

**State of Michigan  
Civil Service Commission**

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

**Position Code**

1. GEOLSPL2

## 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.

<b>2. Employee's Name (Last, First, M.I.)</b>  	<b>8. Department/Agency</b> ENVIRON, GREAT LAKES & ENERGY
<b>3. Employee Identification Number</b>  	<b>9. Bureau (Institution, Board, or Commission)</b>  
<b>4. Civil Service Position Code Description</b> Geology Specialist 2	<b>10. Division</b> Geological Resources Management Division
<b>5. Working Title (What the agency calls the position)</b> Groundwater Model Specialist	<b>11. Section</b> Groundwater and Geological Services Section
<b>6. Name and Position Code Description of Direct Supervisor</b> PAPPAS, LENA K; STATE ADMINISTRATIVE MANAGER-1	<b>12. Unit</b> Groundwater Data
<b>7. Name and Position Code Description of Second Level Supervisor</b> WYGANT, ADAM W; SENIOR POLICY EXECUTIVE	<b>13. Work Location (City and Address)/Hours of Work</b> 525 West Allegan St., Lansing, MI 48933 / 8:00 a.m. - 5:00 p.m., Monday through Friday

**14. General Summary of Function/Purpose of Position**

This position serves as the Statewide specialist and technical lead for groundwater modeling within the Department of Environment, Great Lakes, and Energy's (EGLE) Geologic Resource Management Division (GRMD), specializing in groundwater modeling, hydrogeologic interpretation methods both deterministic and stochastic, and technical outreach and communication for GRMD and collaboration with Geologists in multiple EGLE divisions. This position is solely responsible for creating, managing, and overseeing the development of the most complex groundwater models. This position uses coding-based productivity tools, analytic solutions, and finite difference-based modeling solutions, ensuring groundwater modeling is done correctly. This position is responsible for reviewing all groundwater models created by Groundwater Data Unit (GDU) staff, ensuring their accuracy and regulatory compliance, and provides technical support to other EGLE groundwater modelers outside GRMD upon request. This position is responsible for developing, supporting, and training technical staff through guidance and professional growth and/or training opportunities. The position must collaborate with external stakeholders to align modeling efforts with industry standards and regulatory requirements. The role includes overseeing complex projects or project teams, providing advisement to management on modeling progress, and ensuring alignment with broader departmental goals. This position facilitates training and communication on multiple technically complex areas of expertise and integrates that knowledge to better support the science needed to make regulatory decisions. This person is responsible for advising unit, section, and division leadership on projects and best practices in each of the specialty areas described.

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: 35**

Solely responsible for standardization, oversight, and coordination of groundwater modeling needs within GRMD. Provide support and coordinate other modeling efforts within EGLE.

**Individual tasks related to the duty:**

- Compile coding-based productivity tools used within GRMD and work with the Department of Technology Management, and Budget (DTMB) to ensure standardization and security protocols are reflected for widely used tools.
- Develop, manage, and implement a standardized groundwater modeling process within GRMD.
- Develop, manage, and implement groundwater modeling training within GRMD.
- Provide guidance to GRMD staff regarding groundwater modeling.
- Oversee all GRMD groundwater modeling efforts, to ensure alignment with broader departmental goals.
- Coordinate and assist other areas in EGLE, as needed, including participating in the EGLE Groundwater Technical Team (GWTT) Modeling Subcommittee to disseminate information on modeling and geostatistics across divisions to support department knowledge and fluency.
- Identify, develop, and administer technical workplans based on departmental or external stakeholder recommendations.
- Review and comment on guidance documents related to groundwater modeling and geostatistics.
- Create new or update existing guidance documents related to groundwater modeling and geostatistics to create a department-wide modeling framework.
- Brief unit, section, division, and department management on groundwater models.
- Other related duties

**Duty 2**

**General Summary:**

**Percentage: 35**

Solely responsible for creating and reviewing the most complex groundwater models. Provide guidance, manage, review, and approve or deny the work of other groundwater modelers within GRMD.

**Individual tasks related to the duty:**

- Design sampling plans to collect additional data in support of modeling efforts and train staff in industry standard field data collection methodology.
- Create two- and three-dimensional groundwater models for projects.
- Review, modify, or comment on groundwater models submitted to GRMD.
- Testify as an expert witness in administrative contested case hearings and court hearings. Train GDU staff to prepare work product for contested case hearings
- Establish protocol for post-audit model evaluation in instances where EGLE has developed its own numerical groundwater model.
- Create training materials and train groundwater modeler Geologists in the Groundwater Data Unit (GDU) to review and create groundwater simulations to support technically sound regulatory decisions.
- Directs the creation of usable communication tools and datasets for non-technical user needs and develops of other technical staff as needed.
- Collaborate with external stakeholders to oversee the development of technology relating to groundwater modeling.
- Other related duties

**Duty 3**

**General Summary:**

**Percentage: 20**

Solely responsible for providing leadership across EGLE regarding groundwater modeling as the industry evolves, including providing technical presentations to external stakeholders or interest groups of projects and overseeing the development of technical support tools for EGLE.

**Individual tasks related to the duty:**

- Evaluate and recommend improvements to existing groundwater modeling tools and techniques to ensure they stay current with advancements in the field while continuing to meet the needs of GRMD.
- Attend technical committees and conferences to inform and support state modeling and geostatistical practices. Provide summary updates and technical information dissemination to GDU, GRMD, and EGLE as appropriate.
- Present or publish studies to unit, section, division, or department as needed, including councils or committees, or external stakeholders as appropriate.
- Advise GGSS management or other division leadership on technical standards regarding modeling, geostatistics, or coding best practices.

**Duty 4**

**General Summary:**

**Percentage: 10**

Other duties as assigned by unit, section, division, or department management.

**Individual tasks related to the duty:**

- 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.**

Coordination between EGLE divisions and technical direction to staff. Development of guidance documents, website design, creation of groundwater models or standardization of productivity tools. These decisions affect GGSS staff, other government agencies, operators, property owners, and interest groups.

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

Supervisory review will be required for any finalized guidance or policy decisions. Technical recommendations made as a result of project or team coordination will require debriefing and approval from the GGSS Manager.

**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.**

Sitting at desk or in meetings – 85%. Driving or riding in a passenger vehicle – 10%. Traversing regulated sites where physical hazards (including steep terrain, tripping or falling hazards, falling objects, and moving machinery) may be present, in all types of weather conditions – 4%. Flying in passenger aircraft – 1%.

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

This position is solely responsible for creating, managing, and overseeing the development of the most complex groundwater models. This position is responsible for reviewing all groundwater models created by Groundwater Data Unit (GDU) staff, ensuring their accuracy and regulatory compliance, and provides technical support to other EGLE ground water modelers outside GRMD upon request. This position is responsible for creating and reviewing groundwater models, training new modeling staff, and coordinating groundwater modeling efforts within EGLE divisions. The position is responsible for managing data in support of productivity tools and models as needed. The position represents and advise GGSS and EGLE on groundwater science and data related matters.

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

New position

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

GGSS provides technical leadership for groundwater matters within GRMD and EGLE. This position specifically supports the ability of the section to meet that expectation through creating clear and consistent communications to external and internal parties. The position provides expertise on industry best practices while providing a framework through which knowledge can be incorporated and institutionalized within GRMD. This position also ensure groundwater models produced by other GRMD modelers are consistent, approvable, and meet GRMD standards and requirements.

**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 geology, or in geological, petroleum, mining engineering, or earth science

The preferred candidate will possess a master's degree in geology, geological science, hydrogeology, geostatistics, geophysics, or geological, petroleum, or mining engineering.

**EXPERIENCE:**

**Geology Specialist 13**

Four years of professional experience equivalent to a Geologist, including two years equivalent to a Geologist P11 or one year equivalent to a Geologist 12.

**KNOWLEDGE, SKILLS, AND ABILITIES:**

Knowledge of hydrogeology, glacial geology, aquifer testing methods,  
Ability to create and use analytical and numerical two- and three-dimensional groundwater models  
Knowledge of coding languages, downhole geophysical logging and other geophysical methods  
Ability to negotiate and resolve conflicts  
Ability to speak publicly and present to an audience.  
Ability to convey technical information both orally and in writing in manners that the intended audience can understand.

**CERTIFICATES, LICENSES, REGISTRATIONS:**

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.***

RYAN STARKWEATHER

6/3/2025

\_\_\_\_\_  
Appointing Authority

\_\_\_\_\_  
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