

REQUEST FOR TECHNICAL PROPOSALS

Biosolids Master Plan

INTRODUCTION

Delaware County seeks a professional engineering firm to provide master planning, design, and bidding services for the processing and management of biosolids generated from the County's wastewater treatment facilities. The Delaware County Regional Sewer District (DCRSD) will receive Technical Proposals until **4:00 pm (EST) on Friday, May 30, 2025** at its offices, 1610 State Route 521, Delaware, Ohio 43015. Proposals received after the date and time due will not be considered.

A pre-proposal video conference will be held on Wednesday, May 14, 2025 at 9:00 a.m. (EST). To request the video conference link, contact Julie McGill at jmcgill@co.delaware.oh.us. The deadline to request the link is one hour prior to the call. Attendance on this video conference is not mandatory, but is highly encouraged. Due to the number of facilities involved in this project, site visits are not practical and will not be allowed during the proposal process.

The deadline to submit questions about the proposal is 4:00 p.m. (EST) on Thursday, May 15, 2025. Questions should be directed to Julie McGill by email at jmcgill@co.delaware.oh.us. DCRSD will post written addenda on its website at <https://regionalsewer.co.delaware.oh.us/rfp/> in response to any questions that DCRSD considers necessary to answer for clarification purposes. Oral statements may not be relied upon and will not be binding or legally effective.

BACKGROUND

The County currently operates nine wastewater treatment plants and dewater biosolids at the three largest: Alum Creek Water Reclamation Facility (ACWRF), Olentangy Environmental Control Center (OECC), and the Lower Scioto Water Reclamation Facility (LSWRF). **Table 1** summarizes the current annual biosolids generated. All three facilities thicken the sludge with polymer before dewatering. There is no cake storage at any of the facilities, so dewatered cake is loaded directly into trucks for hauling to a landfill. Hauling is performed by a combination of County and contractor trucks. The current five-year contract for hauling and disposal is in its final year.

Table 1. 2024 Biosolids Disposal Summary

	ACWRF	OECC	LSWRF
Wet Tons Per Year	11,864	4,547	274
Wet Tons Per Week	228	87	5
Average % Solids	13.6%	19.6%	21.1%
Average Volatile Solids (mg/L)	8,848	8100	Not Available

Olentangy Environmental Control Center (OECC)

The OECC is located at 10333 Olentangy River Road, Powell, Ohio and was originally constructed in 1980, expanded in 1997, and is currently undergoing a major headworks and aeration improvements project. The plant is separated into two treatment trains: north and south. With the new improvements, the

south plant will be permitted for an average daily design flow (ADDF) of 6.0 MGD. The north plant has been converted to equalization storage. The 2024 average daily flow (ADF) of the plant was 4.2 MGD. The wet stream includes the following unit processes:

- Bar screens
- Biological treatment system (aeration basins and final clarifiers)
- Tertiary filtration
- UV disinfection
- The newly rebuilt aeration basins will use chemical phosphorus removal (ferric chloride) during cold weather months and biological phosphorus removal during warm weather months.

With the new improvements, OECC has capacity to hold sludge in twelve (12) sludge storage tanks, if needed. Those tanks can also be used for equalization during large rains. The County does not digest the solids. Wasting is continuous to a new rotary drum thickener (RDT). Typical operation is to thicken waste activated sludge (WAS) up to 4% solids through the new RDT and discharge into two (2) thickened waste activated sludge (TWAS) tanks, separate from the twelve sludge storage tanks. The TWAS tanks do not have air, so sludge is mixed with a mixer. Normal operation will have one TWAS tank in service. Once the tank is full, the 4% sludge is processed through the Andritz centrifuge, added in 2009. A second centrifuge will be added in 2025 for redundancy. There is no cake storage, so the centrifuge discharges directly into a trailer for hauling by a contractor to the landfill, typically three loads per week.

Alum Creek Water Reclamation Facility (ACWRF)

The ACWRF is located at 7767 Walker Wood Blvd., Lewis Center, Ohio and was started up in 2001. The current ADF of the facility is 5.3 MGD with an ADDF of 10 MGD. The wet stream generally consists of the following unit processes:

- Fine screening
- Biological treatment system (aeration basins and final clarifiers)
- UV disinfection

The plant was originally designed for aerobic digestion and land application, but discontinued the practice in 2007 due to odor complaints. WAS can be pumped to nine (9) covered storage tanks. In 2015, the County retrofitted three of the sludge storage tanks with new diffusers and currently only use the three retrofitted tanks for storage prior to dewatering. Dewatering is accomplished with a 2-meter Komline-Sanderson belt filter press, approximately 25 years old. The belt filter press can also be used for thickening. Dewatered cake (~13-15% solids) is conveyed by a Serpentix conveyor to a truck load-out facility. There is no cake storage available on-site. An average of nine loads per week are hauled to the landfill by a combination of County and contractor trucks.

Lower Scioto Water Reclamation Facility (LSWRF)

The LSWRF is located at 6579 Moore Rd, Delaware, Ohio. It was built in the late 2000's to serve future development areas in Concord Township and western Liberty Township, but was not put online until 2017. LSWRF has an ADDF of 1.4 MGD and treated an ADF of 0.151 MGD in 2024. The ADF will increase by 0.20 MGD when the Scioto Reserve Water Reclamation Facility (WRF) is decommissioned and redirected to LSWRF in late 2025. The wet stream consists of the following unit processes:

- Fine screening
- Extended aeration with integral clarifiers

- Tertiary filtration
- UV disinfection

WAS is pumped to two (2) covered aerobic digesters before dewatering via a Centrisys centrifuge. The dewatered solids are loaded into a trailer and hauled to the landfill, typically one load every two weeks. Package plant biosolids can also be brought to LSWRF for digestion and dewatering. An upgrades project currently in construction includes no solids processing changes, but will make ventilation improvements to the solids handling building.

Package Plants

Delaware County hauls approximately 3.4 million gallons of liquid sludge annually from Northstar, Scioto Reserve, and Tartan Fields package plants to the ACWRF. Liquid sludge could also go to the OECC or LSWRF, but has been going exclusively to the ACWRF for the last year. Minor amounts are hauled from the remaining three small package plants: Bent Tree WRF, Hoover Woods WRF, and Scioto Hills WRF.

Table 2 summarizes the liquid sludge hauled in 2024. Approximately 10% is hauled by contractors, depending on plant operational needs and the availability of a County truck and operator to perform this service.

Table 2. 2024 Liquid Sludge Hauling Summary

Facility	Annual Sludge Hauled (gallons)	Destination
Northstar WRF	594,600	ACWRF
Scioto Reserve WRF	1,848,000	
Tartan Fields WRF	982,800	
Bent Tree WRF	0	
Hoover Woods WRF	29,700	
Scioto Hills WRF	88,200	

As noted in the LSWRF discussion above, hauling from the Scioto Reserve WRF will end in late 2025 when it is decommissioned and replaced with a pump station that will redirect flow to LSWRF.

The original design for Northstar WRF intended for sludge dewatering to occur on site. Northstar WRF was constructed in 2007 and has a current ADF of 0.08 MGD and ADDF of 0.4 MGD. Existing facilities include 380,000 gallons of aerated sludge holding volume in four below-grade sludge storage tanks. Under current operations, most of this volume is unused as liquid sludge is typically hauled to ACWRF. An existing centrifuge located in the dewatering building has never been in regular operation. The centrifuge discharges to a pleated belt conveyor, which lifts dewatered sludge to a covered open air truck bay. To prepare for regular use, the open air truck bay will be enclosed and a photoionization odor control system installed as part of a facilities upgrade project, currently in detailed design.

PROJECT OBJECTIVES AND SCOPE

The scope and fee for this project will be divided into two parts: Part 1 Master Plan and Part 2 Detailed Design and Bidding. The Part 2 scope and fee will be negotiated on the basis of the Part 1 findings and recommendations for immediate improvements. The following basic scope of services is illustrative only. The consultant should discuss any additions or deletions in their project approach:

PART 1 - MASTER PLAN

The objective of the Biosolids Master Plan is to provide Delaware County Regional Sewer District with a comprehensive strategy and recommended equipment and improvements for the processing and management of biosolids from all of its treatment facilities. The plan should identify and evaluate all available options, with consideration for site conditions, costs, regulatory uncertainty, anticipated growth, and input from the District's Operations and management staff. Most of the County's treatment facilities are located in or near neighborhoods, so the strategy must also be compatible with the County's social responsibility for odor control.

Basic scope of services:

1. Review Existing Data and Information – Available information includes: record drawings, daily operations and laboratory data, monthly operating reports, maintenance work orders, polymer usage, Toxicity Characteristic Leaching Procedure (TCLP) reports, historical operation and maintenance costs, and plant permits.
2. Condition Assessment - Perform site visits to assess general physical condition, structural integrity, and estimated useful life and functionality of the existing sludge thickening and dewatering equipment; pumping systems; conveyance systems; truck loading systems; and building structural, mechanical, electrical, and plumbing functionality.
3. Solids Production Estimates - Develop flow, load, and solids production estimates. The County can provide the number of existing and forecasted future equivalent residential units for each treatment plant's service area.
4. Identify Alternatives – Identify and screen all available technologies and options for sludge processing and disposal. Discuss the availability and viability of these alternatives for long-term management. Provide leading vendor or supplier information. Recommend a short list of alternatives for detailed evaluation.
5. Alternatives Evaluation – Evaluate the short-listed alternatives and several comprehensive biosolids management options for criteria such as:
 - a. Facility site requirements and space constraints,
 - b. Capital costs,
 - c. Total annual operating cost per dry ton,
 - d. Staffing needs,
 - e. Current and anticipated regulatory requirements, and
 - f. Need for redundancy.
6. Master Plan Report – Document the findings and recommendations in a Biosolids Master Plan report, including recommended equipment, improvements, and operational changes for immediate and future implementation. Develop conceptual layouts, implementation schedule, and costs for recommended improvements.

Part 2 – DETAILED DESIGN AND BIDDING

At this time, it is anticipated that detailed design services will be needed for ACWRF improvements. The existing ACWRF belt filter press is approximately 25 years old and has had increasing maintenance and repair needs. However, the full scope of Part 2 will be determined on the basis of the Part 1 findings and recommendations for immediate improvements at ACWRF and other RSD facilities. The consultant will

perform all work necessary to create a complete set of construction plans, supplemental specifications, bid items and quantities, and a final engineer's estimate. During bidding, evaluate bidder questions and prepare all necessary addenda.

OVERVIEW OF PROCESS

DCRSD uses a Qualifications Based Selection Process conforming to the requirements of Ohio Revised Code Sections 153.65 to 153.71. The process is as follows:

CONTENT OF CONSULTANT'S RESPONSE

A firm's proposal response shall include, but is not limited to, the following:

1. Company Name and background on company.
2. Identification of contract that proposer wishes to be considered for.
3. Names and experience of key personnel that will be assigned to perform the services. Provide organizational chart for the proposed project team. Provide resumes for the key project staff members (2 page maximum per resume).
4. List of completed projects for DCRSD and/or similar to the proposed project in which the team is wishing to be considered for and has previously participated in; include detailed information in project description and key personnel.
5. A description of the firm's project strategy, including:
 - a. Understanding of the project
 - b. Keys to a successful project
 - c. Innovative and cost savings ideas for the project.
6. Project Schedule indicating the time frame for work tasks, review time, milestones, etc.
7. Three (3) public or private agency references to contact regarding the firm's past performance, preferably on similar projects.

One (1) original and three (3) copies of the proposal are to be submitted for evaluation, along with a PDF copy of the proposal on a flash drive. There is a fifteen (15) page limit on the proposal, including resumes. Cover letters will not be included in the page limit. A page is one side of a sheet of paper.

EVALUATION

The Proposal Evaluation Committee shall be determined by the Director or his/her designee. Each member of the Proposal Evaluation Committee shall evaluate all firms. Individual evaluations shall be combined into a consensus evaluation. The average score for each of the criteria shall be totaled for a composite score.

EVALUATION CRITERIA

The Proposal Evaluation Committee shall evaluate the proposals based on the following criteria:

Experience, technical training and education of the personnel assigned to perform the work	10 POINTS
Competence to perform the required services as indicated by past projects	15 POINTS
Project Understanding and Strategy	20 POINTS
Project Schedule	5 POINTS
TOTAL POINTS	50 POINTS

Prior to completing evaluations, the Proposal Evaluation Committee may request revisions or clarification of the proposals, provided the same opportunity to revise or clarify is given to all firms.

If the Proposal Evaluation Committee feels that the scoring process listed above is sufficient to determine the highest ranked firm, DCRSD may proceed to consultant recommendation.

If the Proposal Evaluation Committee feels that interviews are necessary to determine the highest ranked firm following the scoring evaluations, the Proposal Evaluation Committee may require them. DCRSD reserves the right to limit the number of firms to be interviewed. If required, the interview process will consist of a panel discussion between DCRSD and members of the Consultant project team identified by DCRSD. A formal interview presentation will not be required.

Following the interviews (if required), the Proposal Evaluation Committee will evaluate the firms to determine a final ranking.

CONSULTANT RECOMMENDATION

Once the Proposal Evaluation Committee has evaluated all proposals, conducted the short-listed firm interviews (if required), and ranked the firms, the committee shall prepare a letter notifying each firm of its findings. DCRSD may then enter into contract negotiations with the highest ranked firm.

FINAL CONTRACT NEGOTIATIONS AND AWARD

DCRSD shall establish the proposed terms and scope of services for the project's contract. Should the negotiations with the highest ranked firm be unsuccessful, then they shall be terminated and negotiations shall begin with the next highest ranked firm. This process shall continue until a contract is successfully negotiated. If all of the negotiations are unsuccessful, all of the firms that submitted proposals will be notified that the selection process has been terminated. DCRSD reserves the right to terminate the final negotiations at its discretion.