**Section 905.APPENDIX A Illustrations and Exhibits**

**Section 905.ILLUSTRATION M Soil Suitability for On-Site Sewage Design**

**Section 905.EXHIBIT A Loading Rates in Square Feet Per Bedroom and Gallons/Square Feet/Day**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Design Group | Soil Group  (Most Limiting  Layer) | Minimum Separation To Limiting Layer1 | Permeability Range | Size of System | |
| Residential Reg. Absorption (ft2/bedroom) | Institutional/Commercial Allowable Application Rate (GPD/ft2) |
|  |  |  |  |  |  |
| I | 1A | NR3 | Very Rapid | NR3 | NR3 |
| II | 2A; 2B; 2K | 3 feet | Rapid | 200 | 1.0 |
| III | 3B; 3K | 3 feet | High Moderately Rapid | 220 | 0.91 |
| IV | 3A; 3L; 4D; 4K | 3 feet | Low Moderately Rapid | 240 | 0.84 |
| V | 4A;; 4B; 4H; 4L; 5D | 3 feet | Very High Moderate | 265 | 0.75 |
| VI | 4F; 4M; 5B | 3 feet | High Moderate | 290 | 0.69 |
| VII | 4N; 5A; 5C; 5H; 5K; 6D | 2 feet | Moderate | 325 | 0.62 |
| VIII | 4O; 5E; 5I; 5L; 6A; 6B; 6E; 6H; 6K | 2 feet | Low Moderate | 385 | 0.52 |
| IX2 | 5F; 5M; 6C; 6L; 7D; 7F | 2 feet | High Moderately Slow | 445 | 0.45 |
| X2 | 5G; 6F; 6I; 7E; 7C; 7H | 2 feet | Low Moderately Slow | 500 | 0.40 |
| XI2 | 5N; 6G; 6J; 6M; 7F; 7I | 2 feet | Slow | 740 | 0.27 |
| XII2 | 7G; 7J; 7L; 8E; 8I | 2 feet | Very Slow | 1000 | 0.20 |
| XII2 | 5O; 6N; 6O; 7M; 7N; 7O; 8J; 8M; 8O | NR3 | NR3 | NR3 | 0.00 |
| XIII | 9 | **SUBSURFACE DISPOSAL NOT RECOMMENDED** | | | |

NOTES:

1 Limiting layers include fragipans; bedrock; compact glacial tills; seasonal high water table or other soil profile features that will materially affect the absorption of liquid from the disposal field.

2 Soils in this group are less than the minimum percolation rate established in Appendix A, Illustration H as suitable for subsurface seepage systems.

3 NR = Subsurface disposal system not recommended.

(Source: Amended at 37 Ill. Reg. 14994, effective August 28, 2013)

**Section 905.APPENDIX A Illustrations and Exhibits**

**Section 905.ILLUSTRATION M Soil Suitability for On-Site Sewage Design**

**Section 905.EXHIBIT B Key for Determining Sewage Loading Rates (Gallons/Square Foot/Day)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Structure and  Parent Material | | Single grain; Weak ;  Platy2 | Granular, Angular and Subangular Blocky; Prismatic | | | | | | | | | Structureless or Massive | | | | |
| Loess: Outwash; Alluvium; Lacustrine8 | | | | | | Till3 | | |
| Week | | Moderate; Strong | | Strong | | Moderate; Strong | | | Loess; Outwash; Alluvium; Lacustrine8 | | | Till3 | |
| Moist Consistence | | lo vfr fr | vfr fr | fi | vfr | fi | vfr fr | fi | fr | fi | vfi | vfr | fr | fi | vfr fr | fi vfi |
| Texture | | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
| 1. | Fragmental; Ext. or Very gravelly sand | > 1.004 | N/A5 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 2. | Sand; Loamy course sand; Loamy sand; Gravelly sand; Coarse sand; Gravelly loamy sand | 1.00 | 1.00 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1.00 | N/A | N/A | N/A | N/A |
| 3. | Fine sand; Loamy fine sand; Coarse sandy loam | 0.84 | 0.91 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0.91 | 0.84 | N/A | N/A | N/A |
| 4. | Sandy loam; Fine sandy loam; Gravelly sandy loam; Gravelly loam; Gravelly silt loam | 0.75 | 0.75 | N.A | 0.84 | N/A | 0.69 | N/A | N/A | 0.75 | N/A | 0.84 | 0.75 | 0.69 | 0.62 | 0.52 |
| 5. | Loam; Silt loam; Very fine sandy loam; Sandy clay loam; Silt; Very fine sand; Loamy very fine sand; Gravelly clay loam | 0.62 | 0.69 | 0.62 | 0.75 | 0.52 | 0.456 | 0.406 | 0.62 | 0.52 | N/A | 0.62 | 0.52 | 0.456 | 0.276 | N/R7 |
| 6. | Silty clay loam (<35% c); Clay loam (< 35% c) | .052 | 0.52 | 0.456 | 0.62 | 0.52 | 0.408 | 0.276 | 0.52 | 0.406 | 0.276 | 0.52 | 0.456 | 0.276 | N/R | N/R |
| 7. | Silty clay loam (>35% c); Clay loam (>35% c) | N/A | N/A | 0.406 | 0.456 | 0.406 | 0.276 | 0.206 | 0.406 | 0.276 | 0.206 | N/A | 0.206 | N/R | N/R | N/R |
| 8. | Sandy clay; Clay | N/A | N/A | N/A | N/A | 0.206,9 | N/A | N/A | N/A | 0.206,9 | N/R | N/A | N/A | N/R | N/A | N/R |
| 9. | Organics; Fragic; Lithic; Paralithic | –––SOIL PROPERTIES HAVE VERY SEVERE LIMITATIONS; SUBSURFACE DISPOSAL NOT RECOMMENDED––––– | | | | | | | | | | | | | | |

FOOTNOTES:

1 Disturbed soils are highly variable and require special on-site investigations.

2 Moderate or strong platy structure for the soil textures in Groups 4, 5 and 6 have a loading rate of 0.40 g/sq.ft/d. Platy structure having firm or very firm consistency or caused by mechanical compaction has a loading rate of 0.0 g/sq.ft/d.

3 Basal glacial tills structured by geogenic processes have the same loading rates as structureless glacial till.

4 This soil group is estimated to have very rapid permeability and exceeds the maximum established rate in Illustration H, Exhibit A.

5 N/A means not applicable.

6 These soil groups are estimated to have moderately slow to very slow permeability and are less than the minimum established rate in Illustration H, Exhibit A.

7 N/R means not recommended. These soils have loading rates considered too low for conventional subsurface disposal.

8 In some areas, lacustrine material may have physical properties similar to glacial till and should be placed in the glacial till columns.

9 Non-swelling (1:1 lattice) clays formed in bedrock residuum have a loading rate of 0.27 g/sq.ft/d. Swelling (2:1 lattice) clays are not recommended for subsurface disposal.

(Source: Amended at 37 Ill. Reg. 14994, effective August 28, 2013)