



Welcome



Indiana State
Department of Health

November 7, 2017
Commercial Plan Review
OSS Designer's Workshop



Design Plans

The engineer's job is to design an objective solution to an objective problem. The engineer should not be expected to solve a purely abstract one and would be wise not to attempt it. The engineer may be presented with a general problem and have some idea on how to tackle it, but cannot design the particular without the boundary particulars.

Soil evaluation

Gordon. L. Glegg, author
The Design of Design

Pre-application

TDS

Commercial On-site Sewage Systems

- All equipment and devices necessary for proper conduction, collection, storage, treatment, and on-site disposal of sewage from a commercial structure.
- Included within, but not limited to, the scope of this definition are building sewers, grease traps, septic tanks, dosing tanks, absorption field, perimeter drains....”





Commercial OSS defined

Serving such facilities as:

Apartment
buildings,
animal groomers,
condos,
medical facilities,
mobile home
parks,
motels,

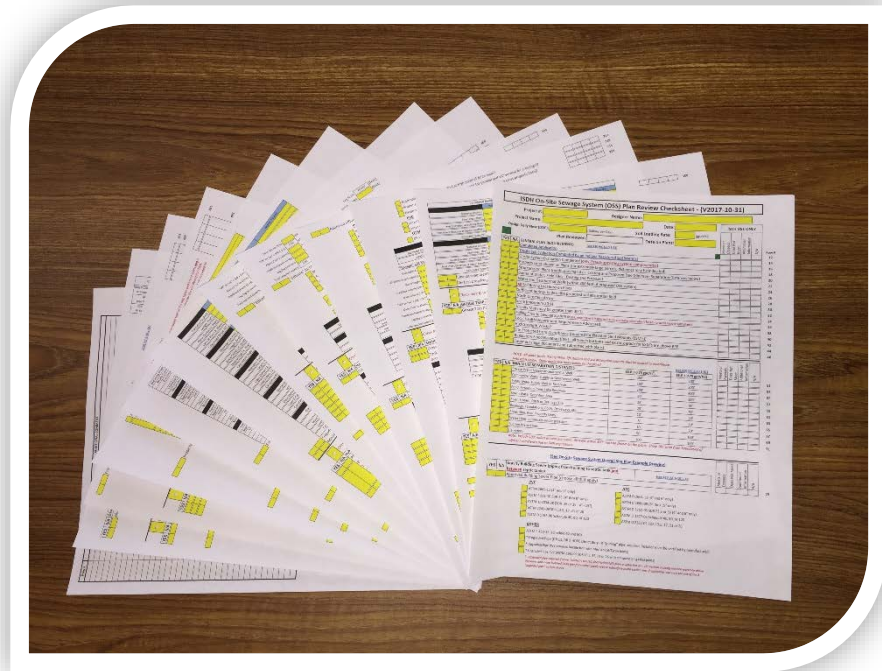
office building,
restaurant,
schools,
commercial
establishments,
daycare,
campgrounds,
churches,

wineries,
distilleries,
breweries,
event venues,
group homes,
??



The Plan Review Checksheet

- 12 pages
- The form “goes with the flow” ...of sewage
- Can be used with the 4 OSS in the Rule and Sand Lined Systems.
- Includes drainage and dispersal



A closer look at the checksheet

- ISDH Project Number
- ISDH Component/Item status
- Designer Checklist
- Component specs grouped
- Links for Rule specifications
- Imbedded design calculators
- Reviewer notes

ISDH On-Site Sewage System (OSS) Plan Review Checksheet - (V2017-10-31)

Project # [redacted] Designer Name: [redacted]

Project Name: [redacted] Date: [redacted]

Design Daily Flow (DDF): [redacted] (Gallons per Day) Soil Loading Rate: [redacted] (gpd/ft²)

Plan Reviewer: [redacted] Date on Plans: [redacted]

YES	NO	GENERAL PLAN REQUIREMENTS	See 410 IAC 6-10.1-5(1)	Meets or Exceeds	Does Not Meet	Additional Information	N/A
		Completed Application					
		Onsite Soil Evaluation Completed by an Indiana Registered Soil Scientist					
		Onsite System Evaluation Completed (only if reusing existing system component(s))					
		Property Lines Shown on Plans for extremely large parcels, distances may be indicated					
		Structures on Plans (roads, parking lots) - Existing and Proposed (see Minimum Separation Distances below)					
		Bodies of Water, Field Tiles - Existing and Proposed					
		Water and Geothermal Wells (within 300 feet of proposed OSS system)					
		All Soil Boring Locations on Plans					
		Sufficient borings to describe proposed soil absorption field					
		North Direction Arrow					
		Scale (maximum 30:1)					
		Vicinity Map (may be greater than 30:1)					
		Falling On-Site Sewage System if yes, must have it inspected to try and determine why it failed - provide report with plans					
		Local Health Department Requirements Addressed					
		High Strength Waste?					
		Site Protected from Disturbance (required for Elevated Sand Mounds (ESM's))					
		Regulatory Flood Elevation (RFE) - all trench bottoms and existing grade for ESM's are above RFE					
		Easement (legal document and submitted with plans)					
		NOTE: All septic tanks, dosing tanks, lift stations and soil absorption systems shall be located in accordance with table below. Show applicable items below on the plans! (See 410 IAC 6-10.1-5(1))					
YES	NO	MINIMUM SEPARATION DISTANCES	ISLR ≤ 0.75 gpd/ft ²	ISLR > 0.75 gpd/ft ²	Meets or Exceeds	Does Not Meet	Additional Information
		Private Water Supply or Geothermal Well	100'	200'			
		Commercial Water Supply or Geothermal Well	100'	200'			
		Public Water Supply Well or Reservoir	200'	400'			
		Pond, Retention Pond, Lake Reservoir	50'	100'			
		Storm Water Detention Area	25'	50'			
		River, Stream, Ditch or Drainage Tile	25'	50'			
		Buildings, Foundations, Pools, Driveways, etc.	10'	20'			
		Front, Side, Rear Property Lines	5'	10'			
		Water Lines continually under pressure	10'	20'			
		Suction Water Lines	50'	100'			
		Cemetery	100'	100'			
		NOTE: Include 100' radius around any wells. All wells within 300' must be shown on the plans. Show 100' area from boundaries of adjacent cemeteries due to DNR regulations.					
		(See On-Site Sewage System Overall Site Plan Example Drawing)					
YES	NO	Gravity Building Sewer (piping from building to septic tank and between septic tanks)			Meets or Exceeds	Does Not Meet	Additional Information
		Approved Building Sewer Pipe (choose all that apply)					
		PVC					
		ASTM 2665-12 (4" and 6" only)					
		ASTM F 891 10 SDR 36 (4" thru 8" only)					
		ASTM D 3034-08 (SDR 26 or 35 - 4" - 15")					
		ASTM 2241-09 SDR 13.5, 17, 21 or 26					
		ASTM D 1785-06 Schedule 40, 80, or 120					
		ABS					
		ASTM D 2661-11 (4" and 6" only)					
		ASTM D 2680-09 (8" thru 18" only)					
		ASTM D 2751-05 SDR 23.5 or 35 (4" and 6" only)					
		ASTM D 1527-05 Schedule 40, 80, or 120					
		ASTM D 2282-05 SDR 13.5, 17, 21 or 26					
		OTHER					
		ASTM F 480-12 (schedule 40 and 80)					
		Upgraded Pipe (DR 11, DR 9 HDPE Direct Bury - if "joining" pipe required, installer must be certified by manufacturer)					
		Upgraded Pipe (Waterworks Ductile Iron with Mechanical/Tyton Joints)					
		Upgraded Pipe PVC (ASTM 2241-09 SDR 13.5, 17, 21 or 26 with compression gasket joints)					
		Upgraded pipe required if sewer located \leq 100 feet horizontally from a sewer line or \geq 30" vertical crossing with the waterline above the sewer and a line hundred (100) feet from water supply well or subsurface pump station line. If applicable, you must use one of the 3 "upgraded pipe" options above.					

Example: See Grease Trap Pg 2

It's all about communication...

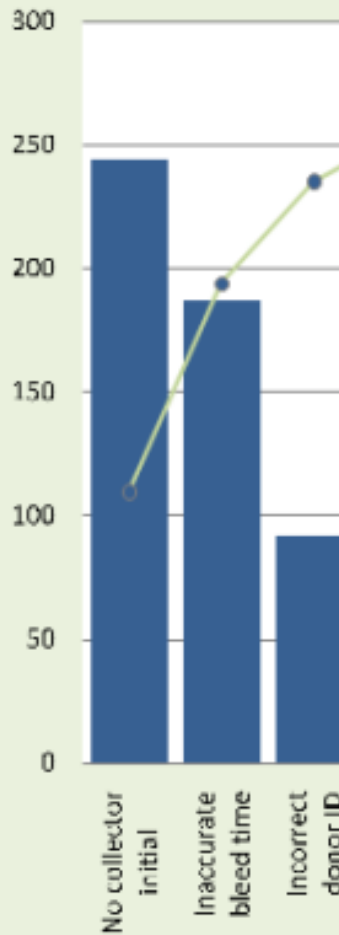
From gathering the project specific information to inspecting the installation of the design components...



accurate,
complete and
concise
communication
is required.

ISDH is going LEAN

Pareto Analysis



Why Use A Pareto Chart?

- To determine if the Pareto Principle applies (80/20)
- To identify critical issues
- To help the Project Team prioritize efforts
- To analyze problems or causes by different groupings of data



Let's get started.

(Break at 10:30am)

Make sure you sign the sign-in sheet if you want a certificate to file for CEUs.