

The Case for Regionalization and the Benefit to Sharing Services

A Case Study for the Creation and Expansion of a Nelsonville -
Hocking County Regional Waste Water Treatment District

June 2019

Summary

Through a shared services agreement, Nelsonville is collaborating with Hocking County Commissioners, Athens County Commissioners, the Village of Murray City, and the Village of Buchtel to become a regional treatment provider for the area. To become a regional provider, Nelsonville will construct a larger Waste Water Treatment Plant at a new location. The new plant will collect and treat waste water from Nelsonville and the neighboring communities, remediating longstanding environmental hazards in the region.

Hocking County Facing Longstanding Challenges to Public Health

Murray City is a largely unsewered village in Hocking County. Stream and ditch sampling by the Hocking County Health Department and the Ohio EPA in 2011 confirmed exceedances of safe levels of bacteria near the village, largely attributed to failing home septic treatment systems. As an incorporated village, Murray City has the authority to own and operate a sewer system to remediate the issue; however, topography, population density, and the socioeconomic condition of the area presented a challenge to executing large capital projects in Southeast Ohio. The village lacked the financial capacity and population base to remediate their environmental issue and had been unsuccessful in soliciting funding from agencies represented in the Small Communities Environment and Infrastructure Group (SCEIG) in the past.

In an attempt to reduce expenses, the village of Murray City entered into partnership with Hocking County in 2016 for county ownership of a future sewer system. The County would have built collection systems and operated a waste water treatment facility for Murray City and the unincorporated community of Carbon Hill, spreading out the fiscal responsibility of the sewer installation across more rate payers. The population in the project areas has been stable or in decline, and no significant growth is expected for the region. Despite this arrangement, the costs of sewerage the two communities would still have proven too burdensome, not meeting the requirements of the various funding organizations represented in the SCEIG.

Nelsonville Plant Beyond Capacity and in Need of Costly Repairs

Nelsonville, an adjacent city in Athens County, simultaneously faced an environmental hazard. A change of contract with a solid waste disposal service originally brought the city into the purview of the SCEIG in 2017. The city required financing to obtain and operate their own sledge press; additionally, their Waste Water Treatment Plant (WWTP) was operating over capacity and needed maintenance. Due to its state of repair, the WWTP would need to be entirely replaced. Constructing a new sewer treatment plant would have significantly impacted monthly sewer rates for Nelsonville residents. Nelsonville has a population of 5,183, with 35.2% of the population living under the federal poverty line; the city would not have had the financial capacity to responsibly undertake constructing a new treatment plant on their own.

Process to Establish a Regional System

The Hocking County communities and the city of Nelsonville had both serendipitously contracted with the same engineering firm, Stantec Consulting Services of Logan. Through the involvement of Stantec with the Hocking County communities, SCEIG became aware of the immediate infrastructure needs in Nelsonville and suggested an opportunity for coordination between Nelsonville and the Hocking County communities. SCEIG members contacted the Nelsonville City Manager with a proposition to regionalize with the Hocking County communities as a method of financing a new WWTP for the city. The agreement would involve Hocking County, on behalf of Murray City and other unincorporated communities, entering into an agreement with the City of Nelsonville (in Athens County) to collect sewage from Hocking County for treatment at a new Nelsonville WWTP. Considering topography, preliminary planning identified a need to run the collection system through the Village of Buchtel (Athens County) to connect sewer lines between Murray City and Nelsonville. Despite being an incorporated village, water and sewer for Buchtel was operated by Athens County in an agreement with the city of Nelsonville as the village water supply /sewer treatment provider. To maintain the agreement and manage costs, the Athens County Commissioners were involved in negotiations, on behalf of the village of Buchtel.



Image 1 - Layout for new sewer collection lines to be installed in Hocking County and connected to the City of Nelsonville in Athens County

In 2016, Ohio RCAP, an SCEIG member organization, coordinated the participant parties and facilitated two meetings with administrators from the Village of Murray City, the Village of Buchtel, the city of Nelsonville, Hocking County Commissioners, and Athens County Commissioners, as well as members of the SCEIG, including the Ohio Water Development Authority (OWDA), the Ohio Environmental Protection Agency (OEPA), USDA Rural Development, Ohio Public Works Commission (OPWC), and the Ohio Development Services Agency (ODSA). Holding the two SCEIG meetings in Nelsonville (a deviation from the norm) allowed for the involved parties to discuss the benefits of shared services agreements, ask questions, and negotiate the intricacies of the project. At the meetings, representatives from Stantec Consulting provided preliminary design and cost estimates, Ohio RCAP provided information on regionalization to the communities, and SCEIG members presented different funding options to the communities. These SCEIG meetings provided a space for open communication from the start, and were instrumental in enabling the small communities to make an informed decision for the health and betterment of the entire region and work out any differences prior to entering into a formal shared services agreement.

Details of the Regional Wastewater District Project

The Murray City and Carbon Hill projects will involve construction of approximately 30,750 linear feet (LF) of 8" diameter gravity sewer; 48,000 LF of force main; 5 pump stations; 327 lateral connections; and associated manholes in and along public road rights-of-way to serve Murray City, Carbon Hill, and two other Hocking County communities: Candy Town and Longstreth. The new sewer system will connect into existing sewers in the Village of Buchtel that drain to Nelsonville's wastewater treatment plant.

Athens County had previously installed sewer and water systems in the village of Buchtel in 2000 and was still servicing outstanding debt at the time of project negotiations. The new agreement established that Nelsonville would take on the majority of the outstanding debt from Athens County to become the official water and sewer provider for the Village of Buchtel; the debt payments were calculated into project cost estimates for the new WWTP. The new sewers serving the unincorporated areas of Hocking County in and around Carbon Hill will also be discharged into the sewers in Buchtel and will be pumped to Nelsonville through the existing Buchtel Pump Station. This pump station will be upgraded with a new standby generator to account for any power outages, new check valves, pump rails, and other miscellaneous improvements to ensure it is ready to handle the increased flows.

The existing Nelsonville WWTP was originally constructed in 1956 with a design capacity of 550,000 gallons per day, but averages closer to 750,000 gallons daily. It has become antiquated and does experience effluent limit violations. An oxidation ditch waste water treatment plant is the preferred design for the new WWTP in Nelsonville, requiring the construction of five large tanks, but final project designs are still under deliberation. The new regional sewer treatment system will be built to handle an average flow of 1.2 million gallons per day and will be relocated just south of Nelsonville.

In addition to the new treatment facility, the project includes a new pump station at the site of the old treatment plant that will pump all the sewage to the new facility through newly constructed force main.

The existing trunk sewer along Chestnut St will be replaced from the point where the new flows from Buchtel connect to it all the way to the new pump station thereby ensuring it has enough capacity. The project also includes expansion of sewer service to 32 residences along Carbon Hill Buchtel Rd, just outside Buchtel, and 13 residences on Burr Oak Blvd in Nelsonville. One other antiquated pump station on Back St will also be replaced, addressing all of the immediate needs within the City's sewer system.

Project Funding

The collection systems being installed in Hocking County, Murray City, and Carbon Hill are estimated to cost \$8,585,000. Construction cost estimates for Nelsonville include the financial obligation of taking on outstanding debt from Athens County and the cost of construction for the new WWTP; these are estimated to cost \$18,503,937. The Hocking County portion of the regional project has been fully funded and will likely near completion in mid-2019.

For the collection systems in Hocking County, Murray City, and Carbon Hill (the \$8,585,000 portion of the project), Hocking County received a \$1,000,000 grant from OWDA, and \$1,500,000 in grants from the Community Development Block Grant (through ODSA). These funds have been combined with a total of \$3,563,560 in Principal Forgiveness funds from the Water Pollution Control Loan Fund (WPCLF) through OEPA. Additionally, OEPA provided \$2,521,440 of WPCLF, 0% interest rate loans to be paid back through wastewater service charges.

The Nelsonville portion of the regional waste water district project (the \$18,503,937 portion) has been divided into two phases to accommodate funding availability through the different SCEIG members. Phase I, which includes improvements to collections systems and new pump construction, is estimated to cost \$4,960,000. Phase II, which incorporates construction costs for the new plant, and absorbing debt from Athens County, is estimated to cost \$13,543,397. For Phase I construction, OEPA is providing \$3,000,000 in Principle Forgiveness funds and \$260,000 in WPCLF 0% Hardship, 30-year interest rate loan; the US Army Corp of Engineers is contributing a \$950,000 grant from their Section 594 program. Additionally, Phase I is receiving \$750,000 in CDBG grant money. Phase II of the Nelsonville portion of the project will likely receive two 40-year loans from USDA Rural Development, one totaling \$4,706,000 at 2.375% interest rate, the other totaling \$1,000,000 at 2.5% interest. Additionally, USDA Rural Development is projected to provide a total of \$6,440,000 in grant money. An additional \$250,000 is projected to come from the Appalachian Regional Commission; \$750,000 in grant money from OWDA; and the OPWC is projected contribute \$397,397 in Loan Assistance funding. As on 1 June 2019, the sources of funding listed for the Nelsonville portion of the project are pending final approval.

Nelsonville Phase I will likely start construction in the fall of 2019, with Nelsonville Phase II to begin construction in the summer of 2020. The project will ultimately impact 6,600 Appalachian Ohio residents, with the possibility to connect more nearby communities in future.

Ohio RCAP was instrumental in providing technical assistance to Hocking County and the City of Nelsonville, particularly when coordinating with all of the financing agencies involved in project funding.

RCAP field agents worked with the village of Murray City, Hocking County Commissioners, and the City of Nelsonville to complete and submit 18 financing applications for the Murray City/Carbon Hill installations, and Phases I and II of the Nelsonville WWTP construction. This included financing and coordinating the various planning, design, and construction stages of the Nelsonville Regional Waste Water District.

Benefits to the Communities

Although regionalization increased the overall cost of the project, per capita sewer rates are not expected to go up significantly and debt financing is expected to be handled without incidence. Regional shared services agreements are attractive options for small communities undertaking capital projects because they have the ability to tap into larger economies of scale while still providing significant benefits. In the case of the Nelsonville Regional Wastewater District project, previously unsewered communities in Hocking County will experience improved water quality and public health by sharing the costs of new collection systems. The city of Nelsonville will be better equipped to finance the necessary construction of a new Waste Water Treatment Plant through service expansion.

Although significant growth is not expected for this region, additional residential or commercial development is possible now that the environmental hazards have been remediated. Additionally, there is room for expansion of future collection systems into other previously unsewered communities in the region.

SCEIG members have a vested interest in funding projects that are operationally and financially feasible. The collaboration and cooperation inherent to regional projects, as well as the capacity to tap greater economies of scale, increases the likelihood of success for shared services agreements. Additionally, regional projects incorporating shared infrastructure reduce the number of treatment facilities needed to maintain good environmental standings, thereby reducing the number of facilities requiring permits and regulation across the state. In the case of the Nelsonville Regional Wastewater District project, SCEIG members recognized the challenges and benefits of regional collaboration, and responded by supporting the project financially through methods that prioritized affordability for each of the communities.

Lessons Learned

Thoughtful and informed communication between communities produced improved quality of life for all the communities involved. When small communities recognize the opportunity for regional improvements and initiate negotiations to collaborate meaningfully, opportunities emerge for creative project funding solutions. Regular communication between the parties in a shared service agreement during different project phases positively impacted project success. Cooperation and collective priority for the greater benefit of a region can become a catalyst for encouraging communication, accessing additional resources, and increasing the likelihood of project success.