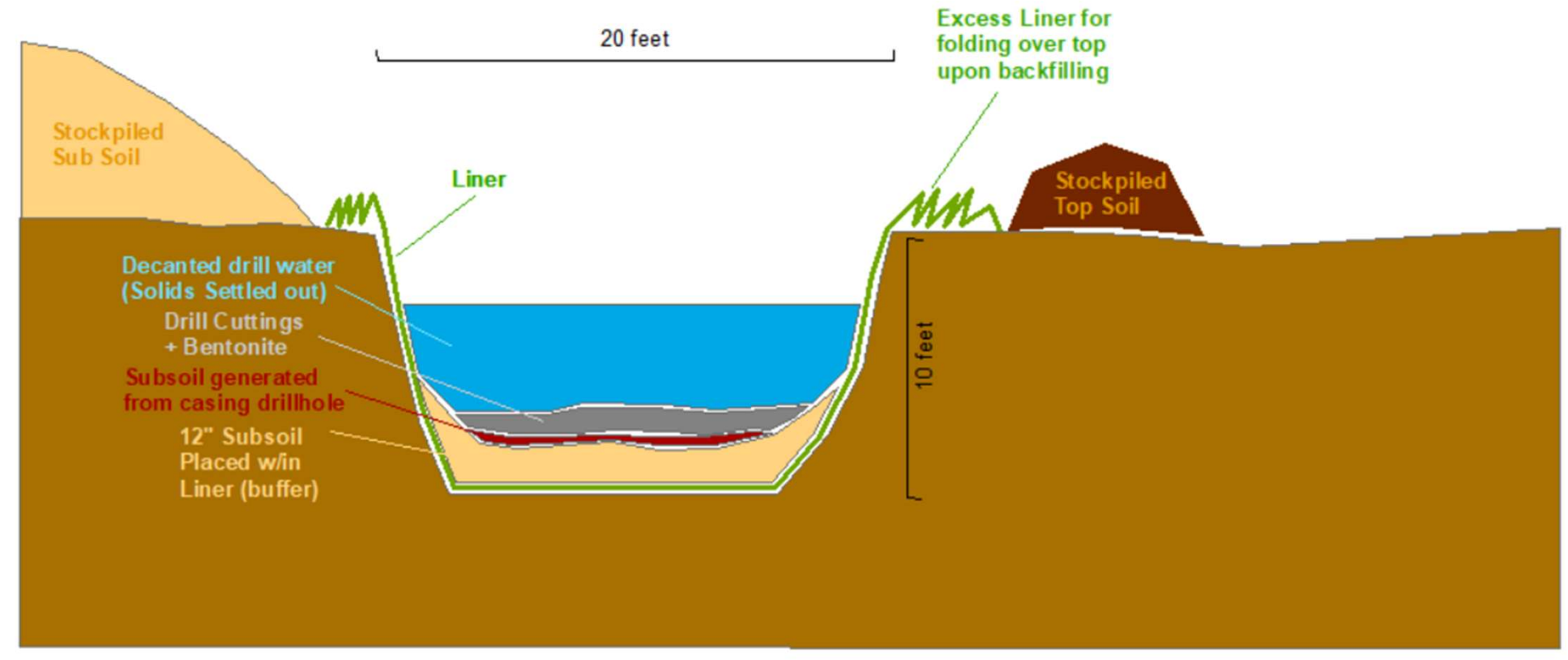
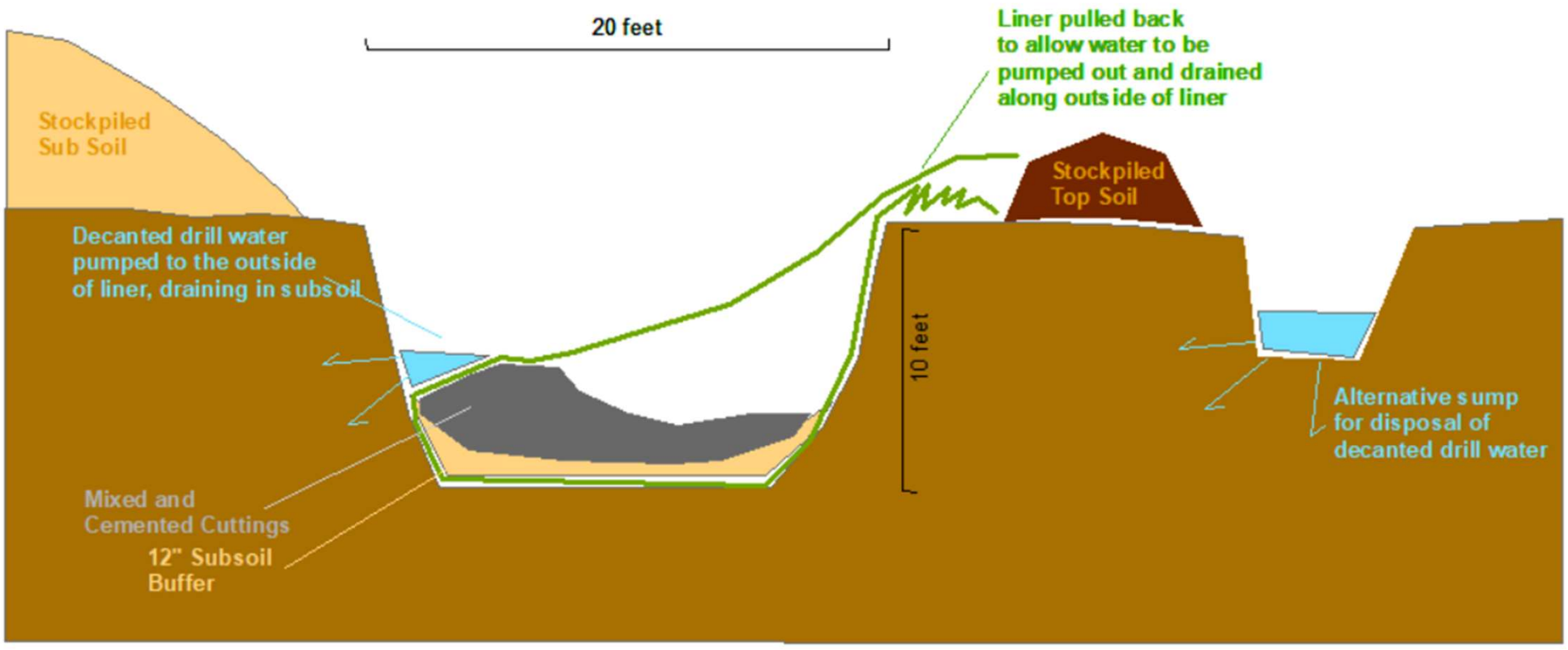
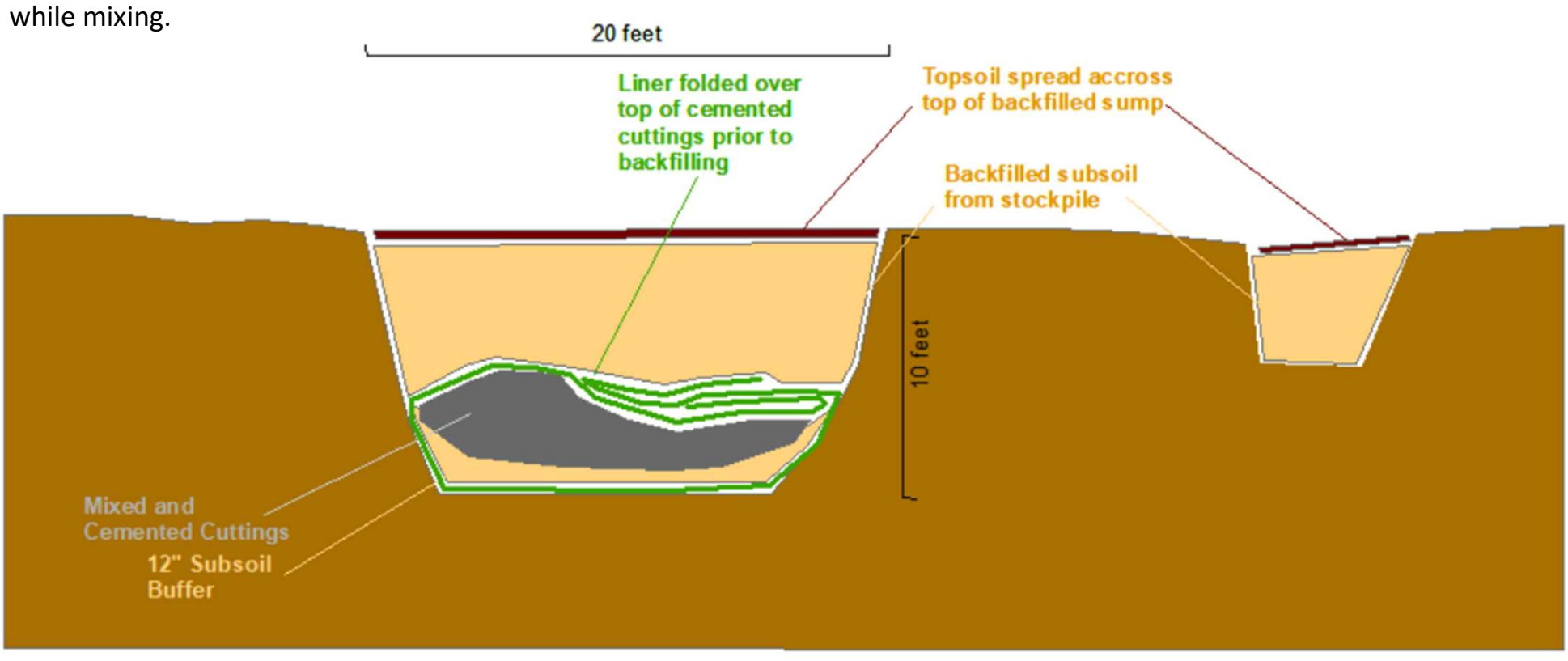
Schematic Section Through Drill Sump Showing Dewatering, Cementing and Backfilling Process



1. Sump is dug with backhoe (max. size 20'x20'x10'). Subsoil and topsoil stockpiled adjacent to sump. Liner, with excess for final disposal, is laid across bottom and sides of sump. 12" of stockpiled subsoil placed over liner along bottom of sump. Unconsolidated subsoil from casing the drillhole is deposited followed by drill cuttings. Residual drill water at completion of sump is allowed to decant and is pumped off sump for use as drilling water for additional drillholes.



2. All residual, decanted drill water not re-used in the drilling process will be discharged to the ground. The liner will be pulled away from the walls of the sump and water will pumped along the outside of the liner and allowed to drain in the subsoil. If conditions are not suitable to accomplish this, a small (~5'x5'x5') sump will be dug adjacent to the main sump for use in disposal of the decanted drill water. Once water is pumped out of liner, cement will be added to the drill cuttings and mixed with the bucket of a backhoe. The bottom layer of subsoil placed within the liner will serve as a buffer to prevent damage to the liner while mixing.



3. Once mixing of the cutting/cement is complete, the liner will be folded over the top of the contained cuttings/cement. Water remaining in the main sump as well as the alternative sump (if constructed) will be allowed to drain to a sufficient level to prevent overflow while backfilling. The sumps will then be backfilled with stockpiled subsoil and the top will be spread with topsoil and revegetated.