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“I hope you can some day have a bath room”: Bowling Green’s Sewer System

by Lynn Niedermeier

Are we sitting on a time bomb?

Assembling for their bi-weekly meeting on the evening of April 18, 1901, the gentlemen of Bowling Green’s XV Club had resolved to examine this question in their usual thorough manner. Nine of fifteen members of the venerable literary club were present along with six guests, including a former mayor, the superintendent of schools, and two physicians. The hazardous subject of their discussion was just a few feet beneath them, percolating through the fissures, crevices and caverns of the vast oolitic limestone formations undergirding the city. Depending upon the weather and the topography, it flowed, flooded, pooled, stagnated or clogged. In each case, it threatened everyone with disease, even death—and it stank. It was Bowling Green’s sewage problem, and it was steadily decomposing into a crisis.¹

Rescuing the population from drowning in its own waste, club members agreed, was the most urgent public health challenge of the day—a “mine,” one of them suggested, “that would sooner or later blow us up from a sanitary point of view.” They understood, nevertheless, that the temptation to civic inaction was, and would remain, profound. For generations, Bowling Green had boasted a means of sewage disposal that was disarmingly simple. Eons of precipitation had forced rainwater through the topsoil, where it eroded the limestone bedrock to carve out caves, underground streams and, where the bedrock collapsed altogether, hundreds of sinkholes—in short, any number of receptacles to hold and carry off the waste of a small city and its modest industries. Bowling Green’s site, moreover, was generally sloping, beginning in the south at an elevation of 650 feet on what is now the campus of Western Kentucky University, dropping to 500 feet near the public square, then continuing northward to another convenient outlet, the Barren River.²

¹ XV Club Minutes, 18 April 1901, Special Collections Library, Western Kentucky University (hereinafter “WKU Special Collections Library”).

² Ibid. The 1900 census reported Bowling Green’s population as 8,226, to which could be added some 700 students attending the Western Kentucky State Normal School (now Western Kentucky University).

Opening a passage to the city's underground system of caverns and watercourses became the job of the "sink finder." Such tradesmen would dig through the topsoil until they located a promising hole in the bedrock, then test its capacity with a healthy volume of water. If no obstruction was evident, *voilà!* The property owner had his sewer connection. Though the method was generally random and success accidental, at least one sink finder, an African American named Henry Jameson, would gain fame for his ability to locate accommodating fissures with the help of a divining rod or "witch stick."³

Natural sewage outlets, however, could prove costly to the individual user. If the sink happened to connect to an underground stream, it might serve its purpose for years, but more often complications arose. Without consistent drainage, waste accumulated in irregularly shaped caverns and pits, clogging the sink and causing it to overflow, especially during heavy rain. The property owner then faced two expensive choices: either locate a fresh sink or unclog the old one, usually with the aid of dynamite. Installation of a septic tank to intercept solid waste, while lessening the likelihood of clogs, also presented another ongoing maintenance outlay. Even if the owner of a home or business succeeded in managing his own sewage, he might be forced to defend against a neighbor's by waterproofing his cellar, which could in turn suddenly render the neighbor's disposal path ineffective.

Privilege, as the gentlemen of the XV Club knew, offered no protection from the financial, visual and olfactory burdens accompanying such practices. Several members, in fact, were uncomfortably familiar with the more notorious stops on any sanitary tour of their town. One might begin at Chestnut and 14th Streets near the front gate of Ogden College, the select school for young men of which club secretary William A. Obenchain was president. In the heat and humidity of summer, noted Obenchain, the stench escaping from a nearby ground opening was "exceedingly offensive." Only a short distance up the hill was Potter College, the school for young ladies established a dozen years earlier by another club member, Benjamin F. Cabell. During construction of the school building, the architect had recommended that Cabell simply discharge waste through pipes onto the rear hillside, but his neighbors soon complained about the

³ Charles E. Mace, "Sewage System More Than a Million Years Old," *Popular Mechanics*, vol. 35, no. 5 (May 1921): 687-88.

odor. Luckily, “a little blasting” had opened the way to a cavern beneath the property, at least temporarily alleviating the problem. Hoping for the same good fortune was fellow club member Benjamin F. Procter, then constructing a new residence across the street from Ogden College and still in search of a suitable cavern for his disposal needs.⁴

On the way to the center of town, one could pause at the corner of State and 10th Streets to admire the four-story McCormack Building. Built by two of the club’s guests, Dr. Joseph N. McCormack and his son Dr. Arthur T. McCormack, the building was a prestigious address for business and municipal offices. During excavations for the cellar, however, workers had broken into two sewage-contaminated underground streams, necessitating the construction of retaining walls and septic tanks costing some \$12,000. Continuing down State Street to the northeast corner of the public square, one would encounter the owners of the Morehead House, the city’s leading hotel, blasting their *twenty-third* hole to create a fresh outlet for sewage. Also on the square and employing the same disposal method was the Gerard House, a residential hotel with such an unhealthy atmosphere that, it was said, no baby had ever thrived under its roof.⁵

Other businesses in the vicinity, in common with many homeowners, found themselves without any access to sinks. Consequently, at the rear of the public square, in the commercial heart of the city, one could find numerous, poorly maintained, fly-infested, open privies from which waste simply discharged onto the ground. Finally, no tour of downtown was complete without a look at (and a sniff of) its main drainage canal, the famous Whiskey Run Sewer. Originating in a spring a few blocks to the southeast, it ran under State Street parallel to 10th Street, just south of the McCormack Building, then behind the courthouse. Turning northward between Center and Kentucky Streets, it eventually emptied into a large sink near the Barren River. Open in some places, board-covered in others, fortified here and there with walls of rubble, this age-old natural ditch took its name from the swillish quality of the liquid it carried.⁶

⁴ XV Club Minutes, 18 April 1901.

⁵ Ibid.; Affidavit of A. T. McCormack, 18 July 1932 (hereinafter “McCormack Affidavit”), Procter-Pendleton Papers, WKU Special Collections Library, p. 2.

⁶ Paul Hansen, Sanitary Survey of Bowling Green, 1911; W. H. Frost, Sanitary Survey of Bowling Green, 1914, both excerpted in McCormack Affidavit, pp. 2, 6; J. N. Chester Engineers, “Report on Sewerage System and Sewage Disposal for Bowling Green, Kentucky,” August 1931, Warren County Court Records (MSS 135), WKU Special Collections Library. The Chester report provides a good description of the Whiskey Run Sewer route; the sewer also appears on the 1901 Sanborn Insurance Company map of Bowling Green.

Political responses to the sewage problem, as one of the XV Club's guests knew, had been as sluggish as the most backed-up sink. A few years after settling in Bowling Green in 1875 and becoming a member of Kentucky's State Board of Health, Dr. Joseph N. McCormack had conducted a sanitary survey of the city and urged the construction of a sewer system concurrently with the installation of new gas lines. Having fallen victim himself to a severe case of typhoid in 1872, McCormack understood the menace to public health posed by waste entering sinks and fouling the household wells then still common in town. The legislature's utter indifference to promoting sanitary measures, however, had become clear when McCormack took over the secretaryship of the State Board in 1883. At \$2,500 per year, the appropriation for the salary and expenses of the position were so inadequate that he had to set up an office in his home, where it remained for the next 28 years.⁷

Memphis, Tennessee had responded to epidemics of cholera in the 1870s with construction of a sewer system to protect its water supply from contamination. By contrast, in establishing its first waterworks in 1870, sewer-less Bowling Green had, as Dr. McCormack observed, put the cart before the horse, even locating the pumping station downriver from a drainage site. In 1892, at the urging of McCormack and Mayor Thomas J. Smith, the Memphis engineer, J. H. Humphreys, had been engaged to conduct a new sanitary survey of Bowling Green. The outcome—a comprehensive plan for sewage disposal similar to that designed for Memphis—seemed foreordained, but Humphreys, as the XV Club noticed in hindsight, made the mistake of uttering the cost as a lump sum—\$200,000—and a frightened common council quickly dropped the matter. A decade later, club member and geologist Malcolm H. Crump was confident that the work could be accomplished for half this amount; restated at \$1.00 per foot, moreover, it compared favorably to the average citizen's cost of blasting in search of caverns. Dr. McCormack agreed, perhaps thinking that dynamite would be better used to gain the attention of the common council and especially of city engineer James Wilkinson—“*the power in our municipal government*”—whose support was indispensable to progress.⁸

⁷ Corinne Crenshaw McCormack, “Joseph Nathaniel McCormack, M.D., LL.D.,” *Kentucky Medical Journal*, July 1937, reprinted in (Bowling Green) *Times-Journal*, 10 July 1937. Although the bacteria that causes typhoid was not isolated until 1880, scientists had suspected since the 1850s that the disease spread through ingestion of food or water contaminated with the fecal matter of an infected person. Victims experienced high fever, abdominal pain, diarrhea, fatigue and skin rash; complications included intestinal bleeding or perforation, and kidney damage.

⁸ McCormack Affidavit, pp. 1, 4; XV Club Minutes, 18 April 1901.

At the conclusion of its meeting, the XV Club resolved to invite the State Board to hold its next sanitary convention in Bowling Green, but the next major call for a sewer system did not occur until 1907. In yet another sanitary survey, Granbery Jackson, a consulting engineer from Nashville, submitted plans similar to those of Humphreys, but again the price tag consigned them to oblivion. Fortunately, at the state level, more resources were converging on the problem. On January 1, 1911, Kentucky's new vital statistics law took effect. A higher appropriation for the Board of Health financed the employment of a sanitary engineer and a state registrar, and allowed Dr. McCormack to move its cramped offices out of his home and into a building on the campus of the Western Kentucky State Normal School. That same year, the new sanitary engineer, Paul Hansen, produced his own survey of Bowling Green. Detailing the unsatisfactory conditions known to previous canvassers—unreliable sinks, flooding of cellars, odor, disease, and danger to the water supply—Hansen acknowledged that a plan for managing the cost was critical to accommodating the now-widely recognized and “ultimate necessity” of installing sewers.⁹

Statistics flowing into the Board of Health from local registrars and physicians soon bolstered what was already an irrefutable argument for a sanitary sewer system. In the first eight months of 1911, reported state vital statistics registrar Dr. William L. Heizer, Kentucky's death rate from typhoid fever was 25 per 100,000, slightly higher than the national rate. Bowling Green, however, would suffer a death rate for 1911—and for the next two years—of more than 99 per 100,000, the highest of any city in the state and even higher than its own average for 1886-1910 of 62 per 100,000. In a community of some 11,500 residents and students, the news of this growing public health scandal prompted Dr. Arthur T. McCormack, who succeeded his father in 1912 as secretary of the Board of Health, to request yet another inquiry into its cause.¹⁰

The resulting sanitary survey conducted in late September, 1914 by Dr. Wade Hampton

⁹ XV Club Minutes, 18 April 1901; Paul Hansen, Sanitary Survey of Bowling Green, 1911, quoted in McCormack Affidavit, pp. 2-4. For the vital statistics law, see *Kentucky Acts* 1910, ch. 37 (approved March 21, 1910).

¹⁰ Paul Hansen, “Typhoid Fever—Statistics and Prophylaxis,” *Kentucky Medical Journal*, v. 10, no. 1 (January 1, 1912): 30; “Sanitary Survey of Bowling Green, Ky.,” in *Annual Report of the Surgeon General of the Public Health Service of the United States* (Washington, D.C.: GPO, 1915), 62-63. This survey placed Bowling Green's 1911 typhoid mortality rate at twice the state average, suggesting that Heizer's eight-month figure, which did not capture all of the warmest months, substantially undercounted Kentucky's rate for the full year.

Frost, a former U.S. Public Health Service official and a fast-rising epidemiologist, spared nothing in its depiction of the horror. Supporting Paul Hansen's call for structural improvements to the waterworks, Frost nevertheless reported that the "most imminent danger to the health of the city lies in the entire absence of any system of sewage disposal with the resultant gross accumulation of human filth in the city." Even more objectionable than Bowling Green's "blind" method of using sinks to carry off waste was the prevalence of surface privies. An inspection of 40 residences scattered throughout five city blocks had found 12 with access to privies only, but of the remaining 28 with sinks, 18 also had open privies, usually for the use of servants. Frost calculated overall that at least one half of homes with sinks also had privies; worse still, their construction and maintenance was entirely unregulated. "It is virtually impossible to exaggerate the filthiness of this condition, or its sanitary menace," insisted Frost, likening the practice to that of "a poverty stricken industrial settlement of ignorant laborers" or a "small village where municipal authority is loosely organized." Describing the presence in every block of "the exposed discharges of twenty to fifty people," with every home and business "within easy fly-range of from one to a dozen accumulations of such filth," he found local tolerance of such conditions "almost as incomprehensible as it is inexcusable." He called for swift "concerted and common action" in the form of a sanitary sewer system, and for interim measures such as improvement of water treatment, regulation of privies, and inoculation of residents against typhoid.¹¹

Even with this unequivocal condemnation of the *status quo*, specifications for a sewer system, ordered by the common council and fine-tuned by a U.S. Public Health Service engineer in spring 1915, failed to pass beyond the planning stage. A few years later, the entreaties of health authorities suffered another setback when Bowling Green found itself at the center of a five-county oil boom and civic boosters hastened to put the best face on its amenities. Doctors Joseph and Arthur McCormack must have groaned when the local Oil Development League circulated a 1921 *Popular Mechanics* article touting nature's benevolent role in the efficient disposal of the community's sewage. "No city has a more sanitary system," the article boasted, marveling that "not a foot of man-made sewer pipe" ran under Bowling Green's streets.

¹¹ "Sanitary Survey of Bowling Green, Ky.," 63, and portions excerpted in McCormack Affidavit, pp. 4-7.

“Seepage” it claimed, “never comes to the surface”; instead, after being sent underground and purified by passage through the limestone bedrock, waste flowed naturally and harmlessly to the river.¹²

Rates of typhoid fever in Bowling Green, unfortunately, told another story. For the next decade, they remained more than twice as high as other Kentucky cities with at least 10,000 inhabitants. Nevertheless, a series of progressive reforms during the 1920s brought a sewer system closer to realization. As they took steps to improve and expand the city’s waterworks, Mayor Henry E. Stone and the common council encouraged the heretofore unknown practice of piping sewage, but only as far as the much-maligned Whiskey Run Sewer. In 1923, several city ordinances permitted private property owners along Spring Alley, north of the public square, and the Louisville & Nashville Railroad, then planning its new depot, to construct underground pipes from approved septic tanks to the Whiskey Run Sewer. By the next year, the city had taken over construction of the Spring Alley sewer and was setting regulations for additional connections. Responding to further public health warnings about contaminated water, Mayor A. Scott Hines presided over a substantial bond issue that resulted in completion of the city’s first water treatment facility in 1928.¹³

Ironically, the breakthrough to a full sewer system did not occur until Bowling Green, like the rest of the country, fell from the comfortable 1920s into the leanest of the Depression years. For some residents and former residents, the prospect was long overdue. Writing from Texas in June, 1930 to her two sisters on Park Street, William Obenchain’s widow, Lida Calvert Obenchain, noted that “Bowling Green seems to be growing, but will it ever have a system of sewerage?” The following April, she was encouraged after reading the newspaper clippings they had sent. “It seems that Bowling Green is really going to have sewerage,” she observed, “and I hope you can some day have a bath room.” The goal, indeed, seemed within reach. On August

¹² “Projected Sewerage at Bowling Green, Ky.,” in *Annual Report of the Surgeon General of the Public Health Service of the United States* (Washington: GPO, 1915), 115; (Bowling Green, Ky.) *Park City Daily News*, 13 April 1921; Mace, “Sewage System More Than a Million Years Old,” 687.

¹³ McCormack Affidavit, p. 7; “Bowling Green Installs Municipal Utilities During Depression Years,” *Park City Daily News*, 23 October 1949. For sewer ordinances, see in particular those passed on 5 February, 18 June, 22 June, 17 September 1923, 4 August 1924, 21 December 1931, and 2 February 1932, Bowling Green, Kentucky – City Ordinances (MSS 285), WKU Special Collections Library.

3, 1931, the newspaper announced that 90 laterals serving the city center would soon be connected to a new sewer main following the line of the Whiskey Run Sewer. Weeks later, the Pittsburgh firm of J. N. Chester Engineers completed nine months of work and released its report on a city-wide system of sewage disposal. The report proposed that construction continue in the two sewer districts covering the main business and residential portions of the city, and proceed over time to include five additional outlying districts. Unlike previous proposals, the report incorporated existing sinks and drainage channels, most notably the Whiskey Run Sewer, into the design, building on the work already done as “a temporary expedient” until additional funds became available. At its meeting on December 21, the common council signified its allegiance to the J. N. Chester plan by ordering that its accompanying contour map of the new sewer districts be hung on the wall and “not be permitted to be taken from the City Hall.”¹⁴

No sooner had the common council passed an ordinance on February 2, 1932 to implement the sewer plan than the spectre of its cost inspired in some citizens a new affection for their caves and sinks. Beyond a bond issue to cover immediate expenses, the ordinance required property owners served by the first phase of construction to finance it through an apportionment tax, payable either upon completion of the work or in interest-bearing installments over ten years. Petitions to halt the construction began to circulate but 63-year-old Martha Potter, who lived at 1348 State Street, was not persuaded. “I did not sign,” she wrote her children, “for we do need a sewer more than anything,” and the cost, which she estimated at \$100 over a decade, “would not be hard on anybody.” Nevertheless, on July 15, 1932, a group of citizens asked the Warren Circuit Court for a temporary restraining order and, following a full hearing, a permanent injunction to prevent the common council and Mayor John B. Rodes from awarding the construction contract. In addition to challenging the constitutionality of the ordinance and the method of financing the project, their petition claimed that the sewers were *unnecessary* because the district had long possessed satisfactory “natural sewer disposal facilities.”¹⁵

¹⁴ Lida Calvert Obenchain to Margaret and Josephine Calvert, 24 June 1930, 6 April 1931, Calvert-Obenchain-Younglove Collection, WKU Special Collections Library; *Park City Daily News*, 18 November 1930, 3 August 1931; J. N. Chester Engineers, “Report on Sewerage System.”

¹⁵ Martha (Woods) Potter Letter, 21 April 1932, Lissauer Collection (MSS 482), WKU Special Collections Library; *Park City Daily News*, 15 July 1932.

Morasco Construction of Erie, Pennsylvania had submitted a bid for the sewer work which, at \$93,000, was tantalizingly lower than the next bidder's by almost \$66,000. Accordingly, the city moved swiftly to challenge the temporary restraining order. At a hearing on July 25, Circuit Judge N. Porter Sims listened to affidavit evidence from both sides, even as he anticipated that any decision he rendered would be taken to the Court of Appeals. From sewer opponents came the promise of 250 citizen testimonials confirming the adequacy of their natural sinks and septic tanks. Reports of only 11 typhoid cases in the city in the past 8 months, they further claimed, showed no significant pollution of the water supply. More compelling, perhaps, were their financial arguments. As residents of the central portion of the city, they would be required to subsidize the cost of sewers for non-assessable properties such as churches, schools, the armory and the courthouse itself. General economic conditions, moreover, made any additional assessments an intolerable as well as discriminatory burden. While the extra cost to property owners in the district had been estimated at between \$125 and \$142, the citizen's group estimated that more than half of Bowling Green's 4,700 Depression-struck taxpayers had already slid into delinquency.¹⁶

If sewer foes believed that a petition attacking the necessity and economics of the project put them on firm ground, they soon found the same arguments wielded against them. Judge Sims received an avalanche of written testimony, including a statement signed by 11 physicians pronouncing the city's present sewage system "wholly insufficient and a menace to public health." From Louisville, where the State Board of Health offices had moved in 1918, Dr. Arthur McCormack delivered an affidavit so complete in its abhorrence of current conditions that opponents attempted to have it excluded from the proceedings, along with Mayor Rodes's affidavit mourning the numerous but "futile plans" for sewer systems dating as far back as 1873. When, on August 5, Judge Sims dismissed all objections and upheld the city's right to construct the sewer, the citizen's group promptly filed an appeal. Although the Court of Appeals was then in recess, all parties hoped that a special panel of two judges would agree to expedite the matter and render a decision. By this time, the urgency had acquired a new dimension. If the appeals court upheld Judge Sims, the local newspaper observed, construction could probably commence

¹⁶ Ibid.; *Park City Daily News*, 25 July 1932.

immediately and supply hundreds of jobs for Bowling Green's growing ranks of unemployed men.¹⁷

No quick decision from the special panel, unfortunately, was forthcoming, the judges having agreed that the full court ought to rule on the legality of the ordinance. In the meantime, however, an alternative method of financing the project was attracting interest. On February 2, 1932, the same day Bowling Green passed its sewer ordinance, the Reconstruction Finance Corporation (RFC) had commenced operations in Washington. Originally chartered by Congress to fund Depression-starved banks, the RFC had received additional authority on July 21 to make loans for self-liquidating public works projects. Not only could such a loan finance a sewer system for the *entire* city and be repaid with monthly user charges of less than one dollar, it would generate jobs for as many as 690 men. On September 23, about 140 of those men gathered at the courthouse and passed a resolution urging the city to pursue the RFC loan. Desperation was evident in their expressed desire that, whatever the number available, jobs be parceled out to 600 men on a *pro rata* basis, giving everyone a day or two per week of wages in place of public relief. But emotions, as Martha Potter knew, were running high on both sides. Writing to her children on the same day as the courthouse rally, she reported an altercation between an anti-sewer neighbor and some workmen who had begun digging in front of her home. “[S]he began screaming at the top of her lungs,” wrote Martha. Friends who came to help found her “in a state of hysterics,” shouting that someone “ought to kill [Mayor] John Rodes.” The rattled workmen, however, had intended only to install water meters, a task they completed later that day after tempers cooled.¹⁸

Negotiations for the RFC loan, meanwhile, hinged on yet another court decision. As part of its request for federal sewer funding, the nearby city of Hopkinsville had been required to obtain a ruling on the validity of the state law that governed borrowing by municipalities. Bowling Green's common council watched closely, and when the Court of Appeals upheld the Hopkinsville application, quickly moved forward with its own. On November 1, 1932, local

¹⁷ *Park City Daily News*, 25 July, 5, 22 August 1932.

¹⁸ *Park City Daily News*, 20, 24 September 1932; Martha (Woods) Potter Letter, 23 September 1932, Lissauer Collection, WKU Special Collections Library.

newspaper headlines trumpeted the RFC's approval of a \$630,000 loan to Bowling Green for a sanitary sewer system. With so many unemployed eager to enlist, the project commenced early in 1933. Contractors began to dig up the streets, the noise and dust escalating as they encountered unexpected resistance from rocky soil. Nevertheless, the work forged ahead—night and day, to the consternation of nearby residents—and when it reached Martha Potter's block, she was fascinated. The mechanical digger reminded her of a “huge python slowly crawling up the gutters and set with a great red eye at night.” With excavation both along the street and in the alley behind her house, there was, she wrote, “cannon to the front of us and cannon to the back of us.” By late July—after workers had noisily dumped the rock into tin trucks and repaired asphalt and gutters—her street was back to normal; indeed, the entire sewer project was completed far in advance of its estimated four-year time frame. The city banished outdoor privies and ordered all citizens to connect by May 1935.¹⁹ After more than a half-century, through the persistence of public health advocates, a timely dose of federal stimulus, and local government initiative, real bathrooms had finally come to Bowling Green.²⁰

¹⁹ Martha (Woods) Potter Letters, 11 May, 25 May, 9 June, n.d. [ca. 4 July], 26 July 1933; 7 February 1934, Lissauer Collection, WKU Special Collections Library.

²⁰ *Park City Daily News*, 3, 21 October, 1 November 1932; “Bowling Green Installs Municipal Utilities During Depression Years.” The Court of Appeals also upheld Judge Sims's decision to lift the restraining order, subject to a rehearing on the question of whether property owners were liable to assessment for work already completed. As attorneys for both sides debated the effect of this decision on the validity of the original ordinance, the RFC loan came through: see *Park City Daily News*, 3 October 1932.