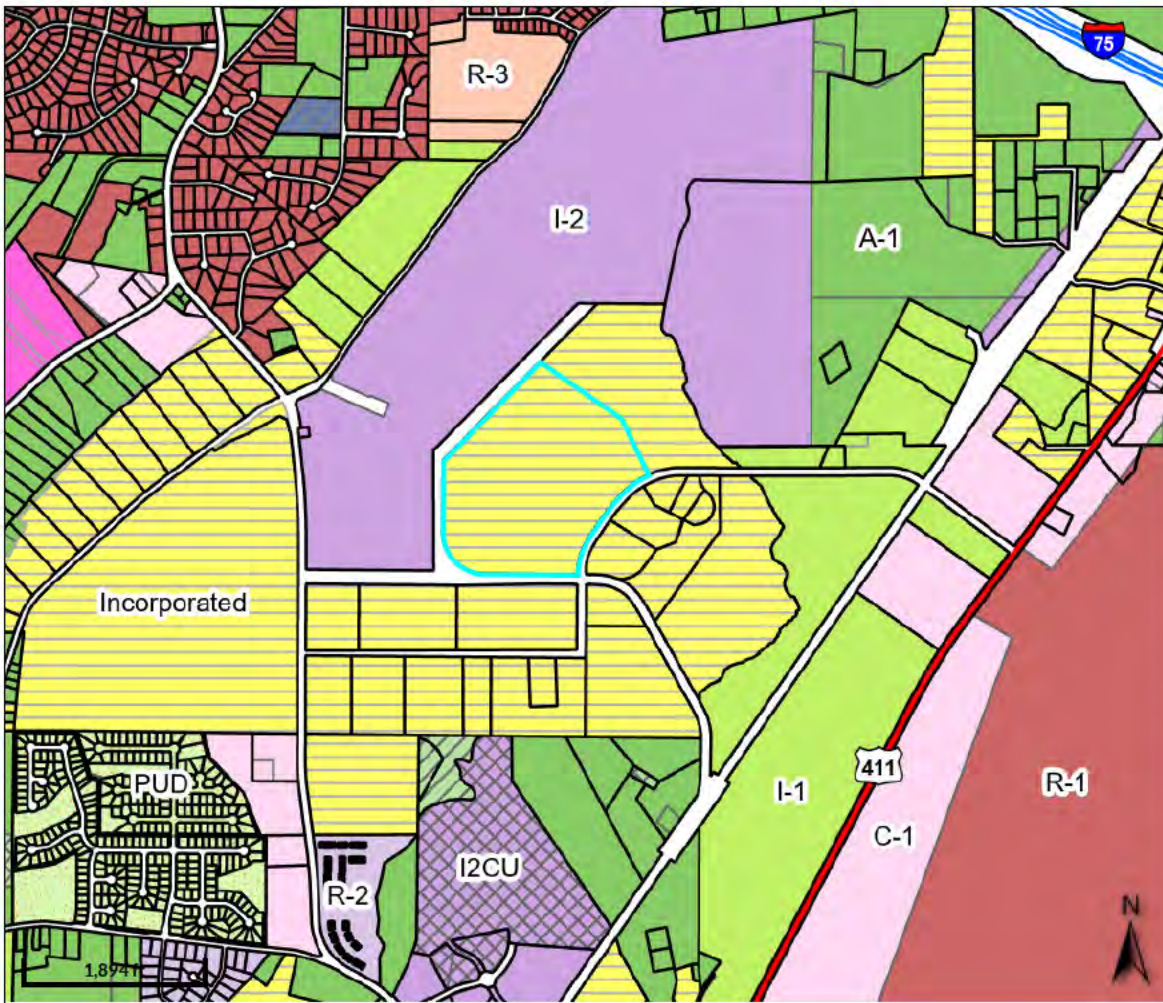
Parcel ID	C059-0001-001	Alternate ID	36676	Owner Address	2870 FORBS AVE
Sec/Twp/Rng	n/a	Class	Industrial		HOFFMAN ESTATES, IL 60192
Property Address	218 INDUSTRIAL PARK RD	Acreage	68.77		C059-0001-001-COLLOID ENVIRONMENTAL TECH CO

District	Cartersville
Brief Tax Description	LL 201-202-231-232 LD 5 CETCO Minerals (Note: Not to be used on legal documents)

Date created: 7/28/2026

Last Data Uploaded: 7/28/2026 6:09:46 AM

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Overview



Legend

- Parcels
- Roads

Bartow County Zoning

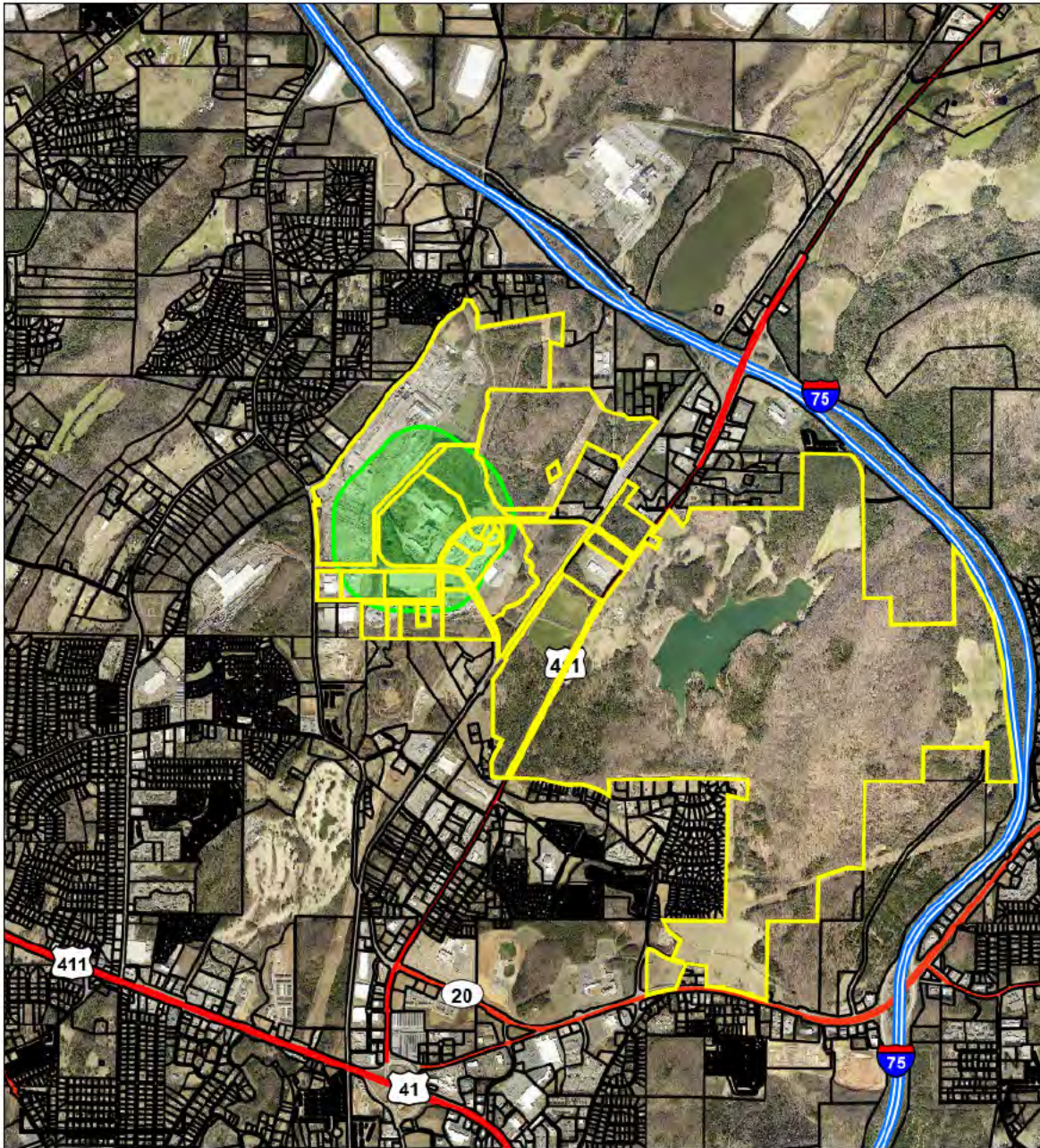
- A-1
- A1 (wC)
- A1CU
- BPD
- BPD (wC)
- C-1
- C1 (wC)
- C1CU
- CN
- CN (wC)
- CNCU
- I-1
- I-2
- I1 (wC)
- I1CU
- I2 (wC)
- I2CU
- Incorporated
- M-1
- M1 (wC)
- M1CU
- O/I
- OI (wC)
- OICU
- PUD
- PUD (wC)
- PUDCU
- R-1
- R-2
- R-3
- R-4
- R-7
- R-8
- R-8 w/c
- R1 (wC)

-  R1CU
-  R2 (wC)
-  R2CU
-  R3 (wC)
-  R3CU
-  R4 (wC)
-  R4CU
-  R7 (wC)
-  RE-1
-  RE-2
-  RE1 (wC)
-  RE1CU
-  RE2 (wC)
-  RE2CU
-  Unknown
-  Zoning with Conditions

Parcel ID	C059-0001-001	Alternate ID	36676	Owner Address	
Sec/Twp/Rng	n/a	Class	Industrial		2870 FORBS AVE
Property Address	218 INDUSTRIAL PARK RD	Acreage	68.77		HOFFMAN ESTATES, IL 60192
					C059-0001-001-COLLOID ENVIRONMENTAL TECH CO
District	Cartersville				
Brief Tax Description	LL 201-202-231-232 LD 5 CETCO Minerals				
	(Note: Not to be used on legal documents)				

Date created: 7/28/2026
 Last Data Uploaded: 7/28/2026 6:09:46 AM

Lime Green polygon with shading is 1000ft from subject property boundary.



Overview



Legend

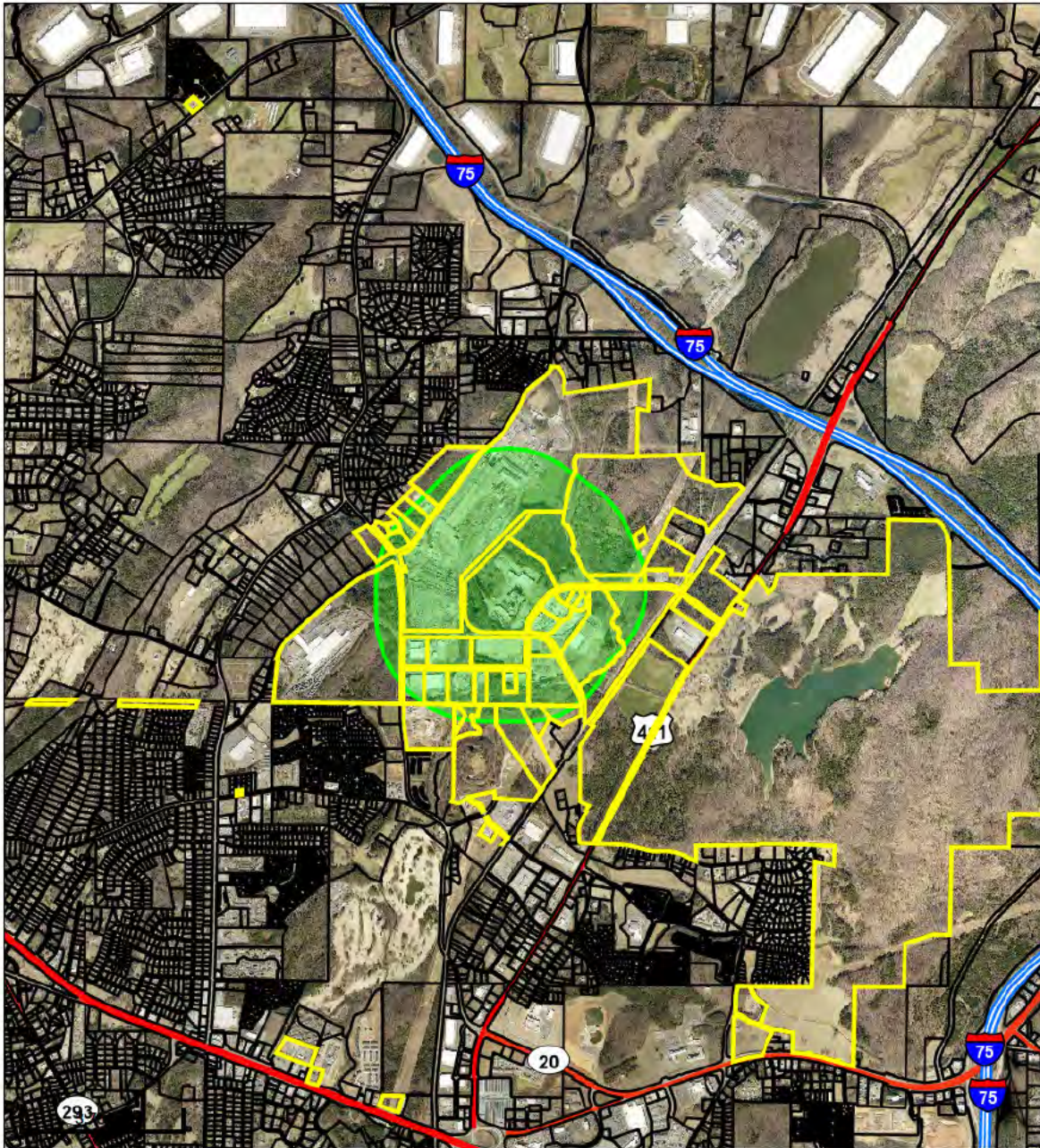
-  Parcels
-  Roads

Date created: 7/28/2026

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Lime Green polygon with shading is 2000ft from subject property boundary.



Overview



Legend

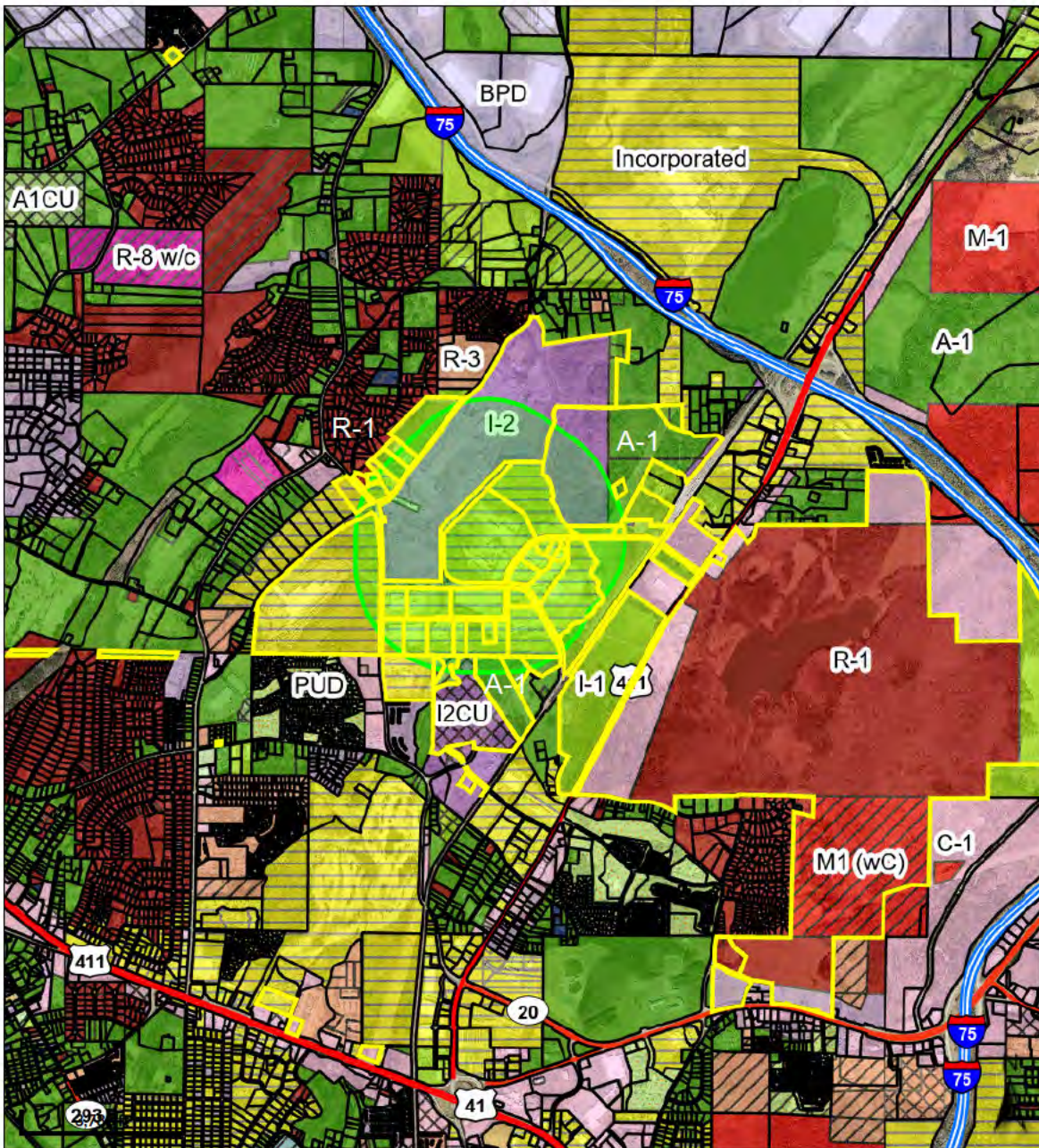
- Parcels
- Roads

Date created: 7/28/2026

Last Data Uploaded: 7/28/2026 6:09:46 AM

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Lime Green polygon and shading is 2000ft from subject property boundary.



Overview



Legend

- Parcels
- Roads

Bartow County Zoning

- A-1
- A1 (wC)
- A1CU
- BPD
- BPD (wC)
- C-1
- C1 (wC)
- C1CU
- CN
- CN (wC)
- CNCU
- I-1
- I-2
- I1 (wC)
- I1CU
- I2 (wC)
- I2CU
- Incorporated
- M-1
- M1 (wC)
- M1CU
- O/I
- OI (wC)
- OICU
- PUD
- PUD (wC)
- PUDCU
- R-1
- R-2
- R-3
- R-4
- R-7
- R-8
- R-8 w/c
- R1 (wC)

-  R1CU
-  R2 (wC)
-  R2CU
-  R3 (wC)
-  R3CU
-  R4 (wC)
-  R4CU
-  R7 (wC)
-  RE-1
-  RE-2
-  RE1 (wC)
-  RE1CU
-  RE2 (wC)
-  RE2CU
-  Unknown
-  Zoning with
Conditions

Date created: 7/30/2026
Last Data Uploaded: 7/30/2026 6:08:39 AM

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June 18, 2026

VIA HAND DELIVERY

Mr. David Hardegree
City Planner
City of Cartersville, Georgia

Re: DataBank Rezoning Application

Good day David,

I am pleased to present the enclosed application for rezoning of certain property in the City's heavy industrial area to the T district to facilitate the development of a one- or two-building data center to be developed, owned, and operated by DataBank Holdings, Ltd. I am attaching a detailed statement of intent from DataBank that explains the project, but in brief, DataBank is a leading U.S. data center operator, and if this facility is approved, it will be DataBank's seventh facility in the greater Atlanta area and a real asset to Cartersville. I am also enclosing the full application and application fee, including the fee for notice to the public, site renderings, and a boundary survey.

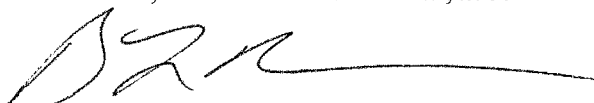
We do wish to request a concurrent variance with this rezoning. As we understand it, the City's parking requirements are generally far greater than what we expect to need for the data center, which is estimated to have 60+/- employees after buildout. Based on that, and the limited number of customers, deliveries, and other visitors that are anticipated based on prior DataBank experience, we estimate 180+/- spaces will be more than adequate parking for the facility. Limiting the parking spaces will help with the site design and also reduce the impervious surface area on the site.

Finally, this project will meet the new thresholds for DRI review, and so I will provide you with the information you need to fill out and submit the DRI forms.

Please let me know if you have any questions.

Very truly yours,

JENKINS, BOWEN & WALKER, P.C.



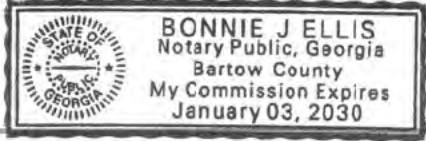
Brandon L. Bowen

Application for Rezoning
City of Cartersville

Application Number: Z26-05
Date Received: 6-18-26

Public Hearing Dates:

Planning Commission 8-11-26 1st City Council 8-20-26 2nd City Council 9-3-26
5:30pm 7:00pm 7:00pm

Applicant <u>Databank Holdings Ltd.</u> (printed name)		Office Phone _____	
Address <u>400 South Akard, Suite 100</u>		Mobile/ Other Phone _____	
City <u>Dallas</u>	State <u>TX</u>	Zip <u>75202</u>	Email _____
Representative's printed name (if other than applicant) <u>Brandon L. Bowen</u>		Phone (Rep) <u>[REDACTED]</u>	Email (Rep) <u>[REDACTED]</u>
Representative Signature <u>[Signature]</u>		Applicant Signature <u>[Signature]</u>	
Signed, sealed and delivered in presence of: <u>Bonnie J. Ellis</u> Notary Public		My commission expires: 	

* Titleholder _____ (titleholder's printed name)	Phone _____
Address _____	Email _____
Signature _____	
Signed, sealed, delivered in presence of: _____ Notary Public	My commission expires:

Present Zoning District <u>HI</u>	Requested Zoning <u>T</u>		
Acreage <u>68.77±</u>	Land Lot(s) <u>202/201</u>	District(s) <u>5</u>	Section(s) <u>3</u>
Location of Property: <u>218 Industrial Park Rd</u> (street address, nearest intersections, etc.)		Parcel ID No. <u>C059-0001-001</u>	
Reason for Rezoning Request: <u>To Develop a Data Center</u>			
(attach additional statement as necessary)			

* Attach additional notarized signatures as needed on separate application pages.

Application for Rezoning

City of Cartersville

Application Number: Z26-05

Date Received: 6-18-26

Public Hearing Dates:

Planning Commission 8-11-26 1st City Council 8-20-26 2nd City Council 9-3-26
5:30pm 7:00pm 7:00pm

Applicant <u>Databank Holdings LTD</u> Office Phone _____ (printed name)	
Address <u>400 South Albemarle St NW</u> Mobile/ Other Phone _____	
City <u>Dallas</u> State <u>TX</u> Zip <u>75202</u> Email _____	
Representative's printed name (if other than applicant) _____	
Phone (Rep) _____	
Email (Rep) _____	
Representative Signature _____	Applicant Signature _____
Signed, sealed and delivered in presence of: _____ My commission expires: _____	
Notary Public _____	

* Titleholder <u>Colloid Environmental Technologies Company LLC</u> Phone _____ (titleholder's printed name)	
Address _____ Email _____	
Signature <u>[Signature]</u>	
Signed, sealed, delivered in presence of: <u>Judy Geiser</u> My commission expires: <u>August 5, 2029</u>	
Notary Public <u>[Signature]</u>	Commonwealth of Pennsylvania - Notary Seal JUDY GEISER - Notary Public Northampton County My Commission Expires August 5, 2029 Commission Number 1250791

Present Zoning District <u>H I</u>	Requested Zoning <u>T</u>
Acreage <u>68.77 ±</u> Land Lot(s) <u>202 / 201</u> District(s) <u>5</u> Section(s) <u>3</u>	
Location of Property: <u>218 Industrial Park Rd</u> Parcel ID No. <u>C 059-0001-001</u> (street address, nearest intersections, etc.)	
Reason for Rezoning Request: <u>To Develop a Data Center</u>	
(attach additional statement as necessary)	

* Attach additional notarized signatures as needed on separate application pages.

CAMPAIGN DISCLOSURE REPORT
FOR REZONING ACTIONS

Pursuant to O.C.G.A. 36-67A-3 any and all applicants to a rezoning action must make the following disclosures:

Date of Application: 06/19/26

Date Two Years Prior to Application: 06/19/24

Date Five Years Prior to Application: 06/19/21

1. Has the applicant within the five (5) years preceding the filing of the rezoning action made campaign contributions aggregating \$250.00 or more to any of the following:

	YES	NO
Mayor: Matt Santini	<u> </u>	<u> X </u>
Council Members:		
Ward 1- Kari Hodge	<u> </u>	<u> X </u>
Ward 2- Jayce Stepp	<u> </u>	<u> X </u>
Ward 3- Cary Roth	<u> </u>	<u> X </u>
Ward 4- Calvin Cooley	<u> </u>	<u> X </u>
Ward 5- Gary Fox	<u> </u>	<u> X </u>
Ward 6- Alyssa Cordell	<u> </u>	<u> X </u>
Planning Commission:		
Lamar Pendley, Chair	<u> </u>	<u> X </u>
Anissa Cooley	<u> </u>	<u> X </u>
Don Jackson	<u> </u>	<u> X </u>
Fritz Dent	<u> </u>	<u> X </u>
Jay Milam	<u> </u>	<u> X </u>
John Clayton	<u> </u>	<u> X </u>
Matt Womack	<u> </u>	<u> X </u>

2. If the answer to any of the above is Yes, please indicate below to whom, the dollar amount, date, and description of each campaign contribution, during the past five (5) years.


Signature

6/17/26
Date

Brandon L. Bowen
Print Name

CAMPAIGN DISCLOSURE REPORT
FOR REZONING ACTIONS

Pursuant to O.C.G.A. 36-67A-3 any and all applicants to a rezoning action must make the following disclosures:

Date of Application: 06/19/26

Date Two Years Prior to Application: 06/19/24

Date Five Years Prior to Application: 06/19/21

1. Has the applicant within the five (5) years preceding the filing of the rezoning action made campaign contributions aggregating \$250.00 or more to any of the following:

	YES	NO
Mayor: Matt Santini	<u> </u>	<u> X </u>
Council Members:		
Ward 1- Kari Hodge	<u> </u>	<u> X </u>
Ward 2- Jayce Stepp	<u> </u>	<u> X </u>
Ward 3- Cary Roth	<u> </u>	<u> X </u>
Ward 4- Calvin Cooley	<u> </u>	<u> X </u>
Ward 5- Gary Fox	<u> </u>	<u> X </u>
Ward 6- Alyssa Cordell	<u> </u>	<u> X </u>
 Planning Commission:		
Lamar Pendley, Chair	<u> </u>	<u> X </u>
Anissa Cooley	<u> </u>	<u> X </u>
Don Jackson	<u> </u>	<u> X </u>
Fritz Dent	<u> </u>	<u> X </u>
Jay Milam	<u> </u>	<u> X </u>
John Clayton	<u> </u>	<u> X </u>
Matt Womack	<u> </u>	<u> X </u>

2. If the answer to any of the above is **Yes**, please indicate below to whom, the dollar amount, date, and description of each campaign contribution, during the past five (5) years.

Kevin Ooley 6/15/26
Signature Date

Kevin Ooley
Print Name

CAMPAIGN DISCLOSURE REPORT
FOR REZONING ACTIONS

Pursuant to O.C.G.A. 36-67A-3 any and all applicants to a rezoning action must make the following disclosures:

Date of Application: June 19, 2026

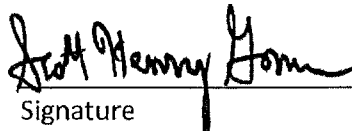
Date Two Years Prior to Application: June 19, 2024

Date Five Years Prior to Application: June 19, 2021

1. Has the applicant within the five (5) years preceding the filing of the rezoning action made campaign contributions aggregating \$250.00 or more to any of the following:

	YES	NO
Mayor: Matt Santini	<u> </u>	<u>X</u>
Council Members:		
Ward 1- Kari Hodge	<u> </u>	<u>X</u>
Ward 2- Jayce Stepp	<u> </u>	<u>X</u>
Ward 3- Cary Roth	<u> </u>	<u>X</u>
Ward 4- Calvin Cooley	<u> </u>	<u>X</u>
Ward 5- Gary Fox	<u> </u>	<u>X</u>
Ward 6- Alyssa Cordell	<u> </u>	<u>X</u>
Planning Commission:		
Lamar Pendley, Chair	<u> </u>	<u>X</u>
Anissa Cooley	<u> </u>	<u>X</u>
Don Jackson	<u> </u>	<u>X</u>
Fritz Dent	<u> </u>	<u>X</u>
Jay Milam	<u> </u>	<u>X</u>
John Clayton	<u> </u>	<u>X</u>
Matt Womack	<u> </u>	<u>X</u>

2. If the answer to any of the above is Yes, please indicate below to whom, the dollar amount, date, and description of each campaign contribution, during the past five (5) years.

 June 15, 2026
Signature Date
Scott Gorman
Print Name



LETTER OF INTENT

DataBank is pleased to present this proposal for a rezoning of property to redevelop an existing heavy industrial site within the City for a 200 +/- MW critical IT data center. This Letter of Intent provides information about DataBank, the project and the proposed site.

DATABANK

DataBank Holdings Ltd. ("Applicant"), the proposed owner and developer of the project, having an office located at 400 South Akard, Suite 100, Dallas, TX 75202, is the contract purchaser of the property. DataBank Holdings Ltd. is a leading U.S. data center operator with 70 sites across 26 markets. DataBank serves a customer base of over 2,000, enabling mission-critical infrastructure uptime for a number of the world's largest enterprises, technology companies, and content providers. DataBank has a proven track record in Georgia, with a total of six sites operational and/or under construction today. Importantly, DataBank is an owner / operator of its sites, not merely a site developer, such that it expects to have a presence in Cartersville for many years to come.

THE PROPOSED SITE

The site is 218 Industrial Park Road NE, Cartersville, GA 30121, which is currently owned by Colloid Environmental Technologies Company ("Owner"). The property is classified as a large industrial tract located near the intersection of I-75 and US Route 411 on the north side of the City. The property is further located along the I-75 technology and research corridor NW of Atlanta. It comprises a single parcel of developed land totaling approximately 69+/- acres. The current industrial use, developed as a laundry detergent manufacturer, is in the process of decommissioning and includes a shut-down factory and a defunct rail yard. The property is zoned Heavy Industrial (H-I). It is in Cartersville's northern industrial district and is surrounded by industrial uses such as Gerdau / Ameristeel, a concrete plant and a medical waste facility.

THE DATABANK PROJECT

Applicant seeks approval to permit the use of the property for the development of a 200+/- MW critical IT data center. The data center will be comprised of i) one or more buildings used for the warehousing of computer systems and associated components that process and distribute large amounts of data; and ii) on-site roadways and power infrastructure (to the extent required for the support of the data center). Applicant proposes to downzone the property from Heavy Industrial (H-I) to the Technology (T) District for the purpose of supporting the development of the data center. Presuming approval of this application, development is estimated to commence in 2027 with a staged delivery of data center facilities from 2028 through 2032.

The Applicant is evaluating several configurations for its proposed Concept Site Plan along with Options 1 and 2 as noted below. One particular aspect of the plan requiring on-going collaboration with the City's utilities, particularly the Cartersville electrical department, is the location, configuration and size of the substation and adjacent switching yard to serve the project.

Concept Site Plan -- Data Center Building w/ Substation, Switching Yard



Options 1 and 2



1c. Confirmation of Availability of All Public Utilities

The property is served by Cartersville public utilities (power, water, sewer, fiber connectivity and natural gas) required to support its current industrial operations. The Applicant's project team is currently evaluating the specific location, capacity and easements of existing public utilities serving the property in conjunction with City utility staff. During this process, the Applicant will be closely collaborating with the City of Cartersville and its utility systems to meet its public utilities requirements.

1d. Project Meets the Proposed Zoning District Development Standards

The property is currently governed under the terms and conditions of the Heavy Industrial (H-I) Zoning Classification. The purpose of the Applicant's Rezoning Application is to request that the property be downzoned to the Technology (T) District Classification in order to support the development of a data center.

The terms and conditions of the Technology (T) District, as approved by the City of Cartersville and adopted into the City's Zoning Ordinance on November 2, 2023, are attached as Exhibit A. DataBank has reviewed the standards and confirms that these standards will be met as part of the development and operation of this facility.

EXHIBIT A

Sec. 10.4. Technology (T) district.

10.4.1. *T district scope and intent.* Regulations in this section are the T district regulations. The T district is intended to provide land areas for commercial activities associated with technology, information systems, data infrastructure, data hosting and management activities and similar new information age uses without the community impacts often associated with industrial uses or warehouse distribution centers.

10.4.2. *Use regulations.* Within the T district, land and structures shall be used in accordance with standards herein. Any use not specifically designated as a permitted use in this section shall be prohibited.

A. *Permitted uses.* Structures and land may be used for only the following purposes:

- Colleges and universities.
- Computer systems and facilities design, programming operation and management.
- Data processing, storage, hosting and related services.
- Financial establishments.
- Information product research and development.
- Institutions of higher learning, business colleges, music conservatories, and similar institutions.
- Internet website design and hosting.
- Laboratories (medical and dental).
- Libraries.
- Medical offices (excludes veterinary).
- Museums.
- Offices, general.
- Office parks.
- Parks, private.
- Public utility facilities.
- Radio and television broadcast stations.
- Radio, television, or other communication towers, antennas and facilities.
- Research laboratories.
- Software design and development.
- Solar, renewable and alternative energy facilities.
- Technology consulting and management.
- Telecommunications infrastructure and connectivity facilities.

B. *Accessory uses.* Structures and land may be used for uses customarily incidental to any permitted use.

10.4.3. *Development standards.*

- A. *Height regulations.* Buildings shall not exceed a height of seventy-five (75) feet, measured from structure pad level. Height limitations shall not apply to accessory structures such as water towers, conveyer belts, smokestacks and other incidental and uninhabited parts of industrial uses.
- B. Front yard setback: fifty (50) feet.
- C. Side yard setback: fifty (50) feet.
- D. Rear yard setback: fifty (50) feet.
- E. Minimum lot frontage: One hundred ten (110) feet adjoining a street.
- F. Minimum lot width at the building line: One hundred ten (110) feet.
- G. Minimum lot acreage: Fifty (50) acres.
- H. Minimum buffer requirements. In addition to required setbacks, a minimum 100-foot-wide buffer, which can include required setback, shall be required along all property lines which abut a residential district or use in order to provide a visual screen in accordance with section 4.17 of this chapter.
- I. Air conditioning units and HVAC systems. Air conditioning units and HVAC systems shall be thoroughly screened from view from the public right-of-way and from adjacent properties by using walls, fencing, roof elements, or landscaping. This requirement shall not apply where the equipment is more than one hundred (100) feet from adjacent property lines.
- J. Front building facade. The front building facade of all principal buildings shall be oriented toward street fronts or adjacent arterial street fronts. This requirement shall not apply if the front of the building is greater than five hundred (500) feet from the public right-of-way or not visible from the public right-of-way.
- K. Security fencing. Security fencing and walls shall not be located within the required buffer unless it complies with the general regulations pertaining to fencing. Fences and walls outside the required setback and buffer provided above shall not be subject to height limitations.
- L. Accessory structures. Accessory structures shall be subject to the general ordinances of the City code, provided that if they are to be located outside of the setbacks and buffers provided above, they shall not be subject to the location requirements of section 4.9. Further, notwithstanding other provisions of the code, guard houses and secured entry features shall be permitted at public road entrances.
- M. Required setbacks and buffers shall only apply to external property boundaries with other properties not zoned as part of the T district. Minimum lot frontages, width and acreage shall not apply to subdivided T lots, so long as the entirety of the contiguous T district complies with the requirements of this ordinance, and so long as the subdivided lot has adequate frontage on public or private roads to allow service.
- N. Private roads are permitted within the T district. They shall be designed and built subject to the design guidelines for City public roads.

- O. Telecommunication towers shall be permitted to be installed in a manner consistent with the standards of Section 4.29 of this zoning ordinance.
- P. Dark sky lighting. Exterior illumination shall be shielded, downcast and of a luminosity designed to maintain the existing night sky darkness and to prevent light trespass onto adjacent properties. In order to obtain that objective, the following criteria shall be met:
 - a. all fixtures shall be full cut-off type fixtures,
 - b. light poles shall be no taller than 25 feet in height,
 - c. all light poles must be setback a minimum of 10 feet from any exterior property line
 - d. maximum foot-candles at the property line shall be 0.5

The zoning administrator may require a photometric lighting plan which shows conformity with these requirements as part of any building permit application.

10.4.4 *Technology park sound ordinance.* In order to ensure that data centers do not contribute to noise pollution within the City, all data centers will be subject to the following standards:

- A. Data center operations shall not produce continuous sound that exceeds an average of sixty-five (65) decibels over any 30-minute period from 8 a.m. to 6 p.m., measured at any adjacent property boundary between the data center site and a residential property. Nor shall data center operations produce continuous sound that exceeds an average of fifty-five (55) decibels over any thirty-minute period from 6 p.m. to 8 a.m., measured at any adjacent property boundary between the site and residential property. Violations of these sound levels may be prosecuted in the same manner as other zoning ordinance violations.
- B. After issuance of the certificate of occupancy for each data center building, the city may obtain sound studies or require the data center operator to provide a sound study to verify that the operation is in compliance with the requirements of paragraph A above. If a data center is found to be in violation of the requirements of paragraph A above, the city may issue a notice of violation, which may direct that the data center take appropriate steps to operate within the requirements of paragraph A above. The zoning administrator may require the data center operator to propose a solution, and a time period for implementation. If the zoning administrator approves such a solution, and the data center fails to successfully implement that solution within the time approved, the violator shall be subject to a fine up to one thousand dollars (\$1,000.00) for each day that the violation exists until full compliance is obtained.
- C. The data center operator shall continue to bear the costs of any sound test or study required to monitor violations in paragraph B.

10.4.5. *Other regulations.* The headings below contain additional, but not necessarily all, provisions applicable to the T district.

- City of Cartersville Landscaping Ordinance.
- City of Cartersville Sign Ordinance.

(Ord. No. 73-23, § 2, 11-2-23)



RECORD DESCRIPTION

ALL THAT TRACT OR parcel of land lying and being in City of Cartersville in Land Lots 201, 202, 231 and 232 of the 5th District and 3rd Section of Bartow County, Georgia containing 103.897 acres and being more particularly described as follows:

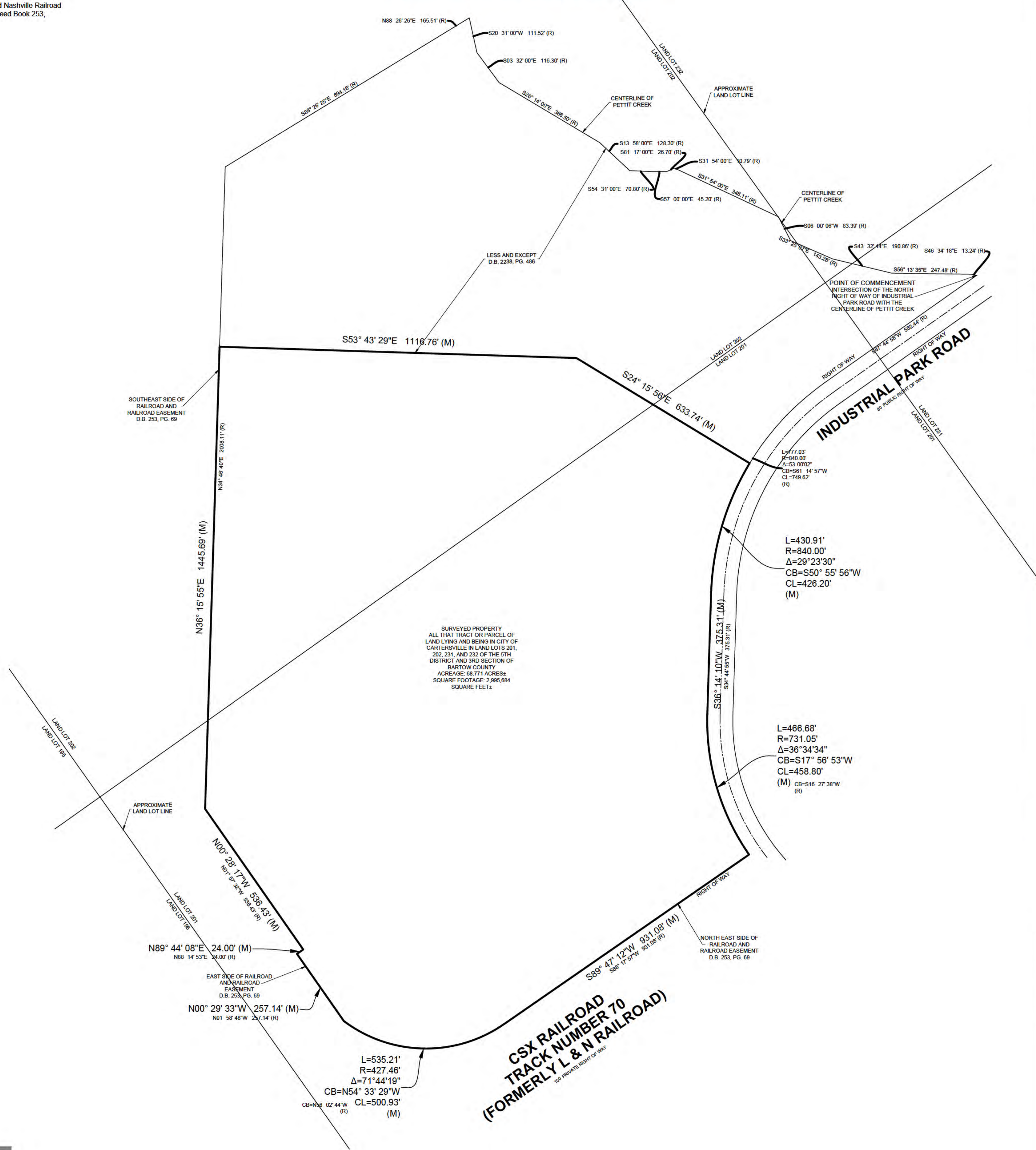
BEGINNING at the point of Intersection of the North right-of-way of Industrial Park Road (80' R/W) with the center line of Pettit Creek, which point is North 87° 44' 58" East a distance of 70.50 feet from a concrete monument; thence South 87° 44' 58" West for a distance of 582.44 feet along the North right-of-way of Industrial Park Road to an iron pin placed; thence along a curve to the left having a radius of 840.00 feet and an arc length of 777.03 feet, being subtended by a chord of South 61° 14' 57" West for a distance of 749.62 feet along the northwest right-of-way of Industrial Park Road to an iron pin placed; thence South 34° 44' 52" West for a distance of 375.31 feet along said northwest right-of-way of an iron pin placed; thence along a curve to the left having a radius of 731.05 feet and an arc length of 466.68 feet, being subtended by a chord of South 16° 27' 38" West for a distance of 458.80 feet along said northwest right-of-way to an iron pin placed on the north right-of-way of the CSX Railroad (formerly L & N Railroad) Tract Number 70 (100' R/W); thence South 88° 17' 57" West for a distance of 931.08 feet along the north right-of-way of said Railroad to an iron pin found; thence along a curve to the right having a radius of 427.46 feet and an arc length of 535.21 feet, being subtended by a chord of North 56° 02' 44" West for a distance of 500.93 feet along the northeast side of said Railroad and a Railroad Easement described in Deed Book 253, Page 69 of Bartow County, Georgia records; thence North 01° 58' 48" West for a distance of 257.14 feet along the East side of said Railroad Easement to a concrete monument found; thence North 88° 14' 53" East for a distance of 24.00 feet along said Railroad Easement to a concrete monument found; thence North 01° 57' 32" West for a distance of 536.43 feet along the east side of said Railroad Easement to an iron pin found; thence North 34° 46' 40" East for a distance of 2008.11 feet along the southeast side of said Railroad Easement to a concrete monument found; thence South 88° 26' 25" East for a distance of 894.16 feet leaving said Railroad Easement to a point in the center of Pettit Creek, which point is North 88° 26' 26" East a distance of 165.51 feet, from a concrete monument found; thence along the center of Pettit Creek the following courses and distances: South 20° 31' 00" West for a distance of 111.52 feet; South 03° 32' 00" East for a distance of 116.30 feet; South 26° 14' 00" East for a distance of 386.50 feet; South 13° 58' 00" East for a distance of 128.30 feet; South 54° 31' 00" East for a distance of 70.80 feet; South 57° 00' 00" East for a distance of 45.20 feet; South 81° 17' 00" East for a distance of 26.70 feet; South 31° 54' 00" East for a distance of 10.79 feet; South 04° 10' 00" East for a distance of 346.11 feet; South 06° 00' 00" West for a distance of 83.39 feet; South 33° 25' 07" East for a distance of 143.28 feet; South 43° 32' 14" East for a distance of 190.86 feet; South 56° 13' 35" East for a distance of 247.48 feet; thence South 46° 34' 18" East for a distance of 13.24 feet along said centerline to the point of intersection of said centerline with the North right-of-way of Industrial Park Road and the point of BEGINNING.

LESS AND EXCEPT any portion of the property set forth above contained within that certain Limited Warranty Deed from Cobble Environmental Technologies Company, a Delaware corporation to Gordian Ameristead US Inc., a Florida corporation, dated as of September 25, 2007, filed October 3, 2007 and recorded in Deed Book 2238 Page 486, aforesaid records.

SCHEDULE B-II ITEMS

12. Easement from Houston McCord Realty Company, a Tennessee corporation to Louisville and Nashville Railroad Company, a Kentucky corporation, dated March 5, 1975, filed March 13, 1975 and recorded in Deed Book 253, Page 69, records of the Superior Court of Bartow County, Georgia.
- AFFECTS. THIS EASEMENT IS PLOTTED AND SHOWN HEREON.
13. INTENTIONALLY DELETED
14. INTENTIONALLY DELETED
15. INTENTIONALLY DELETED
16. INTENTIONALLY DELETED
17. INTENTIONALLY DELETED

BOUNDARY DETAIL - NOT TO SCALE



ASSURANCE NOTE

THE PROPERTY HEREON DESCRIBED IS THE SAME AS THE PERTINENT PROPERTY AS DESCRIBED IN STEWART TITLE GUARANTY COMPANY, COMMITMENT FILE NO.: 26000220260, WITH AN EFFECTIVE DATE OF MAY 01, 2026.

ZONING REQUIREMENTS DATA

THE SURVEYED PROPERTY IS ZONED "HI" - HEAVY INDUSTRIAL DISTRICT, CITY OF CARTERSVILLE, GEORGIA.

FRONT YARD SETBACK: 20 FEET MINIMUM
SIDE YARD SETBACK: 15 FEET MINIMUM
REAR YARD SETBACK: 20 FEET MINIMUM
STREET SIDE SETBACK: NOT SPECIFIED

HEIGHT RESTRICTIONS: 50'

MAXIMUM BUILDING LOT COVERAGE: NOT SPECIFIED

PARKING FORMULA: INDUSTRIAL MANUFACTURING OR WAREHOUSE: 1 SPACE FOR EACH 1,000 SQUARE FEET OF GROSS FLOOR AREA
398,200 SQUARE FEET / 1,000 = 398 SPACES

PARKING REQUIRED: 398 SPACES

THE ZONING INFORMATION SHOWN ABOVE WAS OBTAINED FROM GRS GROUP ZONING REPORT DATED JULY 17, 2026, SITE NO. 26-80319.2, PURSUANT TO ITEM 6a & 6b OF TABLE A.

FLOOD NOTE

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE X UNSHADED OF THE FLOOD INSURANCE RATE MAP, COMMUNITY NO. 130209, MAP NUMBER 13015C0256H WHICH BEARS AN EFFECTIVE DATE OF OCTOBER 05, 2018 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA. AS SHOWN ON THE FEMA WEBSITE (HTTP://MISC.FEMA.GOV) BY FIRMETIC CREATED ON JUNE 11, 2026, WE HAVE LEARNED THIS COMMUNITY DOES CURRENTLY PARTICIPATE IN THE PROGRAM. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE.

SIGNIFICANT OBSERVATIONS

INFORMATION NOTED BELOW IS SIMPLY A STATEMENT OF FACT REGARDING THE LOCATION OF OBSERVED IMPROVEMENTS RELATIVE TO BOUNDARY, EASEMENT, AND SETBACK LINES, AND IS NOT A LEGAL OPINION, OR MEAN OF OWNERSHIP, OR DETERMINATION OF ENCROACHMENTS.

BOUNDARY LINES	VARIOUS FENCING APPEARS TO CROSS THE PROPERTY LINE, AS SHOWN HEREON. CONCRETE PAD AND VAULT APPEAR TO CROSS THE SOUTHEASTERLY PROPERTY LINE BY 3 FEET, MORE OR LESS. EDGE OF PAVEMENT APPEARS TO CROSS THE SOUTHEASTERLY PROPERTY LINE BY 9 FEET, MORE OR LESS.
RIGHT OF WAY AND EASEMENTS	NONE APPARENT
SETBACKS	NONE APPARENT
PHYSICAL ACCESS BETWEEN ADJOINING PARCELS	NONE APPARENT
USE OF ADJOINING PARCELS	NONE APPARENT

SURVEYED BY:
BOCK AND CLARK CORPORATION LB7386, A WHOLLY OWNED SUBSIDIARY OF NV5
10500 UNIVERSITY CENTER DRIVE, SUITE 230
TAMPA, FL 33612
PHONE: (800) 787-8395
EMAIL ADDRESS: BOCKGEORGIA@MYWEHELPLYOU@NV5.COM

POWER POLE (WITH ARMS)	SIGNAL LIGHT	SANITARY MANHOLE
GUY WIRE	TRAFFIC SIGNAL BOX	CLEAN OUT
LIGHT POLE	SIGNAL LIGHT POLE	GREASE TRAP
ELECTRIC MANHOLE	WATER VAULT	GAS MANHOLE
ELECTRIC METER	SIGN (AS NOTED)	GAS VALVE
ELECTRIC BOX	TOWER	GAS METER
TRANSFORMER	MONITORING WELL	HANDICAPPED PARKING
AIR CONDITIONER UNIT	FLAG POLE	ELECTRIC VEHICLE
TELEPHONE MANHOLE	WATER VALVE	AGL ABOVE GROUND LEVEL
TELEPHONE PEDESTAL	FIRE HYDRANT	BGL BELOW GROUND LEVEL
CABLE BOX	SIAMSE FIRE HYDRANT	(R) RECORD
MITERED END SECTION	WATER MANHOLE	(M) MEASURED
STORM DRAIN MANHOLE	BACKFLOW PREVENTER	(C) CALCULATED
STORM DRAIN INLET	WATER METER	(P) PLAT
STORM PIPE	WELL HEAD	PG PAGE
FOUND R/W MONUMENT	POINT OF ACCESS	D.B. DEED BOOK
SET OR FOUND 5/8" IRON ROD & CAP NWS LB. 7386, UNLESS OTHERWISE NOTED		P.B. PLAT BOOK
		G.D.O.T. GEORGIA DEPARTMENT OF TRANSPORTATION

GENERAL SURVEY NOTES

- AN ADDRESS OF 218 INDUSTRIAL PARK WAS POSTED ON THE SITE SIGN ON THE SURVEYED PROPERTY.
- THE INFORMATION SHOWN HEREON WAS TAKEN FROM THE REFERENCED RECORDED PLANS AND MAY NOT BE THE CURRENT STANDARD OR HOW THE STANDARD IS INTERPRETED BY THE TOWNSHIP, COUNTY AND STATE. THE SETBACKS SHOWN (IF ANY) MAY NOT REFLECT THE ZONING REQUIREMENTS AT THE TIME OF CONSTRUCTION, IF ANY WERE REQUIRED AT THAT TIME.
- ONLY OBSERVABLE SURFACE AND ABOVE GROUND STRUCTURES WERE LOCATED. NO UNDERGROUND IMPROVEMENTS, SUCH AS FOUNDATION FOOTINGS, WERE LOCATED. SOME FEATURES SHOWN ON THIS PLAN MAY BE SHOWN OUT OF SCALE FOR CLARITY. ALL DIMENSIONS SHOWN ARE IN FEET AND DECIMALS THEREOF.
- AT THE TIME OF SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.
- AT THE TIME OF SURVEY, THE SURVEYOR WAS UNAWARE OF ANY PROPOSED CHANGES IN STREET RIGHT OF WAY LINES OR OBSERVABLE EVIDENCE OF STREET OR SIDEWALK REPAIRS.
- THE SURVEYED PROPERTY HAS DIRECT VEHICULAR ACCESS TO INDUSTRIAL PARK ROAD, A 80 FOOT WIDE DEDICATED PUBLIC/PRIVATE RIGHT-OF-WAY, AS SHOWN HEREON.
- OWNERSHIP OF FENCES, IF ANY, WAS NOT DETERMINED UNDER THE SCOPE OF THIS SURVEY.
- THERE ARE NO GAPS, GORES, OVERLAPS OR HIATUS INHERENT TO THE SURVEYED PROPERTY BASED ON THE FIELD SURVEY PERFORMED AND THE TITLE COMMITMENTS PROVIDED.
- MEASURED BEARINGS SHOWN HEREON ARE STATE PLANE FOR THE GEORGIA WEST ZONE (NAD83/2011 ADJUSTMENT) AND ARE BASED ON THE SOUTHEASTERN RIGHT OF WAY LINE OF INDUSTRIAL PARK ROAD, BARTOW COUNTY, GEORGIA TO BEAR S 36° 14' 10" W.
- THIS SURVEY IS NOT INTENDED FOR CONSTRUCTION OR CONSTRUCTION DESIGN PURPOSES.
- THIS SURVEY CONFORMS TO THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-7 OF THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN THE GEORGIA PLAT ACT O.C.G.A. 15-4-67 AUTHORITY O.C.G.A.
- THIS MAP OR PLAT FORMS A MATHEMATICALLY CLOSED FIGURE WITHIN 2026 ALTA/NSPS STANDARDS, HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 314,573 FEET.
- TRIANGLE R-12, VERN NETWORK EQUIPMENT WAS USED IN WEST ZONE AND 8399 DATUM TO OBTAIN THE LINEAR AND ANGULAR MEASUREMENTS USED IN THE PREPARATION OF THE MAP OR PLAT.
- CALCULATED SQUARE FOOTAGE OF THE BUILDING DOES NOT ACCOUNT FOR THE THICKNESS OF WALLS AND INTERIOR FRAMING AND IS NOT TO BE USED FOR THE INTERIOR SQUARE FOOTAGE CALCULATION.
- THE TERM "CERTIFICATION" AS USED IN RULE 180-6-.09 AND RELATING TO PROFESSIONAL ENGINEERING OR LAND SURVEYING SERVICES, AS DEFINED IN O.C.G.A. 43-15-26(i) AND (11), SHALL MEAN A SIGNED STATEMENT BASED UPON FACTS AND KNOWLEDGE KNOWN TO THE REGISTRANT AND IS NOT A GUARANTEE OR WARRANTY, EITHER EXPRESSED OR IMPLIED.
- SURVEYOR NOT LIABLE FOR UTILITIES OBSTRUCTED OR COVERED FROM VIEW.
- THIS SURVEY IS BASED UPON THE TITLE COMMITMENT REFERENCED HEREON. THE SURVEYOR IS NOT RESPONSIBLE FOR DOCUMENTS OF RECORD NOT INCLUDED IN THE COMMITMENT PROVIDED.
- ENTRY INTO SANITARY AND STORM STRUCTURES REQUIRES A CONFINED SPACE PERMIT WHICH IS NOT INCLUDED IN THE SCOPE OF WORK.
- AT THE TIME OF SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF SITE USE AS A BURIAL GROUND OR CEMETERY.
- BUILDING HEIGHT IS THE ARCHITECTURAL HEIGHT TAKEN AT THE LOCATION SPECIFIED HEREON.
- ONLY VISIBLE ABOVE GROUND EVIDENCE OF IMPROVEMENTS AND UTILITIES WERE LOCATED BY SURVEYOR. UNDERGROUND UTILITIES SHOWN HEREON PER RECORD INFORMATION.
- UNLESS OTHERWISE NOTED ON SURVEY, ALL MONUMENTATION IS FLUSH WITH THE GROUND.

SITE PICTURE



VICINITY MAP

NOT TO SCALE



LAND AREA

2,995,684 SQUARE FEET ±
68.771 ACRES ±

PARKING SPACES

REGULAR= 311 HANDICAP= 06
TRUCK= 11
TOTAL= 328

ALTA/NSPS LAND TITLE SURVEY

CARTERSVILLE INDUSTRIAL

218 INDUSTRIAL PARK ROAD

BARTOW COUNTY

CARTERSVILLE, GEORGIA, 30121

SURVEYOR'S CERTIFICATE

To: DataBank Holdings Ltd., a Texas limited partnership; Stewart Title Guaranty Company; and GRS Group, an NV5 Company.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 13, 14, 16, 17, 18 and 20 of Table A thereof. The fieldwork was completed on JUNE 10, 2026.



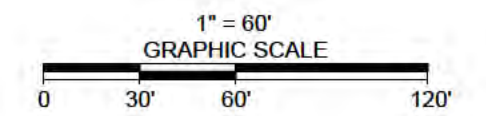
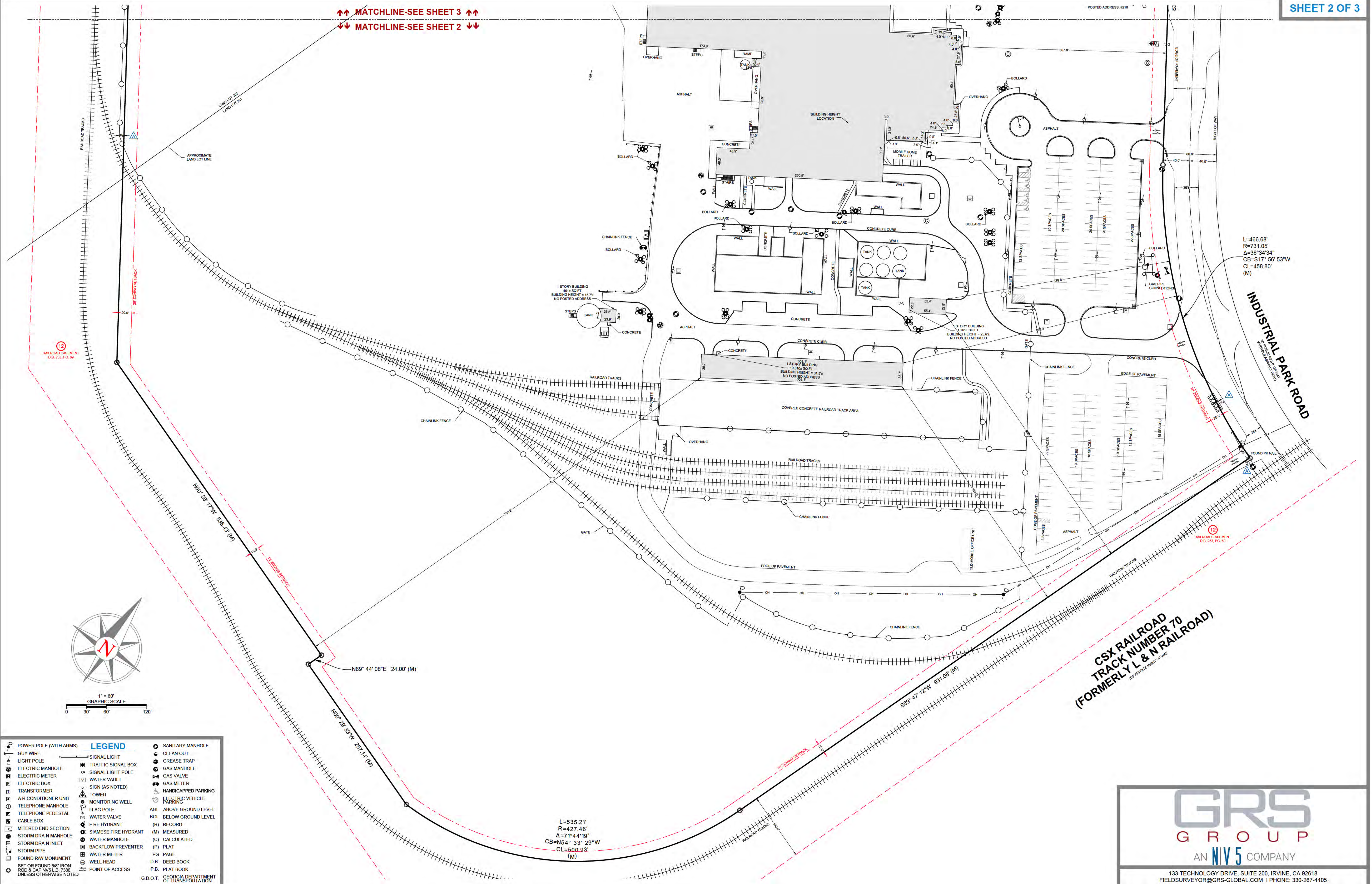
ROBERT L. STUBBS, JR.
REGISTRATION NO. 15003221
IN THE STATE OF GEORGIA
DATE OF FIELD SURVEY: June 10, 2026
DATE OF LAST REVISION: JULY 23, 2026
SURVEY PREPARED BY: BOCK AND CLARK CORPORATION FIRM REGISTRATION NUMBER LSF001204, A WHOLLY OWNED SUBSIDIARY OF NV5 LB7386, 10500 UNIVERSITY CENTER DRIVE, SUITE 230, TAMPA, FL 33612. PHONE: (800) 787-8395 OR EMAIL: BOCKGEORGIA@MYWEHELPLYOU@NV5.COM.

GRS
GROUP
AN NV5 COMPANY

133 TECHNOLOGY DRIVE, SUITE 200, IRVINE, CA 92618
FIELDSURVEYOR@GRS-GLOBAL.COM | PHONE: 330-267-4405

DATE	REVISION HISTORY	GRS PROJECT NO. / JOB NO.
06/15/2026	FIRST DRAFT	26-80319.1 5202603092
06/30/2026	CLIENT COMMENTS / ZONING / CERT	SCALE: 1" = 60'
07/08/2026	COMMENTS	DRAWN BY: RAK
07/20/2026	REV TITLE / REV ZONING	APPROVED BY: RLS
07/23/2026	COMMENTS / SIGN / SEAL	

DATED 2026 - USE OF THIS DOCUMENT'S FORMAT IS PROHIBITED AND CONSENT UPON THE WRITTEN CONSENT & PERMISSION BY GRS GROUP AN NV5 COMPANY



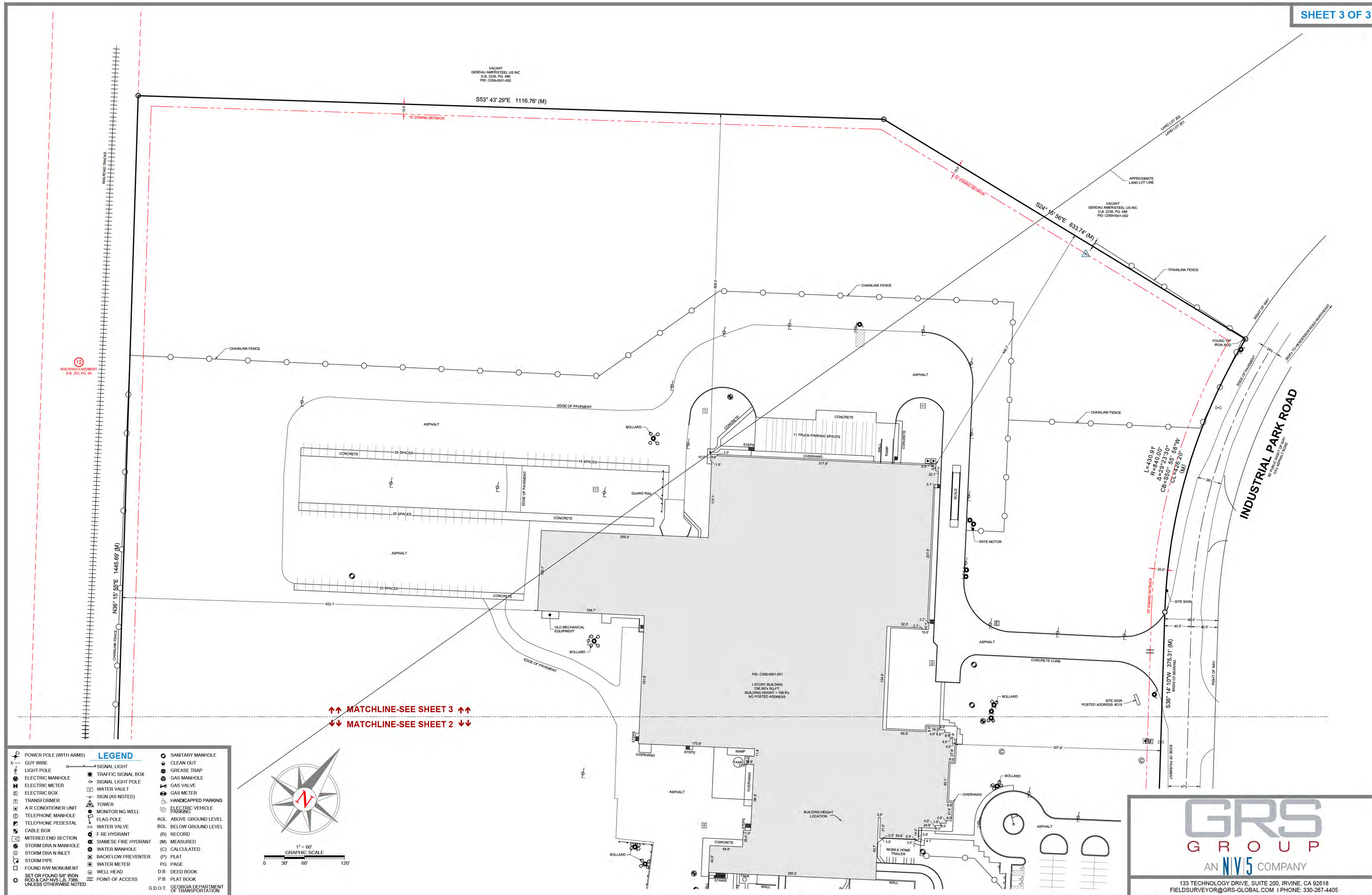
LEGEND	
POWER POLE (WITH ARMS)	○ SANITARY MANHOLE
GUY WIRE	○ CLEAN OUT
LIGHT POLE	○ GREASE TRAP
ELECTRIC MANHOLE	○ GAS MANHOLE
ELECTRIC METER	○ GAS VALVE
ELECTRIC BOX	○ GAS METER
TRANSFORMER	○ HANDICAPPED PARKING
A R CONDITIONER UNIT	○ ELECTRIC VEHICLE
TELEPHONE MANHOLE	○ PARKING
TELEPHONE PEDESTAL	AGL ABOVE GROUND LEVEL
CABLE BOX	BGL BELOW GROUND LEVEL
MITERED END SECTION	(R) RECORD
STORM DRAIN MANHOLE	(M) MEASURED
STORM DRAIN IN NILET	(C) CALCULATED
STORM PIPE	(P) PLAT
FOUND R/W MONUMENT	PG PAGE
SET OR FOUND 5/8" IRON ROD & CAP W/LS LB. 7386, UNLESS OTHERWISE NOTED	P.B. PLEED BOOK
	D.B. DEET BOOK
	G.D.O.T. GEORGIA DEPARTMENT OF TRANSPORTATION

GRS

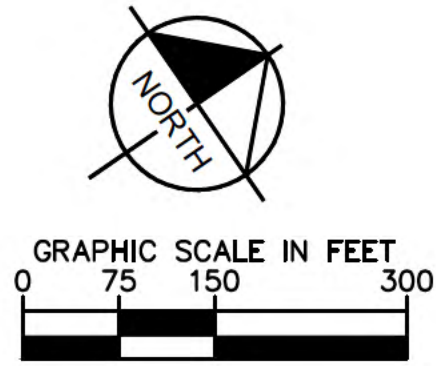
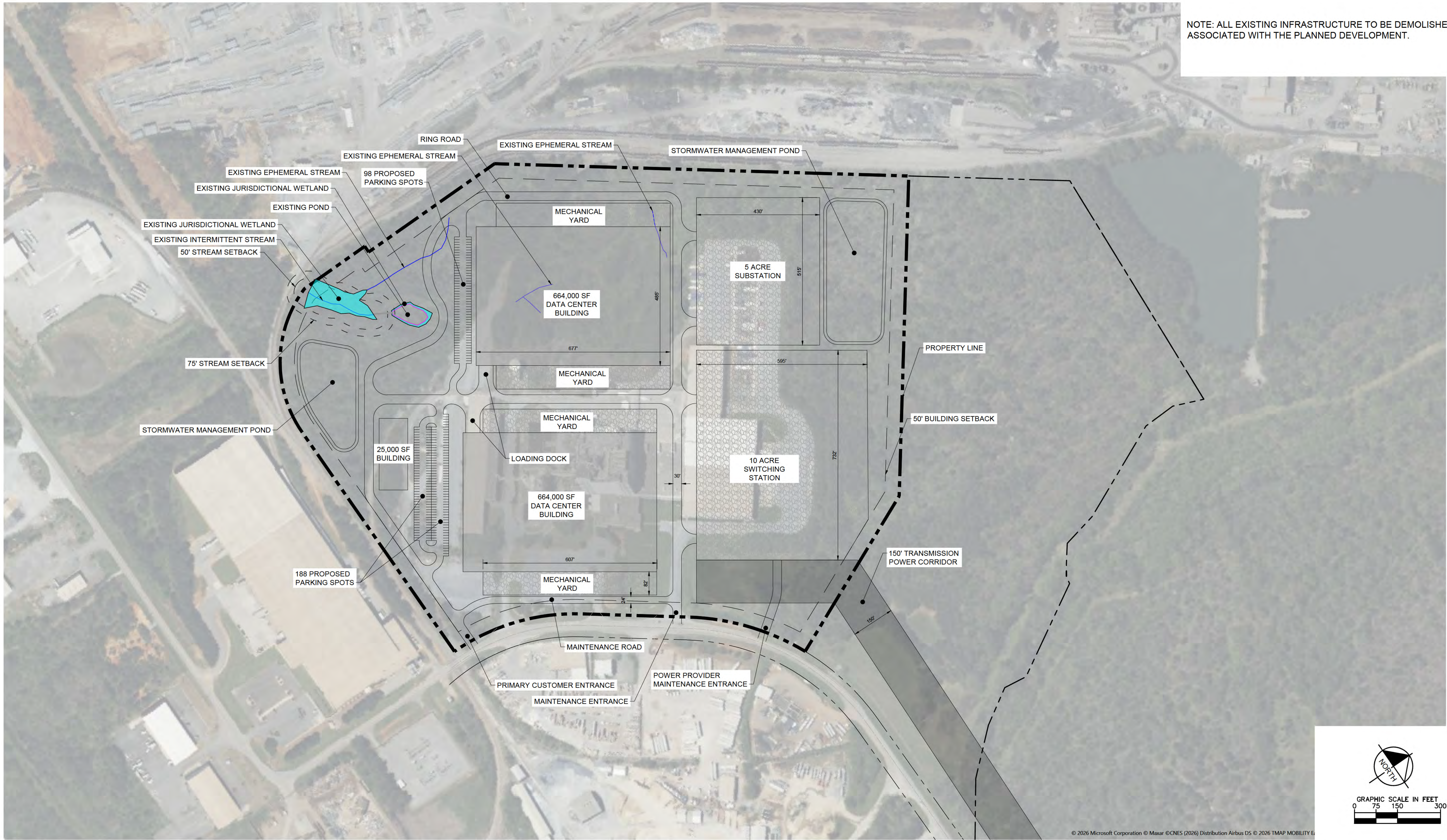
GROUP

AN **NIV5** COMPANY

133 TECHNOLOGY DRIVE, SUITE 200, IRVINE, CA 92618
 FIELDSURVEYOR@GRS-GLOBAL.COM | PHONE: 330-267-4405



K:\AMT_CIVIL\014981010_ATL7 Databank\CAD\References\Layout-5 Building.dwg Layout1 Jul 23, 2026 3:07pm by: Jordan M. Walker



Kimley»Horn

1200 PEACHTREE STREET NE, SUITE 800, ATLANTA, GEORGIA 30309
PHONE: (404) 419-8700 | www.kimley-horn.com

TITLE:

CONCEPT SITE PLAN

PROJECT:

ATL7

CLIENT:

DATABANK

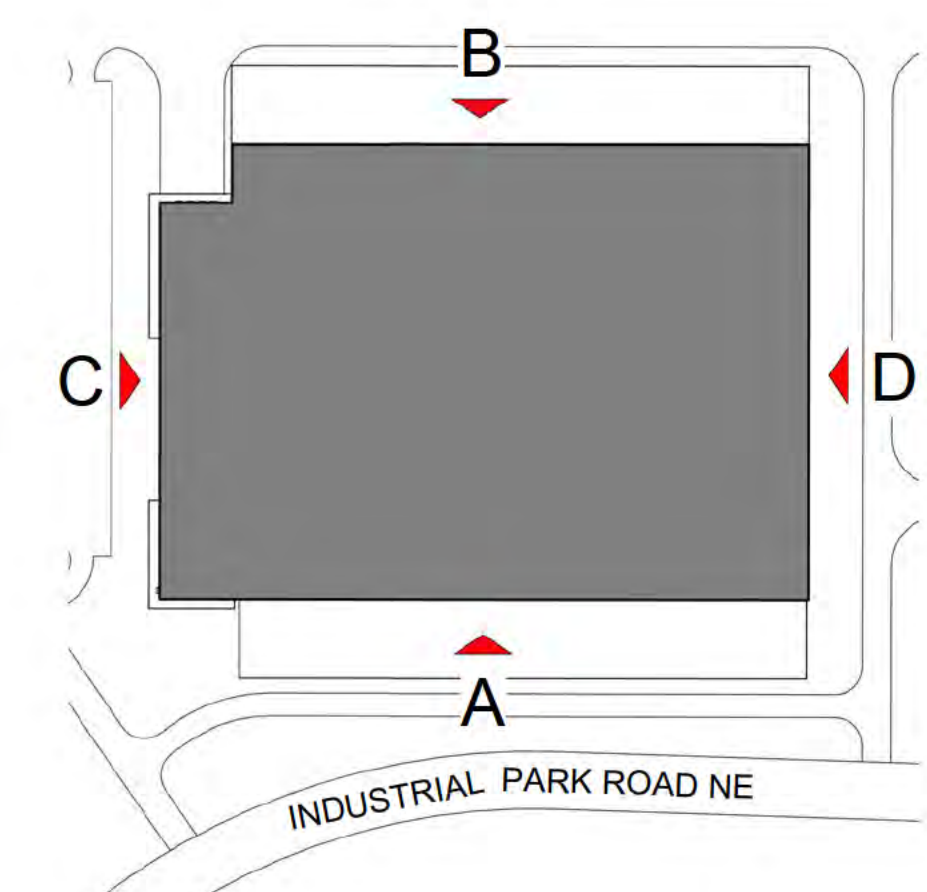
JOB NUMBER: 014981010

SCALE: 1" = 150'

DATE: 7/23/2026

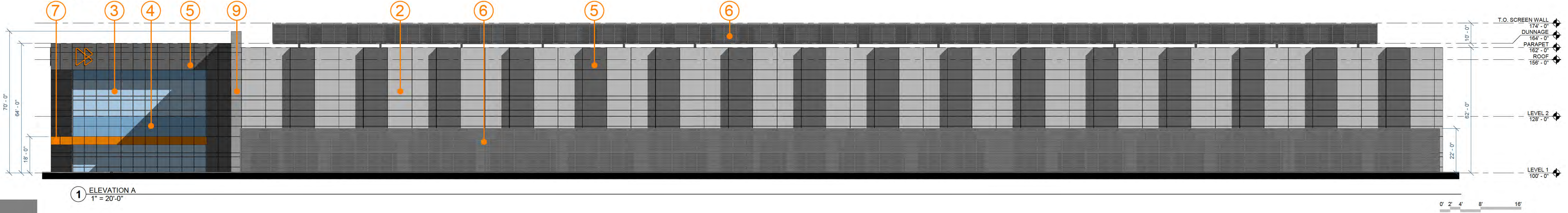
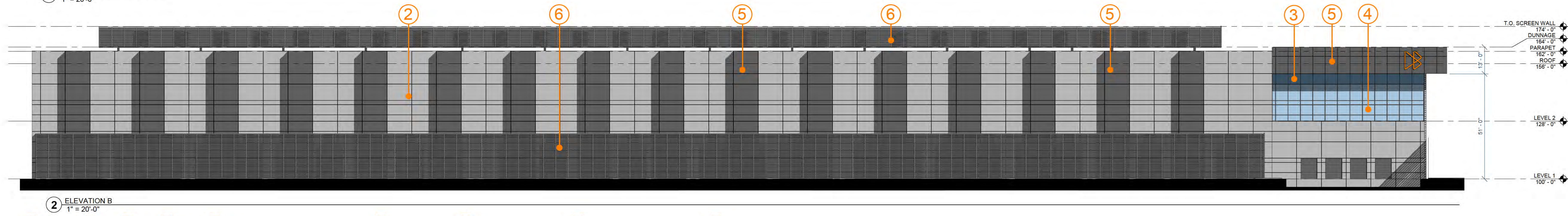
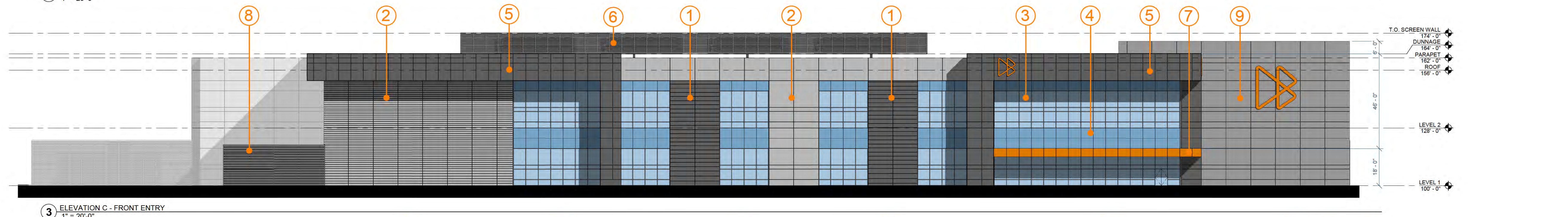
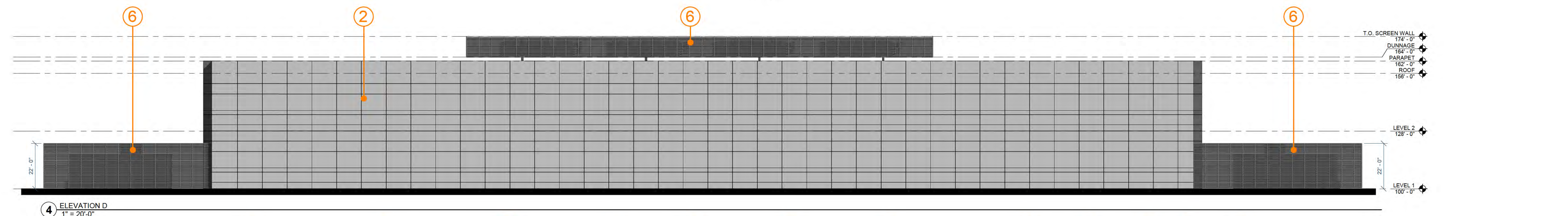
SHEET: *EXHIBIT A*

PLAN LEGEND



MATERIAL LEGEND

- | | | | | | |
|--|------------------|--|-------------------------------|--|---------------------------------|
| | 1. Dark Precast | | 4. Spandrel Glazing | | 7. Orange Composite Metal Panel |
| | 2. Light Precast | | 5. Dark Composite Metal Panel | | 8. Metal Slat Screen Wall |
| | 3. Glazing | | 6. Anodized Aluminum Louver | | 9. Light Composite Metal Panel |



ATL7 PROPOSED EXTERIOR ELEVATIONS
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The Truth about Data Centers

A Straightforward Look at
the Concerns, the Context,
and the Facts



DATABANK
Data Center Evolved™



Few industries are more essential to modern life, or more frequently misrepresented. Data centers have powered our digital world for decades — not just AI, but nearly every interaction we have online.

The questions communities are asking about energy, water use, fire safety, and neighborhood impact are legitimate. They deserve honest answers grounded in facts and context.

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Setting the Stage

A complex conversation deserves complete information

The debate over data centers is getting louder, but the facts aren't keeping pace.

Most people have never thought about data centers. Yet, they've thought about their email, their bank accounts, their Netflix queue, the 911 call that saved a neighbor's life, and whether their paycheck clears on time. Every transaction, every text, every emergency call, even the basic infrastructure that we take for granted in our daily lives, and all of it runs through a data center.

Hardly a week passes without a new round of headlines: communities pushing back on zoning approvals, politicians making data centers a campaign issue, and local news stories warning about power grids and water supplies. In many cases, these concerns are spreading faster than the facts behind them.

Here's the reality: Yes, data centers use energy and resources. So does every hospital, office building, and shopping center. The difference is that data centers are the backbone of our modern digital lives — and all of us are demanding more every day.

The goal here isn't to score points or assign blame. The overall landscape is changing faster than anyone anticipated, and the questions communities are asking deserve more than talking points. This is a complex moment for everyone involved, including utilities, regulators, legislators, operators, and the neighborhoods where this infrastructure lives.

We want to put honest, accurate information on the table and work through it together.



Data Centers Enable Your Life. You Just Don't Think About Them.

That's kind of the point. It's also part of why the conversation gets so complicated.

It's worth taking a closer look at what's actually running in the background of your day, and how much we all depend on critical infrastructure most people never think about.

The Infrastructure Behind Everything You Do

From your morning alarm to your late-night scroll, it's all running somewhere

The digital economy isn't powered in a cloud. It runs in buildings, the physical facilities housing millions of servers, cooling systems, and power infrastructure that process and deliver data around the clock.

Those buildings have been there for decades. Long before anyone was talking about AI, data centers were already running the systems modern society depends on. That was true in 2006. It was true in 2016. It's still true today.

AI is new to the headlines, but it's not a new technology and it's not the reason data centers exist. It's simply the latest technology to enter the scene. If AI disappeared tomorrow, we would still need data centers just to keep the lights on.

What AI has done accelerate demand at a scale the industry has never seen before and put data centers in the spotlight in the process. Even without AI, the underlying need was already growing long before ChatGPT became a household word. Every new application, every connected device, every business adding to the cloud adds to the load. AI didn't create that trajectory. It just stepped on the gas.

Data center infrastructure has gone from a behind-the-scenes framework to one of the most consequential buildout challenges in the modern economy. Government, utilities, and technology companies are all working to keep pace. The conversation worth having isn't whether to build more data centers. We don't really have that choice. It's how to build them responsibly.

Your Digital Day, Powered by Data Centers

Every tap, swipe, and transaction runs through one

The alarm on your phone goes off. Data center. You check the weather. Data center. You scroll through the news, fire off a few emails, and order coffee through an app on your way out the door. Data center. Data center. Data center.

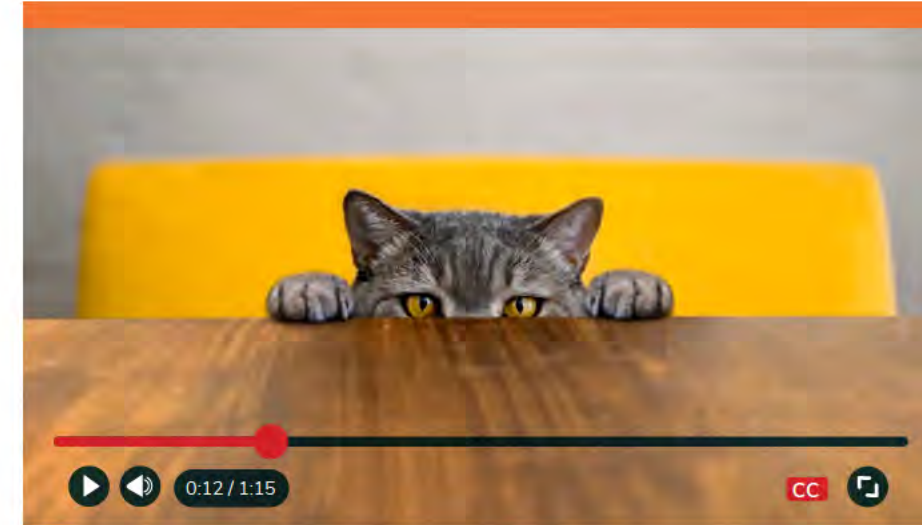
On your commute, your navigation reroutes you to avoid an accident in real time. At the office, you jump on a video call, pull up a shared document, and process an invoice. You grab lunch and pay with your phone. Data center. Data center. Data center. Data center.

On the way home, you stream a podcast. Your kid's school sends an alert through its parent app. You check your bank balance, order dinner, and settle in for a show. Your smart thermostat adjusts the temperature before you even think about it.

Somewhere across town, a hospital is pulling up patient records. A bank is processing thousands of transactions. A 911 dispatcher is routing emergency calls. None of it works without the same infrastructure running quietly in a data center.

By the time you fall asleep scrolling through social media, you've touched data center infrastructure thousands of times without thinking about it once.

That's exactly how it's supposed to work.



BY THE NUMBERS: THE DIGITAL WORLD WE'VE BUILT

- There are currently **7.4** billion smartphones in use worldwide¹
- There are over **21** billion connected IoT devices worldwide²
- The average global user spends **18** hours and **36** minutes using social media each week³
- Global e-commerce shoppers' sales totaled **\$6.8** trillion in 2025⁴
- Google processes an estimated **8.5** billion searches every single day⁵
- YouTube Shorts average over **200** billion daily views — cat videos included⁶

Every single one of those figures is growing. The infrastructure supporting them has to grow with it.

1. DataReportal, [Digital 2026 Global Overview Report](#), October 2025.
2. IoT Analytics, [State of IoT 2025: Number of Connected IoT Devices Growing 14% to 21.1 Billion Globally](#), October 2025.
3. DataReportal, [Digital Global Overview Report](#), October 2025. Data sourced from GWI.
4. MobiLoud, Global e-Commerce Statistics 2025, [as reported in Chain Store Age](#), February 2026.
5. Google, internal data, 2022.
6. YouTube Press, 2025.

A Day Without Data Centers

| One day. No data centers. Here's what happens.

Imagine every data center goes quiet for 24 hours. Not a disaster. Not an attack. Just an experiment for one day.

Your alarm doesn't go off. Your commute navigation goes dark. The coffee app won't load. Traffic lights aren't working. At the office, the shared documents are inaccessible, the video call won't connect, and cash is suddenly everyone's only option at lunch.

Hospitals must work from paper. Flights are grounded. The 911 dispatch system is running on backup protocols. Your bank app is offline, and so is everyone else's.

By dinner, the streaming services are unavailable, the food delivery app is down, and your smart home has forgotten everything it knows about you.

Twenty-four hours. That's all it takes to see something clearly: Data centers don't exist to consume resources. They exist because we consume services. Every single day. Every one of us.

IF DATA CENTERS GO DARK (AN INCOMPLETE LIST)

- 911 dispatch and emergency routing would be compromised
- Pharmacies could not fill prescriptions
- Medical devices and monitoring systems would go offline
- Power grid monitoring and load balancing systems would be impaired
- Water treatment and distribution systems could lose automation
- Utility outage reporting systems would be unavailable
- Flights would be grounded
- GPS navigation systems would become unreliable or unusable
- Traffic management systems (smart signals) could fail
- Gas station pumps would not function
- Rideshare services (Uber, Lyft) would stop operating
- Grocery and retail supply chains would stop communicating
- Credit and debit card transactions would fail (in-store and online), and ATMs would be unavailable
- Payroll processing would stop
- Tax systems and benefit disbursements could pause
- Automatic bill payments and banking would stop
- Stock markets and trading platforms would halt
- Email systems would go offline
- Cloud-based collaboration tools (Teams, Slack, etc.) would fail
- Online education platforms would go offline
- Home security systems would go dark
- Social media platforms would be inaccessible
- Streaming services (TV, music) would not work

Who's Really Driving Energy Demand

Spoiler: It's all of us.

The surge in energy demand making headlines isn't coming from data centers. It's coming from all of us, and from the AI revolution that's accelerating everything. Here's what that actually means for your electricity bill, the power grid, and the infrastructure debate that isn't going away anytime soon.

Power Has to Come from Somewhere

Understanding how data centers consume — and pay for — the energy that keeps the digital world running

Data centers consume energy to run the applications and services that businesses and consumers depend on to operate. Hospitals managing patient records. Utility providers managing community power and water. Banks processing transactions. Schools managing parent and student communications. Retailers running e-commerce platforms. Streaming services delivering entertainment to millions. Social media platforms connecting billions of users worldwide. These aren't frivolous applications. They're how modern organizations serve their customers and communities.

Those organizations put their infrastructure in data centers because that's where the computational power, cooling, and security are built to operate at scale. Who uses those services? You do. Everyone does.

The business model varies by market. In regulated states, data centers pay standard commercial or industrial rates set by utilities. In deregulated markets, they negotiate rates competitively. Either way, they pay for what they use, and the relationship between large commercial loads and residential rates is more nuanced than most headlines suggest.

7. Xcel Energy, [Xcel Energy to Power New Google Data Center in Minnesota](#), February 24, 2026.



THE MINNESOTA MODEL: GROWTH THAT GIVES BACK

Google's data center investment in Minnesota is directly enabling new clean energy development, supporting the state's renewable goals, and ensuring customers bear none of the costs.⁷

The Many Reasons Your Electricity Bill Has Gone Up

Rising electricity costs have many causes. Data centers are just one part of a much larger story.

Electricity rates are established by utilities based on infrastructure costs, generation expenses, and regulatory requirements, then approved by state regulators. Data centers purchase power at rates determined by the market or state regulators, just like any other large commercial customer. They don't set rates. They pay them.

What is driving electricity demand higher is the digitization and electrification of everyday life. Streaming, cloud storage, e-commerce, remote work, AI, electric vehicles, and AI are pushing demand for digital services higher. That requires more infrastructure and more power. Data centers aren't the cause of rising energy costs. They're a reflection of how much the world depends on the services running inside them.

The drivers behind recent increases are well documented:

- Natural gas prices rose 56% in 2025. After Russia's invasion of Ukraine, Europe and Asia began competing for liquefied natural gas, driving U.S. exports up, tightening supply, and increasing prices⁸

- Utility infrastructure spending has risen sharply in recent years, driven by aging equipment replacement, wildfire and weather mitigation requirements, grid hardening, the cost of connecting new generation sources to population centers, and other factors.
- Growing overall electricity demand from consumers, EV adoption, home electrification, and industrial reshoring is straining the grid.
- Extreme weather events have added significant grid hardening costs across multiple regions.
- Local and state policy costs — including taxes, mandates, and clean energy program fees — are passed directly to ratepayers.
- Inflation across labor, materials, and construction has driven up the cost of nearly every grid investment.
- Data centers, as infrastructure for the digital economy, can be counted among these drivers

Rate increases are real, and the frustration behind them is understandable. Data centers are part of a much larger story — one that utilities, regulators, and policymakers have been navigating long before the current wave of data center development.

MORE DEMAND, LOWER RATES?

A Lawrence Berkeley National Laboratory analysis found that large-load growth from data centers likely contributed to lower electricity rates on average through 2025, though results varied significantly by region with markets like PJM seeing the opposite effect.⁹ PG&E projects that data center growth could reduce average household bills by up to **2%**.¹⁰

8. U.S. Energy Information Administration, [U.S. Wholesale Day-Ahead Electricity Prices Rose in 2025 with Higher Natural Gas Prices](#), February 2, 2026.

9. [Lawrence Berkeley National Laboratory](#).

10. PG&E, [Surging Data Center Growth to Help Lower Energy Costs for PG&E Customers](#), May 27, 2025.

Not All Energy Markets Are Created Equal

Why your state's electricity market matters more than you might think

Texas offers an instructive example of how market structure affects the relationship between data center growth and electricity prices. The state is home to one of the largest AI data center buildouts in the country, with major facilities from OpenAI, Google, and others coming online.

Texas operates under ERCOT, an energy-only market that uses real-time pricing signals to balance supply and demand, rather than the centralized capacity auction model. In 2025, Texas electricity rates rose approximately 3.8% — close to the inflation rate of 2.9% — while some PJM (serving Pennsylvania-New Jersey-Maryland) states saw increases exceeding 15%.¹¹

The comparison matters. As data center demand accelerates nationwide, market design plays a meaningful role in how those costs are distributed. Texas hasn't been immune to price increases, but its framework has produced more moderate outcomes than capacity auction markets in the northeast and mid-Atlantic.

11. Goldman Sachs, [Electricity Prices Rising by Double the Rate of Inflation](#), as reported by CNBC, February 12, 2026.

12. Goldman Sachs, [Electricity Prices Rising by Double the Rate of Inflation](#), as reported by CNBC, February 12, 2026.



THE CALIFORNIA EXAMPLE

While electricity prices jumped 6.9% nationally in 2025, California's rates rose just 2.1%, below the inflation rate of 2.9%, meaning residents effectively paid less in real terms. Significant data center growth and below-inflation rate increases can coexist.¹²

The Real Bottleneck Nobody Talks About

Most of the energy debate around data centers focuses on how much power they consume. Here's an angle that gets far less attention: The problem was never really about how much power we can generate. It's about how much we can move from one place to another.

The grid constraint isn't generation. It's transmission and distribution. Moving that power across the grid is the bottleneck, and building the transmission infrastructure to close that gap is one of the most pressing challenges facing the energy sector today.

Experts have noted that the country could theoretically generate enough electricity to meet virtually any demand scenario. Moving that power across the grid is the bottleneck. For example:

- Dominion Energy in Virginia has faced multiyear delays getting power to new facilities because the transmission infrastructure simply isn't ready.¹³
- PG&E in California has said new substation work for large load interconnections can take five years or more.¹⁴
- All six major regional grid operators outside of Texas have reported they cannot meet federal deadlines for critical transmission upgrades.

This is a systemic infrastructure problem that pre-dates the data center industry by decades. Restricting data center development wouldn't fix it. Addressing it requires investment, planning, and honest conversation about tradeoffs. Not less digital infrastructure but smarter development of the infrastructure we need.¹⁵

13. Energy Connects, [Data Centers Face Seven-Year Wait for Dominion Power Hookups](#), August 30, 2024.

14. PG&E, [PG&E Data Center Demand Pipeline Swells to 10 Gigawatts with Potential to Unlock Billions for California](#), July 31, 2025.

15. DCD Magazine, [US Data Centers Face Grid Bottlenecks as Regional Operators Delay Upgrades](#), February 3, 2025.

THE REAL INFRASTRUCTURE CHALLENGE

The country needs more power. It also needs smarter, more modern ways to move it. That's not a data center conversation. It's a national energy conversation that is decades overdue.



An Industry That Invented Its Own Efficiency Standard

| Setting the standard before the standard existed

The data center industry has been ahead of most sectors on energy efficiency for a long time, and not because anyone required it.

Decades ago, operators developed Power Usage Effectiveness (PUE) as a standard efficiency metric. PUE measures how efficiently a data center uses energy by comparing total facility power consumption to the power delivered to computing equipment. For example, a ratio of 1.0 would mean perfect efficiency, with no energy lost to cooling, lighting, or other overhead.

That's theoretically ideal but not achievable in practice. Yet, what the industry has achieved is still remarkable. Today, the industry average is 1.56, where some modern facilities routinely operate at 1.2 to 1.3.¹⁶

The industry created this standard voluntarily, because energy is the largest operating cost in the business, and operators recognized the responsibility that comes with that. What other major industry has voluntarily created and standardized a metric specifically to drive its own efficiency improvements?

DataBank is one example of that commitment in place. We have reduced our own PUE from 1.81 in 2020 to 1.5 by the end of 2025. This represents a 17% efficiency improvement over five years, driven by continuous investment in cooling technology, facility design, and operational optimization.

16. Uptime Institute, [Global Data Center Survey](#), 2024.



DATABANK'S SUSTAINABILITY IN PRACTICE

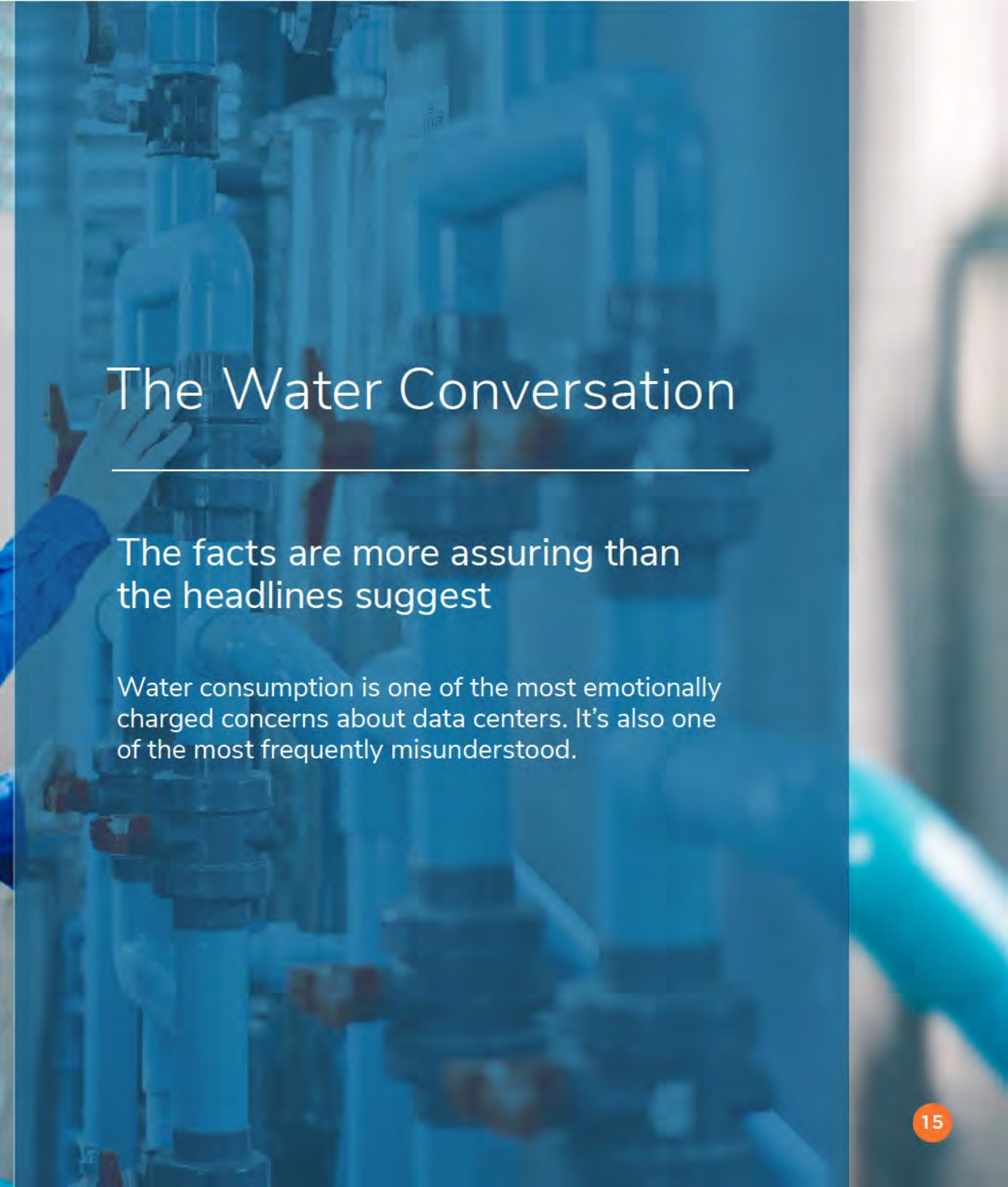
Learn more about DataBank's sustainability commitments on our [Corporate Responsibility page](#)



The Water Conversation

The facts are more assuring than the headlines suggest

Water consumption is one of the most emotionally charged concerns about data centers. It's also one of the most frequently misunderstood.



The Distinction That Changes the Whole Conversation

Not all cooling systems use water the same way

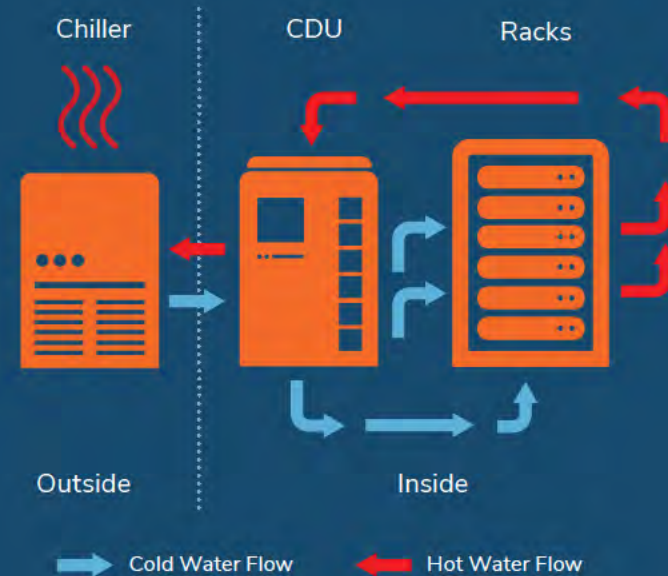
Water consumption is one of the most contentious concerns about data centers. It's also one where a single technical distinction tends to get lost in the coverage.

There are three fundamentally different approaches to cooling a data center:

- 1 Air-based cooling uses no water at all, relying entirely on traditional air conditioning to manage heat. It's a common approach in older and smaller facilities, although it is less practical as computing density increases.
- 2 Evaporative cooling systems dissipate heat by evaporating water. It's a continuous process; water goes in and doesn't come back. Many older, large-scale facilities use this approach and achieve impressive energy efficiency ratings as a result. The tradeoff is water consumption, a consideration critics and communities are right to raise.
- 3 Modern facilities increasingly use closed-loop cooling systems, which work on an entirely different principle. Water circulates continuously within a contained system. It isn't released or consumed. It just moves. Some systems use glycol-based fluids instead of water. However, closed-loop systems can require more power than evaporative cooling, which is why the choice involves real engineering considerations.

The industry measures water efficiency through Water Usage Effectiveness (WUE). In a closed-loop system, once operational, the WUE approaches zero.

CLOSED-LOOP COOLING SYSTEM



CIRCULATING, NOT CONSUMING

In a closed-loop cooling system, water isn't consumed. It circulates. Once the system is charged, ongoing water use for cooling approaches zero.

Not All Water Figures Are Created Equal

The methodology behind a water figure matters as much as the figure itself

Water usage figures for data centers get cited constantly. What rarely gets mentioned is what those figures actually include, and that distinction matters more than most people realize.

When evaluating a data center's water footprint, where exactly do you draw the line? Consider what else could reasonably be included:

- Cooling system water only
- Landscaping
- Employee restroom usage
- Water used during construction
- Water used to generate the electricity powering the facility

Each of those boundaries produces a very different number. A headline citing data center water consumption without specifying the methodology isn't giving you information. It's giving you a figure that can mean almost anything.

The point isn't to dismiss water concerns. It's to make sure the numbers actually mean something before they drive the conversation.

What the Numbers Look Like Up Close

Methodology arguments are important.
Real numbers are better.

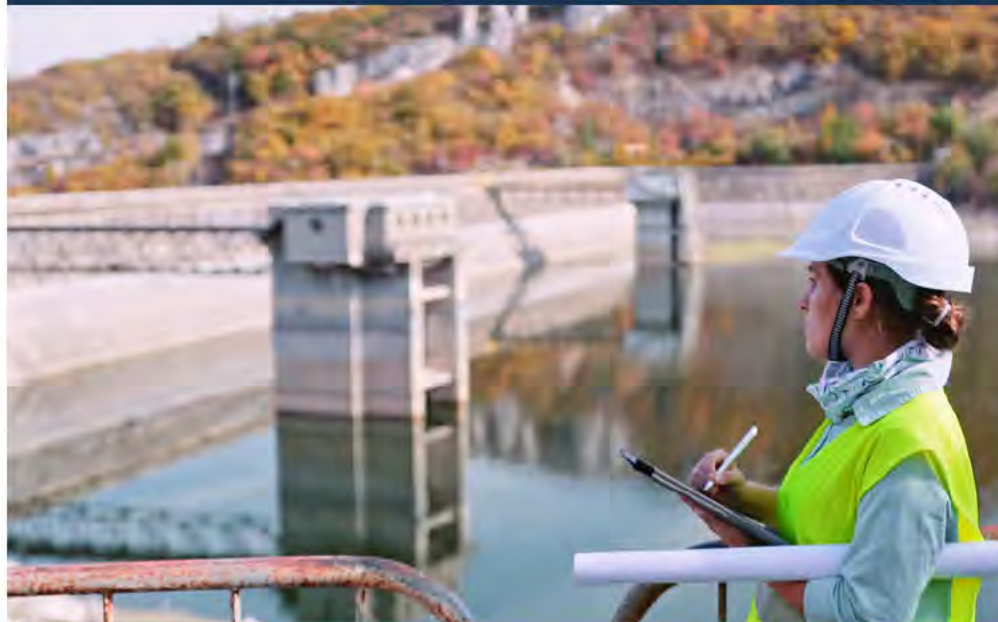
A journalism student researching a planned data center facility in New York came to DataBank with a straightforward question: How much water would the facility use? Local municipal government sources had suggested the figure could be as high as 12,000 gallons per day. The estimate came from community meetings and local zoning discussions, and it sounded alarming.

Based on actual measured usage at a comparable facility using closed-loop cooling, the real figure for restrooms, kitchen, and landscaping combined is approximately 260 gallons per day. Core cooling operations consume essentially no ongoing water.

That gap between 12,000 gallons and 260 gallons is not a rounding error. It reflects what happens when the methodology behind a number goes unexamined. A modern facility using closed-loop cooling operates more like a standard office building than the industrial water consumer most people picture.

THE SAME DATA. A 60% DIFFERENCE.

A Lawrence Berkeley National Laboratory report puts daily data center water consumption at 625 million gallons. That figure includes water lost to evaporation at hydroelectric reservoirs, water that would evaporate regardless of whether a data center exists. Remove that variable and the same data produces a figure of 250 million gallons. That's not a rounding error. That's a methodology question.



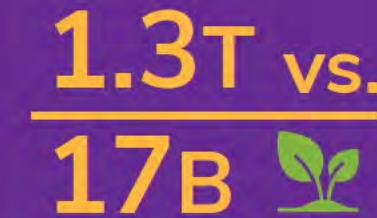
THE TRUTH ABOUT DATA CENTERS

A Drop in the Bucket

Water consumption figures for data centers look large in isolation. In context, they tell a different story.



Data centers consumed an estimated 625 million gallons per day in 2023 — less than 1% of total U.S. daily water use.¹⁷



California's almond industry uses more than 1.3 trillion gallons of water annually, compared to roughly 17 billion gallons used by all U.S. data centers combined.¹⁸



U.S. golf courses collectively used approximately 531 billion gallons of water in 2024 — more than 30 times the direct cooling water used by all U.S. data centers combined.¹⁹

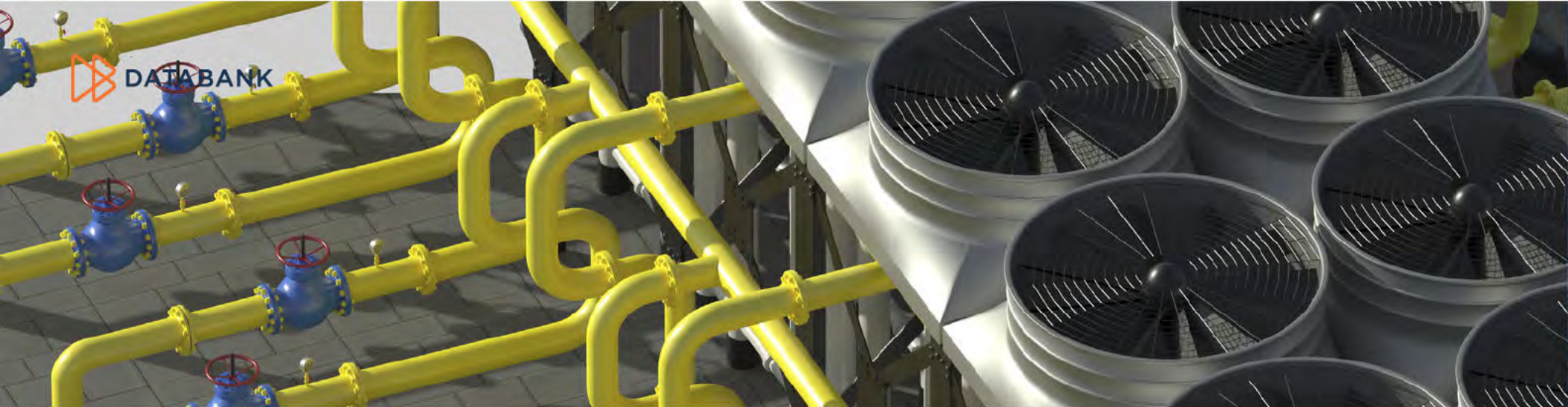


Closed-loop or air cooled facilities use no more water than a large office building, and some use less than a typical household.

17. Lawrence Berkeley National Laboratory, 2024 United States Data Center Energy Usage Report, December 2024.

18. California Water Impact Network, California Almond Water Usage: Updated, September 2024.

19. Golf Course Superintendents Association of America and United States Golf Association, Golf Courses Reduce Water Usage by 31 Percent According to National Survey, December 30, 2025.



The Industry Is Moving in the Right Direction

Cooling technology is changing fast.
The water story is changing with it.

The move away from evaporative cooling toward closed-loop and liquid cooling systems is underway, and it's accelerating faster than most people outside the industry realize.

About 22% of data centers worldwide currently use liquid cooling technologies.²⁰ That figure is expected to approach 50% of new hyperscale builds within two to three years, driven largely by the demands of high-density AI workloads, which generate more heat and require more precise thermal management than traditional computing infrastructure.²¹

Major operators have made firm commitments in this direction. Microsoft has announced zero-water closed-loop cooling for all future builds.²² DataBank's standard facility design uses closed-loop cooling systems, meaning new builds enter service with a near-zero ongoing water footprint for cooling from day one.

There's another dimension to the water conversation that rarely makes headlines. Fossil fuel power generation is highly water-intensive, while wind and solar consume virtually none. As data centers drive the adoption of more renewable energy sources, their indirect water footprint shrinks alongside their carbon footprint — a benefit that is real but rarely reflected in the figures critics cite.

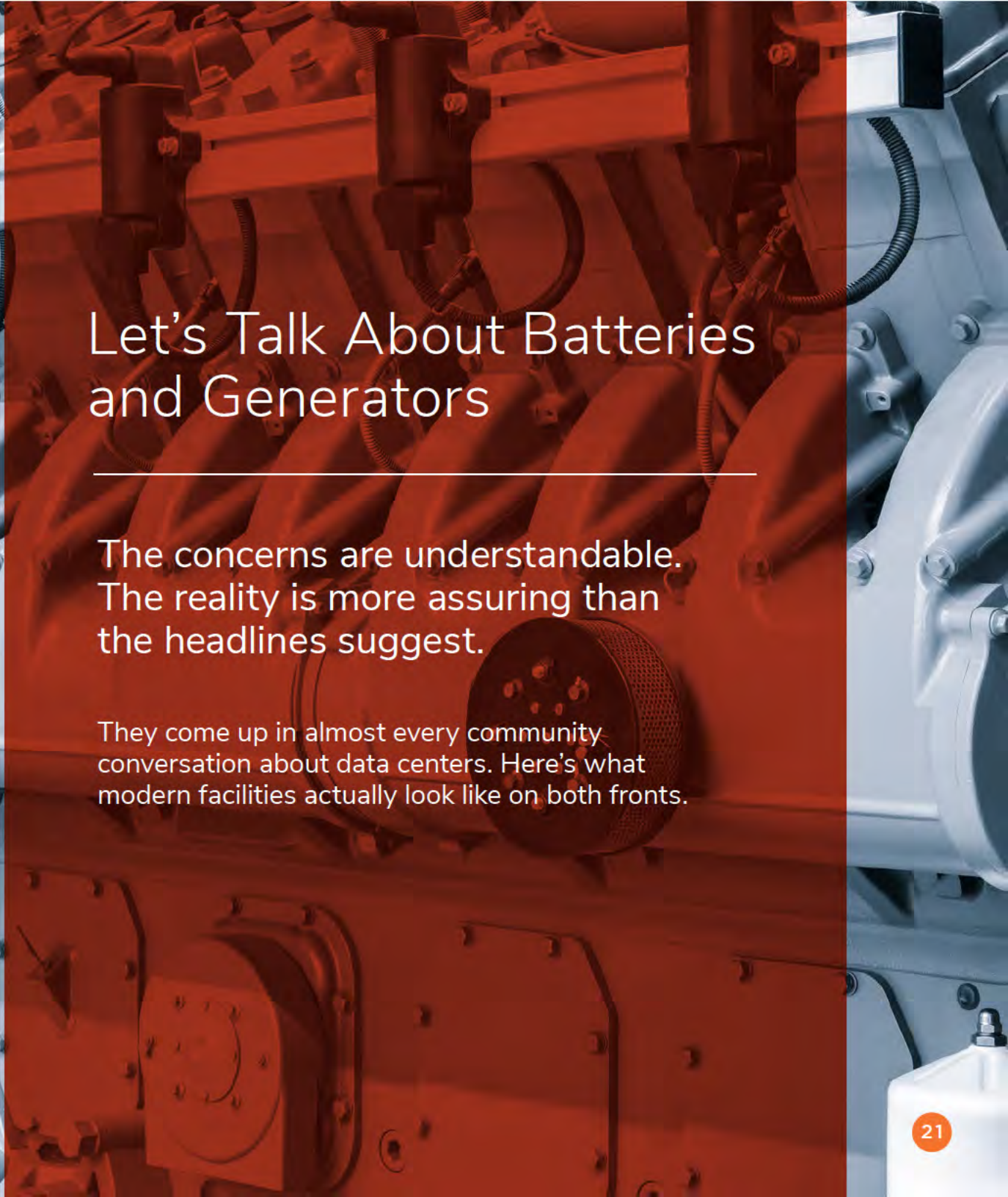
Communities in drought-prone regions have legitimate concerns, and those concerns extend beyond cooling water to the water used in electricity generation. Not all data centers are moving at the same pace on these issues, which is exactly why DataBank's commitment to closed-loop cooling and renewable energy matters. The honest answer is that progress is real, and we want to be specific about what that looks like in our facilities.



Let's Talk About Batteries and Generators

The concerns are understandable.
The reality is more assuring than
the headlines suggest.

They come up in almost every community
conversation about data centers. Here's what
modern facilities actually look like on both fronts.



20. IDC as cited in [Data Center Cooling Solutions in 2025: Challenges, Trends, and Innovations](#).

21. DataCenters.com, [Why Liquid Cooling Is the New Standard for Data Centers in 2025](#), August 2025.

22. GeekWire, [Microsoft Shares New Data Center Design Featuring a Closed-Loop Water System for Cooling](#), December 9, 2024.

Batteries: What the Headlines Leave Out

Understanding the real risk, and how modern facilities manage it

High-profile battery fires at data centers in South Korea and Europe have fueled a narrative that lithium-ion backup systems are inherently dangerous. The incidents are real. The conclusions being drawn from them are worth examining more closely.

First, some context. Lead-acid batteries still account for the majority of data center Uninterruptible Power Supply (UPS) installations worldwide. According to industry research, lead-acid represented roughly 56% of the data center battery market as of 2025, though lithium-ion adoption is accelerating rapidly.²³

The industry is beginning to adopt lithium-ion technology for new installations because it occupies 60-70% less space, requires less maintenance, and lasts significantly longer. When properly deployed with modern monitoring and suppression systems, lithium-ion batteries have a strong safety record, and the risk factors that do exist are well understood and actively managed.

Modern data centers using lithium-ion systems employ real-time temperature and voltage monitoring that detects the early warning signs of thermal runaway before it becomes a problem. Specialized fire suppression and physical separation, whether batteries are in dedicated rooms or deployed at the rack level, provide a layered defense that contains and limits any event that does occur.

These facilities are built from the ground up to house mission-critical equipment. For example, advanced fire suppression isn't an add-on. It's a design requirement. DataBank also works closely with local fire departments, including familiarizing first responders with facility infrastructure prior to commissioning and providing code access to facility gates.

The incidents that make headlines typically share a common thread: older installations, inadequate safety systems, or failures in maintenance protocols. That's a very different story than the one most people picture.

23. Grand View Research, [Data Center Battery Market Report](#), 2025.

BUILT FOR THE WORST CASE

Advanced fire suppression in a data center isn't an add-on. It's a design requirement, built in from day one.

Generator Emissions: A Matter of Proportion

Regulated, tested, and running far less than you might think

When Winter Storm Uri knocked out power across Texas in February 2021, the facilities that kept hospitals communicating, financial systems running, and emergency services coordinated were the ones with robust backup power in place. That capability does not happen by accident. For data centers housing critical infrastructure, reliable on-site generation is not optional. It is a requirement.

Data centers maintain backup generators — diesel or natural gas — that are tested monthly to confirm they'll work when actually needed. Critics have pointed to those tests as an ongoing environmental burden. The numbers tell a more proportionate story.

Most data center generators run approximately 20 hours per year for testing and maintenance. Six of those hours involve no-load confidence testing, meaning emissions during that time are near zero. Loaded testing accounts for up to 12 additional hours per year. Data centers are also subject to air quality regulations and permitting that limit generator runtime to approved levels.

The industry is also actively working to reduce that footprint further. Selective Catalytic Reduction (SCR) systems reduce particulate matter and nitrogen oxides from generator exhaust. Natural gas generators, renewable diesel, and battery storage systems are all being adopted to shrink the environmental impact of backup power over time.

Reliable backup power is not optional for a facility housing critical infrastructure. The question is how to provide it as cleanly as possible, and that work is already underway.

LESS DIESEL THAN A SEMI-TRUCK USES IN A FEW WEEKS

Most data center generators run fewer than 20 hours per year, six of which involve no-load testing with near-zero emissions. At that runtime, a single large backup generator consumes roughly the same amount of diesel in an entire year as one semi-truck does in a few weeks on the highway.

Based on approximately 1,000–2,000 gallons of diesel consumed at 20 hours of annual runtime, compared to an estimated 15,000+ gallons consumed annually by a long-haul semi-truck.

The Sound of a Modern Data Center

| What responsible noise management looks like

Noise is often the most personal concern for neighbors of a data center. It's immediate, it's tangible, and it's worth addressing directly.

All data centers are subject to local noise regulations, which establish a baseline that operators must meet. Where operators differ is in how seriously they take noise management beyond that minimum. Siting decisions, construction quality, and proactive community engagement can make a significant difference in what neighbors actually experience.

Responsible operators typically deploy regular decibel testing at property perimeters, acoustic barriers and baffled walls around generator enclosures, testing restricted to daytime hours, and sound-attenuating enclosures and muffler systems built in as standard equipment. Some operators go further, entering into formal noise agreements with surrounding communities as a condition of development.

A well-run facility generally targets 55 dB or less at the property line, roughly equivalent to moderate rainfall.²⁴ Many operational data centers measure below that threshold at the nearest residential properties.

24. Noise Monitoring Services, [A Guide to Data Center Noise Control](#), January 2026.

25. Commonwealth of Virginia, [Data Centers in Virginia](#), December 2024.

26. Reason, [The Joys of Data Centers: Debunking the Backlash Against the \\$7 Trillion AI Building Boom](#), April 2026.



QUIETER THAN A PICKLEBALL COURT

The ambient hum of a data center's generators and cooling equipment typically falls between 40 and 59 decibels.²⁵ That's a little louder than a library, but quieter than a pickleball court.²⁶



Community Impact

What communities actually experience when a data center moves in

It's the question at the heart of almost every zoning meeting and public hearing. The answer is more reassuring than the headlines suggest, and the economic case is stronger than most people realize.



Data Centers Don't Appear Without Warning

Communities have more say than most people realize

The resistance many communities feel toward data center development is understandable. When a large industrial facility is proposed nearby, people worry about noise, traffic, visual impact, environmental concerns including air and water quality, and strain on local services. Those concerns deserve a straight answer.

Here's one worth starting with: Data centers don't arrive unannounced. These facilities are built only in areas already zoned for light industrial or commercial use. They go through the same approval processes required for warehouses, distribution centers, and other commercial developments. Communities have input through existing planning and zoning frameworks before a single shovel hits the ground.

Two concerns worth addressing directly:

- 1 **Traffic:** Once operational, a data center generates far less vehicle activity than most industrial facilities of comparable size. Shift changes, delivery trucks, and loading dock activity exist but are minimal compared to warehouses or manufacturing facilities of similar scale.
- 2 **Jobs:** Data centers create fewer permanent positions than a factory or distribution center, but those roles tend to be well-paying technical and operations jobs. Beyond direct employment, each facility supports a larger ecosystem of local contractors, vendors, service providers, and customers' employees who work on site, making the direct headcount an incomplete measure of total economic impact.

The fear of the unknown is real. So is the gap between what people imagine a data center will be like to live near and what the operational reality actually looks like. The next few pages are about closing that gap.

SAME RULES AS A WAREHOUSE WITH FULL COMMUNITY INPUT BEFORE CONSTRUCTION

Data centers go through the same zoning and permitting process as warehouses and distribution centers. Communities have a voice before construction ever begins.

THE NUMBERS SPEAK FOR THEMSELVES

In 2023, the data center industry contributed nearly **\$163** billion in tax revenue across federal, state, and local levels.²⁷

The Economic Case Is Stronger than Most People Recognize

Tax revenue, quality jobs, and economic activity that outlasts the construction phase

Data centers generate substantial economic benefits for their host communities. The numbers make the case better than any talking point could.

In 2023, the data center industry contributed nearly \$163 billion in tax revenue across federal, state, and local levels. Many facilities receive time-limited tax incentives to locate in a given market, but those abatements typically expire within a few years. The long-term tax contribution generally exceeds the value of the early-stage incentive by a significant margin.

The jobs created are high-quality ones: engineering, operations, security, and technical roles with above-average wages and real career paths. Research shows that every data center job supports six additional jobs in the larger local economy through indirect and induced employment.²⁷

Some point to the relatively low number of employees within a data center, but that misses the full story. During development, construction workers are employed. Once operational, each facility depends on the data center company's employees, local tradespeople who manage critical infrastructure, and the employees of the data center's customers.

The economic activity starts before a facility opens. Construction employs hundreds of local electricians, HVAC technicians, plumbers, and other skilled tradespeople. That activity doesn't stop when construction ends. Data center employees, local contractors, and the businesses they support continue generating economic activity long after the ribbon cutting.

27. Data Center Coalition, [Data Center FAQs](#), 2023. Research conducted by PwC. Source for both the \$163 billion tax revenue figure and the six-jobs-per-direct-employment multiplier.



MINIMAL BY DESIGN

No rush hour traffic. No strain on roads and infrastructure. Minimal demand on emergency services. A functioning data center is essentially invisible to its neighbors in terms of daily activity.

What It Actually Looks Like to Live Near a Data Center

The day-to-day reality is much calmer than zoning debate suggests

Once a data center is operational, its presence in the community tends to be quiet. Its contributions are anything but.

These facilities don't generate rush hour traffic or significant wear and tear on local roads. They're highly secure, access-controlled environments with perimeter lighting, surveillance, and on-site security that tends to deter criminal activity in the surrounding area. The tax revenue they generate funds local schools, roads, and public services, often at a disproportionately high level relative to the land they occupy.

Noise is often the most immediate concern for nearby residents, and it's worth being specific. Modern data centers use acoustic louvers, sound barriers, and enclosed mechanical systems to meet local noise ordinances and regulations. For most neighbors, the facility is simply not something they notice day to day.

That combination of significant economic contribution, minimal disruption, and enhanced local security is what communities that have lived alongside data centers for years tend to report.

The Culpeper Model

Economic benefit without compromise

Like many communities across the country, Culpeper, Virginia found itself at a familiar crossroads: The economic benefits of data center investment were real and significant, but so were the concerns about what large-scale industrial development might do to the rural character that makes the community what it is.

The answer was the Culpeper Tech Zone (CTZ); a designated area within the county where data center development is welcome, encouraged, and concentrated. Rather than allowing facilities to scatter across the landscape, the community drew a line. Data centers belong in the zone. Everything outside it stays the way it is.

The results now speak for themselves. Tax revenue, jobs, and economic activity have followed the investment, while the open space, rural landscape, and quality of life that residents wanted to protect have remained intact.

The framework also includes requirements for local business engagement, STEM education programs, and workforce development initiatives that extend the benefit beyond the facility fence line and into the broader community.



“

We started every meeting with partners saying we're looking for the best example of data center cluster development in the world. Working with DataBank, we're building that together. It's proof that rural communities can define their own terms for growth.

— Bryan Rothamel,
Economic Development Director, Culpeper County

”

Summary and Conclusion

The Conversation Worth Having

The concerns are real, yet so is the progress

Data centers are not perfect. They consume real resources, they require real land, and their development affects real communities. None of that is in dispute.

The headlines, however, have not told the full story. On energy, water, air emissions, noise, and community impact, the perceived fears have moved faster than the facts. The concerns driving that debate are legitimate. The conclusions drawn from them often are not.

The digital world isn't slowing down, and AI is accelerating demand faster than anyone anticipated. The infrastructure supporting it has to grow to keep pace—not just with what we need today, but with what all of us are generating and consuming every day.

The real question has never been whether to build data centers. It has always been how to build them responsibly, with honest conversations about trade-offs, realistic expectations about impact, and a genuine commitment to getting it right.

That's a conversation worth having. It goes better when everyone is working from the same facts.

Committed to Being a Good Neighbor

We don't just operate in these communities. We're part of them.

DataBank operates more than 70 data centers across the United States, and the way we think about our role in those places goes beyond the buildings themselves. We're a technology infrastructure company headquartered in Dallas, Texas, with approximately 1,000 employees who are all part-owners in the company, people who live and work in the same communities where our facilities operate.

Being part of a community means more than operating a facility there. Our employees coach youth sports, support local businesses, and send their kids to local schools. DataBank contributes to local food banks, women's shelters, veterans' organizations, schools, and environmental causes. Every employee receives paid time off each year to volunteer.

In 2025, DataBank employees contributed more than 850 hours of volunteer time — up from 615 hours the year before. We collected over 1,800 pounds of food for local food banks, removed nearly 4,800 pounds

of trash from a Denver-area river, refurbished a New York Little League clubhouse, and supported women's shelters, military troops, and youth education programs across our markets. In total, DataBank donated more than \$26,000 to local charities, shelters, and community events in 2025.

Looking ahead, we're expanding our community engagement through STEM education partnerships, pollinator gardens at new facilities, youth sports sponsorships, and workforce development programs — including direct collaboration with the Culpeper Technical Education Center's electrician program, where DataBank engineers provide hands-on guidance to students who may one day work in our facilities.

Data centers and the communities that host them are better off when the relationship is built on trust, transparency, and genuine investment. That's the kind of neighbor DataBank is committed to being.

For more on our sustainability and community commitments, visit our online [Corporate Responsibility page](#).



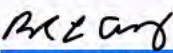


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MEMORANDUM

From: Boyd Austin, Executive Director 
Boyd Austin (Jul 14, 2026 14:34:41 EDT)

To: Local Governments, State Agencies, and Affected Parties

Date: July 15, 2025

Subject: Report on DRI 4761, Project Indo, Cartersville

The Northwest Georgia Regional Commission has received comments on DRI 4761, Project Indo, which would develop a 200MW critical IT load data center on Industrial Park Road NE in Cartersville.

Comments Received

USDA NRCS comments that no prime farmland is affected since the project is in a US-Census designated urban area, and no easements or dams are affected. Please see full comments.

Consistency with the Comprehensive Plan and Service Delivery Strategy

The 2022 Comprehensive Plan Future Land Use Map for Cartersville shows this area zoned as Heavy Industrial. The developer is seeking rezoning to the Technology district. The 2018 Service Delivery Strategy indicates that this area is served by the City of Cartersville water and Bartow County sewer services.

Consistency with the 2024 Northwest Georgia Regional Plan

The area is designated as Developed on the Northwest Georgia Projected 2050 Regional Land Use Map, meaning that the area exhibits urban-type development patterns and urban services are already being provided.

Rome Office: PO Box 1798 | Rome, GA 30162-1798

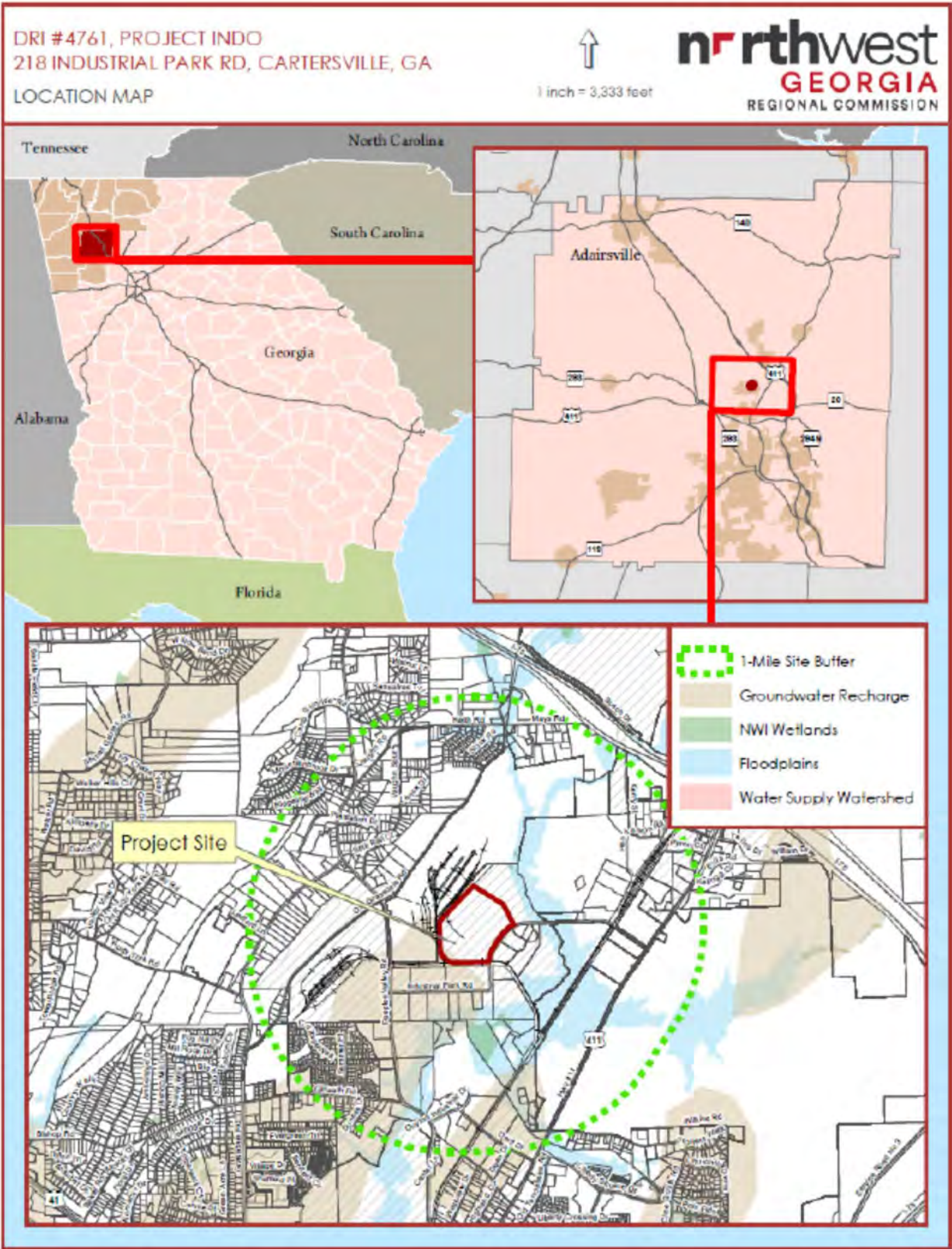
Dalton Office: 503 West Waugh Street | Dalton, GA 30720-3475

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706.295.6485
nwgrc.org

LOCATION MAP



Location Map

FLOODPLAIN ENCROACHMENT REVIEW

To: Julianne Meadows <jmeadows@nwgrc.gov>

PROJECT NAME:	DRI 4761, Project Indo	COUNTY:	Bartow	COMMUNITY:	City of Cartersville
LOCATION:	218 Industrial Park Rd., Cartersville, GA 30121				
BRIEF PROJECT DESCRIPTION:	The applicant requested a Floodplain Encroachment Review Report for the property shown above which would develop a 200 MW critical IT load data center.				
APPLICANT:	Northwest Georgia Regional Commission	APPLICATION DATED:	06/22/2026	APPLICATION RECEIVED:	06/22/2026

SFHA* ENCROACHMENT:	No	EFFECTIVE PANEL(S):	13015C0256H (Effective Date: 10/05/2018)	FLOOD RISK ZONE(S):	X
www.georgiadfirm.com		PRELIMINARY PANEL(S):	N/A	FLOOD RISK ZONE(S):	N/A
https://msc.fema.gov/portal		LETTER OF MAP CHANGE (S):	N/A	FLOOD RISK ZONE(S):	N/A
WATERSHED(S):	Etowah (8 Digit HUC: 031350104)	COMMUNITY CONTACT:	<u>Project Civil Engineer</u> Address: 330 S Erwin Street Cartersville, GA 30120 Tel: (770) 383-7432		

COMMENTS:	From inspection of the effective Flood Insurance Rate Maps (FIRMs) developed by the Federal Emergency Management Agency (FEMA), the proposed site is located outside of the Special Flood Hazard Area (SFHA), in Zone X, an area of low flood risk. A Floodplain Snapshot Map showing the designated floodplain impacts in the vicinity of the project location, accompanied by the relevant extract of FEMA's FIRMs are attached. Please note that this response addresses issues related specifically to the possible effects of the project on floodplains in the area, it does not override or supersede any State or local procedural substantive provisions which may apply to floodplain management requirements associated with amendments to State or local floodplain zoning ordinances, maps, or State or local procedures adopted under the National Flood Insurance Program.
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Prepared By:	Olivia Martin	Telephone:	(470) 845-1108	Email:	jennifer.mcconnon@dnr.ga.gov
Signature:	<i>Jennifer McConnon</i>			Date:	07/14/2025

*Special Flood Hazard Area – Area Inundated by the 1% Annual Chance Flood (Often Referred to as the 100-year Flood)

Attachments:

220 Industrial Park Rd NE, Cartersville, Georgia, 30121



Disclaimer: This data is not to be used to determine any base flood elevations or flood zone designations for NFIP (National Flood Insurance Program) purposes. For NFIP flood insurance and regulation purposes, please refer to the published effective FIRI (Flood Rate Insurance Map) for your area of concern. Values displayed for Current Flood Zone, Preliminary Flood Zone, Flood Zone Change Type, and Probability of Flooding over a 30-year period based on center of dot location, not extent of structure(s).

GEORGIA FLOOD MAP PROGRAM



Location Information

Panel:	13015C0256H
Watershed:	Etowah
County:	BARTOW
Community ID:	13015C
Map Status:	EFFECTIVE

* Flood Depths shown on this report are derived from FEMA RiskMAP products and are rounded to the nearest tenth of a foot. These depths are calculated from HEC-RAS modeling and represent the best available data. Only areas within a RiskMAP studied watershed will have this data available. Please check back if your area is not currently available. For more information, please visit the FEMA Map Service Center at <https://msc.fema.gov/jportal/resources.jsp>

Nature Doesn't Read Flood Maps

Many people don't understand just how risky the floodplain can be. There is a greater than 26% chance that a non-elevated home in the SFHA will be flooded during a 30-year mortgage period.

The chance that a major fire will occur during the same period is less than 10%!

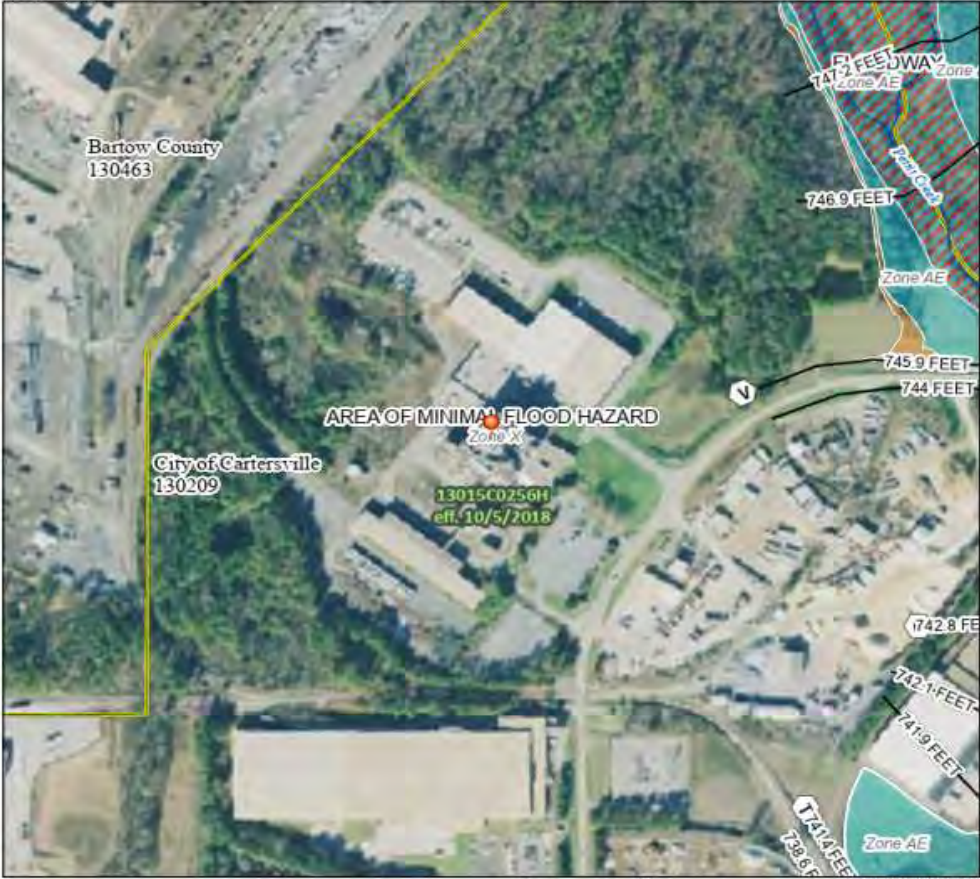
FOR MORE INFORMATION VISIT, PLEASE VISIT: [FloodSmart.gov](https://www.floodsmart.gov)

FIRM Extract

National Flood Hazard Layer FIRMette



84°48'7"W 34°14'21"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE THIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zone A, X, AO, AO2
	With BFE or Depth Zone AE, AO, AO2, VE, AH Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone B
	Future Conditions 1% Annual Chance Flood Hazard Zone A
	Area with Reduced Flood Risk due to Levee. See Notes. Zone X
	Area with Flood Risk due to Levee Zone B
OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard Zone X
	Effective LOMRs Zone A
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
OTHER FEATURES	20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
	Coastal Transect Baseline
MAP PANELS	Profile Baseline
	Hydrographic Feature
	Digital Data Available
	No Digital Data Available
	Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/7/2026 at 3:49 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmoderated areas cannot be used for regulatory purposes.

FEMA Extract

Georgia State Office
355 East Hancock Ave
Athens, GA 30601

June 29, 2026

Boyd Austin, Executive Director
Northwest Georgia Regional Commission
P.O. Box 1798
Rome, Georgia 30162

Re: Development Regional Impact 4761, Project Indo, City of Cartersville, Bartow County

Dear Mr. Austin:

This letter replies to your request for information on the possible impacts of the proposed new development 200MW critical IR load data center project may have on land use, conservation, water quality and other general environmental concerns that may be of interest to our agency. The following outlines our concerns with the proposed project with regards to farmland protection, and Natural Resources Conservation Service (NRCS) watershed dams and project easements.

Farmland Protection

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For FPPA purposes, farmland includes areas located within soil map units rated as prime farmland, unique farmland, or land of statewide or local importance not currently in urban/built up land use. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land uses, but not water or urban built-up land. It should be noted that the FPPA does not authorize the Federal Government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

NRCS uses a Land Evaluation and Site Assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. It is our understanding that the proposed project involves federal funds or assistance, and thus could be subject to this assessment. **However, this site is completely contained within a U.S. Census Bureau designated urban area (Cartersville, GA 14185) and is thus exempt from this assessment. You need to take no further action for FPPA purposes.**

NRCS Watershed Dams

More than 50 years ago, the U.S. Department of Agriculture was authorized by Congress to help local communities with flood control and watershed protection through the Watershed Program (PL-534 Flood Control Act of 1944 and PL-566 Watershed Protection and Flood Prevention Act). As a result, local communities, with NRCS assistance, have constructed over 11,000 dams in 47 states since 1948. These dams were originally constructed for protection of farmlands from flooding impacts. In 2000, PL-566 was amended to provide NRCS authorization to assist communities with rehabilitation of their aging dams. The legislation authorizes NRCS to work with local communities and watershed project sponsors to address public health and safety concerns and potential environmental impacts of aging dams.

We have reviewed our records and have determined that there are no such structures downstream of the proposed project that could be affected by these activities.

NRCS Easements

NRCS easements relate to our Wetland Reserve Program and the Farm and Ranchland Protection Program. **We have reviewed our records and have determined that there are no such easements downstream or in the near vicinity of the proposed project that could be affected by these activities.**

NRCS appreciates this opportunity to comment. If you have questions or need any additional information, please contact me at nelson.velazquezgotay@usda.gov.

Sincerely,

NELSON A. VELÁZQUEZ GOTAY
SOIL SCIENTIST

cc: Dennis Brooks, Assistant State Conservationist (FO), NRCS, Griffin, GA
Shaun Smith, District Conservationist, NRCS, Calhoun, GA
Michael Henderson, Resource Soil Scientist, NRCS, Griffin, GA

DRI4761.ProjectIndo.Cartersville.Report and Recommendations

Final Audit Report

2026-07-14

Created:	2026-07-14
By:	Julie Meadows (jmeadows@nwgrc.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAA4mEPPJR7AMKALXE5BYBbuJ-7scfD6XTT

"DRI4761.ProjectIndo.Cartersville.Report and Recommendations" History

-  Document created by Julie Meadows (jmeadows@nwgrc.gov)
2026-07-14 - 4:05:18 PM GMT
-  Document emailed to Boyd Austin (baustin@nwgrc.gov) for signature
2026-07-14 - 4:05:25 PM GMT
-  Email viewed by Boyd Austin (baustin@nwgrc.gov)
2026-07-14 - 6:34:03 PM GMT
-  Document e-signed by Boyd Austin (baustin@nwgrc.gov)
Signature Date: 2026-07-14 - 6:34:41 PM GMT - Time Source: server - Signature Appearance Selected: MOBILE_DRAW
-  Agreement completed.
2026-07-14 - 6:34:41 PM GMT



Existing Conditions 7-30-26



Jul 30, 2026 at 2:29:14 PM
220 Industrial Park Rd NE
Cartersville GA 30121
United States



Jul 30, 2026 at 2:30:47 PM
Cartersville GA 30121
United States



Jul 30, 2026 at 2:32:50 PM
Cartersville GA 30121
United States



To: Cartersville City Planning Commission
August 10, 2026
Re: Zoning Request Z26-05; objection to said request

To Whom It May Concern:

I am requesting that this letter be included in the official record for case Z26-05.

Like many citizens in Bartow County, I am adamantly opposed to rezoning 218 Industrial Park Road. (Parcel ID C059-0001-001) to T(Technology). The intention for the rezoning is to construct a data center - which no one wants. Respectfully, please deny the request to rezone.

While I appreciate the care placed into ensuring that the sound pollution is not significant, there are still other concerns, namely the impact on water as well as higher power bills.

Earlier this year, the county posted on social media that citizens of Bartow County need to be mindful of water usage due to drought. It is concerning that a data center would then be invited into our community because it will use a significant amount of our potable water, which living beings in this county need to survive. We do not need data centers to survive. We do, however, need water to survive. There appears to be a naive acceptance that only a small, insignificant amount of water will be consumed. That's the same story citizens in Fayetteville were told, but somehow their water pressure started dropping and - lo and behold! - their nice little local data center had been sucking up millions of gallons of water from a hookup they installed without permission. It's almost like they were hoping to get away with their deception. I suppose they underestimated the mental acuity of their neighbors. Also, the data center wasn't planning to pay for the millions of gallons of water they stole.

<https://www.politico.com/news/2026/05/08/georgia-data-centers-water-00909988>

Here is an additional article on general water consumption concerns:

<https://www.eesi.org/articles/view/data-centers-and-water-consumption>

Much has been said about the data centers using the closed-loop cooling system, as though that is supposed to solve everything. There appeared to be only one source of "information" included in the packet for this application and what it contained regarding a closed-loop system is deceptive. It is important to know that with the significant heat created at a data center, evaporation still occurs. More importantly, there are various chemicals added to the water to keep it circulating through the loops and which is periodically flushed back out into our ecosystem, polluting our water. This affects EVERY SINGLE LIFEFORM from the smallest-celled organism all the way up to humans. I have included information about the food chain here: <https://www.britannica.com/science/food-chain>

Closed-loop chemicals in water:

<https://ketos.co/closed-loop-cooling-water-saver-or-chemical-time-bomb>

I kind of feel like the desire to not have higher energy bills speaks for itself. I don't know many people who are thrilled to shell out hundreds of dollars more just to stay alive during the hot

summer months. **If you think it is hot now, add 16 degrees to the current temperature and think about how that will feel. That's the reality many people living in a 6.2 mile radius of data centers. They will feel temperature increases from 3.6 to 16.4 degrees Fahrenheit.**

Just to give myself some perspective on how this could impact my home in downtown Cartersville, I am approximately 5.2 miles away from 218 Industrial Park Road, so my home falls within that 6.2 mile radius, meaning my air conditioner will struggle to keep up if the temperature increases are in the higher range. It will never shut off in the summer months. I already keep it on 75 degrees Fahrenheit. I don't relish the idea of putting it at anything over that. Of course, if I am feeling those temperature increases where I am, how many many other homes and businesses are going to feel that increased heat? How many people are going to die from heat exhaustion? How many animals are going to die from heat exhaustion? How many plants - possibly even plants being grown for food - are going to wither because they were not made to live in such extreme heat conditions?

<https://www.cnn.com/2026/03/30/climate/data-centers-are-having-an-underreported>

<https://www.eesi.org/articles/view/data-center-power-demands-are-contributing-to-higher-energy-bills>

Regarding noise pollution, if this data center ends up being approved, I hope that they actually do find ways to prevent causing sound pollution because I have lost track at this point of how many people I have heard complain about the constant loud noise they are exposed to twenty-four hours a day, seven days a week. Here are just a few of them:

- One man described it as sounding like the engine of a jet, but the jet never takes off. It just keeps going and going and going and going. In that same article, it was said the constant noise made it feel like **"we're living in a prison in our own yard, in our own house."** <https://futurism.com/science-energy/data-center-screeching-noise-house>
- In Southaven, Mississippi, one resident described the constant noise like this: **"I feel like I am being tortured."** <https://www.cbsnews.com/video/mississippi-homeowners-noisy-data-center-plant/>
- A woman in Bristow, Virginia, complained about the constant noise triggering her anxiety. She lives in Virginia's "Data Center Alley" and describes this once beautiful place as an industrial wasteland. A woman in another Virginia community said **"we are living in Hell."** <https://www.usnews.com/news/national-news/articles/2026-04-28/living-in-hell-data-center-neighbors-grapple-with-noise-air-pollution>
- Other examples and discussion: <https://www.eesi.org/articles/view/communities-are-raising-noise-pollution-concernsabout-data-centers>

There are additional concerns about data centers adversely impacting fetal health in animals (yep, that includes humans!) as well as higher levels of stress related conditions, sleep deprivation, cognitive and learning impairment, and premature death in adults. Here are some helpful articles relating to these issues:

- <https://www.mdlinx.com/article/ai-s-toxic-footprint-are-data-centers-driving-cancer-and-miscarriage-rates-up/6SGIX4xYAmbINPu34wVvUX>
- <https://ehsciences.org/ai-data-center-health-impacts/>
- <https://www.eesi.org/articles/view/data-centers-are-hotbeds-of-health-risks>
- <https://www.pwcva.gov/assets/2025-05/DCOAG%20White%20Paper%20-%20What%20Research%20Says%20About%20the%20Public%20Health%20Dangers%20of%20Noise%20Pollution%2020250507.pdf>
- <https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2026.1648912/full>
- <https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2026.1648912/full>

I have heard it said that "data centers are inevitable." However, what is actually inevitable is that when this city and this county have been sucked dry by data centers, people will not want to live here. If enough people are adversely impacted by loss of water, increases in their energy bills, and other related nuisances, why would they want to stay here? What would entice them to make Cartersville their home? How many homes could end up being abandoned and go into foreclosure just to escape this easily preventable hellscape?

Please do additional research and don't rely solely on the information the applicant has provided. It is obviously biased information.

Please DENY THE REQUEST to rezone 218 Industrial Park Road, Z26-05. Please stop bringing data centers to Cartersville. Please stop construction of data centers in Cartersville.

Regards,

Meghann K. Humphreys, Esq.



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The
that c

A data center drained 30M gallons of water unnoticed — until residents complained about low water pressure

Residents in Fayetteville, Georgia, noticed low water pressure last year. The utility discovered two unaccounted-for water connections at one of the nation's largest data center campuses.



The Atlanta skyline looms over a field of dry grass during a 2019 drought. Georgia is dealing with similar conditions this year. | David Goldman/AP

By ARIANNA SKIBELL

05/09/2026 02:00 PM EDT

The neighbors of a data center in Georgia are steaming after they discovered the facility had sucked up nearly 30 million gallons of water — without initially paying for it.

Outrage started bubbling up last year when residents of an affluent subdivision named Annelise Park in Fayetteville, Georgia, noticed their water pressure was unusually low.

Advertisement

When the county utility investigated, officials discovered two industrial-scale water hookups feeding a data center campus located 20 miles south of downtown Atlanta. One water connection had been installed without the utility's knowledge, and the other was not linked to the company's account and therefore wasn't being billed.

All told, the developer, Quality Technology Services, owed nearly \$150,000 for using more than 29 million gallons of unaccounted-for water. That is equivalent to 44 Olympic-size swimming pools and far exceeds the peak limit agreed to during the data center planning process.

The details were revealed in a May 15, 2025 letter from the Fayette County water system to Quality Technology Services, which outlined the retroactive charge of \$147,474. The letter did not specify how many months the unpaid bill covered, but when asked about it Wednesday, Vanessa Tigert, the Fayette County water system director, said it was likely about four months. A QTS spokesperson said the timeframe was 9-15 months.

Once the data center was notified, it paid all retroactive charges, a QTS spokesperson said in an email, noting the unmetered water consumption occurred while the county converted its system to smart meters.

The Fayette County water system confirmed the data center's meters are now fully integrated and tracked. Tigert, the water system director, blamed the issue on a

procedural mix-up.

“Fayette County is a suburb, it’s mostly residential, and we don’t have much commercial meters in our system anyway,” she said. “And so we didn’t realize our connection point wasn’t working.”

Advertisement

The incident became public last week when a county resident obtained the 2025 letter to QTS through a public records request and posted it on Facebook, prompting outrage from residents concerned about the data center’s water consumption.

The Fayetteville campus is one of the largest data center developments in the country, covering 615 acres with plans for up to 16 buildings. Right now, the campus is partially operational.

County officials say the campus will generate tens of millions of dollars in annual property taxes, but the facility’s massive scale and appetite for water and electricity has helped galvanize local pushback against more data centers. The Fayetteville City Council voted last month to ban new data centers in every zoning district within the city.

Georgia is home to more than 200 data center facilities and their thirst for water is turning into a political flashpoint. The entire state is experiencing moderate to high levels of drought, and Gov. Brian Kemp declared a state of emergency last month in response to one of Georgia’s worst wildfire outbreaks in years.

One resident said frustration with data centers boiled over after local officials told community members to scale back their water usage.

“We get this notification from Fayette County water system saying you need to stop watering your lawns to help conserve water,” said James Clifton, an attorney and property rights advocate who obtained and shared the 2025 letter to QTS.

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“So the first thing they do is lean on the individuals and the citizens to stop water consumption when we have QTS that’s just absolutely draining us — most months it’s the No. 1 consumer of water in the county,” said Clifton, who is also running for a seat on the Fayette County Board of Commissioners.

QTS, a major data center developer with facilities across the country, disputes the accusation.

The company, which is owned by the private equity firm Blackstone, touts a “closed-loop” cooling system, which it says does not consume water for cooling. Like a laptop or cellphone, the chips housed in data centers can easily overheat — generally requiring a lot of water to cool them.

The company said its water consumption was so high last year because of temporary construction-related activities, such as concrete work, dust control and site preparation.

Once operational, the company said the data centers only will use water for domestic needs, such as bathrooms and kitchens. That will total the equivalent of what four U.S. households use per month, the spokesperson said.

That may not happen for another few years, however. The company is still actively building and expanding its Fayetteville data center campus. It aims to finish in three to five years.

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Tigert, who sent the 2025 letter to QTS, said the utility didn’t know about the water hookups because the connection process “got mixed up” as the county transitioned to a

cloud-based system while also trying to accommodate an industrial customer. Tigert also said her staff is small and at capacity.

“Just like any water system, we don’t have enough staff. We can’t keep staff,” she said. “I’ve got one person that’s doing inspections and plan review, and so he’s spread pretty thin.”

She said it’s possible her staff did know about hookups but that she hadn’t been able to locate the inspection report. “I may have hit ‘send’ too soon,” she said about the 2025 letter to QTS.

While the utility charged the data center a higher construction rate for the unapproved water consumption, Tigert confirmed the utility did not penalize or fine the data center.

That decision has some residents stewing.

“It’s just frustrating to see them come into our community and run all over us like the citizens don’t matter, and then they’re above the law when they do break it,” Clifton said.

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Gregory Pierce, director of the UCLA Water Resources Group, said it’s unusual that the utility didn’t fine the data center for breaking the rules.

“I don’t know exactly what’s happening here, but they probably don’t want to upset one of their new and largest customers,” said Pierce, who is studying the growing grip data centers have on local water systems.

Tigert defended the utility’s decision to not levy a fine.

“They’re our largest customer, and we have to be partners,” she said. “It’s called customer service.”

Miranda Willson contributed to this report.



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Data Centers and Water Consumption

By Miguel Yañez-Barnuevo (/authors/miguel-yanez) ✉ (mailto:myanez@eesi.org)

June 25, 2025

Highlights:

- Data center developers are increasingly tapping into freshwater resources to quench the thirst of data centers, which is putting nearby communities at risk.
- Large data centers can consume up to 5 million gallons *per day*, equivalent to the water use of a town populated by 10,000 to 50,000 people.
- With larger and new AI-focused data centers, water consumption is increasing alongside energy usage and carbon emissions.
- Novel technologies like direct-to-chip cooling and immersion cooling can reduce water and energy usage by data centers.

Data centers have a thirst for water, and their rapid expansion threatens freshwater supplies. Only 3% of Earth's water is freshwater, and only 0.5% of all water (<https://www.eesi.org/articles/view/how-water-reuse-can-address-scarcity>) is accessible and safe for human consumption. Freshwater is critical for survival. On average, a human being can live without water for only three days

(<https://www.medicalnewstoday.com/articles/325174#how-long-can-you-live-without-water>). Increasing drought and water shortages are reducing water availability (<https://www.eesi.org/articles/view/how-water-reuse-can-address-scarcity>). Meanwhile, data center developers are increasingly tapping into surface and underground aquifers to cool their facilities.

Data center water usage closely parallels energy usage and carbon emissions. As data centers use more energy for their typical data center operations and to meet AI requests, they consume larger amounts of water to cool their processor chips, so as to avoid overheating and potential damage. Similarly, as energy use increases in data centers, so do carbon emissions.

A medium-sized data center can consume up to roughly 110 million gallons of water (<https://www.npr.org/2022/08/30/1119938708/data-centers-backbone-of-the-digital-economy-face-water-scarcity-and-climate-ris>) per year for cooling purposes, equivalent to the annual water usage of approximately 1,000 households. Larger data centers can each "drink" up to 5 million gallons per day, or about 1.8 billion annually (<https://www.washingtonpost.com/climate-environment/2023/04/25/data-centers-drought-water-use/>), usage equivalent to a town of 10,000 to 50,000 people. Together, the nation's 5,426 data centers (<https://www.eesi.org/articles/view/data-center-energy-needs-are-upending-power-grids-and-threatening-the-climate>) consume billions of gallons of water annually. One report estimated that U.S. data centers consume 449 million gallons of water per day (<https://www.nature.com/articles/s41545-021-00101-w>) and 163.7 billion gallons annually (as of 2021). A 2016 report (<https://journal.uptimeinstitute.com/dont-ignore-water-consumption/>) found that fewer than one-third of data center operators track water consumption. Water consumption is expected to continue increasing as data centers grow in number, size, and complexity.

According to scientists at the University of California, Riverside, each 100-word AI prompt is estimated to use roughly one bottle of water (<https://www.washingtonpost.com/technology/2024/09/18/energy-ai-use-electricity-water-data-centers/>) (or 519 milliliters). This may not sound like much, but billions of AI users worldwide enter prompts into systems like ChatGPT every minute. Large language models require many energy-intensive calculations (<https://insideclimatenews.org/news/28092024/ai-water-usage/>), necessitating liquid cooling systems.

The Water Cycle of Data Centers

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A data center's water footprint is calculated as the sum of three categories (<https://arxiv.org/pdf/2304.03271>): on-site water usage, water use by power plant facilities that supply power to data centers, and water consumption during the manufacturing process of processor chips. Water can come from various sources, including blue sources (<https://iopscience.iop.org/article/10.1088/1748-9326/abfba1>) (e.g., surface water and groundwater), piped sources such as municipal water, and gray sources (e.g., purified reclaimed water). Using recycled or non-potable water to meet a data center's cooling needs is a well-established practice to conserve limited potable water resources, particularly in dry or drought-prone areas.

In the context of data centers, "water consumption" (<https://arxiv.org/pdf/2304.03271>) refers to the amount of water withdrawn from blue or gray sources minus the water discharged by the centers (primarily warm water left over from cooling the IT racks). The consumed water is generally the water that evaporates or is otherwise taken out of immediate human usage. Withdrawal of fresh water from local streams or underground aquifers may lead to aquifer exhaustion, particularly in water-stressed areas.

Researchers at The Green Grid (<https://www.thegreengrid.org/>), a nonprofit industry consortium, developed a metric called Water Usage Effectiveness (<https://www.datacenterknowledge.com/cooling/a-guide-to-data-center-water-usage-effectiveness-wue-and-best-practices>) (WUE) to measure water usage by data centers. Similar to the Power Usage Effectiveness ([https://www.vertiv.com/en-emea/about/news-and-insights/articles/educational-articles/what-is-pue-power-usage-effectiveness-and-what-does-it-measure/#:~:text=Does%20it%20Measure%20What%20is%20PUE%20\(Power%20Usage%20Effectiveness\)%20and%20What%20Does%20it,There%20are%20several%20practical%20considerations](https://www.vertiv.com/en-emea/about/news-and-insights/articles/educational-articles/what-is-pue-power-usage-effectiveness-and-what-does-it-measure/#:~:text=Does%20it%20Measure%20What%20is%20PUE%20(Power%20Usage%20Effectiveness)%20and%20What%20Does%20it,There%20are%20several%20practical%20considerations)) (PUE) metric, which measures the energy efficiency of a data center, the WUE metric assesses the efficiency of a data center's water use. WUE is reported in liters per kilowatt-hour (kWh) (<https://www.datacenterknowledge.com/cooling/a-guide-to-data-center-water-usage-effectiveness-wue-and-best-practices>): a data center's total water consumption, measured in liters, is divided by the total energy consumed by that data center in kilowatt-hours in the same time period. While "0" is the ideal WUE score (<https://www.datacenterknowledge.com/cooling/a-guide-to-data-center-water-usage-effectiveness-wue-and-best-practices>), this can only be achieved in air-cooled data centers, and most data centers cannot meet this target due to their location's climate conditions. The average WUE across data centers is 1.9 liters per kWh (<https://www.datacenterknowledge.com/cooling/a-guide-to-data-center-water-usage-effectiveness-wue-and-best-practices>), which is a great goal to beat.

Data centers' water usage depends on various factors, including location, climate, water availability, size, and IT rack chip densities. In hotter climates, like in the southwest United States, data centers need to use more water to cool the building and equipment. With the increasing number of centers supporting AI requests, chip density is also growing, which leads to higher room temperatures, necessitating the use of more water chillers at the server level to maintain cool temperatures. Most data centers use a combination of chillers and on-site cooling towers to avoid chip overheating.

Cooling data centers is a complex operation (<https://arxiv.org/pdf/2304.03271>). At the server level, water chillers cool IT rooms to maintain optimal temperatures and prevent damage to chips. This can be achieved through air cooling using water evaporation, which is an open-loop and more water-intensive method, or through server liquid cooling (<https://www.datacenterdynamics.com/en/analysis/an-introduction-to-liquid-cooling-in-the-data-center/>). Server cooling is a more expensive approach that delivers the liquid coolant directly to the graphics processing units (GPUs) and central processing units (CPUs). Direct-to-chip liquid cooling and immersive liquid cooling (<https://www.datacenterdynamics.com/en/analysis/an-introduction-to-liquid-cooling-in-the-data-center/>) are two standard server liquid cooling technologies that dissipate heat while significantly reducing water consumption. During immersive cooling, water or specialized synthetic liquids flood the chips, absorbing the heat. The difference between direct server liquid cooling and air cooling through evaporation can be compared to the difference between drip irrigation and flooding in agriculture.

In areas with limited water availability (<https://www.npr.org/2022/08/30/1119938708/data-centers-backbone-of-the-digital-economy-face-water-scarcity-and-climate-ris>), server liquid cooling is the best choice, as it requires minimal water consumption. Conversely, in areas with a strained power grid, an evaporative air cooling tower is a suitable building design, as it requires minimal power usage.

Regardless of the approach chosen, a heat exchanger is necessary to capture (<https://blog.equinix.com/blog/2024/09/19/how-data-centers-use-water-and-how-were-working-to-use-water-responsibly/>) the hot air or hot water produced as a byproduct of the cooling process. Hot water coming from the servers is cooled by water from either the air-cooled chiller or a cooling tower. Likewise, hot air is exchanged with cooler air. A heat exchanger transfers heat from the server room to the building's cooling system.

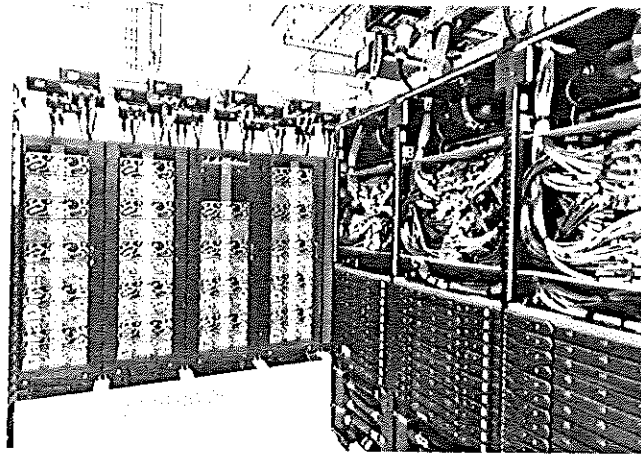
Approximately 80% of the water (<https://arxiv.org/pdf/2304.03271>) (typically freshwater) withdrawn by data centers evaporates, with the remaining water discharged to municipal wastewater facilities. The large volume of wastewater from data centers may overwhelm existing (<https://ketos.co/ai-data-centers-wastewater-discharge-and-the-growing-need-for-effective-water-management/#:~:text=The%20influx%20of%20wastewater%20from,time%20to%20manage%20the%20influx,>) local facilities, which were not designed to handle such a high volume.

Besides on-site water consumption, a significant portion of data center water usage originates from the power facilities where they obtain their energy. Because 56% of the electricity used to power data centers nationwide (<https://arxiv.org/pdf/2411.09786>) comes from fossil fuels, a significant portion of data center water consumption is derived from steam-generating power plants. Fossil fuel power plants rely on large boilers filled with water that is superheated by natural gas or coal to produce steam, which in turn rotates a turbine and generates electricity. Water withdrawals from these power plants (https://www.srs.fs.usda.gov/pubs/ja/2023/ja_2023_caldwell_002.pdf) are a significant source of water stress, particularly in drought-prone areas and in the summer, when water levels are lower and electricity demands are higher.

A federal report estimated (<https://eta-publications.lbl.gov/sites/default/files/2024-12/lbnl-2024-united-states-data-center-energy-usage-report.pdf>) that the indirect water consumption footprint (from electricity use) of data centers in the United States was roughly 211 billion gallons in 2023. Given that 176 terawatt-hours (TWh) of electricity were consumed by data centers in 2023, the centers' indirect water consumption can be estimated at 1.2 gallons per kWh on average nationally in 2023. As data centers are expected to consume up to 1,050 TWh annually by 2030 (<https://www.eesi.org/articles/view/data-center-energy-needs-are-upending-power-grids-and-threatening-the-climate>), water usage will increase in parallel.

Chip and server manufacturing are significant sources of water consumption for data centers. Semiconductors and computer chips are integral to data center processing. Each server in a data center contains multiple CPUs, GPUs, and memory chips. (<https://ifp.org/how-to-build-an-ai-data-center/>) Larger data centers and those that support AI requests can contain tens of thousands of servers, each with multiple chips. Ultrapure water is ideal for cleaning,

etching, and rinsing chips during the manufacturing process. (<https://www.weforum.org/stories/2024/07/the-water-challenge-for-semiconductor-manufacturing-and-big-tech-what-needs-to-be-done/>) Creating ultrapure water is a highly water-intensive process, requiring approximately 1,500 gallons of piped water to produce 1,000 gallons of ultrapure water. An average chip manufacturing facility (<https://www.weforum.org/stories/2024/07/the-water-challenge-for-semiconductor-manufacturing-and-big-tech-what-needs-to-be-done/>) consumes approximately 10 million gallons of ultrapure water per day. A single chip installed in a data center has already consumed thousands (<https://cwrrr.org/resources/analysis-reviews/8-things-you-should-know-about-water-and-semiconductors/>) of gallons of water by the time it reaches the site.



Water-cooled high computing systems in a data center.

Credit: ECMWF Data Center.

Water Impacts in Nearby Communities

The water consumption of the 5,426 data centers nationwide (<https://www.statista.com/statistics/1228433/data-centers-worldwide-by-country/>) is already impacting local communities. Northern Virginia is considered the world capital for data centers, with over 300 operational data centers (<https://www.governing.com/infrastructure/the-data-center-capital-of-the-world-is-in-virginia>) spread across four counties: Fairfax, Loudoun, Prince William, and Fauquier (<https://www.ft.com/content/1d468bd2-6712-4cdd-ac71-21e0ace2d048>). Collectively, all data centers in Northern Virginia consumed close to 2 billion gallons of water in 2023, a 63% increase from 2019 (<https://www.ft.com/content/1d468bd2-6712-4cdd-ac71-21e0ace2d048>). Loudoun County, with approximately 200 (<https://virginiabusiness.com/loudoun-county-advances-changes-to-data-center-regulations/>) operational data centers, used around 900 million gallons of water in 2023 (<https://vcnva.org/agenda-item/responsible-data-center-development/>). This has led Loudoun Water, the county's water authority, to rely heavily on potable water for data centers rather than reclaimed water.

Making Data Centers More Water-Efficient

Data center developers' most common choice is to withdraw water from blue sources and employ water-intensive practices, such as air cooling through water evaporation. However, there are other options. To make a more sustainable choice for nearby communities and ecosystems, developers can instead use innovative water management techniques to reduce water consumption, including closed-loop cooling systems, immersion cooling, air cooling, and using non-potable water sources (e.g., recycled wastewater and captured water).

Closed-loop cooling systems enable the reuse of both recycled wastewater and freshwater, allowing water supplies to be used multiple times. A cooling tower can use external air to cool the heated water, allowing it to return to its original temperature. These systems can reduce freshwater use by up to 70% (<https://www.weforum.org/stories/2024/11/circular-water-solutions-sustainable-data-centres/#:~:text=To%20further%20mitigate%20the%20broader,Aquapreneur%20Innovation%20Initiative%2C%20visit%20UpLink.>).

Free cooling is a method where outside cold air is drawn into the data center to cool the equipment. Data centers must be located in cooler climates for this strategy to be effective.

Air cooling involves air conditioning vents and tubes that remove heat generated by chips (<https://www.digitalrealty.com/resources/articles/future-of-data-center-cooling>) as they process data and AI requests. This method is most effective in areas where electricity is cheaper and water resources are limited.

Immersion cooling in data centers involves bathing servers, chips, and other components in a specialized dielectric (or non-conductive) fluid. Hardware is submerged in specially designed tanks filled with the coolant. (<https://www.grcooling.com/blog/forecasting-data-center-immersion-cooling-technology/#:~:text=Immersion%20cooling%20submerges%20computer%20hardware,it%20into%20a%20heat%20exchanger.>) The non-conductive liquid absorbs the heat from the chips and transfers it to a heat exchanger, where it is cooled down before flowing back into the tank. Immersion cooling is a novel process that entails higher upfront costs than conventional direct liquid cooling, but provides significant energy savings and space-optimization benefits for data center developers. Since the technology uses synthetic fluids, it requires significantly less water than other approaches.

Powering data centers with renewable energy sources, like solar or wind, requires significantly less water consumption than obtaining energy from fossil fuel power plants. With approximately 56% of the electricity used to power data centers nationwide (<https://arxiv.org/pdf/2411.09786>) coming from fossil fuels, deploying more clean energy to power these facilities can significantly reduce water consumption. Coal plants are the most water-intensive facilities, requiring approximately 19,185 gallons of water (<https://www.eia.gov/todayinenergy/detail.php?id=56820#:~:text=Natural%20gas%20plants%20use%20a,19%2C185%20gal%2FMWh%20for%20coal.>) per megawatt-hour (MWh) of power generation. Natural gas power plants consume approximately 2,800 gallons per MWh (<https://www.eia.gov/todayinenergy/detail.php?id=56820#:~:text=Natural%20gas%20plants%20use%20a,19%2C185%20gal%2FMWh%20for%20coal.>). In 2022, 40% of all total U.S. annual water withdrawals, or about 48.5 trillion gallons (<https://iopscience.iop.org/article/10.1088/1748-9326/ad6fb8>), were made by coal and gas power plants. Of those 48.5 trillion gallons, 962 billion gallons of water were consumed (<https://iopscience.iop.org/article/10.1088/1748-9326/ad6fb8>) and were no longer available for direct downstream use. Meanwhile, rooftop solar panels and wind turbines do not need any cooling water, and they are not a steam-based energy technology like coal and natural gas.

If the United States moves toward 100% renewable energy generation and the retirement of fossil fuel plants, the water savings would be enormous, with billions of gallons of water saved, and more freshwater would be available for both human consumption and natural ecosystems.

Author: Miguel Yañez-Barnuevo

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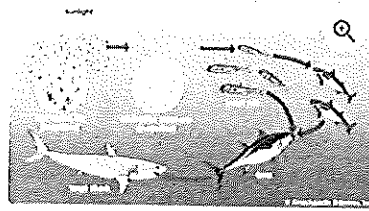
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food chain

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Diatoms and other phytoplankton form the foundations of ocean food chains. Shrimplike krill consume the phytoplankton, and...(more)

food chain, in ecology, the sequence of transfers of matter and energy in the form of food from organism to organism. Food chains intertwine locally into a food web because most organisms consume more than one type of animal or plant. Plants, which convert solar energy to food by photosynthesis, are the primary food source. In a predator chain, a plant-eating animal is eaten by a flesh-eating animal. In a parasite chain, a smaller organism consumes part of a larger host and may itself be parasitized by even smaller organisms. In a saprophytic chain, microorganisms live on dead organic matter.

Because energy, in the form of heat, is lost at each step, or trophic level, chains do not normally encompass more than four or five trophic levels. People can increase the total food supply by cutting out one step in the food chain: instead of consuming animals that eat cereal grains, the people themselves consume the grains. Because the food chain is made shorter, the total amount of energy available to the final consumers is increased.

Key People: Charles Elton

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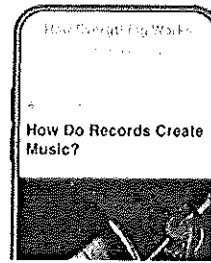
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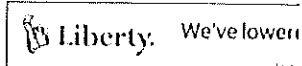
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ecosystem, the complex of living organisms, their physical environment, and all their interrelationships in a particular unit of space.



A brief treatment of ecosystems follows. For full treatment, *see* [biosphere](#).

An ecosystem can be categorized into its abiotic constituents, including minerals, climate, soil, water, sunlight, and all other nonliving elements, and its biotic constituents, consisting of all its living members. Linking these constituents together are two major forces: the flow of energy through the ecosystem and the cycling of nutrients within the ecosystem. Ecosystems vary in size: some are small enough to be contained within single water droplets while others are large enough to encompass entire landscapes and regions (*see* [biome](#)).

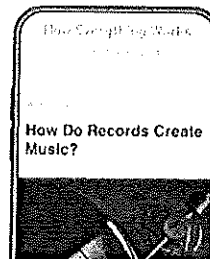
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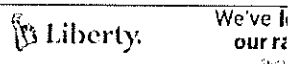
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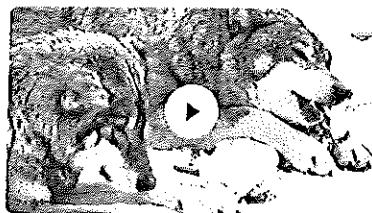
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Energy flow

The fundamental source of energy in almost all ecosystems is radiant energy from the Sun. The energy of sunlight is used by the ecosystem's autotrophic, or self-sustaining, organisms (that is, those that can make their own food). Consisting largely of green vegetation, these organisms are capable of photosynthesis—i.e., they can use the energy of sunlight to convert carbon dioxide and water into simple, energy-rich carbohydrates. The autotrophs use the energy stored within the simple carbohydrates to produce the more complex organic compounds, such as proteins, lipids,



How an ecosystem works: Producers, herbivores, and carnivores Understanding energy flow in ecosystems.

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and starches, that maintain the organisms' life processes. The autotrophic segment of the ecosystem is commonly referred to as the producer level.



Ecosystems

Organic matter generated by autotrophs directly or indirectly sustains heterotrophic organisms. Heterotrophs are the consumers of the ecosystem; they cannot make their own food. They use, rearrange, and ultimately decompose the complex organic materials built up by the autotrophs. All animals and fungi are heterotrophs, as are most bacteria and many other microorganisms.

Key People: Charles Elton • Pierre Dansereau

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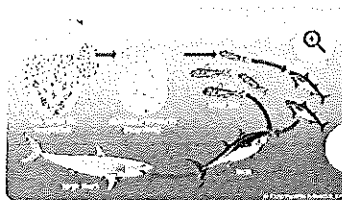


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Trophic levels

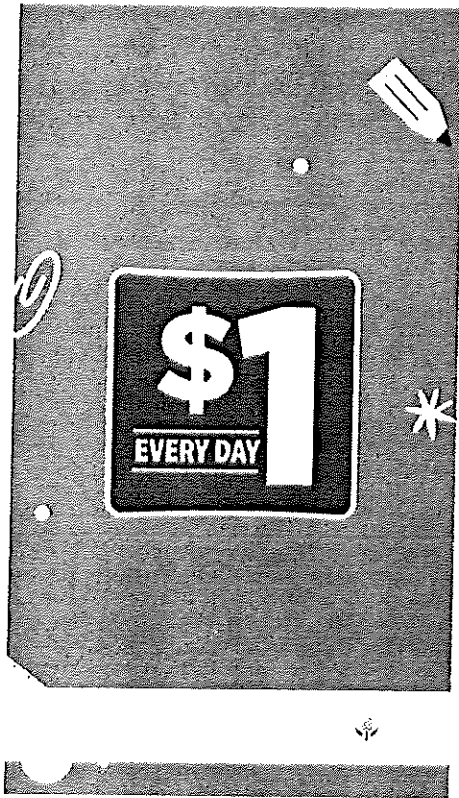
Together, the autotrophs and heterotrophs form various trophic (feeding) levels in the ecosystem: the producer level (which is made up of autotrophs), the primary consumer level (which is composed of those organisms that feed on producers), the secondary consumer level (which is composed of those organisms that feed on primary consumers), and so on. The movement of organic matter and energy from the producer level through various consumer levels makes up a food chain. For example, a typical food chain in a grassland might be grass (producer) → mouse (primary consumer) → snake (secondary consumer) → hawk (tertiary consumer). Actually, in many cases the food chains of the ecosystem's biological community overlap and interconnect, forming what ecologists call a food web. The final link in all food chains is made up of decomposers, those heterotrophs (such as scavenging birds and mammals, insects, fungi, and bacteria) that break down dead organisms and organic wastes into smaller and smaller components, which can later be used by producers as nutrients. A food chain in which the primary consumer feeds on living plants is called a grazing pathway, and a food chain in which the primary consumer feeds



marine food chain A food chain in the ocean begins with tiny one-celled organisms called diatoms. They ma...(more)

on dead plant matter is known as a detritus pathway. Both pathways are important in accounting for the energy budget of the ecosystem.

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Nutrient cycling

Nutrients are chemical elements and compounds that organisms must obtain from their surroundings for growth and the sustenance of life. Although autotrophs obtain nutrients primarily from the soil while heterotrophs obtain nutrients primarily from other organisms, the cells of each are made up primarily of six major elements that occur in similar proportions in all life-forms. These elements—hydrogen, oxygen, carbon, nitrogen, phosphorus, and sulfur—form the core protoplasm (that is, the semifluid substance that makes up a cell's cytoplasm and nucleus) of organisms. The first four of these elements make up about 99 percent of the mass of most cells. Additional elements, however, are also essential to the growth of organisms. Calcium and other elements help to form cellular support structures such as shells, internal or external skeletons, and cell walls. Chlorophyll molecules, which allow photosynthetic plants to convert solar energy into chemical energy, are chains of carbon, hydrogen, and oxygen compounds built around a magnesium ion. Altogether, 16 elements are found in all organisms; another eight elements are found in some organisms but not in others.

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These bioelements combine with one another to form a wide variety of chemical compounds. They occur in organisms in higher proportions than they do in the environment because organisms capture them, concentrating and combining them in various ways in their cells, and release them during metabolism and death. As a result, these essential nutrients alternate between inorganic and organic states as they rotate through their respective biogeochemical cycles: the carbon cycle, the oxygen cycle, the nitrogen cycle, the sulfur cycle, the phosphorous cycle, and the water cycle. These cycles can include all or part of the following environmental spheres: the atmosphere, which is made up largely of gases including water vapor; the lithosphere, which encompasses the soil and the entire solid crust of Earth; the hydrosphere, which includes lakes, rivers, oceans, groundwater, frozen water, and (along with the atmosphere) water vapor; and the biosphere, which includes all living things and overlaps with each of the other environmental spheres.

A portion of the elements are bound up in limestone and in the minerals of other rocks and are unavailable to organisms. The slow processes of weathering and erosion eventually release these elements to enter the cycle. For most of the major nutrients, however, organisms not only intercept the elements moving through the biosphere, but they actually drive the biogeochemical cycles. The movement of nutrients through the biosphere is different from the transfer of energy because, whereas energy flows through the biosphere and cannot be reused, elements are recycled. For example, the same atoms of carbon or nitrogen may, over the course of cons, move repeatedly between organisms, the atmosphere, the soil, and the oceans. Carbon released as carbon dioxide by an animal may remain in the atmosphere for 5 or 10 years before being taken up by another organism, or it may cycle almost immediately back into a neighboring plant and be used during photosynthesis.

The Editors of Encyclopaedia Britannica

This article was most recently revised and updated by Tracy Grant.

Science > Environment

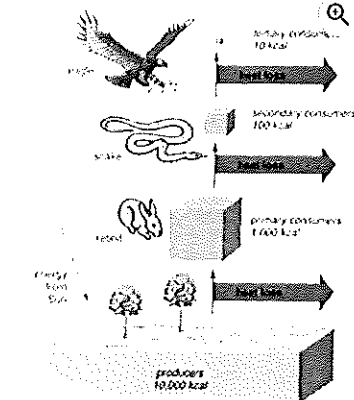
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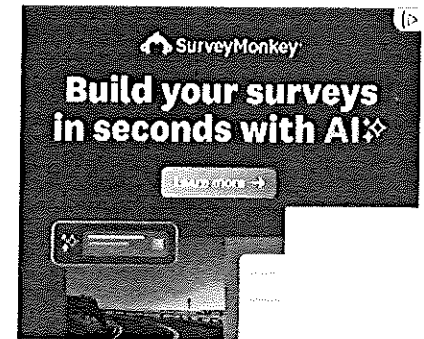
trophic level, step in a nutritive series, or food chain, of an ecosystem. The organisms of a chain are classified into these levels on the basis of their feeding behaviour.

Energy flow and trophic levels



Energy flow and trophic levels

trophic pyramid Energy flow, heat loss, and the relative amount of biomass occurring at various trophic levels within a general...(more)



The first and lowest level contains the producers, green plants. The plants or their products are consumed by the second-level organisms—the herbivores, or plant eaters. At the third level, primary carnivores, or meat eaters, eat the herbivores; and at the fourth level, secondary carnivores eat the primary carnivores. These categories are not strictly defined, as many organisms feed on several trophic levels; for example, some carnivores also consume plant materials or carrion and are called omnivores, and some herbivores occasionally consume animal matter. A separate trophic level, the decomposers or transformers, consists of organisms such as bacteria and fungi that break down dead organisms and waste materials into nutrients usable by the producers.

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This article was most recently revised and updated by Meg Matthias.

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Related Topics: trophic pyramid • food chain • decomposer • producer • consumer

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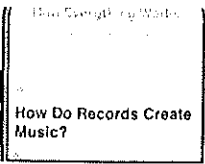

What is a trophic cascade? Learn how small changes in the food pyramid can upend the ecosystem.

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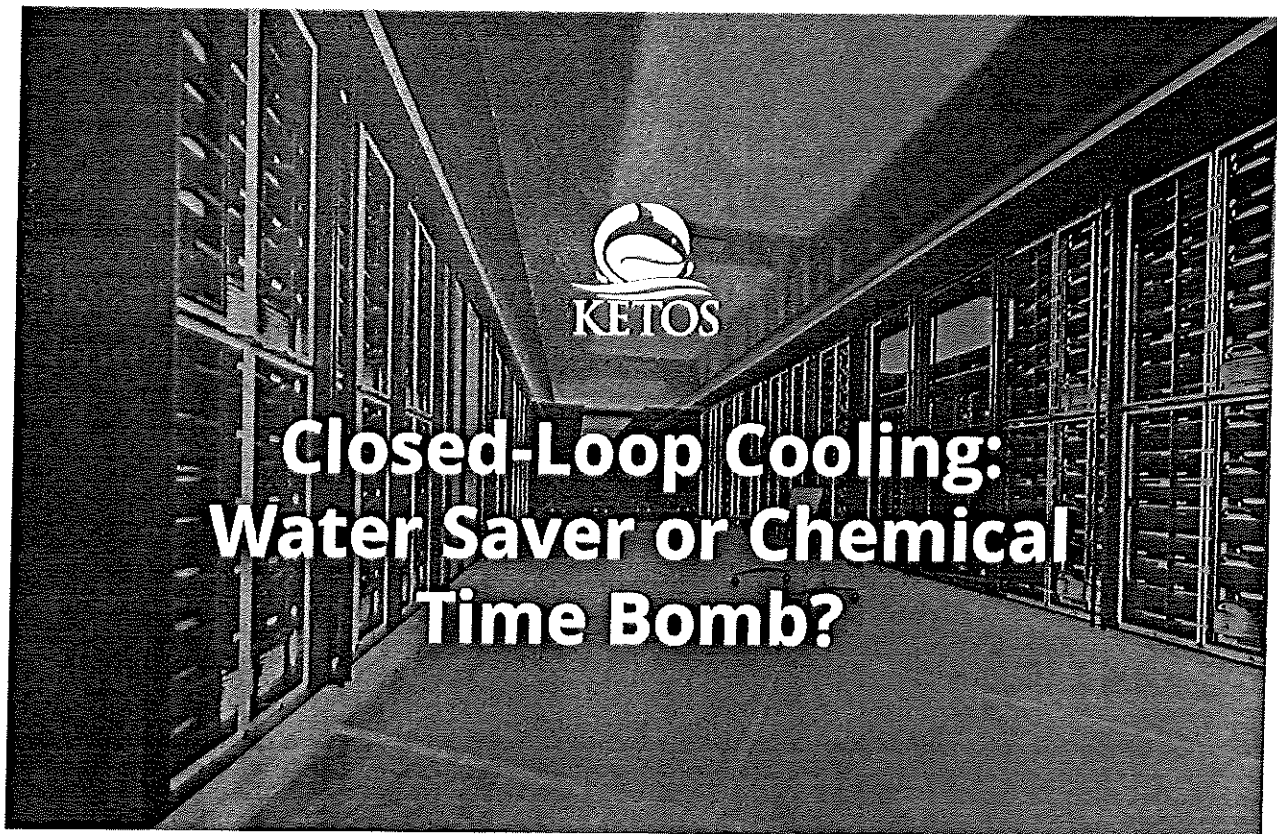
By Britannica and other contributors to The Editors of Encyclopædia Britannica



<https://ketos.co>

Closed-Loop Cooling: Water Saver or Chemical Time Bomb?

Ganesh Hegde



By Ganesh Hegde, Director, Data Science and AI Strategy

Artificial intelligence is booming, and so is its thirst. By now, it's well known that training popular AI models such as OpenAI's GPT-3 in a U.S. data center used about 700,000 L of fresh water (<https://interestingengineering.com/>). Researchers warn that by 2027, AI workloads could drive up to 6.6 billion m³ of annual water withdrawals (<https://www.newsweek.com/>)—roughly the water a country the size of Denmark drinks each year.

Closed-loop liquid cooling looks like a silver bullet. It recirculates the same fluid instead of evaporating thousands of litres each hour, and Microsoft estimates savings of more than 125 million liters per site each year (<http://microsoft.com>) while running at a fleet-wide 0.30 L/kWh Water Usage Effectiveness (WUE).

But saving water (<https://ketos.co/net-positive-water-usage-data-centers-and-tech-companies-committing-to-change>) is only half the story. In an earlier report on this topic (<https://ketos.co/resources/water-quality-preparedness-in-the-age-of-ai>), KETOS had highlighted the importance of being prepared for wastewater implications of an exponential rise in the buildout of AI datacenters. In this article, we discuss how the focus on closed-loop cooling as the go-to solution for AI datacenters has serious implications that haven't really gotten the attention they deserve.

The Chemistry No One Talks About

Closed-loop systems rely on a cocktail of additives such as corrosion inhibitors, biocides, and antifreeze blends to keep water doing its job. They stop rust, starve microbes, and move heat off chips with high efficiency.

Additive	Typical closed-loop concentrations	Safe-water limit	Why it matters
Nitrite inhibitor	600 – 1,200 ppm (steel), up to 7,000 ppm (https://www.watertechnologies.com/) in mixed-metal circuits (https://www.watertechnologies.com/handbook/chapter-32-closed-recirculating-cooling-systems)	1 ppm in U.S. drinking water (http://epa.gov) (https://www.epa.gov/dwreginfo/chemical-contaminant-rules)	Converts to carcinogen nitrosamine at treatment plants
Glycol antifreeze	25-50% by volume	Discharge cap <0.25% (U-Michigan) (https://ehs.umich.edu/wp-content/uploads/2018/09/StdS-Dschrg-OpenClose-LoopSys-Drn.pdf)	Spills spike BOD; an airport runoff carried 30,000 lb BOD—sewage load of 176,000 people
Copper & zinc (pipe metals)	Hundreds-thousands µg/L	Copper cap 4,000 µg/L (U-Michigan) (https://ehs.umich.edu/wp-content/uploads/2018/09/StdS-Dschrg-OpenClose-LoopSys-Drn.pdf)	Toxic to aquatic life extra POTW fees

But the protection comes with a trade-off. Because the same water loops again and again, anything that does not evaporate or break down simply piles up. Salts, metals, and treatment chemicals keep increasing in concentration with each recycling round and frequently reach concentrations that move well beyond established limits.

Operators bleed a small fraction of water each month to keep these levels in check, a practice known as blow-down. Even a 2% monthly bleed sounds proactive, yet contaminants can still rise much faster than in open towers that take on fresh water continuously. Higher cycles push minerals out of solution, feed microbial slime, and

shorten equipment life.

The bigger worry sits outside the fence. When blow-down finally leaves the site, it can carry nitrite, glycol, and heavy metals at thousands of times the limits set for surface waters. In other words, the water saved today may return tomorrow as a very different kind of liability.

Real-World Red Flags

- **Unplanned drain-downs** – A single 500 m³ loop drained for repair can send over three tonnes of nitrite to the local plant.
- **Valve leaks to storm drains** – Glycol concentrations above 10% suffocate fish faster than raw sewage.
- **Regulators are reacting** – Regulators are now demanding lab analysis before loop water enters sewers, and thresholds are rapidly tightening, but action remains dangerously slow (<https://ehs.umich.edu/>). Data centers are critically under-equipped for real-time water quality monitoring (/water-quality-monitoring-roi-automated-testing), creating an imminent risk.

Need real-time water quality monitoring?

KETOS SHIELD continuously monitors 30+ parameters, replacing manual testing with automated, lab-accurate data.

Schedule a Demo → (<https://ketos.co/request-a-demo>)

The Data Gap

Most facilities test quarterly, but loop chemistry can swing in hours if oxygen sneaks in or microbes oxidize nitrite. Over-dosing chemicals “just in case” burns through datacenter chemical budgets and raises disposal costs. Under-dosing risks corrosion, downtime, compliance issues and multi-thousand-dollar fines.

How KETOS SHIELD Turns the Tide

KETOS' real-time water quality monitoring (<https://ketos.co/utilizing-real-time-water-quality-testing-data-to-transform-your-operation>) solutions are modular and interoperable, meaning they can easily integrate with closed-loop systems to avoid gaps in insights. By monitoring in real-time, and having threshold-based alerting capabilities, water operators monitoring closed-loop systems can gain greater oversight into water composition to protect sensitive infrastructure and manage discharge compliance (<https://ketos.co/discharge-from-ai-data-centers-and-how-to-mitigate-contamination>).

- **30+ real-time parameters:** KETOS SHIELD provides real-time monitoring of nitrite, nitrate, pH, TDS, dissolved metals (among 36 other parameters) (<https://ketos.co/parameters>) every few minutes.
- **Predictive alerts:** KETOS SHIELD provides proactive alerts before permit breaches or corrosion.
- **SCADA and API integration:** KETOS SHIELD data can easily be integrated with SCADA for Smart dosing integration that trims chemical use by ~30 % in under a year (internal field data).
- **Auto-generated compliance reports:** KETOS SHIELD's innovative software platform allows users to easily create compliance reports for auditors and ESG teams.

This translates into:

1. **Less water in, fewer chemicals out.** Continuous optimization pushes cycles higher without risk.
2. **Lower total cost.** Savings on chemicals, disposal and fines often eclipse sensor OPEX.
3. **A stronger ESG story.** Minute-by-minute proof of both water savings and contaminant control.

Key Parameters to Monitor in Closed-Loop Cooling Systems

Effective closed-loop management requires tracking several critical water quality parameters on a continuous basis rather than relying on quarterly grab samples:

- **pH (target 8.0–10.0):** Drops below 8.0 can signal inhibitor breakdown, accelerating corrosion rates.
- **Conductivity:** Rising conductivity indicates dissolved solids buildup from system corrosion or makeup water contamination.
- **Dissolved oxygen:** Even trace oxygen ingress through pump seals or expansion tanks accelerates nitrite oxidation and pitting corrosion.
- **Nitrite concentration (600–1,200 ppm for steel):** The primary corrosion inhibitor in most closed loops—levels outside range mean either under-protection or wasted chemical spend.
- **Temperature:** Monitoring supply and return temperatures helps detect fouling, scaling, or heat exchanger degradation before efficiency drops.

Automated monitoring platforms like KETOS SHIELD (/overview) track these parameters in real time, eliminating the data gap between quarterly tests and enabling predictive dosing adjustments before chemistry swings cause damage.

Conclusion

Water conservation in AI through closed-loop cooling, while beneficial, introduces complex chemical management issues. These systems involve additives and metals that require careful monitoring to avoid environmental and regulatory problems. Insufficient testing leads to data deficits and increases the risk of compliance breaches.

Real-time, zero-capex monitoring tools such as KETOS SHIELD are vital, offering constant data for proactive management (<https://ketos.co/working-with-ketos>), decreased chemical usage, and compliance documentation.

As AI data center construction continues at an exponential rate, we encourage data center operators and downstream utilities to proactively manage risks (<https://ketos.co/resources/data-center-wastewater-discharge-trends-crisis-or-opportunity>) by checking out our solutions for recycled water quality monitoring (<https://ketos.co/use-cases/recycled-water-quality-monitoring>). By being proactive with water management, data centers can avoid compliance issues, increase water reuse efficiency, reduce operating costs (<https://ketos.co/resources/water-usage-costs-datacenters>), and increasingly safeguard our public waters.

Reference List

1. Interesting Engineering, "GPT-3 training consumed 700k L of water," 2023.
2. S. Ren et al., *Making AI Less 'Thirsty'*, arXiv 2304.03271, 2025 / Newsweek coverage.
3. Veolia Water Technologies, *Handbook of Industrial Water Treatment – Ch. 32*, accessed 2025.
4. U.S. EPA, "Chemical Contaminant Rules: standard for nitrite," Oct 2024.
5. Parkson Corp., "Deicing Fluid Run-off Treatment System," 2022.
6. University of Michigan EHS, "Standards for the Proper Management of Open and Closed Loop Wastewater," Jun 2023.
7. Microsoft Cloud Blog, "Next-generation datacenters consume zero water for cooling," Dec 2024.

Frequently Asked Questions About Closed-Loop Cooling Systems

What chemicals are used in closed-loop cooling water treatment?

Common additives include nitrite-based corrosion inhibitors (600–1,200 ppm for steel systems), molybdate or phosphate inhibitors for mixed-metal circuits, and glycol-based antifreeze for freeze protection. Each carries environmental risk if released untreated.

How often should closed-loop cooling water be tested?

While many facilities test quarterly, loop chemistry can shift in hours if oxygen ingress occurs or inhibitor levels drift. Best practice is continuous real-time monitoring of pH, conductivity, and inhibitor levels, with monthly laboratory confirmation for dissolved metals.

What are the environmental risks of closed-loop cooling systems?

A single unplanned drain-down of a 500 m³ loop can release over three tonnes of nitrite to local waterways. Glycol concentrations above 10% suffocate aquatic life by depleting dissolved oxygen. Molybdate and chromate inhibitors add heavy metals to discharge streams.

What is the ideal pH range for closed-loop cooling water?

The target range is typically 8.0–10.0. pH buffering from chemical treatment should keep levels stable; any drop may indicate inhibitor degradation or contamination. Continuous pH monitoring helps catch deviations before corrosion accelerates.

How does real-time monitoring improve closed-loop cooling system management?

Real-time sensors eliminate the data gap between quarterly tests, catching chemistry swings within minutes instead of months. This enables predictive chemical dosing, reduces inhibitor waste by 15–30%, and provides continuous compliance documentation for discharge permits.

Related Resources

Chemical Manufacturing Industry Factsheet → (<https://ketos.co/resources/chemical-manufacturing-industry-fact-sheet>)

Water Quality Guide: Manufacturing → (<https://ketos.co/resources/water-quality-guide-manufacturing-applications>)

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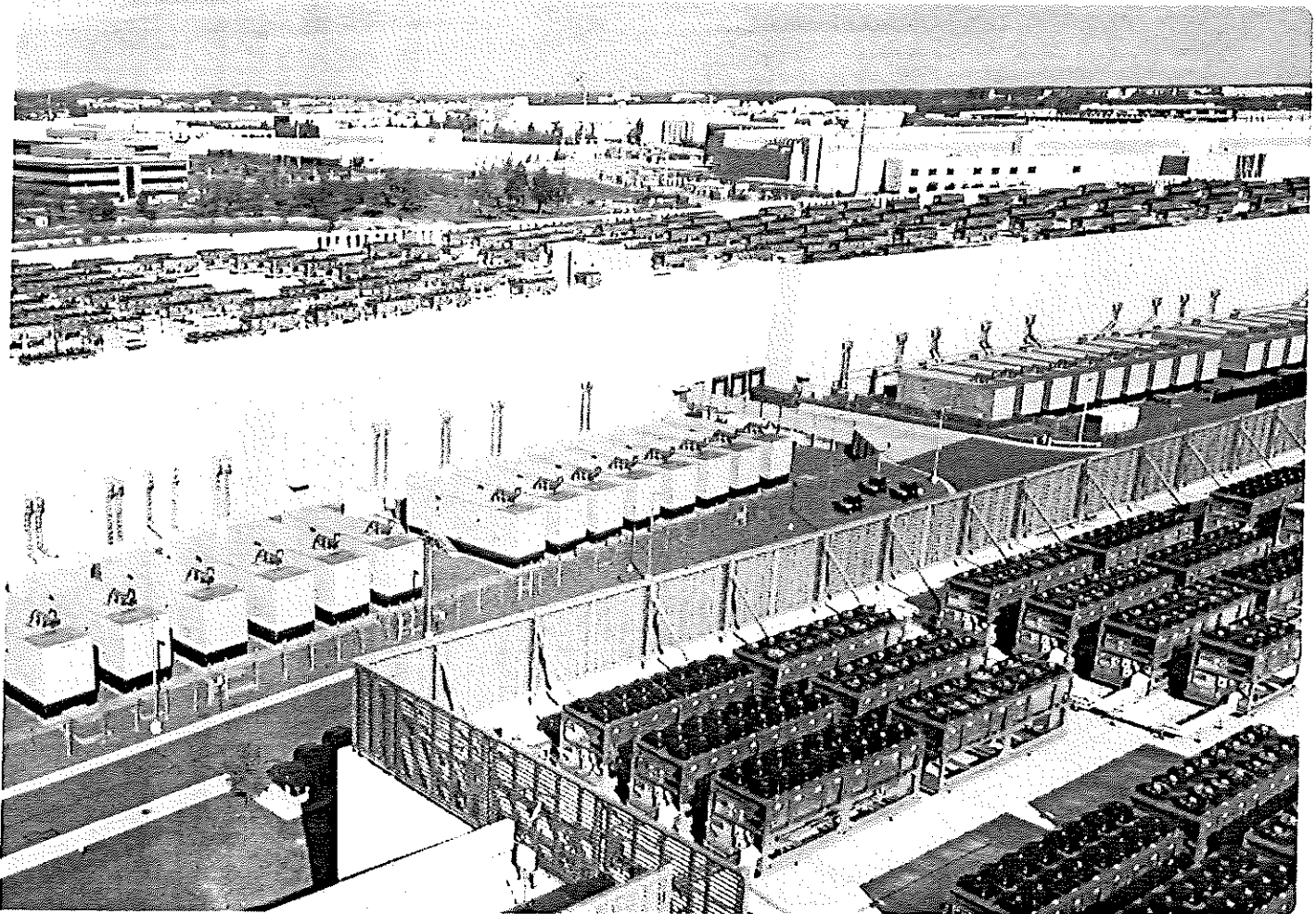
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PFAS Contamination by Zip Code: Free Tools, Risk Factors, and What to Do Next (<https://ketos.co/pfas-contamination-by-zip-code>)



Fahrenheit, and making life hotter for more than 340 million people.

There are still big gaps in our understanding of the impacts of data centers, even as they boom in number, said Andrea Marinoni, associate professor with the Earth Observation group at the University of Cambridge, and an author of the study, which has not yet been peer-reviewed.

Marinoni and his colleagues decided to dig into one under-researched impact: the heat they release through their energy-intensive processes, including computation and powering cooling systems.

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To do this, they looked at temperature data over the last 20 years from remote sensors and mapped it against the locations of AI “hyperscalers” — vast data centers that house thousands of servers and can stretch over a million square feet, which have mostly been built within the last decade.

They focused on more than 6,000 data centers located away from highly dense urban areas, as surface temperatures around these were less likely to have been affected by other factors, such as manufacturing or the heating of homes. The researchers also filtered out seasonal impacts, global warming trends and other influences.

They found surface temperatures increased by an average of 3.6 degrees Fahrenheit after a data center started operations. In extreme cases, nearby temperatures increase by up to 16.4 degrees Fahrenheit.

These increases were consistent across the globe, the researchers found. In Mexico's Bajio region, for example, which has become a data center hub, the study found unexplained temperature rises of around 3.6 degrees over the last 20 years. A similar situation was seen in Aragon, Spain, a European center for hyperscale AI data centers, which recorded a temperature increase of 3.6 degrees which was not replicated in neighboring provinces.

Strikingly, the impacts weren't limited to a data center's immediate surroundings; temperature increases affected areas up to 6.2 miles away, the research found, affecting more than 340 million people.

The findings are particularly alarming, the scientists say, because AI data centers are set to boom over the next few years, and these temperature rises come as planet-warming pollution is already making heat waves more extreme around the world.

The planned scale up of data centers "could have dramatic impacts on society" in terms of the environment, people's welfare and the economy, Marinoni said.

Deborah Andrews, emeritus professor of design for sustainability and circularity at London South Bank University, who was not involved in the research, said there are plenty of concerns over the impacts of data centers but this was the first paper she'd seen focusing specifically on the heat islands they produce.

"The 'rush for AI-gold' appears to be overriding good practice and systemic thinking," she said, "and is developing far more rapidly than any broader, more sustainable systems."

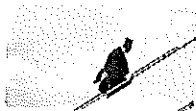
Other experts say more research is needed to verify the results. The study provides “some interesting figures” but the effects reported “seem very high,” said Ralph Hintemann, a senior researcher at the Borderstep Institute for Innovation and Sustainability. “As far as climate change is concerned, the emissions generated by power generation for data centres remain the more alarming aspect,” he added.

Marinoni wants the research to spark more discussion about how to reduce AI’s impacts. “There still might be time to consider the possibility of a different path ... without affecting the demand of AI and its ability to provide progress for mankind,” he added.

CORRECTION: *A previous version of this story misstated Deborah Andrews' comment. It has been updated to reflect that this is the first paper she's come across on heat islands produced by data centers.*

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Data Center Power Demands Are Contributing to Higher Energy Bills

By Miguel Yañez-Barnuevo (/authors/miguel-yanetz) ✉ (mailto:myanez@eesi.org)

February 24, 2026

Key Takeaways:

- As data centers expand nationwide, utilities are receiving hundreds of gigawatts in interconnection requests, necessitating significant infrastructure investments.
- Natural gas power plants are being built and existing coal power plants are being propped up to meet the surging demand from data centers.
- Electricity bills are spiking for many households, contributing to an affordability crisis, particularly for the most vulnerable communities.

As data centers expand nationwide, utilities are receiving hundreds of gigawatts in interconnection requests, with implications for the power grid and consumers. Dozens of utilities received data center requests for at least 700 gigawatts (GW) of power connection development (https://www.sierraclub.org/articles/2025/08/fools-gold-when-700-gigawatts-data-centers-come-knocking) in 2025, which is more than the 477 GW (https://www.eia.gov/energyexplained/electricity/electricity-in-the-us-generation-capacity-and-sales.php) in electricity that the United States consumed in all of 2023. Even though many of these projects will never be built, the requests are still leading to a ramp-up in energy infrastructure investments, including generation facilities, transmission lines, and transformers.

Utilities make decisions about building or purchasing new power in a complicated ecosystem of independent system operators (ISOs), state energy regulators, and local regulations. Electric utilities are the first to receive load-interconnection applications (or applications to connect to the grid) for proposed data centers within their service territories. Regulated investor-owned utilities are obligated to serve interconnection requests within their service territory, as set out in the “obligation to serve” (https://www.eba-net.org/wp-content/uploads/2023/02/21_6EnergyLJ1791985.pdf) or “duty to serve” legal principle. All types of utilities—regulated and non-regulated—must balance these power requests against current generation capacity, future demand projections, and reliability concerns. State energy regulatory entities (i.e., public utility commissions) approve requests (https://www.canarymedia.com/articles/guides-and-how-tos/power-by-people-glossary-bundle) from regulated utilities to increase energy rates to cover upfront investments in building new power plants, transmission lines, and related infrastructure, such as transformers. Non-regulated utilities can adjust their rates without seeking approval.

An Affordability Crisis Is Brewing

To cover the investments needed to accommodate the surge in interconnection requests, many utilities are passing on the costs to their consumers through higher monthly utility bills. Utilities requested more than \$29 billion (https://www.canarymedia.com/articles/utilities/why-power-bills-are-rising) in rate increases in the first half of 2025, double the amount requested in the first half of 2024. Electric rate increases were expected to affect 40 million customers nationwide last year. This is in addition to the rate increases granted by state energy commissions over the previous couple of years.

Before 2019, electricity prices had been flat (https://fred.stlouisfed.org/series/APU000072610) at around 13 cents per kilowatt-hour (kWh) for more than a decade—in part thanks to energy efficiency policies that reduced energy consumption as the overall domestic economy grew. By the end of 2025, however, average electricity prices in the United States increased to 19 cents per kWh (https://fred.stlouisfed.org/series/APU000072610), about 27% more (https://www.resources.org/archives/whats-happening-to-electricity-affordability-in-five-charts/#:~:text=Nationally%252C%2520average%2520real%2520electricity%2520prices,during%2520most%2520of%2520the%25202010s.) than in 2019.

EESI Data Center Resources

See all of our articles on the impacts of data centers, including their energy needs, water usage, noise pollution, and contribution to higher energy bills: **The Environmental Impacts of Data Centers (Article Series)** (https://www.eesi.org/data-center-impacts)

All EESI Data Center Resources (https://www.eesi.org/page/Data+Centers)

In states with a high concentration of data centers like Virginia, electricity prices have increased by up to 267% over the last five years (<https://www.bloomberg.com/graphics/2025-ai-data-centers-electricity-prices/>). Such spikes are due to utilities needing to quickly deploy infrastructure, such as power lines and transformers, and pay extra for market-rate energy.

Electricity prices are not expected to decrease anytime soon. According to the U.S. Energy Information Administration, residential electricity prices rose by 11.5% in 2025 (https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=table_5_03), outpacing inflation. Looking further ahead, prices are expected to increase by up to 40% by 2030 (https://www.icf.com/-/media/files/icf/reports/2025/energy-demand-report-icf-2025_report.pdf?rev=c87f111ab97f481a8fe3d3148a372f7f) compared to 2025.

The Cost of Reviving Coal

Some coal plant retirements are being delayed (<https://insideepa.com/climate-extra-share/253179>) to meet the increased demand from data centers, often at the behest of the Trump Administration. But these delays can be costly because most facilities were built in the 1970s and 1980s and have reached the end of their typical 40-year lifespan. Refurbishing a coal power plant to extend its lifespan past the typical 40 years can cost up to \$1.3 billion (<https://ieefa.org/articles/prolonging-retirement-age-coal-generators-puts-affordable-power-supply->

Data Centers and Fossil Fuels

This article is part of a series, The Environmental Impacts of Data Centers (<https://www.eesi.org/data-center-impacts>). A previous article (<https://www.eesi.org/articles/view/data-center-buildout-is-hungry-for-fossil-fuels>) in this series discussed how utilities are responding to increased energy demand from data centers by building new natural gas power plants and reviving old coal plants, leading to higher carbon emissions and health impacts on nearby communities.

risk#:~:text=%25E2%2580%259CFurther%252C%2520extending%2520the%2520life%2520of,20%2525%2520even%2520after%2520the%2520upgrades.). Moreover, the cost of operating these plants increased by 28% (<https://energyinnovation.org/wp-content/uploads/Coal-Cost-Update.pdf>) from 2021 to 2024 due to higher fuel, capital (including debt service), and maintenance costs. These higher costs are passed on to consumers. In addition to being expensive to run, coal plants also have negative health and environmental (<https://www.epa.gov/power-sector/human-health-environmental-impacts-electric-power-sector>) impacts, especially on local communities.

Gridlock on the Natural Gas Buildout

Utilities faced with higher electricity demand are also looking into building new natural gas plants. But because so many utilities are exploring new plants at once, the average time to construct a new plant has increased from four and a half years to at least six (<https://www.utilitydive.com/news/nextera-energy-ceo-urges-energy-pragmatism-amid-rising-costs-demand/746207/>), and wait times for gas-fired turbines can reach up to seven years (<https://www.spglobal.com/commodity-insights/en/news-research/latest-news/electric-power/052025-us-gas-fired-turbine-wait-times-as-much-as-seven-years-costs-up-sharply>). As a consequence, currently-proposed natural gas power plants will not enter service until at least 2030.

These delays are creating ripple effects (<https://gridlab.org/portfolio-item/gas-turbine-cost-report/>) across the energy supply chain and the labor market. The scarcity of transformers and iron and steel pipes is slowing down the already lengthy permitting and construction process, thereby further increasing costs. Labor costs (<https://gridlab.org/portfolio-item/gas-turbine-cost-report/>) are also rising due to a tight labor market in construction.

All of these factors add up: the cost to build a new plant has tripled since 2022 (<https://gasoutlook.com/analysis/costs-to-build-gas-plants-triple-says-ceo-of-nextera-energy/#:~:text=%25E2%2580%259CWe%2520built%2520our%2520last%2520gas%2520fired%2520facility%2520in%25202022%252C%2520at%2520>

Natural gas plants expected to enter service in 2030 or later are reporting costs of \$2,000 (<https://gridlab.org/portfolio-item/gas-turbine-cost-report/>) per kW, which may soon rise to \$3,000 (<https://gasoutlook.com/analysis/costs-to-build-gas-plants-triple-says-ceo-of-nextera-energy/>). These higher generation costs are passed on to consumers through higher monthly energy bills.

Disadvantaged Communities Are Footing the Bill

Higher energy bills disproportionately affect disadvantaged communities, which often face significant energy burdens (<https://www.aceee.org/energy-burden>). Low-income residents, renters, Black households, and Hispanic households spend up to 20% of their income (https://www.aceee.org/sites/default/files/pdfs/data_update_-_city_energy_burdens_0.pdf) on energy, compared to 3% for higher-income households. Even before the data center boom, one in four households (<https://www.eia.gov/todayinenergy/detail.php?id=51979>) reported having difficulty paying their energy bills or maintaining safe indoor temperatures because of energy costs.

Soaring energy bills exacerbate insecurity for low-income households and renters. Utility bills go unpaid as families struggle to afford other essentials, such as food or medicine, leading to disconnections. About 21 million households (<https://neada.org/wp-content/uploads/2025/08/costofpower.pdf#:~:text=utility%2520bills,falling%2520deeper%2520into%2520financial%2520distress.&text=The%2520Census%2520one%2520in%2520six%2520in%2520the%2520United%2520States>) are behind on their utility bills. Total outstanding utility bill debt for U.S. households reached \$25 billion in June 2025, an

increase from about \$15 billion in early 2022 ([https://neada.org/wp-content/uploads/2025/08/costofpower.pdf#:~:text=utility%2520bills.,falling%2520deeper%2520into%2520financial%2520distress.&text=The%2520Census%](https://neada.org/wp-content/uploads/2025/08/costofpower.pdf#:~:text=utility%2520bills.,falling%2520deeper%2520into%2520financial%2520distress.&text=The%2520Census%2520)

As a result, utility shut-offs skyrocketed to 3.5 million in 2024 and may have reached 4 million in 2025, putting further strain on disadvantaged households.

To protect residential and small-business consumers from higher energy charges, utilities and state regulatory agencies

(<https://www.utilitydive.com/news/kansas-michigan-data-center-large-load-evergy-consumers/805115/#:~:text=from%2520your%2520inbox.,Kansas%2520C%2520Michigan%2520regulators%2520approve%2520large%2520load%2520rules>

the country are starting to create separate, specialized rate classes and retail tariffs for large-load uses (<https://affordability-toolkit.rmi.org/policies/tariffs-for-large-load-customers>), including data centers. In the meantime, energy efficiency (<https://www.energystar.gov/about/how-energy-star-protects-environment/energy-efficiency>) measures can help families shield themselves from rising energy costs while utilities and regulators determine how to meet increased energy demand without penalizing residential customers. On-bill financing (<https://www.eesi.org/obf/main>) is one innovative solution that helps households access energy efficiency upgrades at lower cost, especially in rural areas served by member-owned electric cooperatives.

Author: Miguel Yañez-Barnuevo

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Data Center Emits Constant Screeching Noise Directly Into Man's House

"It's like we're living in a prison in our own yard, in our own house."



By Frank Landymore / Published Jul 5, 2026 7:01 AM EDT / [Add Futurism](#) ⓘ



Illustration by Tag Hartman-Simkins / Futurism. Source: Shutterstock

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Set foot in Dowagiac, a sleepy town in Southwest Michigan, and you'll immediately notice two things that stand out in the otherwise rustic surroundings: a massive 30 megawatt data center — and the constant ear piercing noise it emits.

No one knows this better than the Marjorie and Billy Finn, a married couple who live right in front of the sprawling complex. The constant hum is like a jet engine, Billy Finn told *MLive*. Using his own decibel meter in a video taken by the newspaper, he measures the noise levels from his porch, which hover around 60 decibels. That's roughly the equivalent of a noisy dishwasher, except that sound is a constant presence everywhere outside.

"It's like we're living in a prison in our own yard, in our own house," Marjorie Finn told the outlet, adding that she can even hear the hum while she tries to sleep at night.



Two other residents are suing the data center, Hyperscale Data, saying that their homes are being “physically invaded” by the “excessive noise” from its facility, *MLive* reported. (The Finns were approached to join the lawsuit but declined.) It doesn’t matter if you close the windows or turn up the TV — you’ll hear its constant screeching anyway, the suit alleges.

It also accuses Hyperscale Data of failing to implement adequate soundproofing measures, like the concrete walls that surround highways in residential areas.

According to Billy Finn, the noise is actually getting louder. He’s been tracking the decibel levels on Louise Avenue since 2022, when Hyperscale Data began operating. Back then, the sound level was around 52 decibels. Today, they’re typically around 61 decibels, and sometimes go as high as 78 decibels, he told the paper.

Inside his house, it goes down to 39 decibels, which is about the level of a quiet office or library, according to the American Academy of Audiology. But it jumps to 62 decibels when he opens the door, sounding a bit like a passenger jet taxiing on the runway in the distance.

“It’s [like] a constant major city street where you have a lot of vehicle traffic,” Billy Finn said.

Noise pollution isn’t an uncommon complaint about data centers. The Nashville Zoo in Tennessee warned that the construction of a nearby data center could harm the animals living in captivity. The Environmental and Energy Study Institute claims that they emit at ultra-low frequencies that can possibly induce a range of symptoms over time such as anxiety, nausea, though the science on this is iffy.



according to Kim Kragt, lead audiologist for Bronson Hospital.

“Even at a lower level, if it wasn’t doing damage to your ears, it is damaging your overall health and well-being,” Kragt told the newspaper, adding that because the data center’s hum is “unnatural,” it might be harder to adjust to.

The Finns feel trapped. They say fewer friends and family visit because of the noise, and they’re worried that it’s also driven down the value of their home.

“They’ve stolen something from us,” Marjorie said. “It feels like an immense loss.”

More on data centers: *Massive Data Center Cooks Nearby Residents Alive Amidst Deadly Heatwave*

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By Frank Landymore





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Mississippi homeowners decry noisy data center plant: "I feel like I'm being tortured"
(01:56)

U.S.

Mississippi homeowners blame a noisy data center plant for sleepless nights. The mayor's advice? "Consider selling."

By Lauren Fichten

July 16, 2026 / 1:39 PM EDT / CBS News

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It was 4 a.m. on a Sunday and 46-year-old Jason Haley was once again wide awake.

The suburban silence that Haley had grown used to in his two decades as a resident of Southaven, Mississippi, had, for the last few months, been replaced by a constant whirring, like an airplane hovering over his home, he said.

The noise keeping Haley awake was coming from a plant powering Elon Musk's xAI data centers in the area, according to a lawsuit filed in June against the company and its subsidiary, MZX Tech. Haley and two other Southaven residents, who live within a mile of the plant, allege in the suit that "near-constant" noise and vibrations are causing negative physical and psychological health effects.

The filing comes amid growing resistance toward data center development, with the majority of Americans opposing local construction of a data center, according to a Gallup poll published earlier this year.

Similar disputes are playing out across the country, like in Mount Pleasant, Wisconsin, where a lawsuit this month filed by residents alleges a data center emits "unreasonable and excessive noise" onto residents' properties and in Lowell, Massachusetts, where noise from a data center's cooling center "disrupts neighbors' sleep," according to an April suit.

There are more than 4,000 data centers in the U.S., according to a recent United Nations report. To power the data centers, cloud providers are building their own plants, sometimes with little warning to residents like Haley.

Haley reached out to Southaven Mayor Darren Musselwhite about the noise in emails he shared with CBS News. In one last New York Times, he urged Musselwhite to drive through the neighborhood "and take a listen to the constant high pitch noises."

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"I am aware of the noise and working on a solution with xAI officials," Musselwhite had responded to Haley an hour later. "It is a problem," he said in another email later in the day.

But soon, another sleepless night rolled around and Haley was emailing the mayor again.

"Anyone else I can reach out to?" Haley wrote to Musselwhite. "It's almost 4 am and I can hear it from my bed. The high pitch and roaring combined is full force at this time. My ears are ringing. I can't live in this. How was this ever approved?"

"I don't care that this is Elon's project"

Just north of Southaven, which sits on the Mississippi-Tennessee border, xAI's data center Colossus went online in Memphis in September 2024. The company dubbed it "the world's largest AI supercomputer."

By late July 2025, Musk was announcing that another data center, Colossus 2, was set to begin operation in the area within weeks.

Days later, an announcement popped into the Facebook feeds of Southaven residents: An energy facility that had been dormant for decades will be revived to support xAI's expanding data center operations in the area, Musselwhite said.

The post was met by a flood of comments, with some lauding the development and others expressing concern about the plant's impact on the environment and strain on local resources.

Meanwhile, Haley started hearing sounds.

"My first thought was somebody's got a leaf blower going all the time," he said.

By December, the noise had become a fixture. He started getting headaches, stopped getting sleep and slipped into feelings of hopelessness and depression. The noise was inescapable, he said, and despite his best efforts to drown it out (sleeping with earplugs, getting a box fan for white noise), it continued to drone on.

So Haley began speaking up — at city government meetings, on Facebook and through TikTok, where he posts videos of himself measuring the noise with a sound meter. He later became involved in a grassroots coalition called Safe and Sound, drawing awareness to concerns surrounding xAI's undertakings in the region.

The "activist" label is one he's reluctantly accepted.

"I've never been into any kind of activism, never really kept up with politics a whole lot," he said. "I'm just a guy that has a problem with this noise, and started speaking out and trying to raise awareness."

When he emailed Musselwhite about the noise again in December, his message came with a disclosure: "I am not a republican or democrat. I don't care that this is Elon's project. I didn't know whose it was when I started complaining about the noise that started in August."

Musselwhite responded a few days later.

"As I mentioned to you in the public meeting, you seem to be a reasonable person," he said. "I will give you some unsolicited advice from an older man, be careful with whom you associate so you don't damage your credibility."

By January, xAI was expanding its footprint with a third data center in Southaven, MACROHARDDR. As residents like Haley continued pushing back online and in city meetings, Musselwhite had a new message.

Southaven, he said in a Facebook post, was "under attack by all who choose to oppose Elon Musk because of his high-profile political stance." He warned residents to "beware of the smokescreen of radical politics."

Watch CBS News

In his emails to Haley, Musselwhite continued to acknowledge the noise as a problem.

"The noise issue is one of my highest priorities and I have been in detailed discussions with xAI and many independent professionals to resolve this," he wrote in March.

But in the same email, he offered Haley more advice: "I know they want houses for employees, so you may want to consider selling your home."

CBS News made multiple attempts to speak with Musselwhite and did not receive a reply.

Migraines, ringing ears and sleepless nights

Moving isn't Haley's preference, but he said he is in the financial position to do so if he chooses.

That's not the case for everyone.

A little over a decade ago, 21-year-old Taylor Logsdon bought a home for her growing family in Southaven and began building her life around it.

"We loved it here," she said. "It was peaceful, it was quiet, didn't have to worry about nothing."

But that was before the noise, so loud, she said, that it sometimes shakes her home. Logsdon, who is also involved in the Safe and Sound Coalition and is suing xAI with Haley and one other Southaven resident, said she has experienced migraines and anxiety as a result of the noise.

She said she has persistent ringing in her ears and so do her children. A full night of sleep has become rare for the family.

"I would move tomorrow if I could," she said, adding that she needs to save money before she can afford to move.

Her children, all under the age of 13, are having trouble staying awake at school.

"One of them is extra angry all the time — never, never has been that way, but he's just irritable like all the time," she said. "I feel like that's happened too."

xAI spent millions of dollars trying to mitigate the sound with a sound wall, a berm and evergreen trees, Musselwhite said in his January Facebook post.

Watch CBS News

"It still hasn't helped. It hasn't even put a dent in it," Logsdon said.

People living in areas where there is "constant humming or buzzing" report headaches, stress and sleep disturbance, said Dr. Ferozon Ahmad, a clinical professor of psychiatry at New York University.

A 2023 study found that environmental noise exposure can lead to adverse associations for cardiovascular disease and mortality, diabetes, hearing impairment, neurological disorders and adverse reproductive outcomes.

"People think of annoyance as an abstract term," Ahmad said. "It's not an abstract term because it has real physiological ramifications."

The World Health Organization recommends less than 40 decibels of annual average nighttime noise outside of bedrooms to prevent adverse health effects. Haley has recorded noise levels over 60 decibels as late as 10:15 p.m. from his Southaven home.

Musk's Memphis

Even before Logsdon and Haley decided to take action against xAI, Musk's growing presence in the Memphis area garnered attention from advocacy groups over health and environmental concerns.

The National Association for the Advancement of Colored People filed a lawsuit in April against xAI claiming the Southaven plant emits "significant" amounts of harmful pollutants from its 27 gas turbines, which has since increased to 62, according to a court filing reviewed by CBS News. The NAACP has also filed an appeal to challenge the U.S. Department of Environmental Quality's decision to issue an air permit allowing the Southaven plant to install 11 permanent methane gas turbines. An independent study found their operation would increase pollution in an area already grappling with a disproportionate number of asthma-related emergency room visits.

CBS News has reached out to xAI for comment.

Musk's investment in the latest Southaven data center brings his company's contribution to the area to \$20 billion, according to the office of Mississippi Gov. Tate Reeves. The governor called it "the largest economic development project in Mississippi's history."

Musk's financial footprint has also extended beyond the data centers — MZX Tech donated over \$1.3 million to the Southaven Police Department in February, according to the donation agreement obtained by CBS News, and has offered half the cost of the state for those in the Memphis region.

But Logsdon says she and her family's health has her wondering why it feels like her city is willing to "hurt the few to get the profits."

"We were not a failure town before," Logsdon said. "It's not like our economics were terrible here."

Southaven has a median household income of over \$70,000 in 2024, according to the U.S. Census Bureau — \$20,000 more than the state average.

Logsdon, currently a stay-at-home mom, will be searching for work this fall so she and her husband can start saving up to move away from the plant. For now, her goal is a full night's sleep.

"I hope that my family can go back to having our normal," she said. "Being able to sleep at night, being able to enjoy my backyard, being able to go swimming."

AI: Artificial Intelligence [More >](#)

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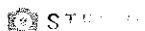
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'Living in Hell': Data Center Neighbors Grapple With Noise, Air Pollution

As the use of data centers is becoming a public health issue, it's not just about water usage.

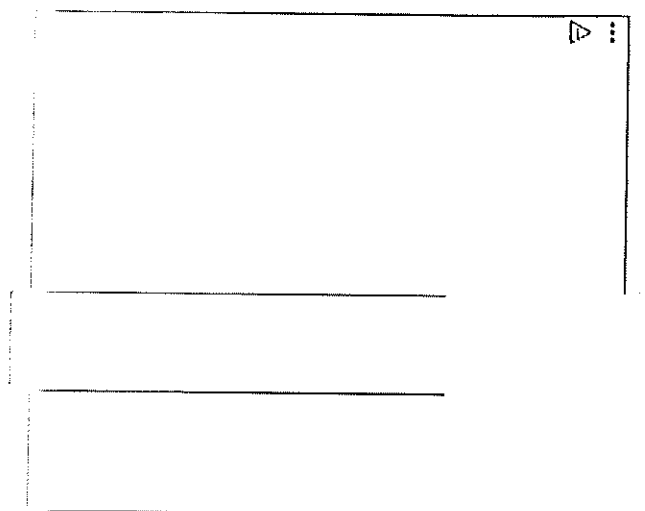
By [Jennifer H. Elder](#) Senior Writer April 28, 2026, at 2:04 p.m.



A data center in Bristow, Virginia, with smoke on April 21, 2026.

Donna Gallant sits on the windows in her house in Bristow, Virginia. But the sound from Google's "Jai-jai Lann" data center complex still penetrates her home.

"As soon as I hear the sound, it triggers an anxiety attack in me every time they're doing the tests," she says. "I can't sleep because it literally rocks your core," Gallant says.



Americans who find themselves neighboring data centers have long criticized the accompanying increase in energy costs that hurt their wallets. But the expanding presence of these sites may be hurting something else, too – their health.

Air, noise and water pollution from data centers can come with health problems for humans, according to a study published in February. Long-term impacts may include increased risk of respiratory disease, cardiovascular disease, mental health struggles, stroke, diabetes and other reproductive outcomes like miscarriage and stillbirth.

▶ PEACH Report Shows Worse Urban Air Quality

As the number of data centers surges, residents are worried, politicians are pushing for reform and researchers are scrambling for – ironically – more data.

'Nobody's Talking' About Health Impacts

The U.S. has more than 1,000 data centers, which is nearly eight times the number of any other country. With thousands more planned or under construction, their energy demand is expected to more than double by 2030.

Few studies have examined how data centers affect health, but findings so far suggest data centers warrant attention as a potential public health concern.

"Really not a lot is talked about the health impacts of data centers," says Neha Gour, one of the authors of the study, which was published in the journal *Frontiers in Climate*. "And technology is so intertwined with infrastructure, or even any infrastructure for that matter, that including the environment is a huge gap that we need to address."

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Gour's study focused on Northern Virginia, an area often referred to as "Data Center Alley" because it is one of the largest concentrations of data centers in the world. It is home to more than 500 data centers that handle a significant portion of the world's internet traffic, as high as 30% for some estimates.

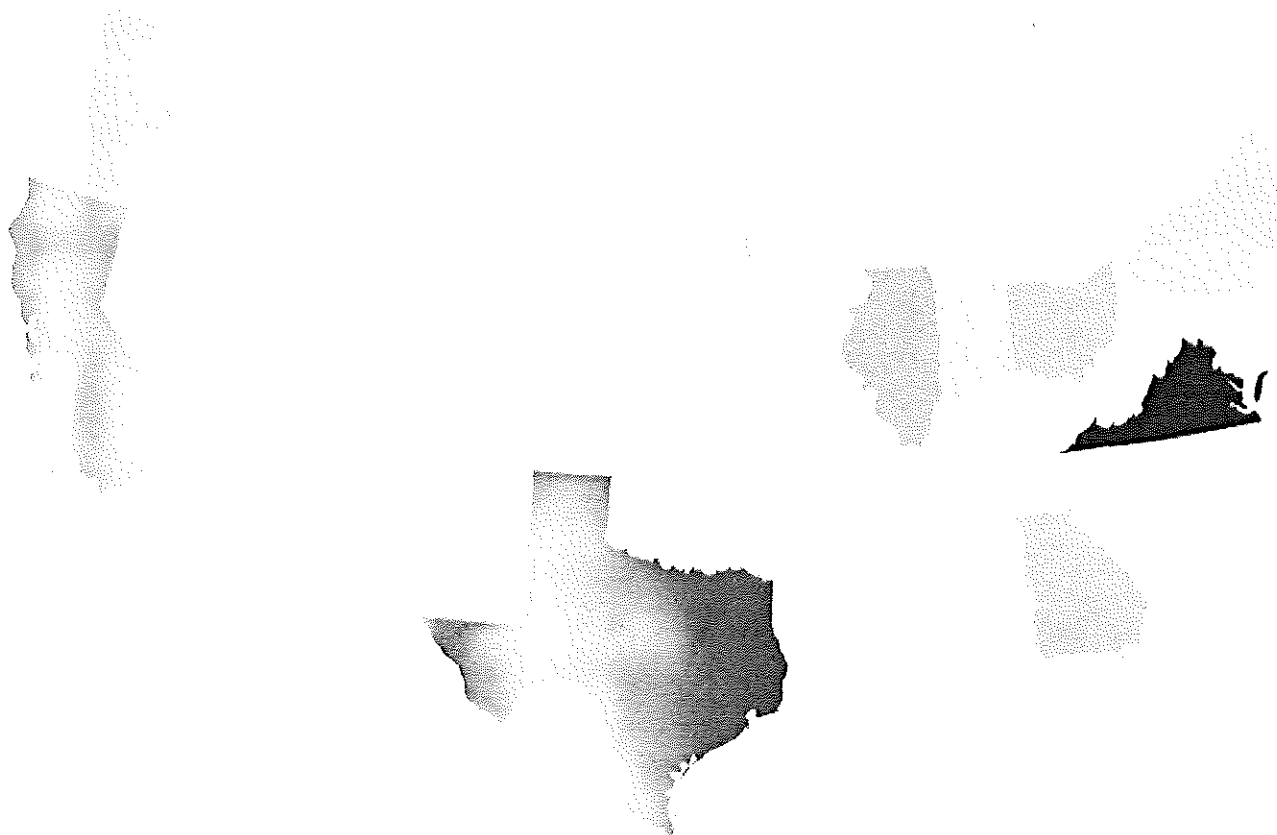
Data Centers by State

Virginia is home to the most data centers of any state at over 600.

Number of data centers

3

603



Map: Cecelia Smith for U.S. News & World Report; Data Center Map

U.S. News

"The number of data centers continues to grow, and the proposed data centers are not only going to be more numerous, but significantly larger in size," says Gour, a doctoral candidate and postdoctoral researcher with George Mason University's Center for Climate Change Communication.

Like a '100-year earthquake'

Air pollution from data centers is a health concern for people living around data centers.

The growing demand for artificial intelligence could push the annual public health burden of U.S. data center air pollution from over \$6 billion in 2023 to more than \$20 billion in 2028, according to research from Shaolei Ren, a University of California, Riverside associate professor. Ren has also studied the health impacts of data centers. The air

pollution from data centers could contribute to about 600,000 asthma symptom cases and 1,300 deaths by the same year.

Virginia's heavy reliance on fossil fuels for its electricity generation contributes to greenhouse gas emissions and air pollution, which are linked to serious health harms like cancers, neurological disorders, childhood asthma and reduced fertility, according to Gour's study.

"Data centers in Virginia are a major source of air pollution attributable to their round-the-clock energy consumption, a critically strained electric grid and backup diesel generators," the Virginia study says.

As demands on the grid grow, data centers might have to rely more on their backup diesel generators, Ren said. In the event of a large outage, data centers relying on diesel generators "could reach their maximum permitted emissions within just days," Ren says.

"If you have a data center dumping all these emissions – their annual emissions – in just a couple of days, that's like a health earthquake," he adds.

The emergency plan is not far-fetched. During a recent winter storm, Energy Secretary Douglas Osine authorized some electric utility companies to direct data centers to run their backup generators to help relieve pressure on the grid.



© Getty Images

Part of a
21, 2017

side view next to a baseball field at Gainesville High School, in Gainesville, Virginia, on April

Air Pollution Problem

Gallagher moved to Wilkes County about 30 years ago because it was “quiet” and “beautiful.” The area she says is “becoming an industrial waste”

She describes the noise from the nearby data center complex as “an internal assault on the natural.”

Backup power, ventilation, cooling systems and other machinery at data

“Because they operate 24/7, they generate persistent background noise, and chronic noise has been associated with sleep

disturbance, but also cardiovascular diseases and even stress-related outcomes," Gour says.

Noise pollution is especially harmful to children, as it has been linked to poor cognition, delayed learning and lower reading comprehension.

Gallant says she is concerned about light pollution produced by the data centers.

"We don't see any light anymore," she says.

Additionally, the study says, the amounts of water needed for the cooling systems at data centers come with a high cost. A medium-sized data center consumes as much water as three homes, and the same amount as 10 golf courses, Gour's study says.

"Such consumption exacerbates local water insecurity, increasing the risk of waterborne diseases, dehydration and poor hygiene in affected communities," the study states.

The Data Center Industry, a trade association for the data center sector, did not respond to a request for comment about the health concerns.

Communities Are 'Living in Hell'

Kathy Kulick of Virginia's Prince William County helps lead a coalition of homeowners and civic associations concerned about the boom of data centers in the area.

"We have a full-blown crisis on our hands here in Prince William County," Kulick says of the data center boom.

She and Gallant were also members of a resident-led group that the board of county supervisors included with reviewing the county's noise ordinance and proposing amendments for the board to consider. But the board disbanded the advisory group and passed a policy ordinance that was significantly weaker than the group's proposal.

"Go out and sit next to your air conditioner outside your home and try to sit there for 10 minutes without being really annoyed by it," Kulick says. "But eventually that one turns off. Data center cooling equipment never turns off. Never. The communities that are inundated with it are really living in hell."

Gallant and others sued in 2024 to try to stop nine new data centers from going up in Bristow. A judge last week dismissed the case.

Local opposition, however, is accelerating and having an effect on the projects, according to Data Center Watch. The research firm found that from March to June last year, 20 projects valued at more than \$1 billion were blocked or delayed.



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A three-judge panel in March blocked a project in Prince William County that would have yielded a 2,100-acre site next to Manassas National Battlefield Park amid strong local opposition. The Prince William County Board of Supervisors voted not to appeal the decision to the Virginia Supreme Court.

One of the reasons it's attractive for data center developers is its tax benefits. Data centers qualify for up to \$10 million in tax exemptions in fiscal 2025.

Prince William County Delegate Robert Thomas says he hears about data centers from his constituents, many of whom are concerned about the impact on the environment.

"It's a debate about the future of Virginia," he says.

Then-Virginia Gov. Glenn Youngkin vetoed a bill from Thomas last year that would have required data centers to disclose their locations and report certain noise and environmental impacts to the public.

But the bill passed the legislature and Gov. Abigail Spanberger signed it into law in April.

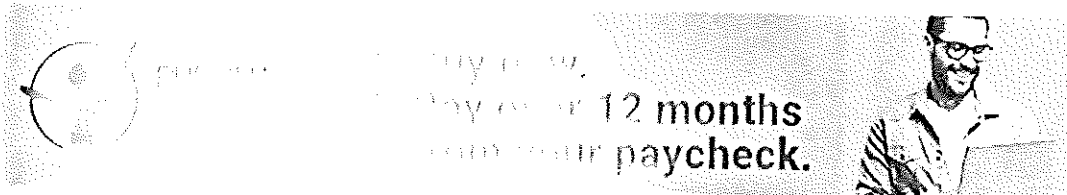
Thomas and Kulick both called to name William County a “cautionary tale” for other parts of the country as they grapple with data centers.

“More and more people are now being impacted by it, so they're taking it very seriously,” Kulick says. “This problem will only get worse.”

U.S. News

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