1410 N Hilton Street
Boise, ID 83706 • (208) 373-0502

Brad Little, Governor
Jess Byrne, Director

Application Supplement for Nondomestic Wastewater (ASNDWW)

Before completing this supplement or performing wastewater sampling or analysis, obtain approval of the proposed wastewater flows and sampling plan from the local public health district (PHD) and the Idaho Department of Environmental Quality (DEQ). If sampling is not feasible, obtain approval of the proposed literature-based evaluation before completing the wastewater characterization.

When This Supplement Is Required

This supplement is required when an applicant proposes to discharge any volume of nondomestic wastewater to a subsurface sewage disposal system. For this supplement, nondomestic wastewater includes wastewater generated by commercial, industrial, institutional, or other processes that is not typical domestic wastewater. Domestic wastewater mixed with any volume of nondomestic wastewater is considered nondomestic wastewater for subsurface sewage disposal permitting purposes.

"Wastewater" is defined in IDAPA 58.01.16, "Wastewater Rules" and incorporated into IDAPA 58.01.03, "Individual/Subsurface Sewage Disposal Rules and Rules for Cleaning of Septic Tanks" by reference at IDAPA 58.01.03.003.41 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 ground water, surface water, and storm water that may be present; liquid or water that is chemically, biologically, physically or rationally identifiable as containing blackwater, gray water or commercial or industrial pollutants; and sewage."*

Note: Applicants are strongly encouraged to work with a Professional Engineer (PE) licensed in Idaho who has experience with wastewater analysis and treatment system design. After reviewing the completed ASNDWW, DEQ will coordinate with the PHD and identify any wastewater constituents that require pretreatment before discharge to the subsurface sewage disposal system.

In addition to the subsurface sewage disposal permit application requirements in IDAPA 58.01.03.005.04, the following information is needed to evaluate the proposed system under IDAPA 58.01.03.005.04.j and IDAPA 58.01.03.005.04.o.

Part A – Facility and Use Information

☐ Proximity to City Sewer or Municipal Wastewater Collection System

Attach documentation from the closest wastewater collection provider.

☐ Letter of Intended Use

Attach a Letter of Intended Use consistent with the Technical Guidance Manual (TGM) Section 3.3.1. At a minimum, the letter must describe the facility use, commercial or industrial processes, type of business, maximum number of employees and customers, anticipated future expansion if applicable, and estimated daily wastewater flow from domestic, commercial, and industrial uses. Flow projections must be supported by IDAPA 58.01.03.007.09 or empirical wastewater flow data consistent with TGM Section 3.3.2. Nondomestic wastewater characteristics must be supported with adequate documentation.

Part B – Wastewater Flow and Characterization Plan

☐ Wastewater Flow Determination

Provide the peak average volume of wastewater proposed for discharge to the system. The flow determination must be supported by one or more of the following, as applicable:

- Empirical wastewater flow data;
- Wastewater flow calculations based on IDAPA 58.01.03.007.09; or
- Literature-based wastewater flow values and source citations for flows not specified in rule.

☐ Wastewater Sampling Plan or Literature-Based Characterization Proposal

Provide one of the following:

- A wastewater sampling plan identifying the sample location, sample collection method, sample transportation, wastewater analysis methods, and analyzing laboratory; or
- A literature-based proposal for determining the concentration of wastewater characteristics of concern when sampling is not feasible.

Part C – Wastewater Constituent Characteristics

☐ Wastewater Constituent Characteristics

Provide one of the following:

- Chain of custody and laboratory analysis results for each required wastewater constituent; or
- Literature-supported wastewater constituent concentrations with source citations if sampling was not performed.

Important: Applications that are incomplete, inaccurate, or misleading, or where public or central wastewater treatment facilities are reasonably accessible to the proposed property, may be denied under IDAPA 58.01.03.005.05.

Typical Domestic Wastewater and Standard Constituents

The following table provides typical domestic wastewater concentrations for comparison during review of proposed nondomestic wastewater. Pretreatment may be required when wastewater characteristics exceed typical domestic strength or include constituents of concern.

Constituent mass loadings and concentrations in typical domestic wastewater[a]

Constituent	Parameter	
	Mass Loading (grams/person/day)	Concentration (mg/L)[b]
Total solids (TS)	115–200	500–880
Volatile solids	65–85	280–375
Total suspended solids (TSS)	35–75	155–330
Volatile suspended solids	25–60	110–265
Five-day biological oxygen demand (BOD_5)	35–65	155–286
Chemical oxygen demand (COD)	115–150	500–660
Total nitrogen (TN)	6–17	26–75
Ammonia (NH_4^+)	1–3	4–13
Nitrite (NO_2-N) and nitrate (NO_3)	<1	<1
Total phosphorus (TP)	1–2	6–12
Fats, oil, and grease (FOG)	12–18	70–105
Volatile organic compounds (VOC)	0.02–0.07	0.1–0.3
Surfactants	2–4	9–18
Total coliforms (TC)[c]	—	10^8–10^{10}
Fecal coliforms (FC)[c]	—	10^6–10^8

Source: United States Environmental Protection Agency, *Onsite Wastewater Treatment Systems Manual*, 2002, (EPA/625R-00-008), Table 3-7, page 3-11.

a. For typical residential dwellings equipped with standard water-using fixtures and appliances.
b. Milligrams per liter (mg/L); assumed water use of 60 gallons/person/day (227 liters/person/day).
c. Concentrations presented in Most Probable Number (MPN) of organisms per 100 milliliters.

Unless otherwise approved by the PHD and DEQ, wastewater characterization must address the following standard constituents:

- BOD_5
- COD
- pH
- TSS
- FOG
- TN
- TP
- TC
- FC
- NO_2-N
- NO_3

Additional wastewater constituent analysis may be required by the regulatory authority based on existing site conditions, background contamination, or the described commercial or industrial process wastewater proposed to be generated.

Nondomestic Wastewater Application Process

1. Submit subsurface sewage disposal permit application to the PHD.
   - Perform site and soil evaluation with the PHD.
2. Obtain documentation of the property's proximity to city sewer or municipal wastewater collection system from the closest provider. (Part A)
3. Develop a Letter of Intended Use consistent with TGM Section 3.3.1. (Part A)
4. Submit Part A documents to the PHD and DEQ. After Part A review, discuss Part B with the PHD and DEQ.
5. Develop the wastewater flow determination supported by empirical wastewater flow data, rule-based wastewater flow calculations, or literature-based flow values from current sources. (Part B)
6. Develop a wastewater sampling plan or literature-based characterization proposal to determine wastewater characteristics of concern. (Part B)
7. Submit Part B documents to the PHD and DEQ. After Part B review and approval, perform wastewater sampling and analysis or complete the literature-based wastewater characterization.
8. Submit Part C documentation to the PHD and DEQ.
9. DEQ will coordinate with the PHD to identify pretreatment requirements, if any, after reviewing Parts A, B, and C.
   - Proceed with subsurface system design, including pretreatment if necessary.