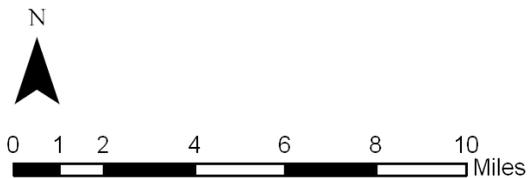


Case Study:

Jasper, New York

The Hamlet of Jasper, New York, is not unusual for the area: It has no water or wastewater infrastructure, little industry, few high-paying employment opportunities, and few services for residents. All residents and businesses are on septic systems, which in many cases are failing, resulting in public health problems. The lack of infrastructure has had a direct, negative impact on economic development opportunities. In 2000, town officials began a process to build a wastewater system for the community. This case study illustrates their efforts and the importance of early technical assistance, committed leadership and an involved public to the successful completion of infrastructure projects in small rural communities. Municipalities in New York consist of unincorporated Towns (County subdivisions) and incorporated Villages and Cities. Hamlets are population centers within Towns. Although Hamlets have no official designation or authority, they are generally recognized as Town “centers.” Towns generally have one or more Hamlets within them. Unless otherwise noted, “Jasper” in this case study refers to the Hamlet of Jasper, a population center within the Town of Jasper (refer to Figure E-4).

Figure E-4. Location of Jasper, NY, in Steuben County



Data Source: ESRI

Background and Demographics

The Town of Jasper is about 10 miles north of the Pennsylvania–New York border in rural southwestern Steuben County. The town’s population in the 2000 Census was 1,270. It is located on the Appalachian Plateau and is predominantly agricultural and forested. The region’s principal enterprises are agriculture and timber harvesting. Tuscarora Creek runs intermittently 500 feet from the center of Jasper and drains via the Canisteo River into the Chemung and Susquehanna rivers. The water table ranges from 18 to 24 inches below the surface in the hamlet and slopes in the area average 12%. Median household income in the town in 2000 was \$33,393. Over 52 percent of the homes were built before 1939, and the average house is worth \$47,500.

The wastewater project area is the hamlet, which had a population of 262 in 2002. There are 96 residences and 20 commercial or public buildings in the hamlet. The Jasper Troupsburg High School serves more than 300 students and staff on a daily basis. An income survey completed by the Northeast Rural Community Assistance Program (RCAP) found that 52.8 percent of the residents were of low or very low income according to U.S. Department of Housing and Urban Development guidelines for Steuben County, and 29 percent were below the poverty level. The survey determined Jasper’s median household income to be \$25,000.

In New York, villages and cities have authority for municipal water and wastewater infrastructure within their borders, although they often provide these services to customers outside their municipal limits. If property owners in unincorporated areas of a town want water or sewer service, they must approve the creation of a special district. In the case of water or sewer, the town administers the system on behalf of district residents. A single town can contain several water or sewer districts, all administered by the town.

The Problem

Like many unincorporated communities in the region, Jasper has never had a municipal water or wastewater system. Residents rely on private wells and septic systems. In many cases the septic systems have outlived their useful life and are failing, resulting in unhealthy conditions due to discharge of raw sewage. In older communities like Jasper, lot sizes are small, and as a result, septic systems are sited close to wells. Thus the potential exists for contamination of drinking water. Because of Health Department regulations on well and septic system siting, residents with failing septic systems often are unable to install new systems because of their lot size and the proximity of their system to their own or a neighbor's well.

The lack of municipal water and wastewater services also has limited economic development opportunities. "Seniors who wanted to sell their homes and move into something smaller couldn't" because their septic systems failed percolation tests (the soil in the area is largely clay, which impedes absorption and therefore makes it unsuitable for septic system leach fields).¹⁹ These homes were unable to pass full disclosure requirements, necessary for banks to approve a mortgage. (Among other tests, the NYS Department of Health requires that properties for sale with septic systems pass a percolation, or PERC, test. Any sale contract that is based on passing the PERC test is invalid if the system fails to pass the test, according to the NYS Department of State.)

The lack of wastewater infrastructure also has depressed property values. As one resident noted, "I am a senior citizen who needs to sell my home. One of the major questions by the buyer is 'Do we have a central sewer system?' Having

¹⁹ Lucille Kernan, Supervisor, Town of Jasper, interview, July and August 2004

one would aid in selling property as well as increasing the value.”²⁰ Two restaurants were built in the area but could not open because of well contamination and the inability to build appropriate onsite wastewater treatment systems. One owner noted in her support letter for the project, “Because of this waste problem, it also has been hard for me to sell the business and or building, and as long as there is this problem, then it will be unlikely that I will ever sell it.”²¹ Residents believed that the lack of an adequate wastewater system blocked economic development opportunities. A business owner noted, “It has never been an option for us to recommend Jasper as a location [to start or expand a business] due to its lack of wastewater treatment.”²²

Because of the obvious wastewater problems in the community, the Town Planning Board was compelled to address the issue. In 2001 an Ad Hoc Water and Wastewater Committee was created to explore the planning and funding process of infrastructure development in Jasper. The committee’s eventual success was attributed to broad community support and the efforts of leaders to have a variety of stakeholder interests represented. “We tried to get a cross-section of the community, a well driller, a senior citizen. That gets more people talking on the street. The initiative [for the project] came from the community, and that’s what kept it going.”²³ A 1999 Community Master Plan Survey had found that “utilities,” including water, sewer, and natural gas, was the most commonly cited challenge facing the town. The same survey asked business

²⁰ Public comment included in the Town of Jasper Application for New York State Small Cities Community Development Block Grant, submitted to the New York Governor’s Office for Small Cities, April 12, 2002

²¹ *Ibid*

²² *Ibid.*

²³ Carol Whitehead, chair, Town of Jasper Ad Hoc Water Wastewater Committee, interview, August 2004

owners what services would enhance their business and improve business retention and expansion. The most common response was “utilities.”

The Process

In spring 2001 the town learned about the Southern Tier Central Regional Planning and Development Board’s Community Connections Program, which provides planning grants for infrastructure projects in the region. The town’s successful application brought it together with technical assistance providers from Rural Community Assistance Partnership, the New York State Environmental Facilities Corporation (NYSEFC), the Rural Development Program of the U.S. Department of Agriculture (USDA), and the New York State Department of Health (NYSDOH). Several meetings were held with these agencies and town and planning board representatives, which resulted in local leaders becoming more familiar with the technical assistance available to them, funding alternatives, and the steps that they would need to take to complete a wastewater project successfully. Lucille Kernan, a town supervisor, characterized the initial grant as “pivotal” to the project’s success: “It all came together at that point . . . This spearheaded it.”²⁴

Through the board’s work with the Community Connections Program, the committee realized that it had to have data on the need for a wastewater system in the hamlet. A prime concern for the community was the potential of drinking water contamination from leaking septic systems. The NYSDOH agreed to work with the town to test drinking water, and not to pursue a consent order if there was no evidence of widespread contamination. Supervisor Kernan credits this informal agreement between the Town and the DOH to the success of this phase

²⁴ Lucille Kernan, Supervisor, Town of Jasper, interview, July and August 2004

of the project. More than 90 percent of the residents agreed to have their water tested. The success of the testing program is attributed to the manner in which it was conducted. Members of the committee contacted each resident of Jasper to gain his or her approval, and a committee member accompanied NYSDOH staff to each home and business for the test. According to a planning board member, without that contact and presence, "I think [residents] would have been apprehensive: 'Why are you here? Am I going to be fined if there's a problem with my water?' We developed a script for the committee members to use when they called people."²⁵

The DOH tested 117 wells and one spring in the hamlet in May 2001. They found *Escherichia coli* in 3 wells and total coliform bacteria in 26 wells. Also, 7 wells exceeded NYSDOH limits for nitrate. Further, on the basis of observations and residents' responses to questionnaires, "most homes and businesses did not have onsite water supplies and onsite sewage systems that met separation distances [100 feet] that are recommended to protect water supplies from sewage contamination."²⁶ NYSDOH recommended that the town complete feasibility studies to assess the cost and the practicality of a wastewater system.

RCAP conducted a diagnostic survey of Jasper residents in May 2001. The survey asked about the type and the depth of their well, the location, the type and the age of their septic system, and so forth. Ninety-eight surveys were returned, a response rate of more than 90 percent. More than 62 percent of the respondents thought that there were septic system problems in their neighborhood, more than 72 percent had a water supply source less than 100 feet

²⁵ Carol Whitehead, chair, Town of Jasper Ad Hoc Water Wastewater Committee, interview, August 2004

²⁶ Diagnostic Survey of Current Conditions and the Need for Public Water Supply and Sewerage, Catherine Rees, The Northeast RCAP, January 2002, submitted with Block Grant application

from a septic system, and 80 percent favored a public wastewater system. It was apparent that there was broad public support for a wastewater system in Jasper.

Although there was anecdotal evidence that septic systems in Jasper were failing, the town realized that it needed data to support this claim. The town sent letters to all the property owners in the project study area, asking about their willingness to have their septic systems tested for leakage. In July 2001, committee volunteers conducted dye tests, which involved flushing dye through the system to be able to detect leaks. The conclusion was that of the 71 systems tested, 73 percent either regularly or occasionally discharged raw or partially treated sewage. "Some were so bad [that the testers] didn't even get outside before the dye leaked" from the septic system.²⁷ The effluent flowed into ditches, onto sidewalks, onto streets, and into Tuscarora Creek.

The committee issued requests for proposals to engineering firms, and the town board selected MRB Group of Rochester in October 2001 to prepare two engineering reports for a water and wastewater system (the town was considering pursuing both projects but decided to concentrate on the wastewater project). The decision to hire MRB Group was made after public input and after considering advice from NYSDOH and the New York State Department of Environmental Conservation.

The planning board recognized the need for public support of the project. Town leaders engaged the public early and kept them informed of the project's progress. They knew that a wastewater system would mean additional costs for residents and thus would require outreach and education to gain support. They held an initial public meeting in March 2001. The proposal for a wastewater system was introduced to the public, and representatives from RCAP and

²⁷ Lucille Kernan, Supervisor, Town of Jasper, interview, July and August 2004

NYSEFC talked with residents and business owners about the process of building a system in Jasper. Another meeting was held in July 2001 to report the results of NYSDOH's well tests, RCAP's diagnostic survey, and the committee's dye tests. At meetings in February and March 2002, residents were presented with the results of engineering reports, funding options, and project timelines. The local newspapers, the *Hornell Evening Tribune* and the *Corning Leader*, papers reported on the progress of the project throughout its evolution. Because of the demonstrated need for the project and the approach taken by the town and the committee – for example, committee volunteers accompanying NYSDOH staff for water testing – strong public support was generated. Supervisor Kernan noted, “We had an easement party with cookies, where people came in, and we paid them a dollar, and they got their easement notice.” Kernan continued, “[The town] opted to go the more proactive way and do a petition [rather than a vote for district formation]. It was not on the ballot. It was the people who wanted it that signed the petition. It was widely supported.” Kernan believes that this kind of outreach was a key to the project's acceptance and success.

The Funding

In September 2000 the town, along with several other communities in Steuben County, became a USDA Rural Development Champion Community. The town's active participation and successful petition were used as evidence of its commitment to the USDA program's goals of improving social and economic conditions and achieving sustainable community development.

The demonstrated need for a wastewater treatment system in Jasper (as evidenced by the NYSDOH well test and septic system dye test results), the financial status of Jasper residents, and the economic development potential created a case for significant financial assistance from state, regional, and federal

agencies. Jasper qualified for an NYSEFC hardship loan (\$628,250) at 0 percent interest because of the community's low median household income. It also will receive an ARC grant for \$150,000 and a New York Governor's Office for Small Cities Community Development Block Grant for \$361,250. The bulk of the project will be funded by a USDA grant for \$1,619,800 and a USDA loan for \$100,000 at 4.5 percent interest. The town supervisor said, "The dye and water testing and the income survey, the letters of public support – all helped. Without the income survey, we might not have gotten the hardship loan."²⁸ The project had strong public support – the town received sixty-nine letters of support. Public health and quality of life were the chief concerns expressed by residents and business owners in the letters.²⁹ For example:

- "We have a little creek that runs [by] our house . . . that contains raw sewage that flows down it from the residences above our place."
- "Raw sewage flows across walkways in several areas of the community."
- "The septic system at [address deleted] had surfaced, and raw sewage was bubbling out of the ground onto our lawn, as well as having gone underground into our water well. At the time, we became ill from the e-coli contamination in our well."
- "The smell has gotten so bad you can't sit on your porch or yard."

The Project

The town received final approval of the project plan from USDA. It has received its funding from ARC and NYSEFC. Once USDA approval was received, the project was put out for a construction bid, and construction began in May 2005.

²⁸ Lucille Kernan, Supervisor, Town of Jasper, interview, July and August 2004

²⁹ Diagnostic Survey of Current Conditions and the Need for Public Water Supply and Sewerage, Catherine Rees, The Northeast RCAP, January 2002, submitted with Block Grant application

The design calls for an anaerobic sludge treatment plant with a capacity of 35,000 gallons per day capacity. The plant will discharge into Tuscarora Creek. The system will have about 15,500 feet of 8-inch collection pipe and lateral service connections. The project will serve 150 estimated dwelling units (EDUs), including 96 residences, 20 commercial or institutional customers, and the high school, a permanent population of 262. The plant requires an operator with a 2-A permit, who will be shared with the neighboring town of Troupsburg. According to Supervisor Kernan, it was “not feasible for an inter-municipal system. The service area is ten miles from the nearest system [Troupsburg]. The geology and hills would require pumping stations,” which would increase the project cost. System billing and accounting will be the responsibility of the Town Clerk. The Clerk, a part time position, will use a billing software program. Supervisor Kernan does not expect any significant increase in the Clerk’s workload. Customers will receive a separate bill for sewer services, rather than include the charges in tax bills. The average annual cost billed per EDU is estimated at \$450.

The total project capital cost is \$2,859,300, which breaks down as follows:

Table E-5: Project Costs

Wastewater collection system	\$1,404,864
Treatment facility	850,000
Contingency (7% of construction)	157,836
Engineering and technical services	358,600
Legal, fiscal, and administrative costs	88,000
Total Project Cost	\$2,859,300

As noted earlier, the project will be financed by grants and loans from several sources, as outlined below.

Table E-6: Project Financing

Funding Source	Amount
NYS Governor's Office for Small Cities Community Development Block Grant	\$ 361,250
ARC grant	150,000
USDA Rural Development grant	1,619,800
Total Grants	\$2,131,050
USDA Rural Development loan (38 years @ 4.5%)	100,000
NYSEFC SRF loan (30 years @ 0%)	628,250
Total Loans	\$728,250
Total Financing	\$2,859,300

Annual system operating and maintenance costs are estimated to be \$42,300:

Table E-7: O&M Costs	
Treatment plant electricity	\$ 3,100
Building energy costs	3,500
Pump stations electricity	600
Sludge hauling	300
Testing (monthly and annual)	2,000
Miscellaneous equipment and repairs	8,000
Operator salary and benefits	20,800
Vehicle costs	1,000
Administrative salary and benefits	3,000
Total Annual O&M	\$42,300

Annual system costs will be \$67,489:

Operating and maintenance costs	\$42,300
SRF loan repayment	19,648
USDA RD loan repayment	5,541
Total Annual Costs	\$67,489

Additional Issues

Like many small communities in Appalachia, Jasper lacks the capacity to develop a large infrastructure project on its own. Although elected leaders and town staff are committed to responding to constituents' needs and improving their communities, they often are part-time and in most cases do not have the experience or the background needed to see a project through. Communities frequently do not know where to start when facing an infrastructure project. Further, some funding agencies in New York have policies that can create hardships for communities trying to complete a project. These potential barriers to successful project completion are outlined in the following sections.

The Knowledge Gap

Jasper was lucky in being able to obtain a planning grant from the Southern Tier Central Regional Planning and Development Board and participate in the agency's Community Connections Program. This enabled Jasper to receive technical assistance early in its project and move ahead relatively quickly to resolve a serious health problem in the community. Not all communities have access to this type of assistance. Further, there is little institutional memory for large infrastructure development in these communities. Few people in elected

office or on town staff have experience with water or wastewater projects. Therefore, they often do not know where to go for needed assistance. As Supervisor Kernan said, "You have to know someone who knows about them [assistance programs]. It's getting better but still not the best. Many communities aren't computer literate, and they can't find information on line. It takes a lot of time to look for information. I have a part-time clerk, and she's not knowledgeable to look for information. There's no time and no staff to look." Richmondville Mayor Kevin Neary said, "Unless they have an engineering firm, they don't know where to go . . . I wasn't aware these skilled personnel were available."³⁰

When asked how this knowledge gap could be closed, she offered some suggestions; "Teleconferences, but people don't always attend these. I've tried to help other communities that are starting a project. No more reading matter – we have piles of stuff to go through. Local training sessions with people from the different agencies would be good."³¹

The Application Process

Multiple, detailed funding applications can be a problem for many communities. One supervisor said, "You have to make sure you use the right forms. Everyone has a different application."³² A resident who worked on a wastewater project commented, "We would have choked on the grant applications. The village didn't have the capacity for that."³³

³⁰ Kevin Neary, Mayor, Village of Richmondville, interview, July 2004.

³¹ Lucille Kernan, Supervisor, Town of Jasper, interview, July and August 2004

³² Myrton Sprague, Supervisor, Town of Perrysburg, interview, July 2004

³³ Allan Noble, Alleghany County Planning Board, interview, July 2004

Funding agencies also may have differing criteria. One technical assistance provider said, "Some communities hire a consultant or engineering firm [to complete applications], which is a big waste. From my perspective one application would be great. They're [the applications] vastly different.

"It's also the *emphasis*," the provider continued. "ARC is interested in the number of jobs created; [USDA] and [NYSEFC] are interested in residential impact . . . You have to change emphasis for the different applications for the same project . . . If they could get together on that, it would be great."³⁴

Another mayor had a suggestion for streamlining the process: "I'm not sure how the agencies work together. Do they talk with each other about our applications? It would be good if we could just present our problem and they could come up with a solution. Businesses want one-stop shopping for regulations . . . They could have something like that."³⁵

"A Use-It-or-Lose-It Situation"

Jasper received a block grant from New York based on its median household income and the health issues in the community. However, the Governor's Office for Small Cities has a two-year deadline during which a community must use the funds or the grant will be withdrawn. Supervisor Kernan described the situation: "We haven't been able to spend their money fast enough, so we could lose \$300,000 [sic] if we don't spend it by December [2004]. It's a use-it-or-lose-it situation. That makes it harder for us. We're between a rock and a hard place."

A technical assistance provider acknowledged that this policy can create a serious problem for a community's project. "Jasper moved quickly, so it's not

³⁴ Catherine Rees, Water Resources Specialist, RCAP Solutions, interview, August 2004

³⁵ Kevin Neary, Mayor, Village of Richmondville, interview, July 2004

been as much of a problem,” the provider said. “You can imagine what it could be like in other communities . . . for example, if the engineering reports have to be redone. I have another community whose *only* funding is a CDBG grant, and they could lose it. If Small Cities pulled back that grant, it would be devastating.”³⁶

References for Jasper, NY Case Study

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Carol Whitehead, chair, Town of Jasper Ad Hoc Water Wastewater Committee, interview, August 2004.

³⁶ Catherine Rees, Water Resources Specialist, RCAP Solutions, interview, August 2004