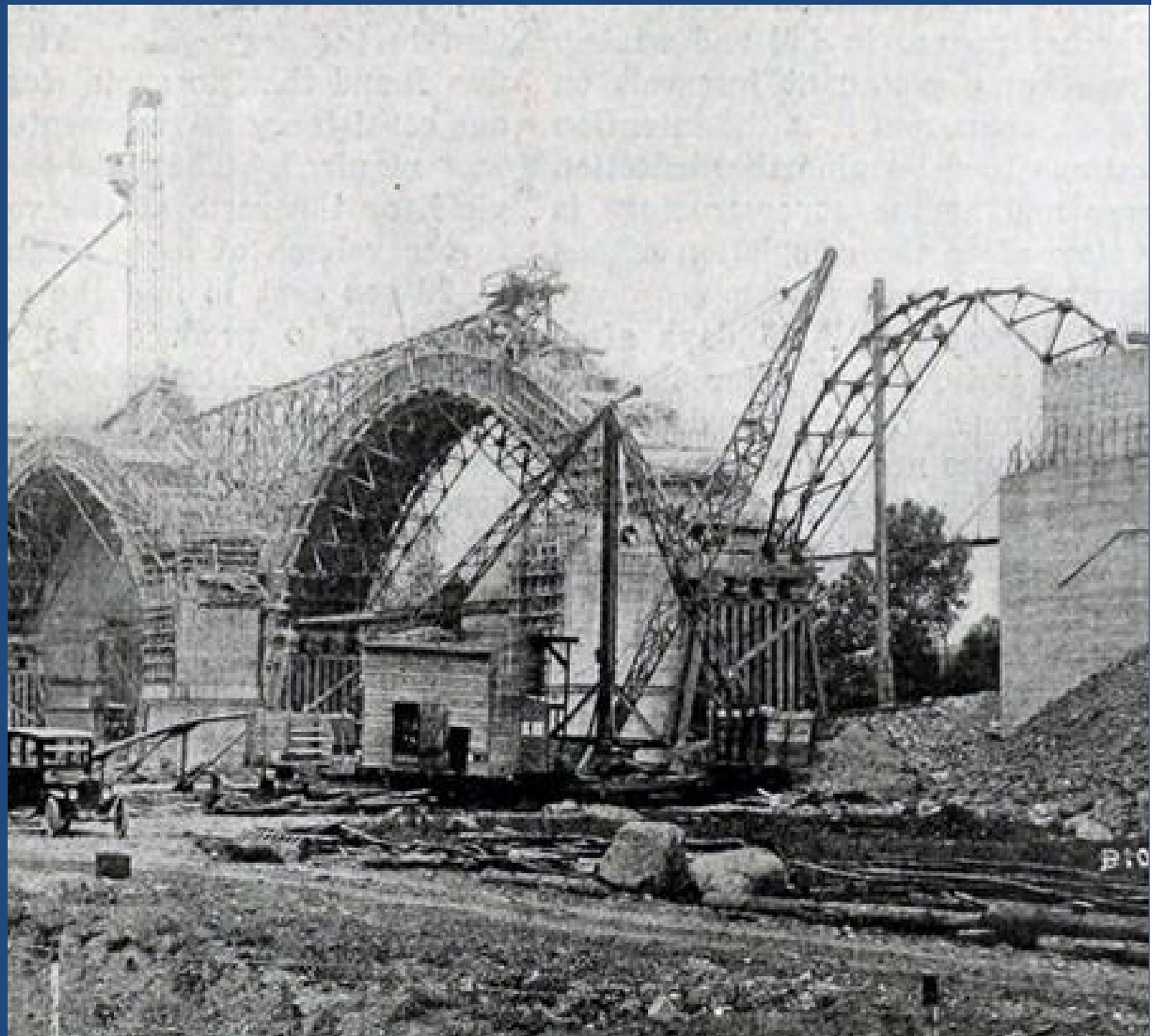
Utilities



X. Utilities

Introduction

Community health and safety is critically dependent on continued careful planning, construction, maintenance, and management of all the City's utility systems. These utility elements are also vital to sustaining the existing commercial and industrial base within the community, as well as maintaining a strong position for economic development within the region.

A major goal of the community, to find a new water source was recently completed, and city officials are completing construction of a 30-inch transmission line that will transport raw water from the well field in Washington Township to the Water Treatment Plant. The construction of the transmission line and work at the well field site is expected to be completed in early 2017. This project represents one of the largest infrastructure projects initiated by the community in the last century and will help ensure Sidney's resiliency for the next century. The new wells will give the City 20 MGD of available water production. Current water production is approximately 3.9 MGD.

Planning Conditions

A recent Water & Sewer Rate Survey of 63 communities that participated in west central Ohio indicated that Sidney has the 12th highest water and sewer rates.

In 2015, the City transitioned to a new automated solid waste collection system that has increased recycling participation by 30 percent.

Residents in Sidney as well as some neighboring communities will also experience a financial benefit due to the creation of electric and natural gas aggregation programs. Through this initiative, individual consumers gain "buying power" by soliciting the lowest price for the group's natural gas and electric needs.

Water Systems

There has been an increase in activity with the water system since the development of the Sidney 2025 Comprehensive Plan. The City has been working with consultants on two main issue: short term water improvements (Raw Water Pump Station Improvements, Lime Sludge Lagoon Improvements, Water Distribution Improvements), and the development of a water source, an issue stemming back to 1957 that was recently identified and secured in Washington Township.

The City provides water service to an extensive portion of the planning area. Sidney's water system is well-looped, and the City's water loss is typically below 15% which is good based on the National average.

The average daily usage of potable water in the City is approximately 3.86 to 4.0 million gallons per day (MGD). The City of Sidney has traditionally obtained its raw water from three sources: 1) 600,000 – 800,000 gallons per day from four bedrock wells; 2) Tawawa Creek a surface water source; and 3) the Great Miami River also provides a surface water source. The capacity of the fractured bedrock wells have declined over the past decade. The original capacity of the wellfield produced in excess of 1,000,000 gallons per day. In 2000, the City expended funds to rehabilitate the wells. Funds were/are also expended in 2015, 2016, and 2017 to bring these four wells back to their original capacity.

The remaining 75% of the raw water supply originates from surface water either from the Great Miami River or Tawawa Creek. However, during the summer, Tawawa Creek fails to provide sufficient water, necessitating the need to draw from the Great Miami River. Severe droughts also limit the availability of water from the Great Miami River.

Surface water as a primary potable water source is highly susceptible to contamination, seasonal river changes and drought conditions. To minimize these issues, the City finalized this action by selecting a suitable aquifer source in Washington Township. The results indicate that the new wellfield would support a new 10 MGD well field and a 9 mile transmission main back to Sidney's Water Treatment Plant. A consultant's estimate to develop the well field and install the necessary infrastructure is approximately $22,000,000. The City sought and obtained federal or state loans to complete the Water Source Project. User rates were increased to help pay the debt of the loans.

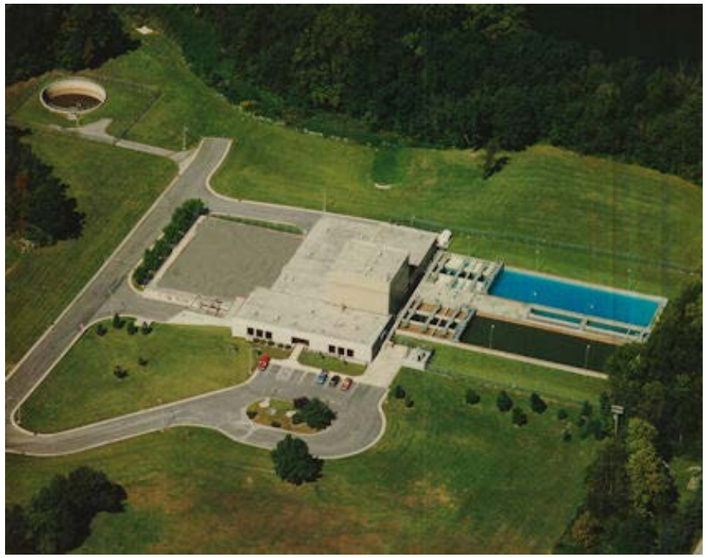
The City's Water Treatment Plant capacity of 10 MGD still meets present and future needs. The Water Treatment Plant is staffed 24 hours a day, 365 days year, by a total of 8 personnel. The City's capacity will be increased to approximately 16 MGD with the completion of the new water source.

Sanitary Sewer Systems

City officials have made significant investments in its sanitary sewer systems and WWTP over the last decade. This includes the continuation of the I&I Reduction Program; multiple sewer rehabilitation projects; and funding for development oversizing. As a result, the system varies greatly in age, capacity and condition.

In 2016, The City of Sidney began the $12 MM wastewater treatment plant (WWTP) improvement project. The project will be completed in spring of 2017. These improvements include a minor increase in treatment capacity and modifications to the disinfection process. Sidney received a loan from the Ohio Water Pollution Control Loan Fund (WPCLF) for this project. The project will increase treatment capacity from 13.5 to 14.0 MGD, provide UV treatment, make required safety and reliability improvements and provide back-up generation for the full treatment process.

The main functions of the sanitary sewer system and the WWTP is to protect and improve the water quality conditions of the Great Miami River and to ensure public health by properly conveying the wastes to the WWTP for treatment.



A master plan update was developed in 2009 for the WWTP and serves as a guide for future planning to meet regulatory compliance and provide guidance to allow for continued growth in the residential, commercial, and industrial sectors.

The system does experience severe I&I (clean water intrusion into the sanitary) problems. These I&I flows currently add in excess of 30 MGD, which exceeds the peak treatment flow at the WWTP during wet weather.

Currently the City's sanitary sewer service area extends beyond Sidney's corporate boundary. Customers outside the corporate boundary include Honda of America Anna Engine Facility and the Village of Port Jefferson. These two entities are served via special agreements with the City. The City of Sidney requires annexation for services for other properties desiring City services.

The City continues to require the developer to extend water and sewer mains to proposed development with the City paying to oversize the utilities to accommodate future growth. Development agreements are generated for new areas that are annexed that specify the utility extensions. In preparation for future growth, the City has developed planning studies on how areas can be served. Those planning studies include the North Sidney Sanitary Sewer Analysis, North Sanitary Sewer Master Plan, Northwest Sanitary Sewer Master Plan, and an Industrial Property Development Report.

Stormwater Management

City officials have been aggressively reducing I&I into the sewer collection system, going back to 1993, with the creation of the City's stormwater management committee and with the development of their stormwater monitoring program in 2007 to comply with the USEPA and Ohio EPA. I&I is defined as clean water intrusion into the sanitary sewers. I&I reduces the capacity of the sewer system, exposes property owners to flooded basements, and increases the operating costs of the wastewater treatment plant. The Utilities Department has prioritized the reduction of I&I as the department's primary goal and has developed plans accordingly.

A utility fee was created to offset the administrative cost of the Monitoring Program and maintenance of the stormwater collection system. City officials adopted a Stormwater Utility Fee for certain properties as a required activity under the Ohio EPA National Pollutant Discharge Elimination System (NPDES) Stormwater Permit. All non-residential properties are assigned an Equivalent Residential Unit (ERU) multiple based upon the individually measured impervious area (in square feet) of the property divided by 2,752 square feet (1 ERU) but in no event less than 1 ERU. The storm water service fee was originally established by City Council at $0.83 per ERU per month but City Council reviews the rates periodically and adjusts the dollar per ERU accordingly. 2017 rates are $1.02 per ERU.

The revenue received by the City is used by the City for the payment of the cost of the management, minor maintenance, repair, monitoring, sampling and survey costs of the storm water system. This fee is not related to water and/or sewer service and applies whether or not the premises are occupied. The utility fee does not currently pay for capital project improvements or replacements.

In late 2015, City Council adopted utility rates for 2016 that will decrease the low volume user's bill by $5.72 per month with the average family of four seeing a reduction of $4.17 per month. This overall decrease was achieved when Council reduced the EPA Compliance Fee by 30 percent.

A 30% reduction in the monthly EPA fee was implemented for 2016, followed by 2% annual increases for years 2017 through 2020. The EPA fee is

designed to cover the cost of three items: (1) annual operating costs of the I&I department staff, (2) debt service associated with the portion of the plant expansion attributable to I&I reduction, and (3) cash-funded capital projects specific to I&I reduction. This fee reduction is possible because the Ohio EPA approved the reduced scope of WWTP improvements, which reduced the debt payment and construction bids were within the engineer's estimate.

Strategies

The planning stakeholders selected the following strategies for implementation:

1) **Continue to educate the community on the nature of the storm water system and runoff.**

Part of the City's negotiation with Ohio EPA involved reducing the amount of I&I into the sewer collection system, thus reducing the amount of I&I requiring treatment at the WWTP. This ongoing 21-year effort will require property owners to complete sewer lateral inspections and repair any identified I&I issues. The City must inspect and make repairs to its sewer infrastructure as well.

The public works department staff are continually working to eliminate illicit connections to the sanitary sewer system to ensure the community meets EPA standards as outlined by the NPDES Phase II Storm Water Management Program.

An additional group of tools that city officials could consider discussing with the public to aid in mitigating the adverse impacts of storm water events is the deployment of "green infrastructure." Sidney could adopt green infrastructure methods to reduce costs for maintaining and replacing this aging infrastructure. Green infrastructure planning and design approaches help reduce demands on existing infrastructure, extend its functional life where possible and provide cost-effective and sustainable solutions that conserve and protect water resources.

This planning endeavor could include a discussion of green infrastructure, an approach to wet weather management that is cost-effective, sustainable, and environmentally friendly. Green infrastructure management approaches and technologies can aid in the capture and reuse storm water to maintain or restore natural hydrology of a watershed

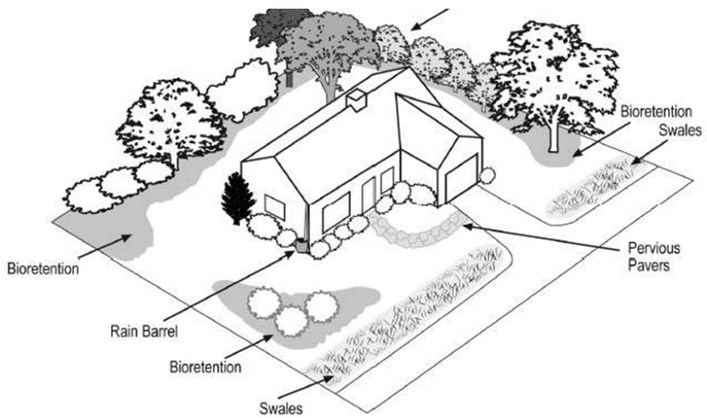
Other methods to minimize storm water problems include:

- Updating Chapter 919 of the Codified Ordinances that regulates stormwater;
- Promote shared parking and land banking;
- Incorporation of compact parking spaces as a means of reducing impervious cover;
- Setting maximum parking space dimensions rather than specifying minimum dimensions (a minimum stall size of 10' x 20' or 9' x 18' are the most commonly cited dimensions) could also reduce impervious area;
- Incorporation of bioretention or rain gardens into existing requirements for landscaped islands and

revising landscaping requirements to require a set percentage of landscaping of the total paved area can help to offset some of the impervious surfaces;

- Incorporation of storm water best management practices such as sand filters and filter strips into perimeter and interior landscaping can also help in offsetting impervious surfaces; and
- Incorporation of porous pavement in overflow parking areas can reduce the runoff generated by parking lots as well as decreasing impervious surfaces.

The Ohio EPA's Surface Water Improvement Fund grant program and the OPWC are both candidates for funding assistance for green infrastructure projects.



2) Create master plans for utility infrastructure including a financially feasible capital improvements schedule.

The following planning issues should continue to be addressed in future city master planning efforts:

Continued Sewer Modeling

The City should continue to model the sanitary sewer system to identify system capacity deficiencies. This information is useful in determining future capital sewer replacements, and determining key connection points for future development.

Inflow/Infiltration Reduction

Reduce I&I of clean water into the sanitary sewer system up to 10% per year, which is determined on a cost-benefit basis. This figure is defined as the difference between the incoming wastewater flow at the WWTP during the driest (precipitation) 30-day period, compared to the wettest 30-day period in a calendar year. With continued growth within the community, the City needs to remain active in the reduction of I&I.

To fund the Stormwater Fund's operating needs, annual rate increases of 1% to 2% have been proposed. Given those increases, the charge would be $1.08 per equivalent unit in 2020 and would continue to be one of the lowest such fees in the state, as typical rates in other cities are often $3 and up. Consider increasing the stormwater utility fee to have a dedicated funding source for stormwater capital projects.

However, capital outlays for stormwater and flood control projects compete for funding with other income tax funded capital projects. Reducing clean water from entering the sanitary sewer system (as required by Ohio EPA) is likely to strain the existing storm water infrastructure.

Sanitary Sewer Replacements

Future replacement projects should be prioritized based on the system age, pipe materials, conditions, capacity, the amount of I/I, and costs.

Expanding Sewer System for Future Residential Development

There currently remains a need to provide sewer services to areas predicted for residential growth. The City should identify those areas, and schedule sewer installations, provided existing sewers have sufficient capacity to handle the extensions. In all cases, the City should enforce developer requirements for the utility extensions with the City paying for oversizing and overdepth.

WWTP Equipment Improvements

Efforts should be made to continue to maintain equipment at the WWTP in between expansion activities. It is recommended that funds continue to be established in the operating budgets for motors/pump/feeder replacements.

3) Proactively pursue alternate funding sources for utilities.

A major goal of the past planning efforts was for the City to invest in a new water source. This was recently finalized and the construction of the transmission line and work at the well field site is expected to be completed in 2017. However, city officials still have identified over $6 MM of additional underground utility projects that remain unfinished, with additional projects known which need to be scheduled.

Sidney should continue to actively pursue additional funding sources to assist in their infrastructure programs. It is recommended that City officials could continue to annually evaluate the current water and sewer rates to ensure that the respective enterprise funds remain “in the black” and generate sufficient reserves for emergencies, as well as fund balances to aid in debt for future improvements.

The City should continue to include replacement of existing facilities due to age and operating condition as part of their Operation, Maintenance & Replacement (OM&R) program. Such a perspective of OM&R would allow the enterprise funds to adjust to the water and sewer rates to provide funding that may be leveraged for necessary improvements, versus increased capacity and economic development that may be associated with capital improvement.

Such adjustments could be applied to the usage rates, tap charges and assessments. Funds generated would be utilized for debt service and as leveraged contributions in an effort to obtain grant and loan funds administered by the Ohio EPA Division of Environmental and Financial Assistance (DEFA), the Ohio Water Development Authority (OWDA), the OPWC, the U.S. Department of Housing and Urban Development (HUD), the Ohio Water and Sewer Rotary Commission, and the Economic Development Administration. It is critical to note that the Ohio EPA utilizes an “affordability threshold” of water and sewer utility rates at or above 2% of median household income to qualify for grants and principal forgiveness, as well as some low interest loans.

At the time of final project development and planning, each of the potential funding programs will need to be evaluated in detail for consideration and applicability.

The following is a general summary of some of the various programs that may be available.

Ohio Public Works Commission (OPWC) Assistance

The OPWC provides financial assistance to governmental entities to maintain operations and adequate capacity for water, sewer and solid waste

facilities. Assistance can be in the form of grants, low interest loans, local debt support and credit enhancement. Local debt support provides funds to cover the costs of interest through construction and up to one year after. Credit enhancement is a grant to pay the cost of bond insurance and provide assistance to the entity to secure affordable debt.

Ohio Water Development Authority (OWDA) – Community Assistance Fund

The OWDA Community Assistance Fund provides below-market financing when other means will create an economic hardship and is available only for drinking water projects. In order to qualify for this funding, the proposed project must meet an existing need and cannot include provisions for oversizing and the anticipated annual costs from the system must meet or exceed economic hardship criteria of 1.5% of the median household income (MHI) for Shelby County.

OWDA Loan Fund

The Community Assistance Fund noted above is for those situations that create economic hardship. The OWDA also has a loan fund that can be used in most any situation for the construction of wastewater or drinking water facilities, as well as engineering design, legal fees and inspection. OWDA charges a one-time administrative fee of 0.35% of the total loan amount. The interest rates associated with these loans are generally higher than other forms of financing and, once the final loan is determined, the debt may not be retired ahead of schedule. The advantage to the OWDA loan is that most every applicant is funded and the cost and time associated with the approval process is limited.

Water Supply Revolving Loan Account (WSRLA)

WSRLA is administered through the Ohio EPA DEFA, with assistance from the OWDA. This program is intended to provide low interest loan funds for potable water systems. The money may be obtained and applied for constructing improvements to existing facilities or creating new. Similarly to the WPCLF program on the wastewater side, the loans are available for planning and design, as well as 20-year construction loans. Technical assistance from the Ohio EPA is also available and WPCLF may be used in conjunction with other forms of funding assistance.

U.S. Department of Housing and Urban Development (HUD)

HUD funding includes the use of CDBG to assist LMI households and aims to correct issues of immediate threat to public health and safety. Certain areas of the Sidney may be eligible for this funding source. Any areas or targeted areas that may appear not to qualify can be validated or rechecked by households in the targeted area by preparing an income survey.

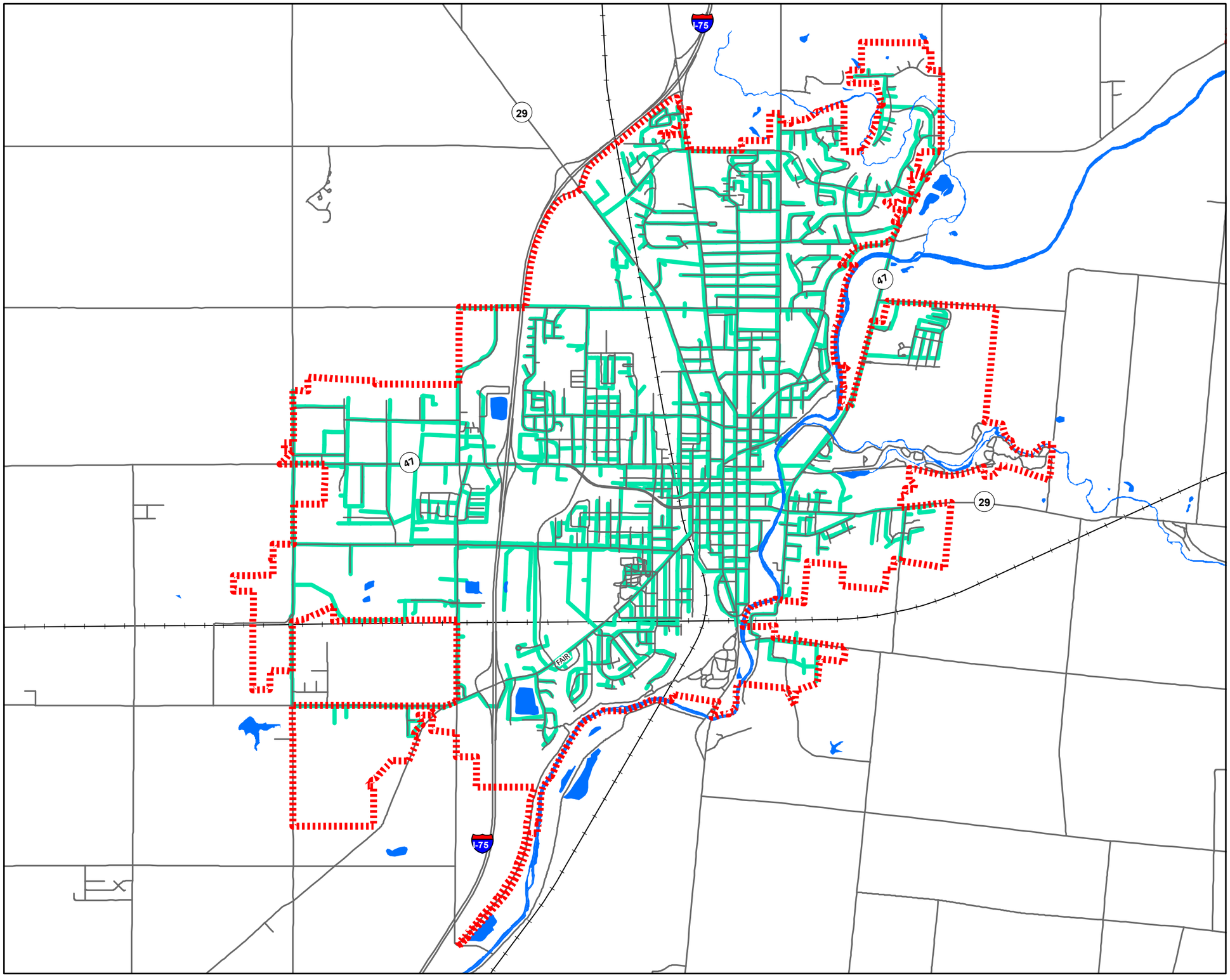
Ohio Water and Sewer Rotary Commission

The Ohio Water and Sewer Rotary Commission offers interest-free loans to pay the portion of costs from a sanitary sewer or water main extension that is to be assessed against agricultural lands, with a minimal up-front administrative cost. The primary emphasis of this program is to balance the preservation of valuable farmland, while allowing the governing authority to extend needed infrastructure. Another major goal of the program is job creation or retention. It should be noted that the Rotary Loan money does not reduce the total cost of the project to the District, nor does it reduce the assessments to other properties. This money is strictly applied to cover the assessments on properties that qualify.

Any loan funds acquired for a project must be secured in the form of revenue bonds or assessment bonds issued on behalf of the City. Revenue bonds are generally paid back through the income generated from monthly user fees charged to customers. Revenue can also be contributed from tap charges collected from new customers. That is, the income generated from the operation of the system pays back the loan (bond) used to finance the system.

Assessment bonds are paid back from the collection of assessments applied to the properties that benefit directly from the improvements. These assessments are an expense to the property owner regardless of whether he/she uses the available service and may be calculated by several different methods, but must be applied only to those properties receiving a special benefit from the improvements.

Water Utilities



Legend

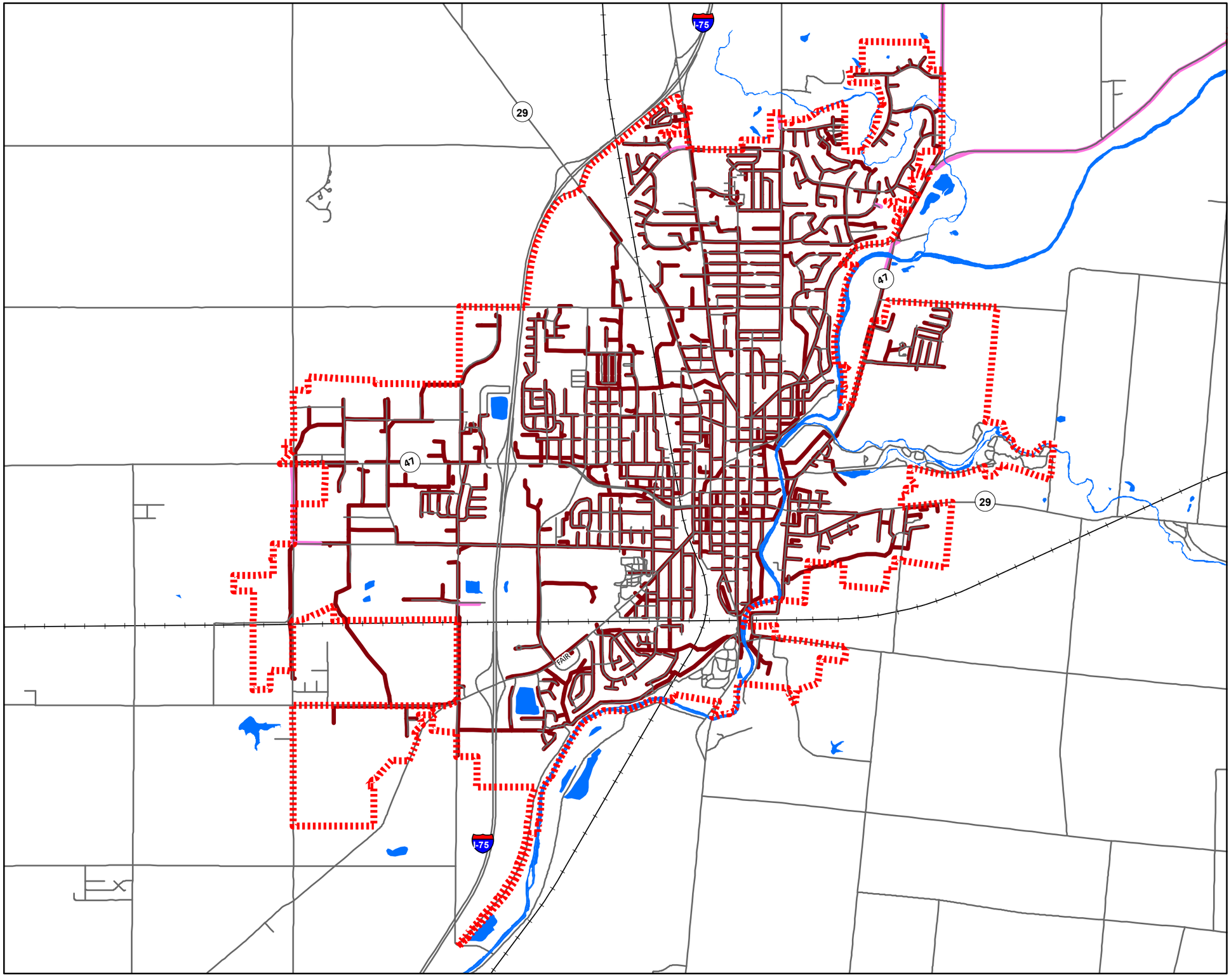
- Corp Boundary
- Great Miami River / Open Water
- Streets
- Water Lines

0 0.25 0.5 1 1.5 2 Miles

Source: City of Sidney; Shelby County Auditor; Reveille

Reveille
PLANNING + GIS + ECONOMIC DEVELOPMENT

Sewer Utilities



Legend

- Corp Boundary
- Great Miami River / Open Water
- Streets
- Sanitary Sewer Pressurized Mains
- Sanitary Sewer

0 0.25 0.5 1 1.5 2 Miles

Source: City of Sidney; Shelby County Auditor; Reveille

Reveille
PLANNING + GIS + ECONOMIC DEVELOPMENT