



# CHEMICAL STABILIZATION LANDSCAPE AREAS

## TREATMENT ADJACENT TO LANDSCAPE AREAS

Chemically treating adjacent to or around existing and future landscape areas has been a question of concern. It's logical to think that a process, which relies on elevated pH to create and sustain a chemical reaction, would be detrimental to other areas where elevated pH soils would not be desirable. Experience has shown that these concerns have never been realized when proper stabilization procedures are followed.

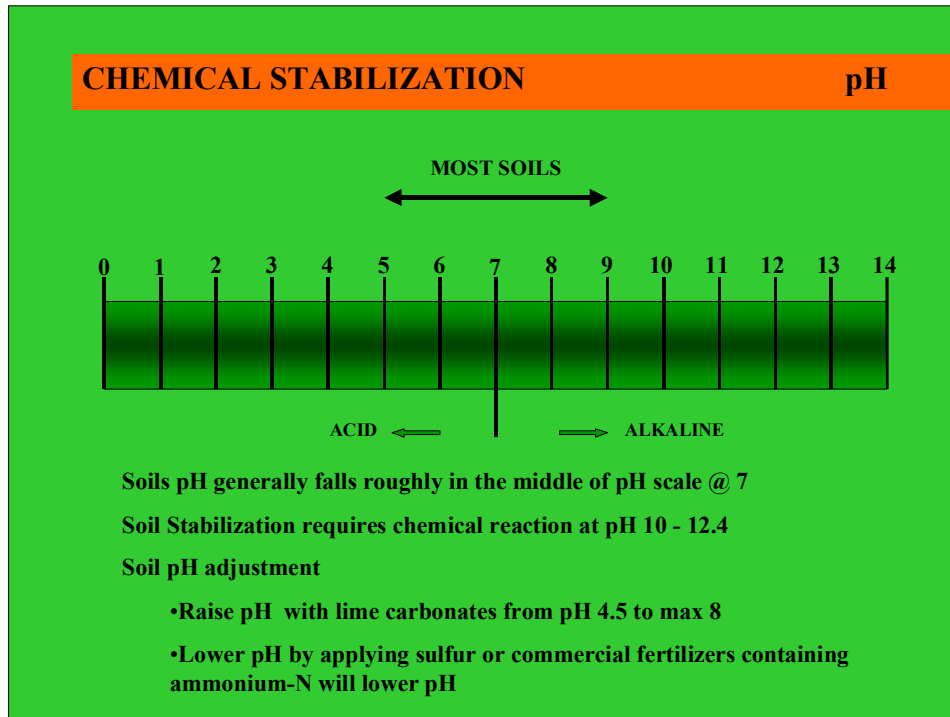
While direct drainage of calcium hydroxide to a landscape area may temporarily raise the pH to levels dangerous to plant life, proper construction techniques and scheduling minimize this possibility. Calcium hydroxide is consumed in the stabilization process and by exposure to air. Waters contacting stabilized soils do not show much change in pH because of the low solubility of the calcium alumino-silicate minerals and the low permeability of the compacted soils.

Any un-hydrated quicklime exposed to the elements will convert to calcium carbonate, the principal mineral in limestone, which has a pH of 7.8 – 8.4. Carbonation is produced by a reaction of quicklime (CaO) with atmospheric carbon dioxide to form relatively insoluble carbonate that is not useful in the stabilization process.

### CONCLUSIONS

The following factors contribute to lowering the effects of high pH treated soil in landscape areas:

- 1) Any un-hydrated quicklime left exposed in landscape area is quickly carbonated and returns to pH of between 7.8 – 8.4.
- 2) Treated material is deluded with un-treated soils in a loose state to become normalized.
- 3) If pH is elevated in a landscape area beyond what's required for specific growth requirements, then soils pH can be adjusted by the addition of fertilizers.



Soil pH is the measure of the acidity or alkalinity of a soil, numerically equal to 7 for soils with a neutral pH, increasing with rising alkalinity and falling with increasing acidity. The soil pH scale commonly in use ranges from 0 to 14.

Soil pH is not fixed; you can take measures to alter soil pH. If soil pH needs to be lowered (i.e., the soil isn't acidic enough), apply sulfur or commercial fertilizers containing ammonium-N. If soil pH needs to be raised (i.e., the soil isn't alkaline enough), apply lime carbonate.