

## Position Summary

This summary describes the organization, duties, and requirements of a State of Michigan vacancy.

**Position Code:** GEOLGSTE56R

**Civil Service Class and Level:** GEOLOGIST-E

**Working Title (What the agency calls the position):** Water Use Program Geologist

**Name and Position Code Description of Direct Supervisor:** MILNE, JAMES F; ENVIRONMENTAL MANAGER-3

**Department/Agency:** ENVIRON, GREAT LAKES & ENERGY

**Bureau (Institution, Board, or Commission):**

**Division:** Geological Resources Management Division

**Section:** Surface Water Assessment Section

**Unit:** Water Use Assessment

**Work Location (City and Address)/Hours of Work:** 525 West Allegan Street, Lansing, MI 48933 / M-F 8am - 5pm

**General Summary of Function/Purpose of Position:** This position processes routine (e.g., in less complex geological settings and in watersheds with available streamflow) site-specific review (SSR) requests for proposed large quantity withdrawals (LQW) of surface water and groundwater received under Part 327, Great Lakes Preservation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. This position interprets available geologic and hydrogeologic information to determine whether proposed LQWs are likely to cause adverse resource impacts (ARI) to nearby rivers and streams. This position creates geological cross-sections and develops conceptual hydrogeologic models in support of SSR requests or other additional data collection efforts to characterize glacial and bedrock geology and surface water/groundwater interactions in response to LQWs. This position conducts compliance reviews for water management areas (WMA) affected by SSR requests. The SSR compliance reviews compare existing LQW registrations, well logs, and annual water use records to verify that existing LQWs are following Part 327 and to determine the current cumulative stream flow depletion status of the affected WMAs. This position assists other Water Use Assessment Unit (WUAU) staff in collecting miscellaneous stream flow measurements.

This position reviews and comments on related projects that are funded by one or more of the following: state agencies, federal agencies, university researchers, and private parties. This position assists other WUAU staff in providing technical support to the Water Use Advisory Council (WUAC) and other stakeholder groups. This position provides information and guidance on the Water Use Program to the regulated community and other interested parties and assists WUAU staff in providing technical assistance to water user committees under Part 327, as well as responds to questions or complaints about water use conflicts.

**Assigned duties and tasks for each duty.**

**Duty 1:** Conduct SSRs of proposed LQWs of surface water and groundwater in less complex geologic settings and in watersheds with available streamflow.

- Contact applicants to verify information on the SSR requests.
- Review all existing LQWs in watersheds potentially affected by proposed LQWs to ensure they are accurately accounted for in the Water Withdrawal Assessment Tool (WWAT) database and identify potential violations of Part 327.
- Inform Water Use Program compliance staff when violations of Part 327 are discovered.
- Conduct hydrogeological evaluations of proposed LQWs to determine whether the aquifer utilized by a proposed LQW is hydraulically connected to surface water, or if other aquifer characteristic data exists that should be considered during the review.
- Coordinate with other Department of Environment, Great Lakes, and Energy (EGLE) staff when stream index flow reviews and/or perennial versus nonperennial stream determinations are warranted.
- Request technical support from the WUAU's Geology Specialist and/or Senior Geologist as necessary for SSR requests in more complex geologic settings and/or in depleted watersheds and for reviews of more complex groundwater models submitted in support of SSRs.
- Determine whether a proposed LQW is likely to result in an ARI.
- Request SSR quality assurance/quality control (QA/QC) review of draft SSR packages by the WUAU Senior Geologist.
- Inform the applicant of the results of the SSR and discuss their options if the proposed withdrawal is likely to result in an ARI. Discuss feasible alternatives to proposed withdrawals that would avoid ARIs with applicants.
- Brief the WUAU Senior Geologist and Supervisor on SSR reviews and denials that may become complex or controversial.
- Communicate SSR denials to applicants, verbally and in writing.
- Identify and notify other registered water users and local units of government, as appropriate and/or required by statute, of SSR authorizations.
- Update the SSR Tracking and WWAT databases.
- Inform the applicant and the WUAU Supervisor if the statutory deadlines for SSRs will be exceeded.
- Provide comments on guidance documents concerning SSRs.

**Duty 2:** Function as the project administrator for state-funded projects in support of the Part 327 Water Use Program. Review and comment on other projects in support of the Part 327 Water Use Program.

- Develop scopes of work and requests for proposals for state-funded projects for the Water Use Program.
- Review and approve work plans, quality assurance project plans (QAPP), contractor invoices, and technical reports for state-funded projects for the Water Use Program.
- Review and comment on work plans, QAPPs, data, and reports submitted by consultants, federal agencies, universities, or non-governmental organizations for projects related to the Water Use Program that are funded by other funding sources.
- Request technical support, as needed, from the WUAU's Senior Geologist on technically complex issues with state-funded projects or other publicly funded projects.
- Participate in technical advisory or other work groups related to Water Use Program enhancement projects.

**Duty 3:** Respond to questions and complaints about potential water use conflicts or violations of Part 327, assist WUAU staff in providing technical assistance to the WUAC and other stakeholder groups, and assist WUAU staff in the formation of water user committees and ad hoc subcommittees.

- Work with other Water Use Program staff to investigate complaints; investigation may include contacting property owners or other interested parties; reviewing maps, aerial photographs, and existing databases; and conducting site inspections.
- Document complaints and results of investigations and make recommendations, as appropriate.
- Assist other WUAU staff in collecting miscellaneous stream flow measurements.
- Brief WUAU Supervisor and staff on results of investigation and when enforcement action may be required.
- Provide information on the Water Use Program to interested parties.
- Assist other WUAU staff in providing technical assistance and support to the WUAC and other stakeholder groups.
- Participate in education and outreach activities.
- Assist other WUAU staff in the formation and functioning of water user committees and ad hoc subcommittees of residents.
- Other duties as assigned by WUAU, Permits Section, WRD, and EGLE management.

**Types of decisions made independently and whom or what those decisions affect:** Determine whether an ARI is likely during an SSR, identify the best available information and data for the site, identify registered water users in a given watershed, manage state-funded projects, and review and comment on other additional projects. This position will need to request technical support from the WUAU's Senior Geologist and/or GRMD Groundwater Data Unit staff for more complex and/or controversial proposed LQWs, creating and calibrating numerical groundwater models, and reviewing numerical groundwater models submitted by external parties, and additional data collection projects. Those affected include property owners and tenants who are water users; other nearby water users; local units of government; other interested parties; and the people, natural resources, and waters of the state of Michigan.

**Types of decisions that require the supervisor's review:** The WUAU Supervisor reviews all SSR determinations. If an SSR determines an ARI is likely and therefore the request for registration must be denied, the GRMD's Groundwater and Geological Services Section Manager and Department of Agriculture and Rural Development staff, if appropriate, must be briefed before a denial letter is sent. Requests for proposals, work plans, and QAPPs for state-funded projects require supervisor approval. Projects, complaints, SSR requests, Part 327 permit reviews, and violations of Part 327 that are complex and/or controversial must be brought to the supervisor's attention.

**Physical effort used to perform this job and environmental conditions of this position:** Site visits can involve long drives, temperature and humidity extremes, traversing rough terrain, wading streams, carrying equipment weighing up to 25 pounds, and working long hours (10-14-hour days). Working near drilling rigs and other heavy equipment requires the use of steel-toed/steel-shanked boots, hard hats, hearing protection, and safety glasses. Office work involves sitting for long periods and using a computer. Filing involves stooping or kneeling and carrying files and reference materials weighing 5 pounds over distances of up to 100 feet.

**Names and classes and levels of employees whom this position immediately supervises:**

**The essential functions of this position:** The essential functions of this position are processing SSR determinations for proposed LQWs; overseeing program related projects; responding to questions and complaints relating to water use; and providing technical assistance to stakeholder groups, water users committees, and ad hoc subcommittees of local residents.

**The function of the position's work area and how it fits into that function:** The WUAU administers the Water Use Program that regulates LQWs of surface water and groundwater. This position processes SSR requests, coordinates field surveys, and provides technical assistance to water users committees and other interested parties.

**Minimum education, experience, and credentials typically needed to perform the position's essential functions:**

**EDUCATION:**

Possession of a bachelor's degree in geology, geological science, hydrogeology, geophysics, or geological, petroleum, or mining engineering.

**EXPERIENCE:**

**Geologist 9**

No specific type or amount is required.

**Geologist 10**

One year of professional experience in carrying out geological activities to protect, develop and maintain natural resources equivalent to a Geologist 9.

**Geologist P11**

Two years of professional experience in carrying out geological activities to protect, develop and maintain natural resources equivalent to a Geologist, including one year equivalent to a Geologist 10.

**Alternate Education and Experience**

**Geologist 9 - 12**

Possession of a bachelor's degree in environmental geoscience, earth science, or environmental science with 15 semester (23 quarter term) credits in the following core geology classes: physical geology, sedimentology/stratigraphy, mineralogy/petrology, structural geology and field instruction. In addition, the candidate must have 21 semester (32 quarter term) credits in elective geology coursework; and two courses each in calculus, chemistry and physics.

**KNOWLEDGE, SKILLS, AND ABILITIES:**

The employee should have professional experience in hydrogeology, hydrology, geology, and field investigation methods. Experience in the areas of water resource development, water supply system operation, and well construction is desirable. The employee should have considerable skill in creating, calibrating, and using analytical, analytical and numerical element groundwater models. Ability to use ArcPro and related Geographic Information System software is preferred. Experience using Global Positioning System equipment is also preferred. The employee must possess strong skills in interpersonal relationships, oral and written communications, public speaking, and conflict resolution. Negotiation skills are necessary for the successful performance of these duties. Training and experience as an expert witness is preferred.

Applicable competencies for this position are: Adaptability, Building Strategic Working Relationships, Building Trust, Continuous Learning, Contributing to Team Success, Communication, Customer Focus, Decision Making, Follow-Up, Initiating Action, Innovation, Planning and Organizing Work, and Work Standards. Of these competencies, the most essential for this position are Adaptability, Building Strategic Working Relationships, Communication, Contributing to Team Success, Customer Focus, Decision Making, Follow-Up, and Initiating Action.

**CERTIFICATES, LICENSES, REGISTRATIONS:**

Valid driver's license is preferred. Certified Professional Geologist (C.P.G.) certification is preferred.