

**7081.0130 FLOW AND WASTE CONCENTRATION DETERMINATION FOR OTHER ESTABLISHMENTS.**

Subpart 1. **Method.** Design flows for other establishments are determined by methods in items A to C. Measured flow values must be used for design flows when they are higher than the estimated flow values from table I.

A. The design flow of sewage for SSTS serving other establishments is estimated using table I.

TABLE I

ESTIMATED DESIGN SEWAGE FLOW FROM OTHER ESTABLISHMENTS

(1) Dwelling units (also see outdoor recreation)	Unit	Design flow (gal/ day/unit)
(a) Hotel or luxury hotel	guest	55
	square foot	0.28
(b) Motel	guest	38
	square foot	0.33
(c) Rooming house	resident	45
	add for each nonresident meal	3.3
(d) Daycare (no meals)	child	19
(e) Daycare (with meals)	child	23
(f) Dormitory	person	43
(g) Labor camp	person	18
(h) Labor camp, semipermanent	employee	50
(2) Commercial/Industrial		
(a) Retail store	square foot	0.13
	customer	3.8
	toilet	590
(b) Shopping center	employee	11.5
	square foot	0.15
	parking space	2.5

(c) Office	employee/8-hour shift	18
	square foot	0.18
(d) Medical office*	square foot	1.1
	practitioner	275
	patient	8
(e) Industrial building*	employee/8-hour shift	17.5
	employee/8-hour shift with showers	25
(f) Laundromat	machine	635
	load	52.5
	square foot	2.6
(g) Barber shop*	chair	68
(h) Beauty salon*	station	285
(i) Flea market	nonfood vendor/space	15
	limited food vendor/space	25
	with food vendor/space	50
(3) Eating and drinking establishments		
(a) Restaurant (does not include bar or lounge)	meal without alcoholic drinks	3.5
	meal with alcoholic drinks	8
	seat (open 16 hours or less)	30
	seat (open more than 16 hours)	50
	seat (open 16 hours or less, single service articles)	20
	seat (open more than 16 hours, single service articles)	35
(b) Restaurant (short order)	customer	7
(c) Restaurant (drive-in)	car space	30
(d) Restaurant (carry out, including caterers)	square foot	0.5

(e) Institutional meals	meal	5.0
(f) Food outlet	square foot	0.2
(g) Dining hall	meal	8.5
(h) Coffee shop	customer	7
(i) Cafeteria	customer	2.5
(j) Bar or lounge (no meals)	customer	4.5
	seat	36
(4) Entertainment establishments		
(a) Drive-in theater	car stall	5
(b) Theater/auditorium	seat	4.5
(c) Bowling alley	alley	185
(d) Country club	member (no meals)	22
	member (with meals and showers)	118
	member (resident)	86
(e) Fairground and other similar gatherings	visitor	1.5
(f) Stadium	seat	5
(g) Dance hall	person	6
(h) Health club/gym	member	35
(5) Outdoor recreation and related lodging facilities		
(a) Campground	campsite with sewer hook-up (per person)	32
	campsite with sewer hook-up (per site/space)	100
	campsite without sewer hook-up, with central toilet or shower facility (per site)	50
	campsite without sewer hook-up, with central toilet or shower facility, served by central dump station (per site)	63
(b) Permanent mobile home	mobile home	225

(c) Camp, day without meals	person	20
(d) Camp, day with meals	person	25
(e) Camp, day and night with meals	person	45
(f) Resort/lodge hotel	person	62
(g) Cabin, resort	person	50
(h) Retail resort store	customer	4
(i) Park or swimming pool	guest	10
(j) Visitor center	visitor	13
(6) Transportation		
(a) Gas station/convenience store	customer	3.5
(b) Service station*	customer	11
	service bay	50
	toilet	250
	square foot	0.25
(c) Car wash* (does not include car wash water)	square foot	5
(d) Airport, bus station, rail depot	passenger	5
	square foot	5
	restroom	565
(7) Institutional		
(a) Hospital*	bed	220
(b) Mental health hospital*	bed	147
(c) Prison or jail	inmate	140
(d) Nursing home, other adult congregate living	resident	125
(e) Other public institution	person	105
(f) School (no gym, no cafeteria, and no showers)	student	14

(g) School (with cafeteria, no gym and no showers)	student	18
(h) School (with cafeteria, gym, and showers)	student	27.5
(i) School (boarding)	student	95
(j) Church	seat	4
	add for each meal prepared	5
(k) Assembly hall	seat	4
(8) Miscellaneous		
(a) Public lavatory	user	5
(b) Public shower	shower taken	11

\* Waste other than sewage is only allowed to be discharged into the system if the waste is suitable to be discharged to groundwater.

(1) Unless otherwise noted in table I, the flow values do not include flows generated by employees. A flow value of 15 gallons per employee per eight-hour shift must be added to the flow amount. Design flow determination for establishments not listed in table I must be determined by the best available information and approved by the local unit of government.

(2) Flow for systems not designed for maximum, seven-day, daily use may be determined by averaging the estimated flow from table I for a consecutive seven-day period if flow equalization is used and approved by the local unit of government.

(3) Maximum daily flow calculated under this item must be used to determine septic tank size according to part 7080.1930.

B. The measured design flow of sewage for SSTS serving other establishments is the average of the maximum measured daily flows for a consecutive seven-day period. Measurements must be corrected for occupancy or use according to Prescriptive Designs and Design Guidance for Advanced Designers, incorporated by reference under part 7080.1550, subpart 2.

C. SSTS using the flow determination method from part 7081.0040, subpart 1a, item B, subitem (1), may expand based on those measurements according to the following:

- (1) measured flow values may be used only for similar units;
- (2) expansion above 25 percent of the total flow is not allowed unless the flow is remeasured or estimated values from table I are used; and
- (3) measured flow values may not be used at any other facility or property.

Subp. 2. **Waste concentration.** If concentrations from the sewage tank to the soil dispersal system are expected to be higher than 170 mg/l BOD (or 125 mg/l CBOD<sub>5</sub>), 60 mg/l TSS, or 25 mg/l of oil and grease, an estimated or measured average concentration must be determined and be acceptable to the local unit of government. System design must account for concentrations of these constituents so as not to cause internal system malfunction, such as, but not limited to, clogging of pipes, orifices, treatment devices, or media.

**Statutory Authority:** *MS s 115.03; 115.55*

**History:** *32 SR 1400; 35 SR 1353; 45 SR 725*

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