

State of Michigan
Civil Service Commission

Capitol Commons Center, P.O. Box 30002
Lansing, MI 48909

Position Code

1. EVILSPL3

POSITION DESCRIPTION

This position description serves as the official classification document of record for this position. Please complete the information as accurately as you can as the position description is used to determine the proper classification of the position.

2. Employee's Name (Last, First, M.I.)	8. Department/Agency ENVIRON, GREAT LAKES & ENERGY
3. Employee Identification Number	9. Bureau (Institution, Board, or Commission)
4. Civil Service Position Code Description Environmental Eng Lic Spl 3	10. Division Drinking Water and Environmental Health Division (DWEHD)
5. Working Title (What the agency calls the position) Surface Water Treatment Engineer Specialist	11. Section CWSS Engineering Section
6. Name and Position Code Description of Direct Supervisor BOLF, MICHAEL A; STATE ADMINISTRATIVE MANAGER-1	12. Unit
7. Name and Position Code Description of Second Level Supervisor KRISZTIAN, GEORGE L; STATE DIVISION ADMINISTRATOR	13. Work Location (City and Address)/Hours of Work TBD / MON-FRI, 8:00am-5:00pm / 80 hrs pay period

14. General Summary of Function/Purpose of Position

The Surface Water Treatment Engineer Specialist has oversight responsibility for surface water supplies, all of which treat vulnerable water sources that may contain acute contaminants. This position serves as the technical expert in conventional surface water treatment (coagulation-flocculation-sedimentation-filtration-disinfection) and oversees the two conventional surface water treatment plants with the highest concentration of source water pathogens in the state. This position performs sanitary surveys, surveillance visits, and reviews plans, specifications, and permit applications for community water supplies which have treatment plants subject to the Surface Water Treatment Rules. The surface water treatment specialist also has primary responsibility for reviewing monthly operation reports, providing emergency response, technical assistance, and serving as the main contact for communities subject to and stakeholders interested in the Surface Water Treatment Rules.

15. Please describe the assigned duties, percent of time spent performing each duty, and what is done to complete each duty.

List the duties from most important to least important. The total percentage of all duties performed must equal 100 percent.

Duty 1

General Summary:

Percentage: 65

Serve as a Surface Water Treatment Engineer Specialist responsible for the oversight of community water supplies with water treatment plants subject to the Surface Water Treatment Rules and the two conventional surface water treatment plants with the highest concentration of source water pathogens in the state. Oversight includes performing sanitary surveys of community water supplies, conducting routine surveillance visits, determining compliance, providing technical assistance, and serving as the statewide specialist in conventional treatment.

Individual tasks related to the duty:

- Oversight of community water supplies with water treatment plants subject to the Surface Water Treatment Rules and the two conventional surface water treatment plants with the highest concentration of source water pathogens for an assigned geographic area of the state.
- Create and update standard sanitary survey checklists and technical policy related to surface water treatment.
- Implement the Area Wide Optimization Program to improve treatment plant performance and public health protection by analyzing data, troubleshooting, education, and communication. Plan and evaluate inspection activities such as tracer studies, filter media assessments and turbidimeter calibrations.
- Coordinate with water supply personnel and consultants to plan and design special studies, such as pilot studies, to predict water treatment performance in a lab setting before making proposed treatment adjustment full scale.
- Establish monitoring plans for emerging contaminants at surface water intakes statewide.
- Technical expert for responding to drinking water issues related to un-regulated contaminants such as cyanotoxins, Legionella, PFAS, microplastics, and personal care and pharmaceutical products (PCPPs).
- Consult and coordinate with the U.S. EPA and other state agencies to develop novel approaches to enhancing treatment performance, review treatment optimization goals and assess performance against the goals to enhance public health protection.
- Make immediate response decisions and long term mitigation strategies when unregulated contaminants, such as cyanotoxins, Legionella, PFAS, microplastics, and personal care and pharmaceutical products, impact the source water or treatment process.
- Consult and coordinate with officials from DHHS during water quality events (lead detections, cryptosporidium testing, harmful algal blooms, etc) to ensure an appropriate response.
- Serve as a mentor to Surface Water Engineers within the unit by training and developing staff on Surface Water Treatment Rules, design, and operation.
- Complete the entire sanitary survey process, including reviewing water supply files, completing the sanitary survey checklists, performing site visits, compiling survey findings, and sending survey documents and cover letter to the community. Follow up on unresolved deficiencies and coordinate enforcement activities.
- Conduct ongoing surveillance of water systems, including routinely visiting surface water treatment plants, reviewing monthly operation reports, and reviewing monitoring results. Conduct data entry and analysis of surface water parameters. The review of operation reports and monitoring results is critical to ensuring public health standards are met.
- Consult on problems or proposals related to the surface water treatment elements of membrane filtration, conventional treatment, and disinfection. This duty requires maintaining expertise in these areas by attending training and staying connected with pertinent resources.
- Consult with MSP, local law enforcement, county emergency coordinators, and US DHS if there is a security breach (cybersecurity or water tower sabotage) or a large-scale emergency such as a power outage, flood, or ice storm that impacts water service.
- Evaluate and determine whether public water supplies have the technical, managerial, and financial capacity required to reliably run a water utility.
- Evaluate asset management plans, capital improvement plans, water rates, and other indicators of a water utility's finances.
- Serves on the statewide Peer Review Team as a review and check point regarding all source and treatment related changes that occur statewide.

Duty 2

General Summary:

Percentage: 15

Serve as the primary contact and technical engineering advisor for community water supplies with surface water treatment plant(s) in the region.

Individual tasks related to the duty:

- Review engineering reports, treatment studies, operating procedures, and other information relating to the treatment plant.
- Respond to emergencies and complaints related to water quality or service reliability. This includes advising local units of government, updating EGLE executives, coordinating with local health departments, communicating with local emergency managers, drafting language for critical public health messaging efforts (drinking water advisories), and providing onsite water plant operational guidance.
- Serve as a technical advisor for community water supplies with surface water treatment plants. Responsible for responding to general questions, emails, or other correspondence related to the operation of the treatment plant. This includes communicating highly technical information to a variety of customers from the general public to experts in academia.
- Disseminate information related to surface water treatment plants to water utility staff, consulting engineers, local officials, the general public, and government officials (local, state, & federal). The surface water treatment specialist represents the Department and DWEHD at public meetings and media events.
- Review and evaluate Provisional Certification applications to determine whether an operator trainee has enough training, education, and experience to independently run shifts at a surface water plant without compromising water quality using knowledge of the water plant design, standard operating procedures, and the qualifications necessary to reliably operate the plant.

Duty 3

General Summary:

Percentage: 10

Process Act 399 construction permit applications proposing work relating to surface water treatment plants, including distribution system permits, as assigned.

Individual tasks related to the duty:

- Review the permit application, construction plans, project specifications, and basis of design for each project proposed by surface water treatment plants and the associated distribution systems including storage and pumping facilities in the region.
- Issue permits for projects that are protective of public health and meet department standards and deny permit applications that do not meet state standards.
- Stay apprised of all technical standards applicable to surface water treatment and water distribution including Ten States Standards, AWWA Standards, ANSI/NSF Standards, and ASSE Standards.
- Meet with community officials and consultants as needed to discuss design considerations for critical and complex projects.
- Consult on permit applications statewide for construction and installations in the areas of membrane filtration, conventional treatment, and disinfection.
- Educate officials responsible for local and regional planning. Review local water system master planning documents and engage with local decision makers to help identify the most sustainable alternatives to meet current and future level of service goals. Ensure permit application projects align with water system planning efforts and state funding initiatives such as consolidation.

Duty 4

General Summary:

Percentage: 5

Coordinate and provide training to DWEHD staff and operators related to conventional treatment of surface water.

Individual tasks related to the duty:

- Utilize professional networking opportunities (AWOP, Ten States Standards Committee, US EPA, etc) as a forum to develop and refine best management practices.
- Assess the technical needs of DWEHD engineers, research available courses, and develop materials if appropriate.
- Assist with coordination, preparation, and instruction of operator training courses relating to membrane filtration, conventional treatment, and disinfection.
- Assist with other operator training duties including certification exam formulation, exam review, and exam subject matter expert committees.
- Serve as mentor to surface water engineer assigned to the region and assist in their formal training program

Duty 5

General Summary:

Percentage: 5

Perform other duties as assigned.

Individual tasks related to the duty:

- Serve a term on the statewide DWEHD Peer Review Team as assigned to serve as a check on all the source and treatment related changes that occur statewide. This duty extends beyond surface water systems including all water systems statewide and is critical to prevent unintended negative consequences related to source and treatment changes.
- Other duties as assigned.

16. Describe the types of decisions made independently in this position and tell who or what is affected by those decisions.

Decisions include:

- Compliance determinations
- The content and methods of critical public health messaging related to drinking water advisories.
- Operational adjustments to water treatment to optimize water quality as well as adjustments necessary to ensure protection of public health.
- Whether or not to approve provisional certifications for operator trainees.
- Actions and responses to emergencies impacting water quality and reliability, including the need for public notification.
- Make immediate response decisions when unregulated contaminants impact the source water or treatment process.
- Whether or not to issue construction permits for proposed projects
- Design considerations for construction of new treatment facilities or improvements to existing facilities.
- Determination of training needs for DWEHD staff and water treatment operators.

Parties impacted by these decisions include water treatment plant owners and operators, DWEHD district and program staff, the general public, consulting engineers, and government officials (local, state, & federal). In addition, the budgets of local units of government, the scope of consulting engineering services, and the confidence of the public are impacted by these decisions.

17. Describe the types of decisions that require the supervisor's review.

- Decisions to ensure statewide consistency.
- Unique emergency events such as major interruptions in supply or treatment process at a complete treatment facility.
- The content, timing, and distribution of unique or sensitive public drinking water advisories.
- Responses to media and legislative inquiries regarding prominent issues or events.
- Compliance enforcement strategies with unique circumstances

18. What kind of physical effort is used to perform this job? What environmental conditions in this position physically exposed to on the job? Indicate the amount of time and intensity of each activity and condition. Refer to instructions.

Routine activities include telephone communications, operation of computer terminals, and other related duties encountered in a typical office environment. Travel by automobile to district offices or water utilities for the purpose of on-site evaluations or consultations will arise. The amount of time and intensity of each activity will vary with the daily workload.

19. List the names and position code descriptions of each classified employee whom this position immediately supervises or oversees on a full-time, on-going basis.

Additional Subordinates

20. This position's responsibilities for the above-listed employees includes the following (check as many as apply):

- | | | | |
|----------------------------|------------------------------------|----------------------------|-----------------------------------|
| <input type="checkbox"/> N | Complete and sign service ratings. | <input type="checkbox"/> N | Assign work. |
| <input type="checkbox"/> N | Provide formal written counseling. | <input type="checkbox"/> N | Approve work. |
| <input type="checkbox"/> N | Approve leave requests. | <input type="checkbox"/> N | Review work. |
| <input type="checkbox"/> N | Approve time and attendance. | <input type="checkbox"/> N | Provide guidance on work methods. |
| <input type="checkbox"/> N | Orally reprimand. | <input type="checkbox"/> N | Train employees in the work. |

22. Do you agree with the responses for items 1 through 20? If not, which items do you disagree with and why?

Yes.

23. What are the essential functions of this position?

The most critical function of this position is for the surface water engineering specialist to protect public health by using their technical knowledge of the regulations and of surface water treatment plants to ensure all water supplies in their area continuously produce water meeting drinking water standards. The surface water engineering specialist has oversight responsibility for surface water supplies, all of which treat vulnerable water sources that may contain acute contaminants. This position serves as the top expert in membrane filtration and oversees the majority of the state's membrane filtration plants. This position performs sanitary surveys, surveillance visits, and reviews plans, specifications, and permit applications for community water supplies which have treatment plants subject to the Surface Water Treatment Rules. The surface water treatment specialist also has primary responsibility for reviewing monthly operation reports and serves as the main contact for communities subject to the Surface Water Treatment Rules.

24. Indicate specifically how the position's duties and responsibilities have changed since the position was last reviewed.

This position has evolved such that the level of DWEHD's dependence on it, the gravity of the decision making, the public expectations have increased dramatically. This position is also responsible for creating and updating standard sanitary survey checklists and technical policies related to surface water treatment, implementing the Area Wide Optimization Program, coordinating special studies, establishing monitoring plans for emerging contaminants, coordinating the development of treatment optimization goals, and making immediate response decisions when unregulated contaminants impacts source water. Since this position was last reviewed, this position now also serves as a mentor to lower-level surface water engineers (non-specialists) and are instrumental in training and developing these staff. The state of the DW program has evolved such that this position is expected to now provide technical and managerial assistance beyond the regulatory framework for topics like unregulated contaminants, corrosion control optimization efforts, operational troubleshooting, building technical and managerial capacity (e.g assessing the financial health of water utilities, exploring regionalization and consolidation opportunities with other utilities, etc). Furthermore, this position is now expected to take a lead role in coordinating emergency response activities related to water systems in their district including communicating drinking water advisories related to loss of system pressure, microbial contamination, lead, and other emerging contaminants unique to surface water.

This position also serves as the technical expert for conventional surface water treatment (coagulation-flocculation-sedimentation-filtration-disinfection) and oversees the two conventional surface water treatment plants with the highest concentration of source water pathogens in the state.

25. What is the function of the work area and how does this position fit into that function?

The function of the Engineering Section is to assist the central office and district staff in carrying out the responsibilities of a comprehensive program of supervision and control over all community public water supplies mandated by the Michigan Safe Drinking Water Act (Act 399, P.A. 1976 as amended). This position was established to ensure safe and adequate drinking water specifically for the health and welfare of the public served by surface water systems to, and to carry out such additional responsibilities as may be assigned by the Section Manager or Office Administration.

26. What are the minimum education and experience qualifications needed to perform the essential functions of this position.

EDUCATION:

Possession of a bachelor's degree in engineering.

EXPERIENCE:

Environmental Engineering Licensed Specialist 14

Five years of experience equivalent to an Environmental Engineer, including three years equivalent to an Environmental Engineer P11, two years equivalent to an Environmental Engineer 12 or Environmental Engineer Licensed 12; or, one year equivalent to an Environmental Engineering Specialist 13 or Environmental Engineering Licensed Specialist 13.

KNOWLEDGE, SKILLS, AND ABILITIES:

Ability to communicate accurately and tactfully during routine and emergency conditions with individuals and groups, both verbally and in writing. The surface water treatment specialist must meet and work with people at both a technical and layman level. The specialist must have thorough knowledge of membrane filtration, conventional water treatment, or disinfection practices, as well as familiarity with applicable portions of the Safe Drinking Water Act. Attendance at special seminars on water treatment technologies is required as permitted by the Department. Thorough knowledge of computer software commonly used to analyze operational data is also required.

CERTIFICATES, LICENSES, REGISTRATIONS:

Michigan Professional Engineers License is required.

A valid driver's license is preferred.

NOTE: Civil Service approval does not constitute agreement with or acceptance of the desired qualifications of this position.

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Supervisor

Date

TO BE FILLED OUT BY APPOINTING AUTHORITY

Indicate any exceptions or additions to the statements of employee or supervisors.

None

I certify that the entries on these pages are accurate and complete.

HEATHER KREINER

Appointing Authority

12/7/2022

Date

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Employee

Date