

Ohio EPA Policy DSW-0400.016 Removed	Design Criteria; Hydrogeologic Evaluations of Surface Impoundments, Dedicated Land Application Sites, On-site Leaching Systems, Disposal Sites of Non-toxic Fly Ash, Bottom Ash, Foundry Sand, and Other Exempted Solid Wastes	
	Statutory reference: Rule reference:	Ohio EPA, Division of Surface Water Revision 0, February 24, 1989 Removed, April 30, 2003
THIS POLICY DOES NOT HAVE THE FORCE OF LAW Pursuant to Section 3745.30 of the Revised Code, this policy was reviewed and removed.		

This policy does not meet the definition of policy contained in Section 3745.30 of the Ohio Revised Code. Ohio EPA is removing this document from the Division of Surface Water Policy Manual and is considering addressing this topic in a future rulemaking.

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Design Criteria, Hydrogeologic Evaluations of Surface Impoundments, Dedicated Land Application Sites, On-site Leaching Systems, Disposal Sites of Non-toxic Fly Ash, Bottom Ash, Foundry Sand, and Other Exempted Solid Wastes

PURPOSE: This guideline outlines procedures for reviewing hydrogeologic evaluations of proposed sites for surface impoundments and dedicated land application systems.

POLICY: Sites shall be evaluated only when a written request is received from the Division of Water Pollution Control. Otherwise, no evaluation will be performed by the district geologist. Evaluation should be done in a four phase process as follows:

Phase I - Preliminary Site Hydrogeologic Evaluation by Ohio EPA.

Phase II - Review of Hydrogeologic Site Investigation Work Plan.

Phase III - Review of Hydrogeologic Site Investigative Report.

Phase IV - Review of Ground Water Monitoring Program Plan.

Phase I - PRELIMINARY SITE HYDROGEOLOGIC SITE EVALUATION

A) Head district geologist or unit supervisor receives a written request (IOC) from the district engineer/scientist for a site evaluation. The request should include an attached map locating the proposed site.

Information provided in the site evaluation report will enable the district geologist to obtain pertinent information about the site prior to the actual site investigation.

The following information should be included in the site evaluation request:

- 1) Address of site or facility and the location outlined on an attached 7-1/2 minute topographical quadrangle map;
- 2) Information pertaining to the characteristics (physical and chemical analysis) of the waste, wastewater or sludge to be applied, treated or disposed of at the site; and
- 3) Information pertaining to the type of construction and/or treatment proposed (diked, trenched, aerated, etc.).

Information provided in the site evaluation request will expedite the permit to install (PTI) or approval process.

B) The district engineer/scientist, with concurrence from the district geologist assigned to the project, should schedule a site investigation to be performed within one to two weeks

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after receiving the site evaluation request.

This is an adequate amount of time to allow the district geologist to assemble, review, and evaluate available information about the site without delaying the PTI or approval process.

The one to two week period will also allow the district engineer/scientist some flexibility in scheduling interested parties (local health department officials, facility representatives, consultants, etc.), and adjust any scheduling conflicts that may arise.

- C) During the period between receiving the request and the actual site investigation, all available agronomic, hydrogeologic and the land use information should be assembled by the district geologist. Also, relevant information may be requested from the district engineer/scientist.

In order to perform the site evaluation, the following sources of information should be investigated:

ODNR, DIVISION OF SOIL AND WATER CONSERVATION - Soil Surveys;

SOIL CONSERVATION SERVICE - Site specific soil information;

ODNR, DIVISION OF WATER - GROUND WATER SECTION - well logs; Ground Water Availability Maps; Ground water reports and bulletins.

ODNR, OHIO GEOLOGICAL SURVEY - Bibliography of Ohio geologic reports and topographic maps;

OEPA, DISTRICT ENGINEER -Other project or site specific information may be available through the district engineer/scientist in charge of the project; OEPA manual for land application of sludge;

The district geologist should assemble and evaluate the available information in order to define the following site specific characteristics;

1. Land use in the vicinity of the site;
2. Site topography and drainage;
3. Chemical and physical properties of the soils;
4. General glacial and bedrock geology;
5. Hydrogeologic conditions; and
6. Ground water use in the vicinity of the site.

- D) District geologist, district engineer/scientist and interested parties contacted by the district engineer/scientist perform the site investigation.

It is preferred that the district engineer/scientist and district geologist, investigate the site together. Any

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interested parties should be notified by the district engineer/scientist in advance of the date of the site investigation and be given the opportunity to participate in the site investigation.

Points to be observed during the site investigation are as follows:

1. Topography of the site and geologic features;
 - a. land use
 - b. information on the soils (chemical and physical properties)
 - c. hydrogeologic conditions
 - d. ground water use
2. Comments on site suitability in reference to potential for ground water contamination from the proposed land application, disposal or treatment site;
3. An evaluation of the necessity for the facility to establish a ground water monitoring or detection program; and
4. Recommendations on site limitations and measures to prevent ground water contamination or on the need for additional information.

It will be necessary for the applicant to conduct a hydrogeologic site investigation and submit a report to the Ohio EPA. Work plans and proposed monitoring programs must be approved by the head district geologist.

All Ohio EPA correspondence with the applicant or interested parties should be addressed by the district engineer/scientist. The Ohio EPA is not responsible for obtaining necessary approvals from the local health department, county commissioners, municipal officials, zoning boards, etc., for the applicant. Acknowledgement from local officials should be received, although their comments alone may not be used in the evaluation. Ohio EPA decisions must be based on state laws and regulations.

NOTE: A Hydrogeologic Inventory Form for the site should be completed and a copy forwarded to Central Office.

NOTE: These procedures should be followed for but not limited to the following types of proposed sites:

1. Wastewater Lagoon Sites;
2. Land Application (Dedicated) Sites;
3. Solid & Hazardous Waste Disposal Sites;
4. Fly Ash & Foundry Sand Disposal Sites; and
5. Commercial On-Lot Wastewater Leaching Systems.

PHASE II - REVIEW OF HYDROGEOLOGIC SITE INVESTIGATION WORK PLAN

The work plan identifies the methodology and procedures the

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applicant will follow in defining geologic/hydrogeologic conditions of the proposed site. The review by district personnel of the Division of Drinking and Ground Water assures that requirements and recommendations (see: Guidance for Hydrogeologic Investigations and Ground Water Monitoring) for performing site investigations will be followed. The work plan should identify how geologic/hydrogeologic conditions will be defined in reference to:

- a. Feasibility of the site for the intended purpose; and
- b. Definition of site characteristics and materials in reference to construction and ground water protection. (Should reflect engineering plan; PTI.)

NOTE: Phase II and III may be performed in two work plans and hydrogeologic reports: 1) establishing site feasibility and 2) site-specific information in reference to construction/engineering plans; PTI.

The work plan is submitted by the entity or applicant to the OEPA division having authority of approval. Review of the work plan is conducted by a district person of the Division of Drinking and Ground Water at the request of the Ohio EPA division. The work plan should address but not be limited to the following items:

1. Number, location and expected depth of borings (in some cases observation trenches and excavations may be recommended);
2. Drilling and material extraction methods;
 - a. Cable tool, hollow stem, etc.
 - b. Split spoon (recommended continuous), Shelby tube, etc.
3. Analytical procedures and methodology to characterize material/strata obtained from borings, and soil material to be utilized in construction; and
 - a. Permeability tests.
 - b. Grain size analysis.
 - c. Other tests for chemical/physical properties.
4. Methodology to define saturated zones and uppermost aquifer.
 - a. Type of pumping tests/slug tests.
 - b. Elevations and flow direction of ground water.
 - c. Ground water seepage observations during drilling.

Procedures to be followed by Ohio EPA in reviewing hydrogeologic investigation work plans are as follows:

- a. Head district geologist or unit supervisor receives a written request (IOC) from the district engineer/scientist to review a hydrogeologic

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investigation work plan;

- b. District geologist assigned to the project reviews the work plan in reference to the DDAGW Guidance for Hydrogeologic Investigation and Ground Water Monitoring; and
- c. District geologist prepares written comments and submits them, through the head district geologist or unit supervisor, in the form of an IOC to the district engineer/scientist. (Review of work plans be completed within one to two weeks.)

NOTE: Copies of comments should be sent to Central Office - Division of Drinking and Ground Water, to the attention of the Section Manager for District Operations.

PHASE III - REVIEW OF HYDROGEOLOGIC SITE INVESTIGATION REPORT

The hydrogeologic report should define geologic/hydrogeologic conditions of the proposed site, along with information on ground water availability and use in the area. The hydrogeologic report should also define site conditions in reference to:

- a. Feasibility of the site for the intended purpose; and
- b. Definition of site characteristics and materials, in reference to construction and ground water protection (should reflect engineering plans, PTI).

NOTE: Phases II and III may be performed in two work plans and hydrogeologic reports: 1) establishing site feasibility and 2) site specific information in reference to construction/engineering plans; PTI.

Review of the hydrogeologic site investigation report is conducted by DDAGW personnel at the request of the OEPA and should contain the following information:

- a. Well logs and descriptions of the material characteristics;
- b. Definition of uppermost aquifer;
- c. Definition of geology/hydrogeology, and major aquifer(s) for water supply in the area of the proposed facility;
- d. Definition of depth to bedrock;
- e. Definition of saturated zones and interconnections with each other and with surface water, springs and seeps ("High Seasonal Water Table", perched zones etc.); and
- f. Data characteristics soil material to be used in construction.

Procedures to be followed by Ohio EPA in reviewing a hydrogeologic report are as follows:

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- a. Head district geologist or unit supervisor receives a written request (IOC) from the district engineer/scientist to review a hydrogeologic site investigation report;
- b. District geologist assigned to project reviews for hydrogeologic report in reference to the DDAGW Guidance for Hydrogeologic Investigation and Ground Water Monitoring, and other geologic/hydrogeologic data of the area;
- c. District geologist prepares written comments. If the comments relate to approval or denial of a PTI, they should be submitted to Central Office for an overview and final comments from the DDAGW. (Review of hydrogeologic reports including the central office overview should be completed in 30 days maximum because of the 60 day time frame for PTI.) (Note: If district reviews of hydrogeologic reports produce comments on feasibility or deficiencies that can be addressed within the 60 day time frame of a PTI, comments should be submitted directly to district engineer/scientist within 1-2 weeks; and
- d. Final comments from central office are submitted to the district engineer/scientist in the form of an I.O.C. with the comments from the district geologist.

NOTE: Copies of comments should be sent to Central Office - Division of Drinking and Ground Water, to the attention of the Section Manager for District Operations.

PHASE IV - REVIEW OF GROUND WATER MONITORING PROGRAM PLAN

Procedures for review of ground water monitoring program plans are currently being developed by DDAGW staff.