

Controlled Drainage

Controlled drainage, commonly referred to as drainage water management, uses a control structure to manage a drainage system's outlet height. By controlling the outlet height the manager can control the time of year and volume of water that is drained. Restricting flow during the periods when drainage is not necessary reduces the amount of tile transported nutrients by decreasing the volume of water discharged. Increases in crop yield can be realized if water is able to be held back for the time of year when crops operate at a water deficit. Managers should follow a drainage water management plan prepared specifically for their field and drainage system.

Location

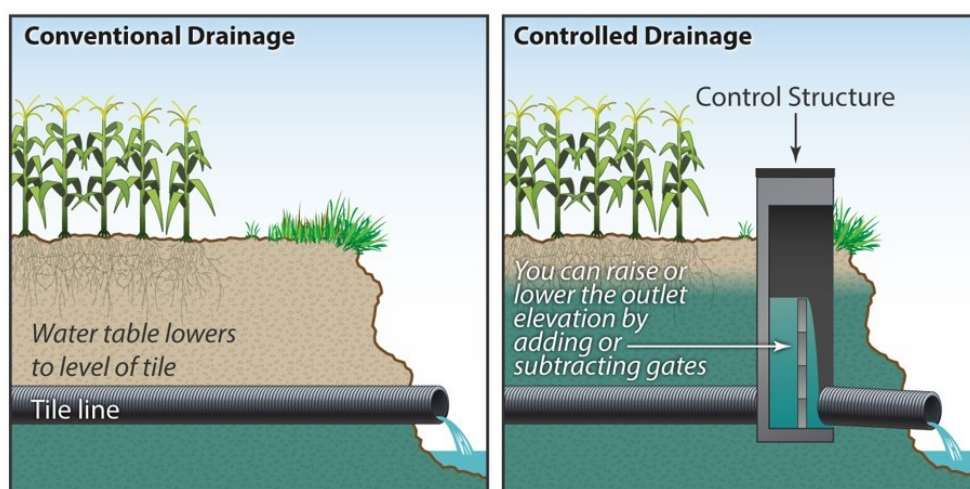
Controlled drainage works when there are management zones within a field with slopes <1%. The larger the zones with slopes <1%, the more economical the practice. To view the controlled drainage suitability map created by Transforming Drainage project team visit <https://transformingdrainage.org/tools/cd-suitability/>.

Footprint

A structure that controls the outlet height sits on the main at the edge of the field. Subsurface float valves can be used in the field to avoid in field obstructions. Laterals are installed on the contour which potentially calls from more connections and smaller runs during installation.

Performance

Nitrate reductions of 48% can be realized by reducing the flow from the tile when it is not needed. Controlled drainage can also decrease dissolved reactive phosphorus flow by 57% with the potential to increase yields by 5-10%.



Dollars & Sense

\$49
PER ACRE

Average installation cost is \$49 per acre greater than conventional drainage

\$0.91

Practice cost per pound of N removed