The

Loan Arranger

Fall/Winter 2017

Revolving Loan Section
Drinking Water and Municipal Assistance Division
Michigan Department of Environmental Quality

New Biosolids Dryer Facility in Southwest Detroit

by Cindy Clendenon

The Great Lakes Water Authority (GLWA) is in the final months of constructing a new Biosolids Dryer Facility (BDF) in the southwest portion of the city of Detroit. In 2015, the Department of Environmental Quality (DEQ) awarded two Clean Water State Revolving Fund (SRF) loans for the BDF, totaling approximately $102.5 million, which included $3.5 million in principal loan forgiveness due to the project being entirely "green" according to U.S. Environmental Protection Agency and SRF loan program criteria.

The BDF project is the result of a top-priority compliance effort intended to meet state and federal environmental regulatory requirements. The two BDF loans and a separate loan project for upgrades to eight sewage sludge incinerators are jointly addressing long-standing problems regarding wastewater treatment residuals, particularly sanitary sewage sludge management (see text box). Additionally, new federal regulations took effect in March 2016 that set more stringent air emission limits for the existing sludge incinerators.

The BDF is located on city property adjacent to the wastewater treatment plant, which today is called the Water Resource Recovery Facility (WRRF). The new name is intended to recognize GLWA's growing emphasis on sustainable practices and innovative technologies, as well as the recent partitioning of responsibilities within the 900-square-mile wastewater system service area. On January 1, 2016, operational responsibility for the WRRF and other regional wastewater infrastructure assets transitioned to GLWA from the Detroit Water and Sewerage Department. The city of Detroit still owns the regional wastewater assets that are leased to GLWA. The WRRF, which includes the BDF, serves more than 3.1 million people in Detroit and 77 communities in Wayne, Oakland, and Macomb counties.

Although the BDF began operating from regulatory and contractual perspectives in early 2016, a few construction items and "fine tuning" activities continued for the next 22 months. Detailed requirements of the BDF construction and operation are established in a contractual agreement between GLWA and a private company. Once the BDF construction is fully complete by the end of December 2017, the wastewater treatment solids at the WRRF will be more efficiently managed through a combination of offsite land application, landfilling, and onsite incineration.

The dried, pelletized sludge product already being generated by the BDF is expected to continue meeting Class-A and Exceptional Quality (EQ) criteria, which are briefly defined in the text box below.

The current emphasis on applying the Class-A biosolids to farm fields as a soil amendment and fertilizer may be supplemented in the future by applications to non-farmland, such as parks and golf courses. Class-A biosolids can be land-applied year-round, unlike Class-B biosolids that typically are restricted to seasonal, non-winter application on farm fields, forest lands, or reclamation sites. In the future, some of the Class-A product potentially could be used as an alternative non-waste fuel for cement kilns or power plants.

Compared to wastewater treatment sludge that has been gravity-thickened and dewatered into a material known as “sludge cake”, the sludge dried in the BDF is significantly reduced in volume at approximately a 4-to-1 ratio. Consequently, the BDF product requires fewer truckloads to transport the pelletized material for either land application or landfilling. Over time, reduced gasoline usage and reduced volumes of sewage sludge being incinerated at the WRRF should contribute to reductions in certain air pollutants such as carbon monoxide and nitrogen oxides. If they are kept dry, the dried pellets are less odorous than sludge cake, and trucks must control fugitive dust when transporting loads of the pelletized product. Operation of the BDF itself generates little dust and minimal noise due to various types of control equipment incorporated into the facility design.

It is important to emphasize that the BDF in southwest Detroit is not an incinerator. The BDF is located on the opposite side of Jefferson Avenue from the Complex-2 sewage sludge incinerators. Furthermore, the sludge incinerators are altogether separate from the municipal refuse-derived fuel incinerator located on Russell Street, also known as a waste-to-energy or renewable power facility.

At the time of this news story (October 2017), GLWA has entered into a consent order with the DEQ Air Quality Division that became effective in June 2017. The order is intended to bring the BDF and the Complex-2 sludge incinerators into full regulatory compliance by the end of 2017. In addition to other emission control devices already installed, the sulfur dioxide treatment system for the BDF is being upgraded to include packed tower scrubbers, and all the scrubbers should be in place by year-end. Follow-up emission testing for the post-construction, operational phase of the BDF is scheduled for early 2018.

Words about Wastewater Residuals

In general usage, the broadest term "wastewater residuals" and the slightly narrower term “sewage sludge” refer to the solid, semisolid, or liquid residues generated during the treatment of domestic wastewater in a treatment facility. Sewage sludge includes, but is not limited to, scum or solids removed in wastewater treatment processes and materials derived from sewage sludge. Although ash from a sewage sludge incinerator and grit and screenings from preliminary treatment of domestic sewage are categorized as wastewater residuals, they are not categorized as sewage sludge. The incineration of municipal solid waste (garbage or refuse) should not be confused with incineration of sewage sludge, even though both processes produce ash that needs to be landfilled.

The term “biosolids" is a subcategory of sewage sludge, and it refers to treated sewage sludge that meets specific criteria for pollutant limits, reduced pathogens, and reduced vector attraction (flies, mosquitoes, rodents, birds), thereby making it suitable for land application. Most wastewater treatment plants in Michigan produce biosolids that meet criteria known as Class-B, but some facilities are able to produce a higher-quality product that meets the more stringent Class-A criteria. The term Exceptional Quality or EQ describes a biosolids product that meets Class-A requirements and also meets more restrictive limits on certain pollutant concentrations. Regardless of classification, biosolids should not be considered a waste to be discarded, but instead a valuable product to be beneficially used.

Lean Process Improvement

by Sonya T. Butler

The Revolving Loan Section (RLS) is in the middle of the Lean Process Improvement review for the SRF and DWRF programs. The goal of the review is to determine if there are other ways to conduct business and possibly increase the number of applicants for SRF and DWRF funding. The review team includes six RLS staff, two engineers from the Water Resources Division, two engineers from drinking water, as well as 3 staff members from the Michigan Finance Authority, in the department of Treasury. Internal meetings were held with the review team to map the loan process. Two external meetings (one in Lansing and one in the Upper Peninsula) were held to allow communities, environmental agencies, and consulting engineers an opportunity to comment on the loan process and suggest changes. In October, the internal review team will meet to hear the results of the external meeting and discuss recommendations that can be implemented.

Financing Aging Infrastructure

Many communities are dealing with how to finance their aging water and wastewater infrastructure. The Department of Environmental Quality's Revolving Loan program offers pre-planning consultations with both Drinking Water Revolving Fund (DWRF) and State Revolving Fund (SRF) experts free of charge; a district engineer will also participate.

Michigan's DWRF and SRF programs help communities address their aging water and wastewater infrastructure by providing low-interest loans for the planning, design, and construction of drinking water, wastewater, and nonpoint source projects. To date, the programs have funded over $5.6 billion in projects, with interest rates set annually ranging between 2 to 3 percent.

Project managers and district engineers will guide potential applicants through the types of projects that are eligible and help the community decide if the program(s) would be the best fit for them. SRF and DWRF can now also be used to fund up to $2 million for asset management activities if they are combined with an eligible project.

If your community is interested in learning more about these funding opportunities please visit www.michigan.gov/cleanwaterrevolvingfund, www.michigan.gov/drinkingwaterrevolvingfund, or contact the Revolving Loan Fund staff at 517-284-5433.

Deadlines for Submission of
Project Plans for the Fiscal Year 2019 Project Priority Lists:

Drinking Water Revolving Fund – Project Plans must be received in our office by close of business OR postmarked no later than **May 1, 2018**.

Revolving Fund/Strategic Water Quality Initiatives Fund – Project Plans must be received OR postmarked no later than **July 1, 2018**.

SAW Asset Management Plan (AMP) Summary Guidance

by Jonathan Berman

The SAW Section 603 Report for first round recipients is now available on our Web site. As of September 30, 2017, the AMPs listed on this report have been completed using SAW grant funds. The summaries are in alphabetical order by community. Since this report is a large document, please have patience when trying to view the report, it takes a few minutes to download.

To clarify what is required under Section 603 of Public Act 84 of 2015 (http://www.legislature.mi.gov/documents/2015-2016/publicact/pdf/2015-PA-0084.pdf), please ensure your SAW Summary includes the following:

- Each summary must contain a brief discussion of all five (5) major components below:

    1. Asset Inventory and Condition Assessment
    2. Level of Service
    3. Criticality of Assets
    4. Operation and Maintenance Strategies/Revenue Structure
    5. Long-term Funding/Capital Improvement Planning

    NOTE: Revenue Structure is for wastewater AMPs only

- Each summary must describe, in at least general terms:

    - *"What Did You Do?"*
    - *"What Did You Find Out?"*
    - A list of the plan's major identified assets.
    - Contact information for the grantee, including their name, mailing address, and phone number, with the SAW grant number on the document.

To make the summary documents for SAW projects accessible to the public and fulfill Section 603 requirements, we must also make them ADA accessible before posting to our Web site. This will allow people with disabilities who use assistive technology such as screen readers, screen magnifiers, joysticks, and other technologies to navigate and read the documents.

If consultants have access to the full Adobe Professional software, they would be able to create ADA accessible documents. It is easiest to convert to an accessible format by keeping the document simple, avoid using tables and excessive formatting.

The following internet links might be helpful to make a document ADA compliant:
https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html
https://en.wikipedia.org/wiki/PDF/UA

American Iron and Steel

by Sonya Butler

American Iron and Steel (AIS) is a permanent requirement in the State Revolving Fund and an annual requirement for the Drinking Water Revolving Fund per the federal appropriation process. Everything you need to know about AIS can be found on the U.S. Environmental Protection Agency (EPA) Web site (www.epa.gov/cwsrf/state-revolving-fund-american-iron-and-steel-ais-requirement).

AIS refers to the use of iron and steel projects made in the United States. This means that all manufacturing processes must take place in the U.S. Iron or steel products can include lined and unlined pipes and fittings, manhole covers, valves, structural steel, etc.

If you anticipate there will be a problem with meeting the AIS requirement, please contact your project manager immediately. Our office can assist you with determining next steps, options, or requesting a waiver from EPA.

Be mindful that Revolving Loan Section staff will visit your project site to document your compliance with the AIS requirement for our project files.

DID YOU KNOW...

30 + 20

The U.S. Environmental Protection Agency's Clean Water and Drinking Water State Revolving Fund Programs just celebrated over $150 billion in assistance provided over 50 years!

- Since 1987, CWSRFs provided over $118.7 billion to communities; 38,450 low-cost loans
  - Small communities received over $26.5 billion; 25,300 loans
  - Controlling pollution from nonpoint sources reached over $4.7 billion
- Since 1997, DWSRFs provided over $32.5 billion to communities; 13,000 low-cost loans
  - Small communities received over $11 billion; 9,045 loans

- The third round of SAW grant awards must complete all grant expenditures and activities by October 2018. Contact your project manager if you anticipate any problems with meeting this deadline as soon as possible.

- The 20-year interest rate for DWRF (includes 30-year), SRF, and SWQIF loans closing in fiscal year 2018 is 2 percent. The interest rate for 30-year SRF loans is 2.25 percent.

- The real discount rate (which does not include an inflation premium) is not currently available for fiscal year 2019 for project planning. After the new rate has been set by the Office of Management and Budget, it will be posted on our Web site. This rate is to be used for project planning that begins on or after October 1, 2017, for preparation of the cost-effectiveness analyses only.

- Please note mailing address change: P.O. Box No. 30817, Lansing, Michigan 48909-8311. Our office location at Constitution Hall remains the same.

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