Environment Committee

Meeting date: January 14, 2020

For the Metropolitan Council meeting of January 22, 2020

Subject: Metro Water Conservation Utilizing MnTAP Interns

District(s), Member(s): All

Policy/Legal Reference: Minnesota Legislature, 2019 First Special Session, Chapter 2, Article 2, Section 9(a)

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Division/Department: MCES c/o Leisa Thompson, 651-602-8101

Proposed Action

That the Metropolitan Council authorize its Regional Administrator to execute the contract amendment for contract 14I007 with the Minnesota Technical Assistance Program (MnTAP) at the University of Minnesota in Attachment A in the amount of $315,000 making the contract total $747,500.

Background

MnTAP is an outreach and assistance program that helps Minnesota's businesses develop and implement industry-tailored solutions that maximize efficient use of resources and reduce costs to improve public health and the environment. MnTAP has enjoyed a successful, supportive partnership with the Metropolitan Council Water Supply Planning Unit, working together to address metro-area needs for industrial water efficiency. The launch of this industry-focused technical assistance project began in 2012 with MnTAP being tasked with analyzing metro-area private industrial well water use, identifying industry barriers and opportunities, conducting technical water conservation site assessments, and designing and implementing summer internships for engineering students focused on water efficiency. This first contract was for $52,500 and was amended in 2015 for $185,000 and again in 2017 for $195,000.

Our collaboration has grown to include site assessments or summer engineering interns at 51 metro businesses between 2012 and 2019. These businesses receive water and energy efficiency recommendations from MnTAP staff and student interns. This partnership has helped Minnesota businesses save over 230 million gallons of water and $1.6 million each year. In addition, this partnership has provided 29 college students the opportunity to work with MnTAP's engineers to gain real-world experience in businesses around the metropolitan area.

Rationale

The Water Supply Planning Unit believes there is significant value in pursuing water efficiency at metro area businesses. Water savings reduce businesses' operational costs on both the water and energy sides of the water-energy nexus. For many businesses this also enables a reduction in wastewater generation, thereby freeing existing wastewater capacity for future population growth. Our collaboration with MnTAP allows us to utilize the expertise of Minnesota's premier industrial efficiency organization to connect with those businesses most interested in participating. MnTAP summer engineering interns gain valuable experience, businesses are able to obtain their services at a low cost, and the region's water supplies reap the benefit. Over the next three years, 14 additional summer interns will benefit from participating in our program.

Thrive Lens Analysis

This action supports the Thrive MSP 2040 stewardship and sustainability outcomes and the water sustainability goal of the Water Resources Policy Plan. Increased industrial water efficiency will help protect our aquifers and save money for our businesses.

Funding

The Metro Water Conservation Utilizing MnTAP Interns Program is funded by Clean Water, Land and Legacy Amendment funds through the Minnesota Legislature, 2019 First Special Session, Chapter 2, Article 2, Section 9(a): $1,000,000 the first year and $1,000,000 the second year are to implement projects that address emerging threats to the drinking water supply, provide cost-effective regional solutions, leverage interjurisdictional coordination, support local implementation of water supply reliability projects, and prevent degradation of groundwater resources in the metropolitan area.

Known Support / Opposition

No known opposition.

Metro Area Water Supply Advisory Committee Supports the program

A Proposal for Metropolitan Council
From Minnesota Technical Assistance Program (MnTAP)

Metro Water Conservation Utilizing MnTAP Interns

Priority area addressed:
Water Conservation in the Metro Area, Minnesota

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Project funding period: January 1, 2020 – December 31, 2022
Total project funding: $315,000

Abstract: Through this project, MnTAP interns will explore opportunities for water conservation by businesses and organizations in the metro area through a contract extension with the Metropolitan Council. Through this work Metropolitan Council will promote water conservation at multiple industries and communities across the metro area. As part of this project, results will be summarized in executive summaries on water conservation resulting from 15 detailed intern project investigations and presented at public events. MnTAP staff will identify the projects, hire, train and supervise the student interns. MnTAP will also develop marketing materials which promote water conservation to businesses and area stakeholders.

Objective

MnTAP will define opportunities for water conservation at 15 businesses and organizations in the metro area through the dedicated resources of 15 MnTAP interns. The interns will analyze water conservation opportunities through full time work on site over the summers of 2020, 2021 and 2022. The information gained on water conservation opportunities and strategies will be available as a public resource, through both MnTAP and the Metropolitan Council, as a way to further engage businesses in water conservation. MnTAP water conservation work will be assembled in reader-friendly materials for marketing water conservation strategies and results.

Background

Our region is fortunate to have an abundant clean water supply. In order to protect this resource and plan for its continued use in support of growth in the seven county area including Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties, the Metropolitan Council has been charged with planning for the sustainable development of the region's water supply.

MnTAP is an outreach and assistance program that helps Minnesota's businesses develop and implement industry-tailored solutions that prevent pollution at the source, maximize efficient use of resources, and reduce energy use and costs to improve public health and the environment. MnTAP, at the University of Minnesota, has been providing services for 35 years including site visits, student interns, web resources, and a materials exchange program. MnTAP has been offering interns to support pollution prevention, energy and process efficiency, and water conservation projects at Minnesota businesses and industries since the mid 1980's. Documentation in the form of final project presentations, project summaries, or other publications is available for all projects since 2013 and for select projects prior to 2013 at: http://mntap.umn.edu/intern/pastproj.htm.

The Minnesota Technical Assistance Program has been funded by the Metropolitan Council through a grant from the Clean Water, Land and Legacy Amendment to provide data and assist business with water conservation projects. During 2012 and 2013, an industry survey, seven industrial assessments and three water conservation intern projects were conducted. These companies have saved over 35,000,000 gallons of water per year. A final report was submitted at the completion of the project and is posted on the Metropolitan Council Environmental Services website.[1] During 2014 and 2015, MnTAP received additional funding to continue providing water conservation interns at metro businesses. Summaries of the five intern projects conducted over the course of this work have been published. These companies have implemented changes that save nearly 21,000,000 gallons of water per year. In fiscal year 2014, MnTAP was requested to evaluate industrial water use in the North and East Metro Ground Water Management Area along with providing industrial water conservation tips and assessments. This work was completed and is posted on the Metropolitan Council website.[2] During 2016 and 2017, MnTAP received additional funding to provide water conservation interns at 10 metro businesses. By leveraging additional resources MnTAP was able to support water efficiency evaluations at 12 businesses by MnTAP interns. These companies have implemented changes that save 40,000,000 gallons of water per year. Case studies for each project have been reported in MnTAP Solutions for 2016 and 2017.[3] MCES continued the grant with MnTAP to provide water conservation interns at 10 metro businesses during summer 2018 and 2019. By leveraging additional resources

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[1] https://metrocouncil.org/Wastewater-Water/Publications-And-Resources/WATER-SUPPLY-PLANNING/Water-Conservation-by-Private-Well-Industries.aspx

[2] https://metrocouncil.org/Wastewater-Water/Publications-And-Resources/WATER-SUPPLY-PLANNING/Water-Saving-Opportunies-in-the-North-and-East-Met.aspx
https://metrocouncil.org/Wastewater-Water/Publications-And-Resources/WATER-SUPPLY-PLANNING/Industrial-Water-Conservation-North-East-Metro-G.aspx
https://metrocouncil.org/Wastewater-Water/Publications-And-Resources/WATER-SUPPLY-PLANNING/Industrial-Water-Conservation-North-East-Metro-(1).aspx
https://metrocouncil.org/Wastewater-Water/Publications-And-Resources/WATER-SUPPLY-PLANNING/Industrial-Water-Conservation-North-East-Metro-(2).aspx

[3] http://www.mntap.umn.edu/download/163/solutions/12032/2016-solutions.pdf
http://www.mntap.umn.edu/download/163/solutions/14169/2017-solutions.pdf

MnTAP was able to support water efficiency evaluations at 11 businesses by MnTAP interns. Case studies for the 2018 projects have been published[4] and the 2019 intern projects are in progress.

MnTAP is well-qualified to lead this project due to a strong history of applying pollution prevention and conservation solutions to businesses across Minnesota, including industrial water efficiency. MnTAP efforts have resulted in a cumulative first year savings of 274 million gallons of water from 2012 through 2018. MnTAP's technical assistance staff members hold degrees in engineering and science. They have many years of experience applying source reduction practices in industrial settings and have the understanding of business operations needed to offer customized solutions. Additionally, MnTAP is well known as the leading pollution prevention provider in the State of Minnesota. This reputation, as well as MnTAP's broad network of vendors, county and city government personnel, professional associations, and others will be leveraged throughout this project.

Project Overview

MnTAP proposes to identify opportunities for water users to improve water efficiency through the work of MnTAP interns. Interns working closely with a vetted facility can provide an opportunity to conduct a deeper analysis of site water use, identify water efficiency recommendations, and launch implementation projects. The MnTAP intern program has been widely regarded by participating companies as a great opportunity to have an engineering student look deeply into options for improving aspects of facility operations. It is also an opportunity for students to gain valuable industrial experience during their academic careers. In this project, interns will identify and scope solutions for a variety of water conservation opportunities at selected facilities. This approach provides detailed information on critical components of project implementation such as cost and timing, as well as other internal or external influences specific to each facility. One outcome of each intern project is to develop a published executive summary detailing the water conservation opportunity including technical and cost analysis which helps share identified industrial water efficiency opportunities with other businesses for potential replication.

MnTAP will develop marketing materials which will promote water conservation to area stakeholders and tell the stories of MnTAP water conservation projects. Clear summaries of results will be presented in various electronic media formats suitable for printing, web sites and social media. Summaries of recommended and implemented results will be presented utilizing info-graphics or other suitable figures, graphs, and visual elements. MnTAP will work with the Metropolitan Council communications and marketing staff to ensure compatible formats in order to create the greatest implementation impact and engagement.

Project Tasks

Task: Intern Projects

MnTAP will coordinate fifteen (15) intern projects focused on water conservation improvement at metro facilities. A target of five (5) projects will be executed in each summer from 2020 through 2022. The intern process is summarized below:

- Recruit companies
- Develop and scope projects
- Select companies/projects
- Finalize company agreements
- Hire student interns
- Train interns
- Supervise the project/intern
- Coordinate a public presentation
- Ensure a final report is written for host company (private)
- Publish project executive summaries in *Solutions*

[4] http://www.mntap.umn.edu/download/163/solutions/15190/2018-solutions.pdf

Intern reports will be completed at the end of the project and delivered to the company at the conclusion of the work. Typically this work will be conducted under an agreement between the company and the University of Minnesota and is considered confidential company information. Each intern will present an approved summary of the results of the work at a public meeting and an executive summary will be published.

Promotional and Outreach Communications

Project results and recommendations will be presented in compelling formats to create awareness and promote water conservation impact potential. Recommended, planned, and implemented results will be clearly reported in a variety of formats. Environmental partner programs will be consulted in order to produce effective, high-impact materials.

Project Deliverables

MnTAP staff members and interns will track facility water conservation recommendations, estimate conservation potential by site, and document implemented recommendations with actual water savings. MnTAP will also update the Metropolitan Council on project status through e-mail communications as requested by the sponsor.

MnTAP will complete the following as part of this project:

- Coordinate 15 MnTAP intern projects to identify and implement water efficiency opportunities.
- Host public presentations on the results of the intern work at public meetings.
- Publish executive summaries of the water conservation approaches and impact potential.
- Develop stories and visual materials designed to inform and motivate stakeholders toward water efficiency.
- Keep the Metropolitan Council project manager updated on results with quarterly summary reports.

Schedule

All project tasks will be completed by MnTAP staff members. The intern projects will be conducted by interns hired through MnTAP and supervised by MnTAP engineering/science staff members. The interns will work on the projects from mid-May through August in 2020, 2021 and 2022. The executive summaries will be completed by MnTAP staff, reviewed by the project company and published prior to the end of December of each project year. The project follow-up will continue throughout the grant period with a summary report before the end of 2022.

Budget Narrative

MnTAP intern costs are calculated at a net rate of $18 per hour for up to 500 hours. The intern also receives a portion of their compensation from the site company contribution to the program. MnTAP staff effort on this project has been calculated using a charge rate of $100 per hour which includes salary, fringe, rent and administrative support costs. This allocated staff effort is two thirds of the actual time allocated for the project with the remainder cost shared by MnTAP.

Budget Overview 2020-2022 MnTAP Water Efficiency Interns

Activity	Resources Allocated	Sub-Total	Total
Intern			
Intern salary/stipend (per intern)	**500 hours**	**$9000 (x 15)**	**$135,000**
Staff support (per intern)	**25 hours administrative 80 hours technical**	**$2,500 (x 15) $8,000 (x 15)**	**$37,500 $120,000**
Reporting Quarterly and Final	**25 hours**	**$2,500 (x 3)**	**$7,500**
Promotional/ Outreach Case Studies (per intern)	**10 hours**	**$1,000 (x 15)**	**$15,000**
Total			**$315,000**