



## MEMORANDUM

April 7, 2016

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**TO:** Health District Environmental Health Directors  
Health District Land Based Program Supervisors  
DEQ Regional Office Administrators  
DEQ Regional Office Engineering Managers  
DEQ Wastewater Program Staff – State Office  
DEQ Technical Services – State Office

**FROM:** Tyler R. Fortunati, R.E.H.S., On-Site Wastewater Coordinator

**SUBJECT:** Subsurface Sewage Disposal Permit Application Supplement for Nondomestic Wastewater – Use, Review, and Approval

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This memorandum provides clarification on when a subsurface sewage disposal permit applicant is required to submit an application supplement for nondomestic wastewater (ASNDWW) as part of their subsurface sewage disposal permit application. In addition this memorandum outlines the review process of the ASNDWW upon its submittal as part of a subsurface sewage disposal permit application.

### Nondomestic Wastewater

Wastewater is defined by IDAPA 58.01.03.003.36 as *any combination of liquid or water and pollutants from activities and processes occurring in dwellings, commercial buildings, industrial plants, institutions and other establishments, together with any groundwater, surface water, and storm water that may be present. Wastewater is also any liquid or water that is chemically, biologically, physically or rationally identifiable as containing blackwater, grey water or commercial or industrial pollutants and sewage (IDAPA 58.01.03.003.36).* From this definition it is clear that wastewater contains several components. There are several definitions that help define the components of wastewater and thus nondomestic wastewater:

- Per IDAPA 58.01.03.003.14 *ground water* is any water of the state which occurs beneath the surface of the earth in a saturated geological formation of rock or soil.
- Per IDAPA 58.01.03.003.34 *surface water* is any waters of the State which flow or are contained in natural or man-made depressions in the earth's surface including, but not limited to, lakes, streams, canals, and ditches. Surface water may be:
  - Intermittent if it exists continuously for a period of more than two months but not more than six months a year.
  - Permanent if it exists continuously for a period of more than six months a year.
  - Temporary if it exists continuously for a period of less than two months a year.

- Per IDAPA 58.01.06.005.46 *storm water* is an accumulation of water from natural precipitation, including snow melt.
- Per IDAPA 58.01.16.010.77 *sewage* is water-carried human or animal waste from residences, buildings, industrial establishments or other places, together with such ground water infiltration and surface water that may be present.
- Per IDAPA 58.01.03.003.05 *blackwater* is wastewater whose principal pollutant is blackwaste that is combined with water.
- Per IDAPA 58.01.03.003.04 *blackwaste* is human body waste (i.e., excreta or urine) and also includes toilet paper and other products used in the practice of personal hygiene.
- Per IDAPA 58.01.16.010.28 *gray water* is domestic wastewater that does not contain wastewater from toilets, kitchen sinks, dishwashers, cloth washing machines, and water softeners.
- Per IDAPA 58.01.16.010.30 *industrial wastewater* is any waste mixed with water that is the by-product of industrial processes including, but not limited to, food processing or food washing wastewater.
- Per IDAPA 58.01.16.010.39 *municipal wastewater* is treated or untreated sewage and associated solids, together with such water that is present. Municipal wastewater is also called *domestic wastewater*. Industrial wastewater may be present but is not considered part of the definition.

From these various definitions *domestic wastewater* is treated or untreated human sewage consisting of blackwaste, blackwater, gray water, together with such ground water and surface water infiltration that may be present. Domestic wastewater typically originates from toilets, urinals, hand washing sinks, residential or breakroom kitchen sinks, showers, bathtubs, residential clothes washers, and residential dish washers. *Nondomestic wastewater* is any waste mixed with water that is the by-product of commercial or industrial processes. Nondomestic wastewater may be generated inside or outside of structures. Nondomestic wastewater generated outside of structures, including vehicle wash water, is not subject to the subsurface sewage rules but may be subject to DEQ's Recycled Water Rules (IDAPA 58.01.17). Indoor vehicle washing facilities that include under-carriage washing and engine steaming are not eligible for wastewater disposal through a subsurface sewage disposal system as this wash water is considered motor vehicle waste. Domestic wastewater that is mixed with any volume of nondomestic wastewater is considered nondomestic wastewater for subsurface sewage disposal permitting purposes.

### **Application Supplement for Nondomestic Wastewater**

The standard and alternative systems authorized by the individual/subsurface sewage disposal rules (IDAPA 58.01.03) are designed to receive and treat wastewater that is of typical domestic strength. Typical domestic strength wastewater characteristics are provided in the Technical Guidance Manual (TGM) in the Components of Standard Systems section. Wastewater that is of higher strength or contains high volumes or concentrations of constituents that are not found in residential strength wastewater has the potential to contribute to water pollution. To ensure that water pollution is prevented to the maximum extent possible DEQ requires that all nondomestic wastewater either be consistent with, or treated to, domestic strengths prior to discharge to a subsurface sewage disposal system.

The ASNDWW aids in assessment and the identification of potential wastewater treatment needs. Therefore, any applicant submitting a subsurface sewage disposal system permit application that proposes to discharge any volume of nondomestic wastewater to the system must submit DEQ's ASNDWW as part of their permit application to support the establishment of the nature and quantity of the wastewater the proposed system will receive (IDAPA 58.01.03.005.04.j). A complete ASNDWW contains:

- Information on the property's proximity to city sewer or a municipal wastewater collection system (Part A);
- A letter of intended use for the facility that meets the requirements described within the TGM section on wastewater flows (Part A);
- Information on the volume of wastewater proposed to be discharged from the facility including supporting data or information (e.g., empirical wastewater data, rule citation, or literature based values from current sources similar to the document titled Management of Small Waste Flows (EPA-600/2-78-173, 1978)) (Part B);
- A wastewater sampling plan that describes the sample location, collection method, transportation, analysis methods, and laboratory if an existing nondomestic wastewater source is available and agrees to monitoring (such as a source within a municipal wastewater system)(Part B); or
- A literature based proposal determining the concentration of wastewater characteristics of concern for the proposed nondomestic sources may be accepted in lieu of a sampling and analysis plan if sampling is not able to be performed (i.e., similar facilities are not available or permission to sample cannot be obtained) (Part B).
- The concentration of wastewater constituents of concern supported by laboratory analysis and a chain of custody if sampling is able to be performed (Part C); or
- The concentration of wastewater constituents of concern supported by cited literature based sources if sampling is not able to be performed (Part C).

### **Application Supplement for Nondomestic Wastewater Review Process**

Upon determining that a subsurface sewage disposal permit applicant is proposing to discharge nondomestic wastewater to the system the health district receiving the application shall also require that the applicant complete the ASNDWW in the order described below. All parts of an ASNDWW shall be submitted to the permitting health district by the applicant or their consultant. The applicant may complete the ASNDWW but is strongly recommended to obtain the services of a Professional Engineer licensed in Idaho with experience in wastewater analysis and treatment system design.

1. Upon receiving a subsurface sewage disposal application proposed to receive nondomestic wastewater the health district shall require the applicant to complete Part A of the ASNDWW.
  - a. The health district shall forward the complete permit application, site evaluation, and Part A of the ASNDWW to the appropriate DEQ regional office.

- b. Prior to completing Part B of the ASNDWW the applicant or their consultant should meet with the health district and DEQ to discuss the proposed project including the wastewater flow determination and whether the proposed wastewater sampling and analysis or literature based evaluation is acceptable. Determination of acceptability shall include, but is not limited to, that the sample location and collection are acceptable, will analyze the entire wastewater stream, and will be analyzed correctly according to the *Standard Methods for the Examination of Water and Wastewater* (Rice et al. 2012). If sampling is not feasible acceptable literature based sources for nondomestic wastewater characterization must be approved by DEQ.
    - c. Minimum wastewater sampling and analysis or literature based evaluation shall meet the characteristics outlined on page 2 of the ASNDWW. Additional analysis requirements may be determined by DEQ on a case-by-case basis, based on existing site conditions, known background contamination, or the described commercial/industrial process wastewater that is proposed to be generated.
  2. After DEQ and the health district agree with the applicant's preliminary plan for completing Part B of the ASNDWW the applicant shall collect the wastewater flow data and develop the wastewater sampling plan or literature based constituent evaluation (if necessary). Upon completing Part B of the ASNDWW the applicant shall submit a copy to the health district and DEQ regional office. The health district and DEQ will review part B of the ASNDWW.
  3. Upon completing the wastewater analysis or literature based evaluation the applicant shall submit Part C of the ASNDWW to the health district and DEQ regional office. Part C shall consist of a chain of custody form and laboratory result for each wastewater constituent that was required to be sampled and analyzed as part of the ASNDWW. If sampling was not required Part C shall consist of the appropriate literature supported wastewater constituent concentrations along with their associated source citations.
  4. After reviewing Part C of the ASNDWW the DEQ regional office will relay the wastewater constituents that require pretreatment (if any) for the facility to meet domestic strength wastewater requirements. If supplemental wastewater treatment is necessary prior to discharge to the drainfield the pretreatment system design is the responsibility of the applicant's professional engineer licensed in the state of Idaho. Pretreatment may include:
    - a. The installation of an oil/grease separator or sand trap (professional engineer not required), and/or
    - b. The design and installation of secondary wastewater treatment equipment or technology (engineer required)

*Note: Wastewater pretreatment systems shall either be one of the approved alternative treatment technologies from the TGM or be designed under DEQ's Wastewater Rules (IDAPA 58.01.16) and reviewed by DEQ. A limited number of complex alternative systems listed in the Technical Guidance Manual for Individual/Subsurface Sewage Disposal are approved for use as pretreatment systems for nondomestic strength wastewater and may have a limited scope of constituents that may be treated.*

### **Nondomestic Wastewater Pretreatment System Design Approval**

All sand traps and oil/grease separators shall be sized and installed according to Idaho State Plumbing Code and must be permitted and inspected by the Idaho Division of Building Safety's Plumbing Program. Permit inspections by the health district shall not be approved (finalized) until a sand trap or oil/grease separator is installed if included in the approved plans as part of the wastewater pretreatment components. All other wastewater pretreatment systems shall be reviewed, approved, and permitted following the April 1, 2015 DEQ Memorandum "Engineering Design Review for Subsurface Sewage Disposal Systems."

### **Subsurface Sewage Disposal Permit Requirements for Nondomestic Wastewater Pretreatment**

Subsurface sewage disposal permits issued for nondomestic wastewater generators shall require that operation, maintenance, and monitoring be performed if wastewater pretreatment beyond a sand trap or oil/grease separator is necessary (IDAPA 58.01.03.005.14). If operation, maintenance, and monitoring must be performed the system design engineer shall develop a sampling plan as part of the system's operation and maintenance manual. The specific constituents that must be treated shall be sampled semi-annually to ensure the required wastewater quality is being met. Adequate sampling access shall be built into the wastewater pretreatment system design. The subsurface sewage disposal permit shall contain the following statement: *Annual operation, maintenance, and monitoring is required to be performed by a permitted service provider. Effluent shall be sampled semi-annually and meet the following constituent limits [insert applicable limits and frequency of monitoring here]. An operation, maintenance, and monitoring report shall be submitted to [insert health district] on an annual basis.*

### **Nondomestic Wastewater Treatment System Operation, Maintenance, Monitoring, and Reporting**

An annual operation, maintenance, and monitoring report shall be submitted to the permitting health district if wastewater pretreatment beyond a sand trap or oil/grease separator is necessary. If the annual report is not submitted or the semi-annual effluent analysis does not meet the permitted constituent limits the health district shall refer the sample results to the DEQ State Office Wastewater Program and provide copies of the analytical results documenting the effluent exceedances along with a copy of the associated subsurface sewage disposal permit. DEQ State Office Wastewater program staff and Regional Office staff will determine how to handle exceedances on a case-by-case basis. Effluent exceedances may result in technical assistance to alter commercial or industrial processes generating wastewater or in additional wastewater treatment system upgrades.