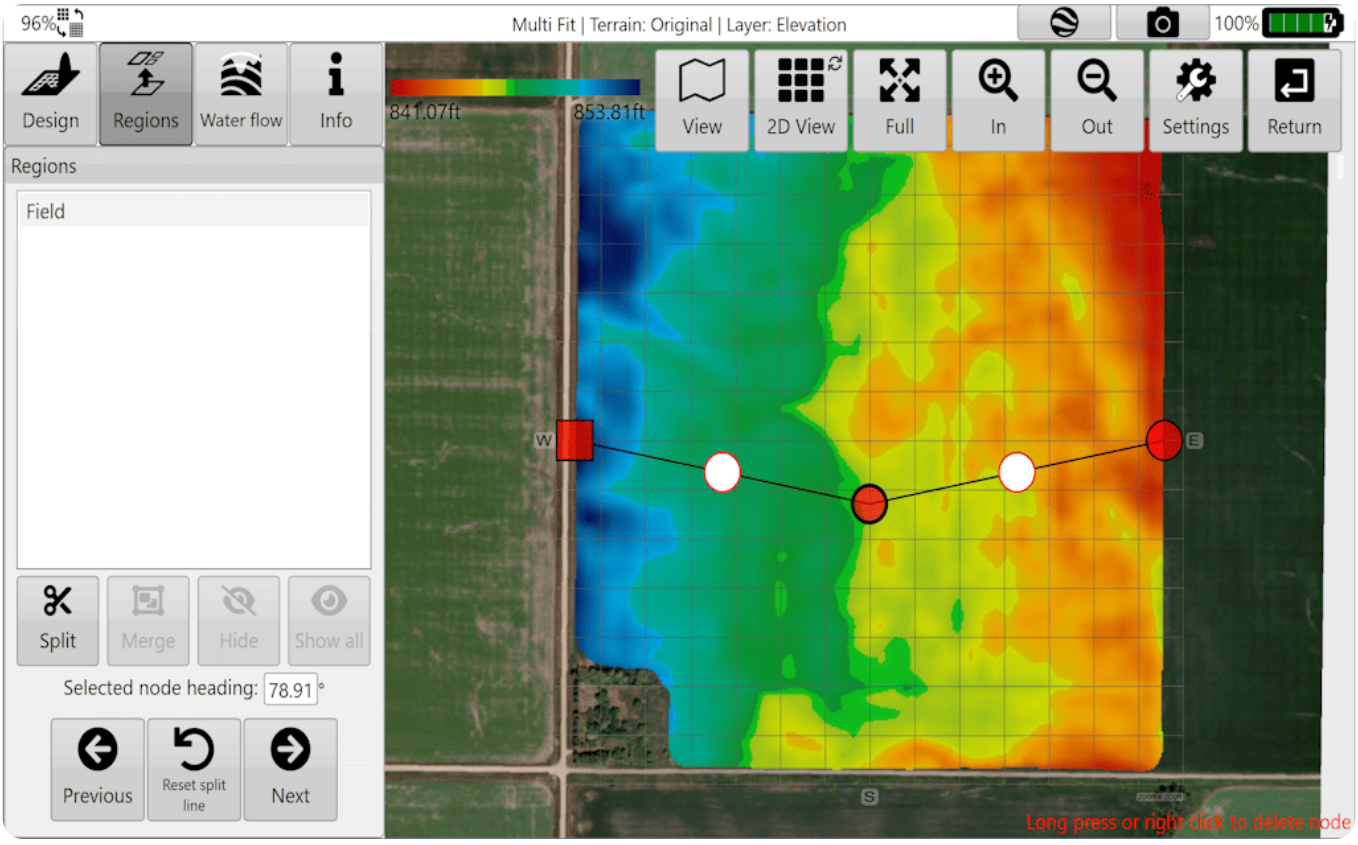
Common Design Tools

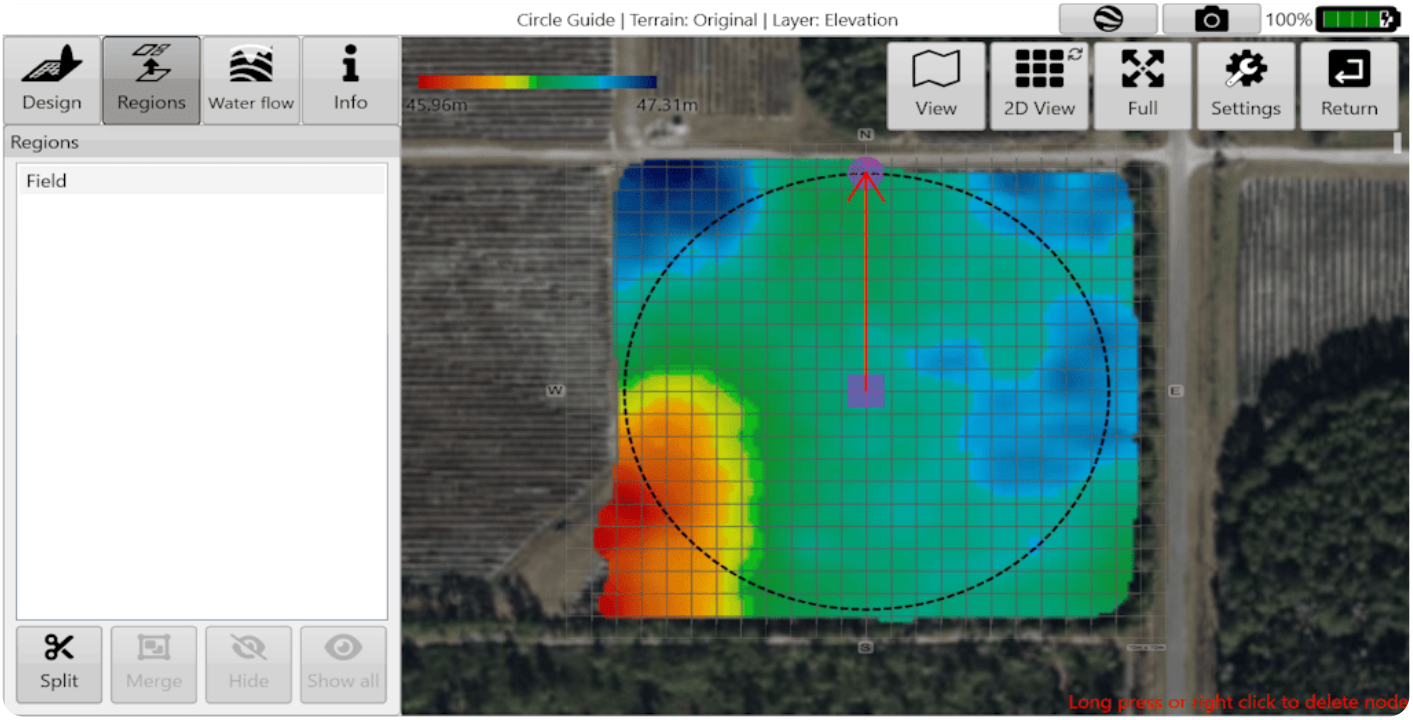
Regions in T3CD

To create regions, press the 'Regions' button (regions are not available in drain related functions). The 'Regions' tool is used to split a field into multiple workable areas. Different design options can be applied to multiple different regions. For example, you can apply different primary and secondary slopes, or different levee designs in each region.

> **NOTE: It is possible to create different design types in different regions. You can have a best-fit plane in one region, and a multi-fit surface in another, for instance.**



Regions are created by moving a splitting line across two edges of an existing region, or whole field if no regions exist. The split line is set by moving Point A and Point B into position. The line can be positioned by moving the points directly using the touchscreen or mouse. The split line is straight, but tapping and dragging the white nodes let you create multi-segment splits. In addition, you can split multiple times, then merge regions to make complex region shapes.



> **In the Circle Guide and Levee design tools, the region split uses the circle/levees instead of a line. This is great for creating custom region splits for things like pivot irrigation fields and rounded corners.**

The 'Split' button confirms the “split” on the selected area.

The 'Merge' button will merge regions selected in the list into one region.

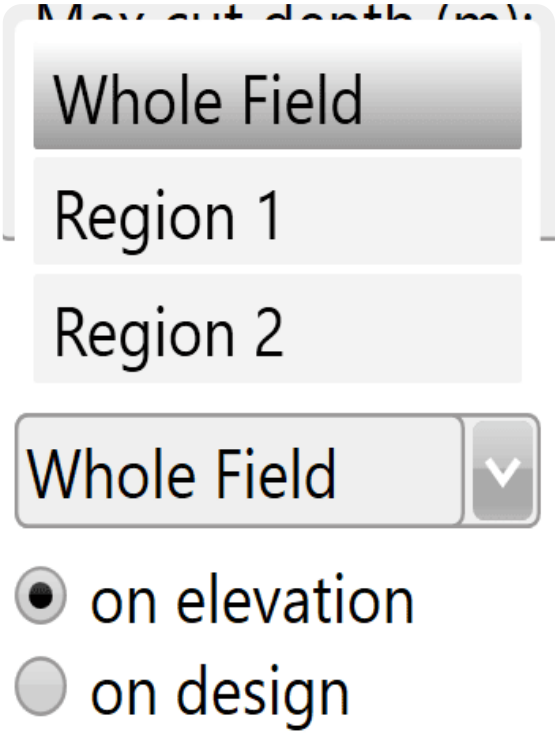
> **You can merge regions that are far apart. Also, if you find a region that has two separate areas, you can split it by positioning the split line between the two parts and pressing the 'Split' button.**

The 'Hide' button will delete whatever design exists with the selected region(s). At this point the region will not exist as a separate area that can accept designs. It can, however, still have full-field designs applied to it.

The 'Show all' button will restore all hidden/deleted regions.

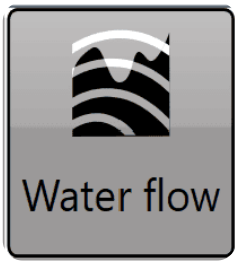
Press the 'Design' button when you have finished adding your regions.

In certain design functions (multi-fit, best-fit, smoothing, and levees) different regions can be selected from a drop down menu allowing you to make design changes to only the selected region.



Choose to apply your design to the original elevation surface or to the design surface.

Rainfall Simulator

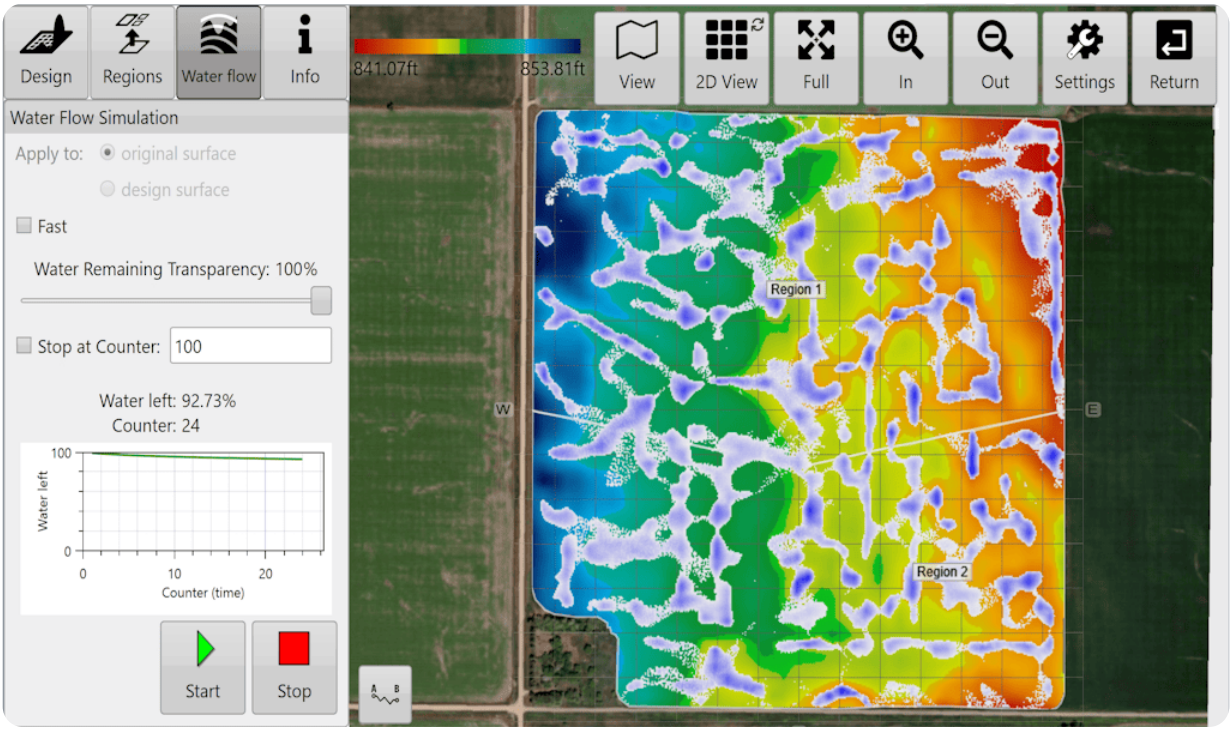


One of the many unique features of the T3RRA product suite is our inclusion of a rainfall simulation tool. This allows a very visual and easily relatable analysis of how a field surface affects water runoff and ponding.

It should first be used after a survey and prior to any design being placed on the field. The intent of this is twofold:

1. **To verify that the created surface does in fact truly represent the field. By looking at the water flow, a person familiar with the field will usually be able to say “Yes, that is the normal pattern of water runoff I would see”. In this case the operator can be confident that the survey has created an accurate model of the field. On the other hand, if the simulation produces results that are not expected it may be wise to critically revisit the survey and perhaps collect more data.**
2. **To compare the design with the original surface. It is expected that the design will result in a pattern of drainage**

different to the original. Analyzing the design will quickly tell you if the new surface is going to have the effect on drainage that you expect.



The rainfall simulator cannot **tell you how long a field will take to drain. There are simply too many variables, such as the soil type, the soil moisture level and the soil depth before reaching hardpan. Such a calculation is beyond the scope of this software. It can however provide you with an indication of how much faster one design will be over another. You can do this by comparing the iteration counter value of two different designs at a given drainage % value. Even so, be aware that the timing information of the simulation is qualitative in nature, not quantitative.**

For a youtube video tutorial on the rainfall simulator visit https://youtu.be/LJ5Vw9Q7tqA or use your phone to scan this barcode	

When the water simulation is stopped, you can switch between the design and original surfaces to compare changes in water flow.

The 'Stop at counter' is useful if you want to compare the remaining water at a specific counter value between design and original surfaces.

> **The water simulation can be viewed in 2D or 3D just like when examining elevation and design surfaces normally.**

Earthworks Information

Press the 'i' **button to view earthwork details.**

Note: pressing within the ‘Info**’ text box will expand the view to full screen.**

Each region will have its own set of earthworks details and cut/fill summary.

Press the 'Records' **button (shown as a printer) to save design details (in PDF format) to a folder for record keeping and documentation purposes.**

Press the 'Activity Log' **button (shown as a clipboard) to view the activity that a file has undergone. This includes things like file save times and when/what design functions have been applied to a file.**

Note: formerly there was a KMZ and Upload to John Deere button on this screen. These have been moved to the Export step.

For a youtube video tutorial on Earthwork information visit **https://youtu.be/U0RB2av-vow or use your phone to scan this barcode**	

Notes on printing records

The ‘Records’ feature in T3RRA software creates a PDF document and saves it to the hard drive. This document is meant to give an overview of the operation being performed by the software. It is suitable for record keeping purposes, or for supplying to field managers or clients.

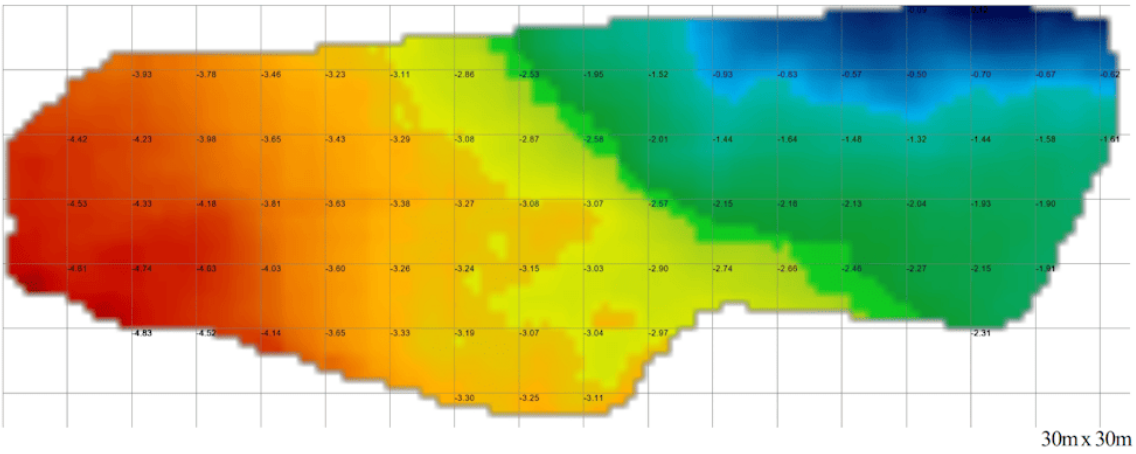
It includes the following:

- **Map of the original surface**
- **Map of the design surface**
- **Map of Cut and Fill areas**
- **Statistics relating to the earthworks**

The maps created in the report will include a grid overlay showing data values.

T3RRA Software Output - Tuesday, April 14, 2020

Elevation (m)



Notes on the Activity Log

The ‘Activity Log’ is designed to provide a history of the user actions that were performed in a project. It keeps a sequential history of the design actions that have been performed. This is helpful in understanding what methods were used in order to go from the original design surface to the final design surface. Where possible a record of slopes, directions, and design tools utilized are kept. As we allow designs to be performed on existing designs and differently in different regions, the steps and actions taken to go from the original surface to the final design surface can be quite complicated.

The ‘Activity Log’ also keeps a record of the results of a design action (in the form of the resulting dirt balance statistics).

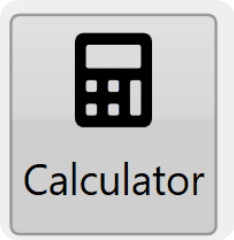
If the user is in doubt about steps taken or parameters used, they can refer back to this log. The log entries include a date and time in order to remove confusion about when the actions were performed.

The log can also be used to compare two or more design options. Because the results of each design operation are kept in the log it can be easier to simply compare them there rather than trying to remember them, or write down the results.

If you want to save or email the log you can copy it into the clipboard using the ‘Copy’ button. Then paste it into any other

application.

Calculator

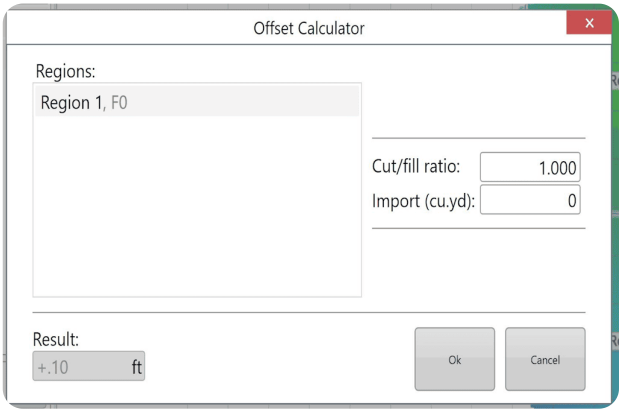


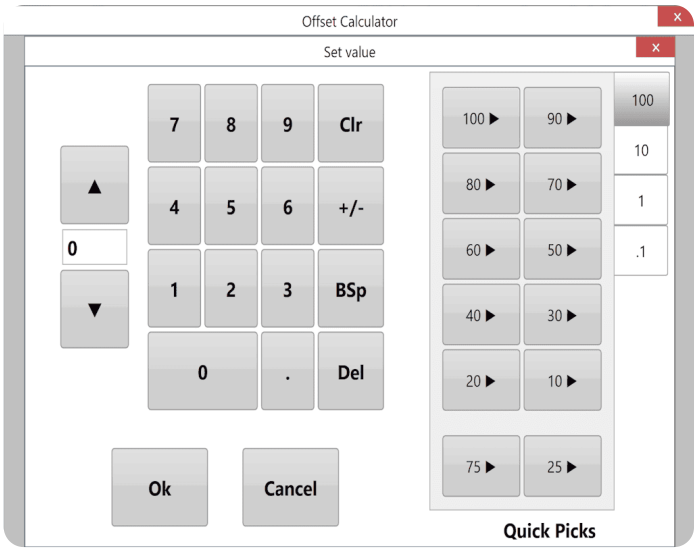
In some tools that require a value to be input a calculator will be available.

The purpose of the calculator is to take some of the stress away from creating field and drain designs.

In addition to being able to calculate, the calculator comes with a function to add quick values.

These are helpful if you are not wanting to find the exact value and just want to get moving as quickly as possible.




Offset Calculator
Set value
7
8
9
Clr
4
5
6
+/-
1
2
3
BSp
0
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Ok
Cancel
100 ▶
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70 ▶
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25 ▶
Quick Picks
100
10
1
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