

RESOLUTION NO. 2026-07

A RESOLUTION DECLARING THE INTENT OF THE BOONE COUNTY REGIONAL SEWER DISTRICT TO ALLOCATE CAPACITY FOR THE SOUTH ROUTE K WASTEWATER TREATMENT FACILITY

NOW on this _____ day of _____, 2026, the Boone County Regional Sewer District Board of Trustees (the “Board of Trustees”) met in session and adopted the following resolution:

WHEREAS, the Boone County Regional Sewer District (the “District”) is a public sewer district organized and existing under the constitution and laws of the State of Missouri; and

WHEREAS, the District owns, operates and maintains a wastewater treatment facility known as the South Route K Wastewater Treatment Facility (the “South Route K WWTF”) located in Boone County, Missouri and

WHEREAS, said South Route K WWTF is permitted by the Missouri Department of Natural Resources (“MDNR”) under Missouri State Operating Permit (MSOP) Number MO-0087173; and

WHEREAS, the Board of Trustees, through adoption of various resolutions including, but not limited to, most recently a resolution adopted on March 17, 2020, have prohibited additional connections to the South Route K WWTF except as expressly approved by the Board of Trustees following an engineering analysis of a proposed connection (the “South Route K WWTF Capacity Resolutions”); and

WHEREAS, the South Route K WWTF Capacity Resolutions were based on information regarding the capacity of the South Route K WWTF as calculated and presented in a series of memoranda from District staff, including, but not limited to, most recently updated by the memorandum from the District General Manager dated January 21, 2020 (the “South Route K WWTF Capacity Memoranda”); and

WHEREAS, changes to regulations and accompanying guidance from MDNR have caused the calculations in the South Route K WWTF Capacity Memoranda to be outdated and necessitate revision; and

WHEREAS, the attached memorandum dated April 14, 2026, outlines the current treatment capacity at the South Route K WWTF, as calculated based on current MDNR regulations and guidance and best practices (the “April 2026 South Route K WWTF Memorandum”), which updates the South Route K WWTF Capacity Memoranda.

not overload the plant. Should the flow per home be reduced to 277.5 GPD, the build-out rate would still be 75%, which is above the wet-weather loading rate of 41%.

RECOMMENDATIONS

1. Based on guidance from “PUB2754” on Table 1-1 and observed flow data, utilize a per capita hydraulic flow value of 75 gallons per day per person for residential homes. This will result in an allocation of 277.5 gallons per home. See attached PUB2754 excerpt and Table A for reference.
2. Going forward, refer to the Jan 21, 2020 memorandum, including all previous iterations of similar memoranda and all previously adopted Table A versions, only as a historical reference of how capacity was determined leading up to previous Board of Trustee resolutions adopted prior to this memo.
3. Adopt the attached Table A to reflect the allocation of 277.5 gallons per home and designate the excess capacity as “Remaining Capacity” to be purchased on a first-come, first-served basis. Table A shall be tracked and amended anytime capacity is purchased or allocated within the South Route K WWTF Service Area.
4. Direct that at such time as the entire “Remaining Capacity” of the South Route K WWTF is purchased and allocated, a new engineering analysis would be required prior to any further allocations, and no further connections to the South Route K WWTF be allowed without Board of Trustees’ approval.

DATE: April 14, 2026

TO: Board of Trustees

FROM: Jesse Stephens

SUBJECT: Wastewater Treatment Capacity at the South Route K Wastewater Treatment Facility (WWTF) – 2026 Evaluation and Recommendations.

EXISTING CONDITION AND 2026 EVALUATION:

The Board of Trustees previously received a memorandum dated January 21, 2020, from Tom Ratermann. This document contains historical context for allocated connection capacity at the South Route K WWTF and a summary table showing allocation of capacity to residential developments based on the number of home connections and allocation of capacity to commercial properties based on overall total gallons. The allocated capacity in the report showed each single-family home with a hydraulic loading rate of 304 gallons per day per home.

In February 2019, Missouri Clean Water Commission regulation Chapter 10 CSR 20-8 “Minimum Design Standards” was amended and an accompanying publication “PUB2754” was released to provide additional guidance to designers and regulators. The document included Table 1-1. Minimum Design Loadings. The table provides flexibility to determine the hydraulic loading capacity between 75-100 gallons per day per capita for single family dwellings and mobile homes, and between 60-100 gallons per day per capita for apartments and condominiums, with a per capita of 3.7 persons per residence.

Hydraulic and organic loading data is continuously collected for the South Route K WWTF. Both Organic and Hydraulic Loading Data were considered. From 2024 through the date of this memorandum, the average organic loading for influent has been 231 milligrams per liter. Per Table 1-1, 0.22 pounds of BOD5 per capita is projected, and at 100 gallons per capita this would be a concentration of 264 mg/L. At 75 gallons per capita this would be a concentration of 352 mg/L. In either case, the observed organic loadings are less than this concentration, and within recommended limits.

For 2024, the observed hydraulic flow to the facility including wet weather flows was 91,000 gallons per day and the 2025 observed hydraulic flow to the facility including wet weather flows was 99,600 gallons per day. The treatment plant is rated at 244,000 gallons per day between both outfalls. Hydraulically, the plant average loading is at 41% based on current build-out. For the existing treatment plant allocation, the properties were reviewed to determine (1) their status at the end of 2025 and (2) which properties had been built on and were contributing flow to the South Route K WWTF. For all properties with allocations, 83% have been built and are contributing flow. The remaining 17% would



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NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE BOONE COUNTY REGIONAL SEWER DISTRICT, AS FOLLOWS:

The Board of Trustees hereby adopts the methodology described in the attached April 2026 South Route K WWTF Memorandum for the District’s determination of remaining capacity at the South Route K WWTF.

The Board of Trustees hereby declares the South Route K WWTF to be nearing capacity, and as such, any future connections purchased in excess of what is shown in the April 2026 South Route K WWTF Memorandum as remaining capacity shall be allowed only with the approval of the Board of Trustees and only after engineering analysis of the proposed connection.

The Board of Trustees further orders the Executive Director to make such reasonable arrangements to accomplish the above, subject to the review and approval of the Sewer District’s General Counsel.

PASSED by the Board of Trustees of the Boone County Regional Sewer District, this _____ day of _____, 2026.

Chairman of the Board of Trustees

(SEAL)

ATTEST

Secretary of the Board of Trustees

TABLE A - Wastewater Treatment Capacity at the South Route K Wastewater Treatment Facility
(WWTF)
4/14/2026

Service areas	Subdivision/Street	No. of Lots	Homes/Lot	Total No. of Homes	Flow (gallons per home)	Allocated Flow
1	New Town	62	1	62	277.5	17,205
2	Blue Acres (Mark and Laura Grant)	31	1	31	277.5	8,603
3	Hillcreek NID	88	1	88	277.5	24,420
4	Bonne Femme Estates	32	1	32	277.5	8,880
5	Maple Meadows	13	2	26	277.5	7,215
6	Gateway South	129	1	129	277.5	35,798
7	Cedarbrook	74	1	74	277.5	20,535
8	Old Plank Village	31	2	62	277.5	17,205
9	Old Plank Estates	33	1	33	277.5	9,158
10	Heather Hill	31	1	28	277.5	7,770
11	Nursery Heights	130	1	130	277.5	36,075
12	Toalson	13	1	14	277.5	3,885
13	Leipard	2	1	3	277.5	833
14	Keithahn	9	1	9	277.5	2,498
15	Wilson	3	1	7	277.5	1,943
16	Teague	1	1	1	277.5	278
17	Lot C1 - Newtown					3,600
18	Lot C2 - Newtown					1,000
19	Lot C3 - Newtown					600
20	Lot C4 - Newtown					2,800
21	Lot C5 - Newtown					3,200
22	Godas commercial					2,250
23	Darin and Holly File	1	1	1	277.5	278
24	Joseph and Kelly Eagle	1	2	2	277.5	555
25	Cornell's Friendly Acres	16	1	0	277.5	0
26	Zinnia Properties	1	1	1	277.5	278
27	Brownfield	1	1	1	277.5	278
28	Remaining Capacity	3	3	82	277.5	22,755
				TOTAL:	816	239,890

- Sizing of facilities receiving flows from new wastewater collection systems should be consistent with *Table 1-1* unless water use data or other justification upon which to better estimate flow is provided.

Table 1-1. Minimum Design Loadings¹

Type of Establishment	Organic Loading ² (pounds BOD ₅ /day/capita)	Hydraulic Capacity ³ (gallons/day/capita)
Employee sanitary waste ⁴	0.10	15
Residential		
Single family dwellings	0.22	75-100
Apartments or condominiums	0.22	60-100
Mobile homes	0.22	75-100
Food or Drink Establishments (wastes per patron)		
Tavern or bar (not serving food)	0.06	2
Fast-food (paper service)	0.07	3
Café or restaurant	0.08	5
Restaurant serving alcoholic beverages	0.09	5
Schools (wastes per student)		
Day school, no cafeteria, gym, or showers ³	0.02	10
With cafeteria—ADD	0.07	4
With gym and showers—ADD	0.01	10
Boarding Schools	0.22	75
Institutions (per bed)		
Hospitals	0.27	125-200
Nursing homes	0.22	100-125
Prisons	0.30	125-200
Other institutions	0.22	100-150
Commercial and Recreational		
Public parks (toilets only)	0.02	5
Public parks with bath house, showers, and toilets	0.06	15-25
Swimming pools and beaches	0.06	15-25
Country clubs (per resident member)	0.17	75-100
Country clubs (per member present)	0.06	15-25
Service stations (per customer)	0.01	5
Laundromats (per machine)	1.25	580
Hotels	0.15	50
Motels (without restaurants)	0.10	40
Luxury resorts	0.17	75
Camper trailers	0.08	30
Work or construction camps	0.15	60
Churches (per patron without food service facility, day care, or camp)	0.01	5-10
Stores, malls, or shopping centers (per 1,000 square feet of floor area)	0.34	200
Stadiums, auditoriums, theaters, or drive-ins (per seat)	0.01	5
Winery (per ton of fruit crushed without restaurant)	0.80	5

¹ For on-site systems, jurisdiction and permit determination is based on 19 CSR 20-3.060(E) Table 2A – *Quantities of Domestic Sewage Flows*.

² Garbage grinders are assumed for all except commercial and recreational facilities; increasing the organic loading by 0.05 pounds BOD₅ per capita per day.

³ Gallons per day per capita includes normal infiltration for residential systems.

⁴ Generally means eight (8)-hour shift employees at institutions, commercial establishments, factories, and similar establishments. Add total employee waste, if applicable, to the appropriate patron or residential total from *Table 1-1*.

- **Population to Be Served.** Follow *Table 1-2* when determining the population for which to design wastewater facilities.

Table 1-2. Minimum Population Equivalent

Type of Establishment	Capita/Unit (PE)
Residences	3.7
Apartments or condominiums—	
(1 bedroom)	2.0
(2 bedrooms)	3.0
(3 bedrooms)	3.7
Mobile homes	3.0-3.7
Camper trailers without sewer hookup	2.5
Camper trailers with sewer hookup	3.0
Motels	3.0

Peaking Factor. The average design flow value shall be used in conjunction with a peaking factor from the following **Equation 1-1**, included herein [See 10 CSR 20-8.110(3)(B)(1)(B).]

Equation 1-1. Ratio of peak hourly flow to design average flow.

$$\text{Peaking Factor} = Q \text{ Peak Hourly} / Q \text{ Design Avg} = (18 + \sqrt{P}) / (4 + \sqrt{P})$$

Where:

Q Peak Hourly = design peak hourly flow

Q Design Avg = design average flow

P = Population in thousands

I/I Contributions. Where the new collection system is to serve existing development, the likelihood of I/I contributions from existing service lines shall be evaluated [See 10 CSR 20-8.110(3)(B)1(C).].

DATE: January 21, 2020

TO: Board of Trustees

FROM: Tom Ratermann

SUBJECT: Wastewater Treatment Capacity at the South Route K Wastewater Treatment Facility (WWTF)

- Regarding October 2, 2019 Smith Lewis letter on behalf of Darin and Holly File

EXISTING CONDITION

According to a November 20, 2018 memo to the BCRSD Board of Trustees (BOT), the South Route K WWTF has allocated 240,682 gallons per day (gpd) of treatment capacity as shown on Table 1. Total design flow as shown on the operating permit is 244,000 gpd. The operating permit expired on September 2, 2009.

Most recently, in a May 3, 2019 agreement between the BCRSD and West Creek Properties, the BCRSD agreed to serve 12, 2-bedroom, residential units to be constructed by West Creek Properties. Table A attached to this memo details how the wastewater treatment capacity in the South R WWTF is currently allocated.

The question at hand is the allocation of 54 single-family residential units to the Blue Acres service area as shown on the attached Table A. On September 1st, 1999 Blue Acres, Inc. accepted a subscription purchase of 35 residential units of new wastewater treatment capacity to serve the redevelopment of Leatherwood Hills Mobile Home Park (MHP). Blue Acres Inc., by a check dated October 2nd, 2001 paid to the Sewer District \$43,274.00 as a partial payment on the subscription agreement.

An assignment dated October 11th, 2001, assigned the terms of the subscription agreement from Blue Acres, Inc. to Mark and Laura Grant and was accepted by the Sewer District. Also, on October 11th, 2001 Blue Acres, Inc. conveyed 30 acres more or less to Mark and Laura Grant.

On August 6th, 2003 the Sewer District invoiced Mark and Laura Grant for the final costs on the subscription agreement in the amount of \$13,965. On November 18th, 2003 Mark Grant proposed returning eight residential units and reconciling the final costs by paying \$881.80 to the Sewer District. The Sewer District agreed. Therefore, the Grants completed the purchase of 27 residential units of treatment capacity.

The Leatherwood Hills MHP had 37 mobile homes according to BCRSD records. Combined with the 27 units purchased, this totals 64 units or 23,680 gpd of treatment capacity.

In May 2003 Blue Acres, Inc. conveyed Lot 1 of Little General Subdivision to Brentwoods, Inc. In June 2004 the BCRSD wrote a letter to the Boone County Planning and Building Inspection Department commenting on the Leatherwood Hills Planned Industrial Development. The review plan showed a 17,674 square feet (SF) building, which at 200 gpd per 1,000 SF consumes 3,535 gpd of treatment capacity. This leaves 20,145 gpd of treatment capacity for the parent tract or enough capacity to serve 54 residential units.

At some time around 2000, the BCRSD believes that the Leatherwood Hills MHP was closed. This is indicated by a BCRSD letter to Blue Acres, Inc. discussing a change in billing for the Blue Acres, Inc. property. This was prior to the conveyance to the Grants in October 2001 and the conveyance to Brentwoods, Inc in May 2003.

On October 22, 2001 the BCRSD sent a fax to Mark Grant stating that the Grant property had 72 residential units of treatment capacity (35 through the subscription purchase plus the original 37 mobile homes at the Leatherwood Hill MHP). On December 17th, 2003 the BCRSD sent a letter to Mark Grant confirming that he had purchased 27 residential units of treatment capacity. On December 10, 2018 Mark Grant sent an e-mail to the BCRSD acknowledging the 72 units, but that it was clear to him that 27 units were all that was owned by him and requesting that 4 units be added to the 27 due to the 2 duplexes that he would soon demolish. On May 1, 2019 the BCRSD sent a letter to Mark Grant concurring with his suggestion that 31 single family residential units be allocated to his property.

CONCLUSION

I believe that the number of homes shown on the Blue Acres service area shown on the attached Table A should be revised from 54 to 31. Further, I have reviewed Table A and I believe that it accurately reflects the current allocation of treatment capacity at the South Route K wastewater treatment facility. This allows for 23 units of capacity.

RECOMMENDATIONS

1. Based on the October 2, 2019 letter from Smith Lewis on behalf of Darin and Holly File requesting 3 units of treatment capacity, the BCRSD should grant this request subject to a typical BCRSD service agreement with the Files. This recommendation reduces the allowable capacity to 20 units.

2. Should recommendation 1 above be approved, the remaining 20 units of capacity should be reserved for K-View Acres, the homes on the west side of Hill Creek Road adjoining the File property and Cornell's Friendly Acres on a first come – first served basis. K-view Acres and the homes on the west side of Hill Creek Road adjoining the File property are known to have failing on-site systems. Cornell's Friendly Acres is a private MDNR permitted lagoon, which likely will have compliance issues with MDNR at some time.
3. The BOT resolution regarding treatment capacity at the South Route K should be revised accordingly based on any BOT action.

Wastewater Treatment Capacity at the South Route K Wastewater Treatment Facility (WWTF)
1/8/2020

Service areas	Subdivision/Street	No. of Lots	Homes/Lot	Total No. of Homes	Flow (gallons per home)	Allocated Flow
1	New Town	62	1	62	304	18,848
2	Blue Acres	54	1	54	304	16,416
3	Hillcreek NID	94	1	94	304	28,576
4	Bonne Femme Estates	32	1	32	304	9,728
5	Maple Meadows	13	2	26	304	7,904
6	Gateway South	129	1	129	304	39,216
7	Cedarbrook	74	1	74	304	22,496
8	Old Plank Village	31	2	62	304	18,848
9	Old Plank Estates	33	1	33	304	10,032
10	Heather Hill	31	1	28	304	8,512
11	Nursery Heights	130	1	130	304	39,520
12	Toalson	13	1	14	304	4,256
13	Leipard	2	1	3	304	912
14	Keithahn	9	1	9	304	2,736
15	Wilson	3	1	7	304	2,128
16	Teague	1	1	1	304	304
17	Lot C1 - Newtown					3,600
18	Lot C2 - Newtown					1,000
19	Lot C3 - Newtown					600
20	Lot C4 - Newtown					2,800
21	Lot C5 - Newtown					3,200
22	Godas commercial					2,250
				TOTAL:	758	243,882

TABLE A

Allocated at October 15, 2018 Board of Trustees meeting

Wastewater Treatment Capacity at the South Route K Wastewater Treatment Facility (WWTF)
8/9/2022

Service areas	Subdivision/Street	No. of Lots	Homes/Lot	Total No. of Homes	Flow (gallons per home)	Allocated Flow
1	New Town	62	1	62	304	18,848
2	Blue Acres (Mark and Laura Grant)	31	1	31	304	9,424
3	Hillcreek NID	94	1	94	304	28,576
4	Bonne Femme Estates	32	1	32	304	9,728
5	Maple Meadows	13	2	26	304	7,904
6	Gateway South	129	1	129	304	39,216
7	Cedarbrook	74	1	74	304	22,496
8	Old Plank Village	31	2	62	304	18,848
9	Old Plank Estates	33	1	33	304	10,032
10	Heather Hill	31	1	28	304	8,512
11	Nursery Heights	130	1	130	304	39,520
12	Toalson	13	1	14	304	4,256
13	Leipard	2	1	3	304	912
14	Keithahn	9	1	9	304	2,736
15	Wilson	3	1	7	304	2,128
16	Teague	1	1	1	304	304
17	Lot C1 - Newtown					3,600
18	Lot C2 - Newtown					1,000
19	Lot C3 - Newtown					600
20	Lot C4 - Newtown					2,800
21	Lot C5 - Newtown					3,200
22	Godas commercial					2,250
23	Darin and Holly File	1	1	1	304	304
24	Joseph and Kelly Eagle	1	2	2	304	608
25	Cornell's Friendly Acres	16	1	16	304	4,864
26	Zinnia Properties	1	1	1	304	304
27	Remaining	3	3	3	304	912
				TOTAL	735	243,882

TABLE A

Allocated at October 15, 2018 Board of Trustees meeting