





## PSDS PERMIT APPLICATION CHECKLIST

**A COMPLETE SITE EVALUATION REPORT, AS PER THE 2021 ALBERTA PRIVATE SEWAGE SYSTEMS STANDARD OF PRACTICE (SOP) PART 7 SITE EVALUATION, IS REQUIRED WITH THE PERMIT APPLICATION. THE FOLLOWING DOCUMENTS ARE TO BE INCLUDED WITH YOUR COMPLETE SITE EVALUATION REPORT.**

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### TREATMENT FIELD, MOUND, OR LFH AT-GRADE SYSTEMS

- Wastewater strength projected for the development.
- Peak flow volume calculations for the development including confirmation plumbing fixture unit total is not exceeded.
- Site plan – as per current SOP Section 7.1 Site Characteristics and Evaluation Procedures including placement of system with setbacks noted for property lines, buildings, water sources/courses, description of surface features including slope and landscape, location of at least two (2) soil profile investigation locations in the area of the soil-based treatment system, etc.
- The characteristics of each soil profile investigated shall be described using Canadian System of Soil Classification nomenclature and includes complete site specific soil profile logs for at least two (2) locations, soil sample results of the most limiting condition, GPS coordinates of each soil profile with permanent benchmark, depth of each horizon identified, soil Colour (Munsell Nomenclature), soil texture, structure and grade, depth to most limiting condition, restrictive layer (if applicable), etc.
- Description of treatment system including a system diagram, piping to tank details, initial treatment (septic tank/ treatment plant), piping to and throughout final soil treatment component.
- Soil based treatment system design calculations, including pressure distribution system – if applicable.
- Tank certification information – CAN/CSA-B66 certificate or equivalent
- Package sewage treatment plant – treatment capacity, equipment structural requirements and certification (if applicable).
- Pump, if required by design. Manufacturer and pump curve to ensure flow capacity.
- High level alarm make/model.
- Filter type.

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### HOLDING TANK

- Expected wastewater volume/day including tank storage capacity, bedroom count – current and proposed.
- Site plan showing placement of system with setbacks noted for property, buildings and water source.
- Tank certification information – CAN/CSA-B66 certificate or equivalent
- High level alarm make/model

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### OPEN DISCHARGE SYSTEM

- Peak flow volume calculations for the development including confirmation plumbing fixture unit total is not exceeded.
- Site plan – as per current SOP Section 7.1 Site Characteristics and Evaluation Procedures including placement of system with setbacks noted for property lines, buildings, water sources/courses, description of surface features including slope and landscape, location of at least one (1) soil profile investigation location in the area of the soil-based treatment system, etc.
- The characteristics of each soil profile investigated shall be described using Canadian System of Soil Classification nomenclature and includes complete site specific soil profile logs for at least one (1) location, soil sample results of the most limiting condition, GPS coordinates of each soil profile with permanent benchmark, depth of each horizon identified, soil Colour (Munsell Nomenclature), soil texture, structure and grade, depth to most limiting condition, restrictive layer (if applicable), etc.
- Description of treatment system including a system diagram, piping to tank details, Septic Tank, piping to and throughout final soil treatment component.
- Tank certification information – CAN/CSA B66 certificate or equivalent
- Pump, if required by design. Manufacturer and pump curve to ensure flow capacity
- High level alarm make/model
- Filter type.



# PSDS Application Design Summary

**This document must be filled out with ALL relevant information or your application may be returned**

Legal Land Description								
Quarter	Section	Township	Range	West of		Lot	Block	Plan
Municipal Address								
Development Details								
Property type _____				New – Renovation – Repair - Replacement <b>(Circle One)</b>				
Total Bedrooms	Occupant Total	Average Daily Flow		Peak Daily Flow				
Soil Information								
Test Pit(s) Depth		Limiting Layer Depth		Restrictive Layer Depth		Depth to Seasonal Water		
Design Loading Rate		Linear Loading Rate		Infiltration Area		Texture	Shape	Grade
Primary Treatment <b>(Circle all that apply)</b> Holding Tank – Septic Tank – Treatment Plant								
Tank Size			Tank Make/Model				Filter Type	
High Level Alarm Make/Model				Effluent Filter Make/Model				
Additional Information								

All designs must meet the requirements of the current Standard of Practice available at: [https://ebs.safetycodes.ab.ca/documents/webdocs/PI/PSS\\_SOP\\_2021-web6.pdf](https://ebs.safetycodes.ab.ca/documents/webdocs/PI/PSS_SOP_2021-web6.pdf)

Please note: NO WORK MAY START WITHOUT A PERMIT BEING ISSUED. An application is not a Permit.

Design Documents may be found at: <https://www.alberta.ca/private-sewage-design-tools>

# Alberta Private Sewage Treatment System Soil Profile Log Form

Owner Name or Job ID.

Legal Land Location

Test Pit GPS Coordinates

LSD-1/4	Sec	Twp	Rg	Mer	Lot	Block	Plan	Easting	Northing
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Vegetation notes:

Overall site slope %

Slope position of test pit:

Test hole No.	Soil Subgroup	Parent Material	Drainage	Depth of Lab sample #1	Depth of Lab sample #2
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Horizon	Depth (cm) (in)	Texture	Lab or HT	Colour	Gleying	Mottling	Structure	Grade	Consistence	Moisture	% Coarse Fragments

Depth to Groundwater

Limiting Soil Layer Characteristic, describe

Depth to Seasonally Saturated Soil

Depth to Limiting Soil Layer

Limiting Topography

Depth to Highly Permeable Layer

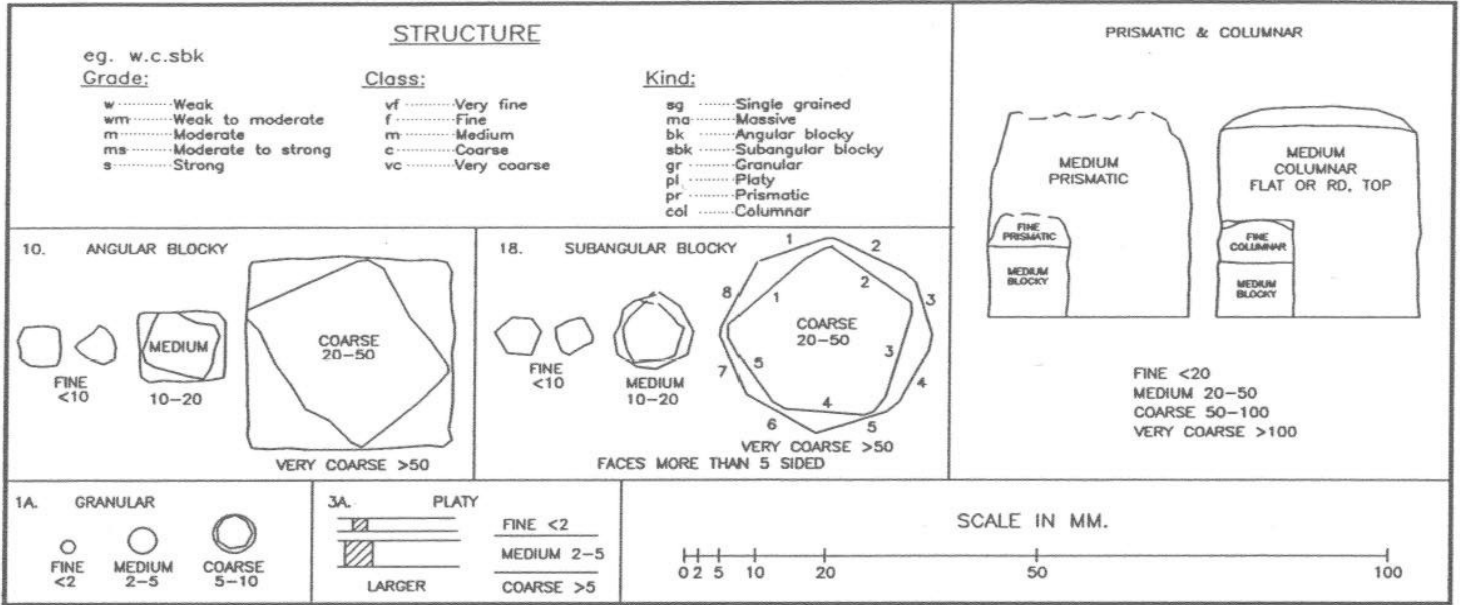
**Key Limiting Features on System Design**

Weather Condition notes:

Comments: such as root depth and abundance or other pertinent observations:



**Figure 4: Diagrammatic representation of soil structure**



**SLOPE CLASSES OF LOCAL LANDFORMS**

Slope Class	Percent Slope	Approximate Degrees	Description
1	0-0.5	0	level
2	0.5-2.5	0.3-1.5	nearly level
3	2-5	1-3	very gentle slopes
4	6-9	3.5-5	gentle slopes
5	10-15	6-8.5	moderate slopes
6	16-30	9-17	strong slopes
7	31-45	17-24	very strong slopes
8	46-70	25-35	extreme slopes
9	71-100	35-45	steep slopes
10	>100	>45	very steep slopes

**SURFACE STONINESS**

	Surface Area	Distance Apart (cm)
S0 non-stony	<0.01%	>30
S1 slightly stony	0.01-0.1%	10-30
S2 moderately stony	0.1-3%	2-10
S3 very stony	3-15%	1-2
S4 exceedingly stony	15-50%	0.1-5
S5 excessively stony	50%	0.1

**SLOPE POSITION**

c	— crest
u	— upper slope
m	— mid slope
l	— lower slope
t	— toe
d	— depression
l	— level

**DRAINAGE**

VR	- very rapidly
R	- rapidly
w	- well
M	- moderately well
I	- imperfectly
P	- poorly
VP	- very poorly

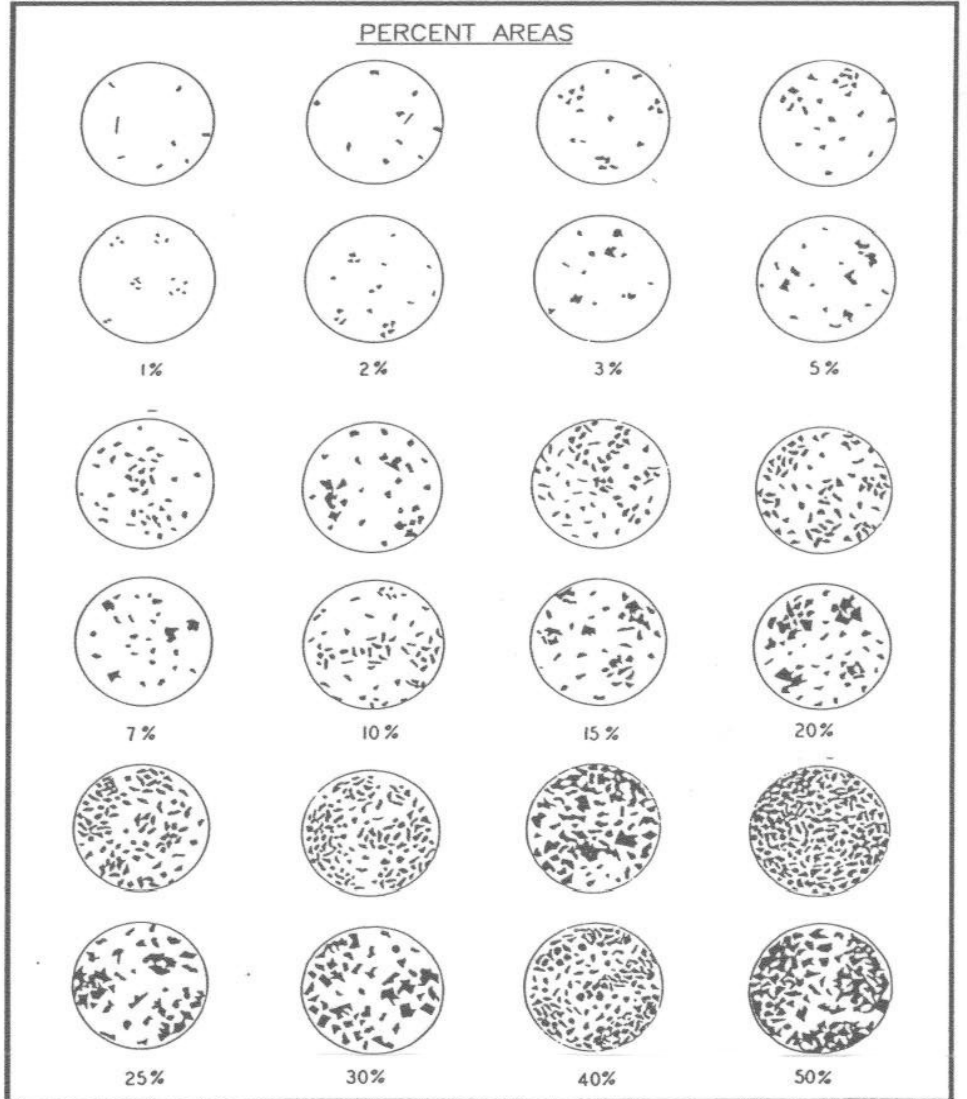


Table 10. Types, kinds and classes of soil structure.

Type	Kind (Kind Code)	Structure Class and Code	Size <sup>1</sup> (mm)
<b>Blocklike</b> - soil particles arranged around a point and bounded by flat or rounded surfaces <b>BK</b>	<b>Angular blocky (ABK)</b> peds bounded by flattened, rectangular faces intersecting at relatively sharp angles	<b>VF:</b> very fine angular blocky <b>F:</b> fine angular blocky <b>M:</b> medium angular blocky <b>C:</b> coarse angular blocky <b>VC:</b> very coarse angular blocky	<5 5-10 10-20 20-50 >50
	<b>Subangular blocky (SBK):</b> peds bounded by slightly rounded, subrectangular faces with vertices <sup>2</sup> of their intersections mostly subrounded	<b>VF:</b> very fine subangular blocky <b>F:</b> fine subangular blocky <b>M:</b> medium subangular blocky <b>C:</b> coarse subangular blocky <b>VC:</b> very coarse subangular blocky	<5 5-10 10-20 20-50 >50
	<b>Granular (GR):</b> spheroidal peds bounded by curved or very irregular faces that do not adjoin those of adjacent peds	<b>VF:</b> very fine granular <b>F:</b> fine granular <b>M:</b> medium granular <b>C:</b> coarse granular <b>VC:</b> very coarse granular	<1 1-2 2-5 5-10 >10
<b>Platelike:</b> soil particles arranged around a horizontal plane and generally bounded by relatively flat horizontal surfaces <b>PL</b>	<b>Platy (PL):</b> peds flat or platelike; horizontal planes more or less well developed	<b>VF:</b> very fine platy <b>F:</b> fine platy <b>M:</b> medium platy <b>C:</b> coarse platy <b>VC:</b> very coarse platy	<1 1-2 2-5 5-10 >10
		<b>Prismatic (PR):</b> vertical faces of peds well defined and vertices <sup>2</sup> angular (edges sharp); prism tops essentially flat	<b>VF:</b> very fine prismatic <b>F:</b> fine prismatic <b>M:</b> medium prismatic <b>C:</b> coarse prismatic <b>VC:</b> very coarse prismatic
<b>Structureless:</b> no observable aggregation of primary particles or no definite orderly arrangement around natural lines of weakness <b>MA</b>	<b>Columnar (COL):</b> vertical edges near top of columns not sharp (vertices <sup>2</sup> subrounded); column tops flat, rounded, or irregular	<b>VF:</b> very fine columnar <b>F:</b> fine columnar <b>M:</b> medium columnar <b>C:</b> coarse columnar <b>VC:</b> very coarse prismatic	<10 10-20 20-50 50-100 >100
	<b>Single grained (SGR):</b>	Loose, incoherent mass of individual primary particles, as in sands	
	<b>Massive (MA):</b>	amorphous; a coherent mass showing no evidence of any distinct arrangement of soil particles; separates into clusters of particles; not peds	
<b>Cloddy (CDY):</b> not a structure; used to indicate the condition of some ploughed surface, grade, class, and shape too varied to be described in standard terms.			

<sup>1</sup> The size limits refer to measurements in the smallest dimension of platy, prismatic, and columnar peds and to the largest of the nearly equal dimensions of blocky and granular peds.

<sup>2</sup> Definition of vertex (plural, vertices): the intersection of two planes of a geometrical figure.

Consistence – moist soil	
• Loose:	No intact sample can be obtained.
• Friable:	Structure breaks down with slight force between the fingers.
• Firm:	Structure breaks down with moderate force between the fingers.
• Extremely firm:	Structure breaks down with moderate force between the hands or slight foot pressure.
• Rigid:	Structure breaks down only with foot pressure.

## Structure Grade Descriptions

Code		Structure Grade Definition
0	<b>Massive /or single grained used to describe sands</b>	This describes a soil that has no developed structure. There is no aggregation of primary particles or no definite orderly arrangement around natural lines of weakness.
1	<b>Weak</b>	Peds are either indistinct and barely evident in place, or observable in place but incompletely separated from adjacent peds. When disturbed, the soil material separates into a mixture of only a few entire peds, many broken peds and much unaggregated material.  Peds are moderately durable, and are evident but not distinct in the undisturbed soil. When disturbed, the soil material parts into a mixture of many well formed, entire peds, some broken peds, and little unaggregated material. The peds may be handled without breaking and they part from adjoining peds to reveal nearly entire surfaces which have properties distinct from those caused by fracturing.
2	<b>Moderate</b>	Peds are durable and evident in the undisturbed soil, adhere weakly to one another, withstand displacement and separate cleanly when the soil is disturbed. When removed, the soil material separates mainly into entire peds. Surfaces of unbroken peds have distinctive properties, compared to surfaces that result from fracturing.
3	<b>Strong</b>	

## Mottling Descriptions

Parameter	Code	Description
<b>Abundance</b>	<b>Few</b>	<2% of the exposed surface
	<b>Common</b>	2-20% of the exposed surface
	<b>Many</b>	>20% of the exposed surface
<b>Size</b>	<b>Fine</b>	< 5 mm
	<b>Medium</b>	5-15 mm
	<b>Coarse</b>	>15 mm
<b>Contrast</b>	<b>Faint</b>	Evident only on close examination. Faint mottles commonly have the same hue as the colour to which they are compared and differ by no more than 1 unit of chroma or 2 units of value. Some faint mottles of similar but low chroma and value can differ by 2.5 units of hue.
	<b>Distinct</b>	Readily seen, but contrast only moderately with the colour to which they are compared. Distinct mottles commonly have the same hue as the colour to which they are compared, but differ by 2 to 4 units of chroma or 3 to 4 units of value; or differ from the colour to which they are compared by 2.5 units of hue but by no more than 1 unit of chroma or 2 units of value.
	<b>Prominent</b>	Contrast strongly with the colour to which they are compared. Prominent mottles are commonly the most obvious colour feature in a soil. Prominent mottles that have medium chroma and value commonly differ from the colour to which they are compared by at least 5 units of hue if chroma and value are the same; or at least 1 unit of chroma or 2 units of value if hue differs by 2.5 units.



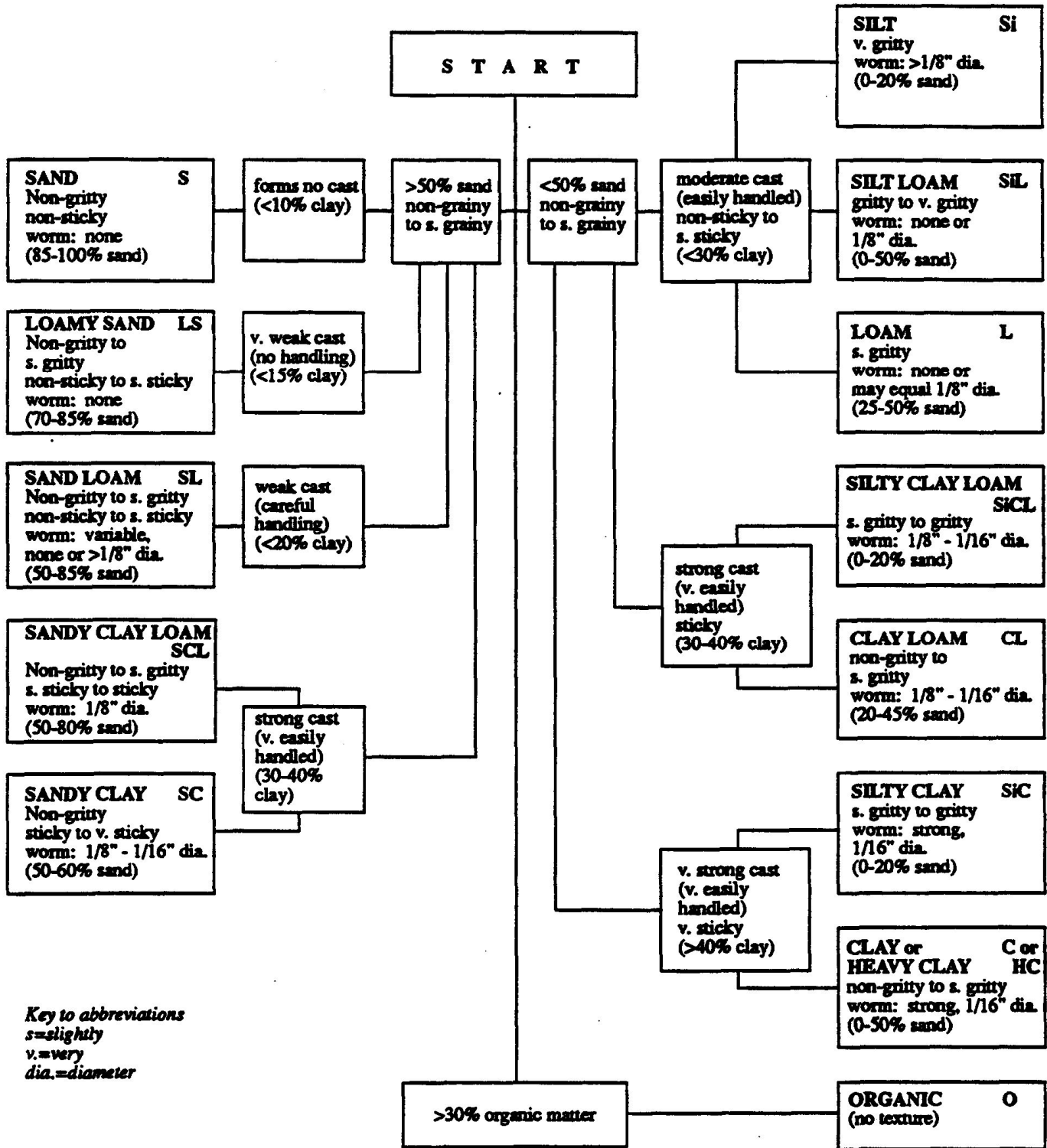
**Taste Test  
Stickiness Test  
Worm Test**

**Moist  
Cast Test**

**Graininess Test  
(Organic Matter Test)**

**Moist Cast Test  
Stickiness Test**

**Taste Test  
Worm Test**



*Key to abbreviations*  
*s=slightly*  
*v.=very*  
*dia.=diameter*

