STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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MEMORANDUM

TO: Health District Environmental Health Directors
Health District Environmental Health Supervisors
Health District Environmental Health Program Managers
DEQ Wastewater Program Staff – State Office
DEQ Regional Office Administrators
DEQ Regional Office Engineering Managers

FROM: Peter Adams, DEQ On-Site Wastewater Coordinator

THROUGH: Mary Anne Nelson, DEQ Surface & Wastewater Division Administrator

DATE: April 4, 2014, last revised January 12, 2023

SUBJECT: Large Soil Absorption Systems

This memorandum revises and supersedes previous versions of the Large Soil Absorption Systems memorandum. Revisions include the following:

August 31, 2022

- *Updated definition of "project,"*
- *Updated definition of "absorption module."*

January 12, 2023

- *Revised erroneous language in the "Delinquent Annual Reports" section that conflicted with the DEQ-Health District MOU*

This memorandum provides clarification on requirements related to the Large Soil Absorption System (LSAS). Consistent implementation of the subsurface sewage disposal program across the state in relation to LSASs is necessary for a standardized program.

LSAS Definition and Interpretation

IDAPA 58.01.03.003 defines an LSAS as "a system designed to receive 2,500 gallons of wastewater or more per day, including where the total wastewater flow from the entire proposed project exceeds 2,500 gallons per day but the flow is separated into absorption modules which receive less than 2,500 gallons per day." The following points are meant for clarification on this definition:

- Any system *designed* to receive 2,500 gallons of wastewater per day or more is an LSAS regardless of the volume of wastewater discharged to the system on a daily basis. All systems *designed* to receive at least 2,500 gallons of wastewater

per day are subject to all of the LSAS requirements as described in this memorandum regardless of the volume of wastewater discharged to the system on a daily basis.

- A *project* is any development intended for a single use, typically under common ownership. A *project* can span over more than one individual parcel as long as the use across these parcels is the same (e.g., camps, schools, business, RV parks, etc.). If a development spans multiple parcels, determination of what constitutes common project ownership shall be at the discretion of DEQ and be based on several factors, including but not limited to: the proximity of the parcels, the interconnectivity of the use of the parcels, and the relationship of the individual parcel owners. Subdivisions where individual lots are under separate ownership upon completion are not considered a *project* under the LSAS definition, unless the wastewater flows generated by the individual lots connect to a central system.
- *Absorption modules* as used in the LSAS definition refers to multiple independent subsurface sewage disposal systems installed for a single project. If more than one subsurface sewage disposal system is installed for a single project, then the design flows for each system are summed to determine the project's total design flow. If the total design flow of all the systems associated with a project are 2,500 gallons per day or greater, then the entire project is considered an LSAS and each system would be designed, installed, and operated as described in IDAPA 58.01.03.013.
- Per IDAPA 58.01.03.003.08 all LSASs are also considered central systems when they begin to receive wastewater at a rate of more than 2,500 gallons per day or if the system receives wastewater from more than two structures under separate ownership.

Other Applicable Definitions

LSASs may contain wastewater collection and treatment systems that fall under the regulation of DEQ's Wastewater Rules (IDAPA 58.01.16). For that reason it is important that the following definitions are understood by all parties involved in LSAS plan and specification review and permitting:

- Per IDAPA 58.01.16.010.12 a *Collection System* is that portion of the wastewater system or treatment facility in which wastewater is received from the premises of the discharger and conveyed to the point of treatment through a series of lines, pipes, manholes, pumps/lift stations and other appurtenances.
- Per IDAPA 58.01.16.010.25 a *Facility Plan* is a plan for a municipal wastewater treatment and disposal facility that describes the overall system, including the collection system, the treatment systems, and the disposal systems. It is a comprehensive planning document for the existing infrastructure and includes the plan for the future of the systems, including upgrades and additions. It is usually updated on a regular basis due to anticipated or unanticipated growth patterns,

regulatory requirements, or other infrastructure needs. A Facility Plan is sometimes referred to as a master plan or facilities planning study. In general, a Facility Plan is an overall system-wide plan as opposed to a project specific plan.

- Per IDAPA 58.01.16.010.45 *Non-Potable Mains* are the pipelines that collect and convey non-potable discharges from or to multiple service connections.
- Per IDAPA 58.01.16.010.47 *Operating Personnel* are persons who are employed, retained, or appointed to conduct the tasks associated with the day-to-day operation and maintenance of a public wastewater system. Operating personnel shall include every person making system control or system integrity decisions about water quantity or water quality that may affect public health.
- Per IDAPA 58.01.16.010.48 an *Owner* is the person, company, corporation, district, association or other organizational entity that owns the public wastewater system, and who provides, or intends to provide, wastewater service to system users and is ultimately responsible for the public wastewater system operation.
- Per IDAPA 58.01.16.010.57 a *Preliminary Engineering Report* for the municipal wastewater treatment or disposal facility is the report that addresses specific portions of the systems as they are being contemplated for design. These reports address specific purpose and scope, design requirements, alternative solutions, costs, operation and maintenance requirements, and other requirements as described in Section 411. Preliminary engineering reports are generally project specific as opposed to an overall system-wide plan, such as a facility plan.
- Per IDAPA 58.01.16.010.58 *Primary Treatment* includes any processes or methods that serve as the first stage treatment of wastewater, intended for removal of suspended and settleable solids by gravity sedimentation; provides no changes in dissolved and colloidal matter in the sewage or wastes flow.
- Per IDAPA 58.01.16.010.59 a *Private Municipal Wastewater Treatment Plant* is a wastewater treatment facility that treats municipal wastewater and is under private ownership. These systems are typically initially owned, operated, and maintained by a developer with the ownership, operation and maintenance transferring to a homeowners association, or similar entity as lots are sold within the development.
- Per IDAPA 58.01.16.010.60 a *Public Wastewater System* or *Wastewater System* is any publicly or privately owned collection system or treatment system that generates, collects, treats, or disposes of 2,500 or more gallons of wastewater per day.
- Per IDAPA 58.01.16.010.70 a *Responsible Charge Operator* is an operator licensed at a class equal to or greater than the classification of the system and who has been designated by the system owner to have direct supervision of and responsibility for the performance of operations of a specified wastewater treatment system or wastewater collection system and the direction of personnel

employed or retained at the same system. The responsible charge operator has an active daily on-site or on-call presence at the specified facility.

- Per IDAPA 58.01.16.010.74 *Secondary Treatment* includes processes or methods for the supplemental treatment of wastewater, usually following primary treatment, to affect additional improvement in the quality of the treated wastes by biological means of various types which are designed to remove or modify organic matter.
- Per IDAPA 58.01.16.010.88.d a *Very Small Wastewater System* is a public wastewater system that serves 500 connections or less and includes a collection system within a system size of six points or less on the system classification rating form and is limited to wastewater treatment processes that include primary treatment discharging to a LSAS.

Notifying the Idaho Department of Environmental Quality

Upon receipt of a LSAS subsurface sewage disposal system application the health district shall notify their Idaho Department of Environmental Quality (DEQ) Regional Office. The DEQ Regional Office should be informed of any preliminary project meetings and be afforded the opportunity to attend. The health districts shall provide the DEQ Regional Office with a copy of the LSAS application and site evaluation information upon completion.

DEQ staff will provide the applicant and health district information as to whether the project is reasonably accessible to an existing wastewater treatment facility per IDAPA 58.01.16.010.68 and determine if a facility plan (IDAPA 58.01.16.410), a preliminary engineering report (IDAPA 58.01.16.411), and a technical, financial, and managerial report (IDAPA 58.01.16.409) are necessary. DEQ staff will also provide information regarding nutrient-pathogen (NP) evaluation requirements. DEQ staff is also encouraged to discuss the option for the applicant to obtain a permit for their project under DEQ's Recycled Water Rules (IDAPA 58.01.17) in lieu of obtaining a permit for an LSAS under IDAPA 58.01.03.

Nutrient-Pathogen Evaluation

All proposed LSAS subsurface sewage disposal systems shall perform an NP evaluation. The NP evaluation will be reviewed by DEQ. Prior to the health district issuing a subsurface sewage disposal permit for an LSAS, DEQ will provide written direction to the health district regarding permitting limits associated with the minimum wastewater effluent quality and restrictions on drainfield and/or well locations. DEQ may also reject a project proposal based on the LSAS configuration and the outcome of the NP evaluation. Rejection will also be provided to the health district in writing.

Plan Review

Review of all engineered plans for LSASs should be a joint effort between the health districts and DEQ. Under the Memorandum of Understanding between DEQ and the Public Health Districts, DEQ shall review all plans and specifications related to the

design of the LSAS for conformance with IDAPA 58.01.03 and any applicable alternative system design of the TGM. Review of the LSAS plans and specifications by DEQ shall include a review of the monitoring and reporting plan (IDAPA 58.01.03.013.06) and operation and maintenance plan (IDAPA 58.01.03.013.07) for the system. DEQ shall also review all plans and specifications related to the design of the collection system and wastewater treatment facilities for conformance with 58.01.16. DEQ will provide any comments in writing on plan and specification reviews related to LSASs within 42 days from the date of submission to DEQ as allowed by Idaho Code §39-118.

Since the health districts are the entity that issues the subsurface sewage disposal permit for LSASs and perform the subsequent inspections of the LSAS installation it is important that the permitting health district is familiar with the LSAS design and specifications. Upon an applicant's submission of LSAS plan and specifications to a health district the district should review the plan and specifications for conformance with IDAPA 58.01.03 and any applicable alternative system design of the TGM. Any comments or issues that are noted through the health district's review of the plan and specifications should be provided to the applicant and DEQ staff reviewing the LSAS plan and specifications. A subsurface sewage disposal permit shall not be issued by the health district until DEQ has provided the applicant and health district approval of the plan and specifications in writing. Any approval issued by DEQ shall also take into account comments received from the reviewing health district.

LSAS Permit Issuance

Per the DEQ-Public Health Districts Memorandum of Understanding a health district will not issue a subsurface sewage disposal system permit for the LSAS unless the district has received approval notification for the LSAS plan and specifications in writing from DEQ. Approval notification from DEQ will include:

- Restrictions on LSAS placement and effluent treatment requirements based upon the outcome of the NP evaluation.
- A statement that the LSAS plan and specifications are in compliance with IDAPA 58.01.03 and any applicable alternative system design of the TGM.
- A statement that the design of the collection system and wastewater treatment facilities are in compliance with IDAPA 58.01.16.
- Whether there is a requirement for a licensed operator for the LSAS based upon its design and the required minimum operator license level.

Upon receipt of written approval for the LSAS plans and specifications from DEQ the health district may issue the subsurface sewage disposal permit for the system. All permits issued by the health districts for LSASs must include specific language that indicates the requirements for operation, maintenance, monitoring, and reporting in compliance with IDAPA 58.01.03.013. Additionally, any effluent treatment requirements identified in the DEQ issued approval letter must be included in the permit language.

Maintenance Entity and Responsible Charge Operator Requirements

IDAPA 58.01.03.013.07.c requires that a maintenance entity be specified in the operation and maintenance plan and that approval of this entity shall be made by DEQ prior to permit issuance. There is a difference between an operation and maintenance entity and a responsible charge operator. An operation and maintenance entity is an entity that is in place to ensure the continued operation, maintenance, monitoring, and reporting requirements of IDAPA 58.01.03.013.06-.07 are met. A responsible charge operator of an LSAS is any person who is employed, retained, or appointed to conduct the tasks associated with the day-to-day operation and maintenance of a public wastewater system (IDAPA 58.01.16.010.47). If a responsible charge operator is required for any portion of an LSAS that individual shall meet the licensing requirements of IDAPA 24.05.01, "Rules of the Board of Drinking Water and Wastewater Professionals." Responsible charge operator requirements for any new LSAS will be defined by DEQ in their letter to the applicant and health district providing approval of the plans and specifications for the system.

LSASs are classified as very small wastewater systems per IDAPA 24.05.01.010.19.d only when the effluent treatment of the system is limited to primary treatment as defined in IDAPA 58.01.16.010.58. Based on this designation a responsible charge operator is required to be identified in the operation and maintenance plan for the LSAS. The responsible charge operator must hold a very small wastewater system license per IDAPA 58.01.16.203, or any combination of higher wastewater operator licenses. When effluent discharged to an LSAS is required to undergo secondary treatment then the operator license level requirement will be dependent upon the complexity of the wastewater treatment facility, but will require a higher level license than a very small wastewater system license. DEQ will identify the level of operator permit that is required in the initial approval letter for the LSAS plan and specifications. If a responsible charge operator is required for an LSAS they should be identified in each annual report and verified through the Idaho Bureau of Occupational Licenses website to hold a very small wastewater system operator license or the appropriate combination of higher wastewater operator licenses.

All new LSASs must meet the operation and maintenance entity requirements of IDAPA 58.01.03.013.07.c by fulfilling the licensed operator requirements of IDAPA 58.01.16.203. Additionally, if the wastewater treatment facility employs any wastewater treatment process more advanced than a septic tank, then Operation and Maintenance Manuals are required to be submitted to DEQ for approval prior to start-up of the system (IDAPA 58.01.16.425.02). The manuals shall at least meet the minimum requirements as specified in IDAPA 58.01.16.425.01.

Existing LSASs must meet the operation and maintenance entity and/or licensed operator requirements based on the last permit issuance date (i.e., new, expansion, tank only, repair, or replacement permits) for the LSAS as described below:

- All LSASs with a last permit issuance date prior to May 7, 1993 are exempt from the operation and maintenance entity and licensed operator requirements as this

was not a requirement of IDAPA 58.01.03 or 58.01.16 at the time of their subsurface sewage disposal permit issuance.

- All LSASs with a last permit issuance date between May 7, 1993 and April 11, 2006 are required to have an identified operation and maintenance entity as this was a requirement of IDAPA 58.01.03 at the time of their subsurface sewage disposal permit issuance, but not a licensed operator as this was not a requirement of IDAPA 58.01.16 at the time of their subsurface sewage disposal permit issuance.
- All LSASs with a last permit issuance date after April 11, 2006 are required to have a licensed operator that fulfills the operation and maintenance requirements related to the treatment system and LSAS.

Annual Reporting Requirements

IDAPA 58.01.03.013.06.f requires that an annual LSAS Report be filed no later than January 31 of each year and that the report covers the last 12 month period and includes information on all of the operation, maintenance, and monitoring data required by IDAPA 58.01.03.013.06-.07. Annual reporting of LSASs is administered by the health districts as part of the subsurface sewage disposal program delegation. New LSASs must submit annual reports to the health district of jurisdiction upon commencement of operation of the system regardless of the daily volume of wastewater discharged to the LSAS. Existing LSASs must submit annual reports to the health district of jurisdiction regardless of the daily volume of wastewater discharged to the system based on the last permit issuance date (i.e., new, expansion, tank only, repair, or replacement permits) for the LSAS as described below:

- LSASs with a last permit issuance date prior to May 7, 1993 are not required to submit an annual report as this was not a requirement of IDAPA 58.01.03 at the time of their permit issuance.
- LSASs with a last permit issuance date after May 7, 1993 are required to submit an annual report as this was a requirement of IDAPA 58.01.03 at the time of their permit issuance.

Delinquent Annual Reports

If the owner of an LSAS fails to submit an annual report by the January 31 deadline the health district should provide the owner notice in writing, and delivered via certified mail with return receipt, that their annual report has not been submitted by the yearly deadline as required by IDAPA 58.01.03.013.06.f. A voluntary deadline for compliance should be provided to the LSAS owner of 30 days from the receipt of the notification. If the secondary deadline for LSAS annual report submission is not met and the owner of the LSAS is not actively working with the health district to comply with their annual reporting requirements the health district of jurisdiction must choose to either:

- Pursue enforcement through the procedures outlined in the Subsurface Sewage Disposal Standard Operating Procedures manual, or

- Refer enforcement actions to the DEQ State Office through the On-Site Wastewater Coordinator as allowed through the DEQ-Public Health Districts Memorandum of Understanding.
    - If enforcement is referred to DEQ by a health district, then the district may not issue a notice of violation, consent order, or compliance agreement after the referral, otherwise the enforcement action must remain with the health district.
    - DEQ will not initiate enforcement for an LSAS until an enforcement referral package is received from the referring health district.
    - If referral is necessary, then the health district should coordinate with DEQ's On-Site Wastewater Coordinator to obtain the most recent enforcement referral form prior to compiling and submitting the enforcement referral package.

Database of Active LSASs within Each Health District

To successfully track and monitor annual LSAS reporting requirements it is necessary for each health district to maintain a database of all the LSASs that are permitted and active within their respective district. It is also necessary for DEQ to collect this information from the health districts so that there is an adequate statewide database of LSAS locations to aid in subsurface sewage disposal program management. These databases should be updated annually and provided to DEQ's On-Site Wastewater Coordinator. LSAS databases for each health district should contain the following minimum information:

- LSAS subsurface sewage disposal permit number and facility/system name.
- The last date that any type of subsurface sewage disposal permit was issued for the LSAS.
- The installation address of the LSAS.
- The ownership information of the LSAS including mailing address.
- Whether annual operation, maintenance, monitoring, and annual reporting are required based on the information included in this memorandum.
- The design wastewater flow that the system was permitted to handle.
- If a NP evaluation was performed for the LSAS.
- The effluent limits in place due to the NP evaluation results (if any).
- The operation and maintenance entity assigned to the LSAS (if required).
- The name of the licensed operator and their business name for the LSAS and the operator's associated license number (if required).