

# RoadEng's fast learning curve simplifies earthwork estimates

## Monette Farms Agricultural Drainage Project

### COMPANY

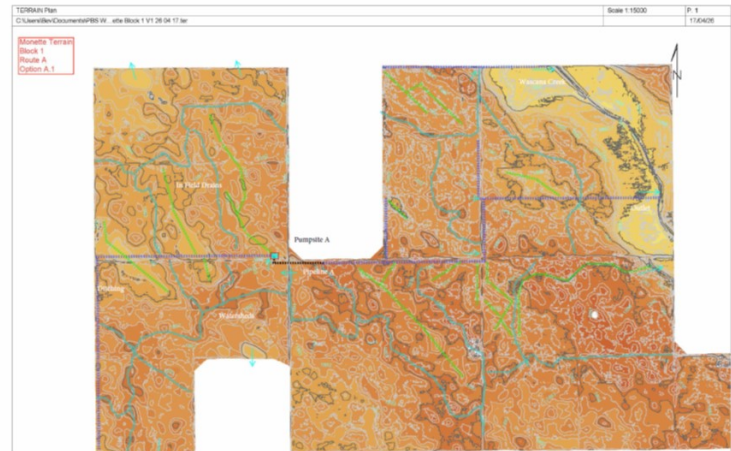
**PBS Water Engineering**

### LOCATION

**Morden, MB, Canada**

### SOFTWARE

**RoadEng Civil Engineer**



### PROJECT OVERVIEW

Periodic excess rainfall and snowmelt runoff accumulate on this 9,000 acre farm. Pounded water impedes seeding and harvest and drowns out crops and profits. The owners desire a whole farm drainage solution where historically none had existed.

NextGen Drainage Solutions, a tile drainage company from Southern Manitoba provided overall project management and hired PBS Water Engineering Ltd. to provide a pre-feasibility level engineering solution for the drainage issue.

### THE CHALLENGE

Biggest challenges were dealing with the large volume of RTK drone survey data, and finding a software that would easily develop profiles and quantities for pre-feasibility costing. Our reconnaissance of the site determined that a combination of ditching, piping and pumping would be required to move water from the project extremities to the drainage outlet.

Accurate profiles were required due to the very flat nature of the project area. The owners required an accurate cost estimate to make a decision to move forward to feasibility level engineering and environmental planning.

### THE SOLUTION

RoadEng software was utilized to determine the optimal location of pumpworks, pipelines and ditches.

The end result included 7 separate pump sites, associated pipeline and connecting ditches, road and utility crossings and two outlets to the Creek that traversed the easterly limits of the land base.

In total, profiles and earth work estimates were developed for 5.3km of large diameter PVC pipeline; 46.3 km of excavated ditching; and associated culvert crossings, and pump intake works.

### WORKING WITH ROADENG

RoadEng's Terrain module was used to develop contour maps, estimate contributing drainage areas and conceptualize ditch and pipeline routes.

The Location module was utilized to "play" with profile grades, develop earthwork quantities and optimize the ditch excavation versus pump/pipeline lifts. It quickly and accurately computed earthworks for the selected ditch and pipeline trench shapes.

### THE RESULT

Training by Softree allowed PBS Water Engineering Ltd. to not only get up to speed in one day, but to thereafter work through the significant length of profiles, make adjustments to meet owner's requirements and generate cost estimate with high level of confidence. The owners were provided with a high-level cost estimate two weeks after purchase of the RoadEng product.

For small engineering firms like ours, RoadEng is a powerful and focused tool which does not require extensive training and expensive annual fees to maintain competence. In any case, tech support is only a phone call away.

### THE END RESULT

UP AND RUNNING IN 1-DAY

5,300 METERS OF PIPELINE

46.3 KM OF EXCAVATED DITCHING

HIGH-LEVEL COST ESTIMATE 2 WEEKS AFTER SOFTWARE PURCHASE

**"THE EASE OF LEARNING AND USE OF THE SOFTWARE ALONG WITH THE EXCELLENT DIRECT SUPPORT FROM THE SOFTREE STAFF, ALLOWED US TO USE THE PRODUCT WITH CONFIDENCE."**



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