

Get started with excavators

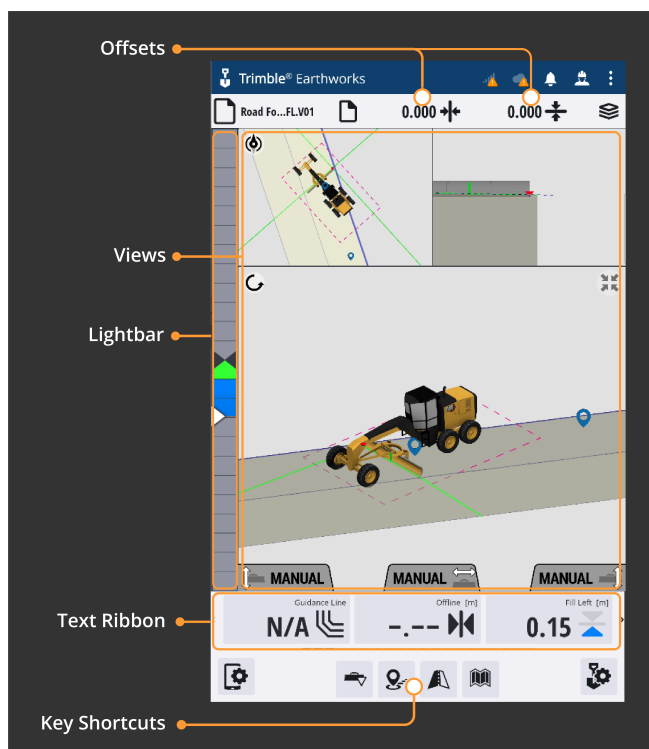
When you first start using Trimble Earthworks you just need to know the key parts of the interface. Once you know your way around you can use the software to take the heavy lifting out of common jobs on a construction site.

[Watch an expert operator](#) set up and use Trimble Earthworks to or check out the step-by-step instructions.

Key parts of the interface

When you first start using Trimble Earthworks these are the key parts of the interface you'll be using:

- Views
- Lightbars
- The Text Ribbon
- Offsets
- Some other key icons



Step by step

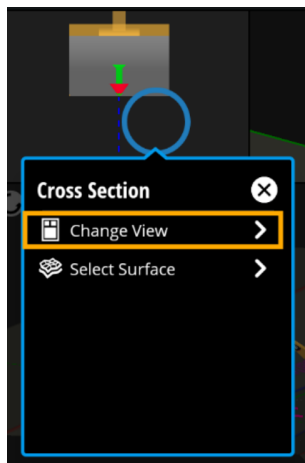
1. Open Trimble Earthworks.
2. Swipe the Text Ribbon left to access more options.



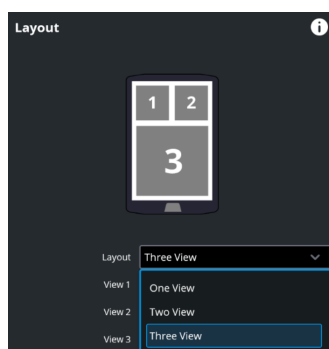
3. Use two fingers to swipe across three sets of views.

4. To change a view:

- a. Tap and hold anywhere in a View pane.
- b. Tap **Change View**.



5. To choose how many views you want to see, expand the **Layout** drop-down.



Set up the Text Ribbon

The Text Ribbon shows you key information like how high you are above sea level. You can set it up to show the options you use most – like Cut left and Cut right, for example. You can also rearrange the options you use most in an order that matches your workflow.

Customizing the Text Ribbon makes it quick and easy to get jobs done because you don't have to slide the ribbon to get to the options you use most.

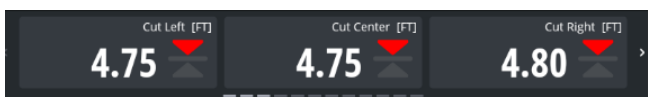


Watch the video

Watch an expert operator [customize the Text Ribbon](#).

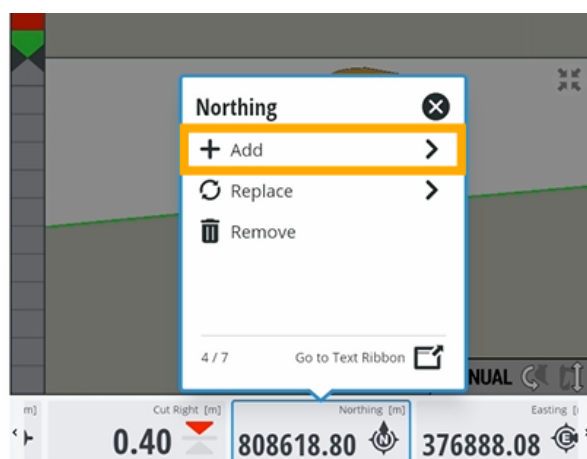
Step by step

1. Swipe the Text Ribbon left to see all the options currently set to display.



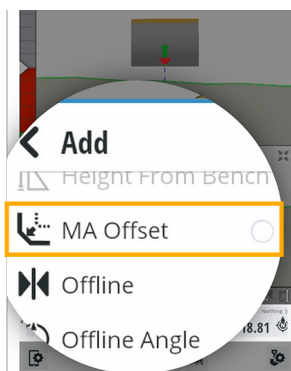
2. To change the options you see:

- a. Tap and hold anywhere on the Text Ribbon > Tap **Add**.



NOTE – You'll see a list of options. If an option is already showing on the Text Ribbon it will be grayed out.

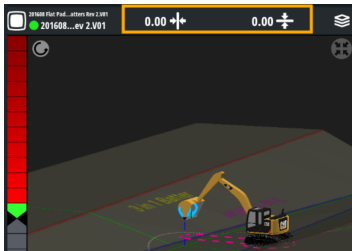
- b. Tap an option that isn't greyed out to add it to the Text Ribbon and tap **Apply**.



3. To rearrange the options on the Text Ribbon:
 - a. Tap and hold the option you want to move.
 - b. Drag it to where you want it to show.

Focus on offsets

You can find the vertical and horizontal offset buttons at the top of the TD5x0 screen.

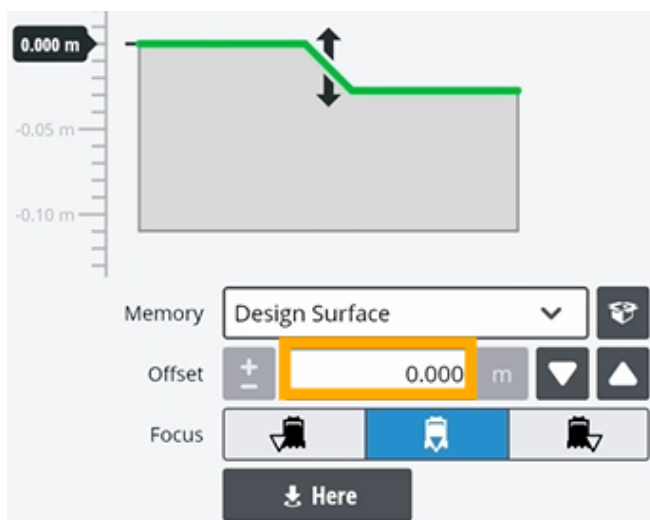


Step by step

VERTICAL OFFSETS

EXAMPLE – You can create a vertical offset above or below your finished level line. For example, you could enter an offset of -300 ml.

1. Tap and hold the elevation offset  icon.
2. To enter your offset, tap the Offset field.

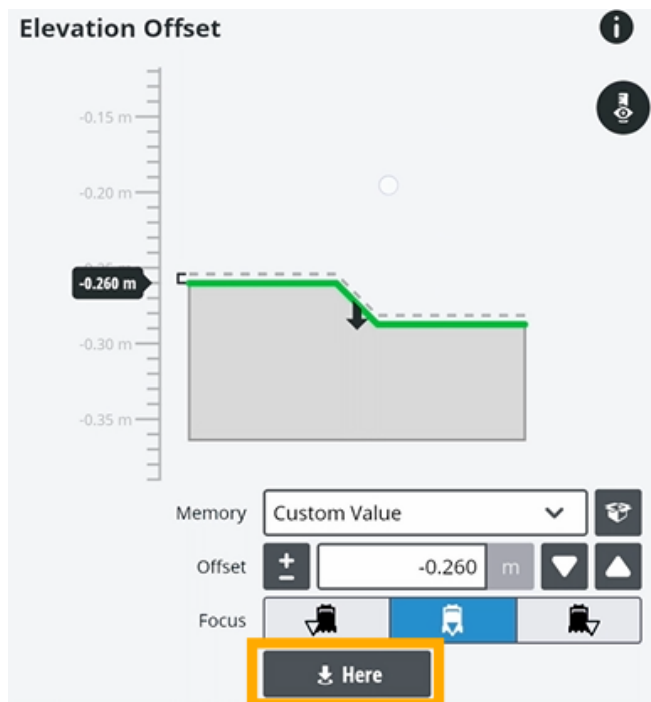


TIP – You can also drag the green line to specify your offset.

3. Tap **Apply** – The dotted line shows your finished level line.



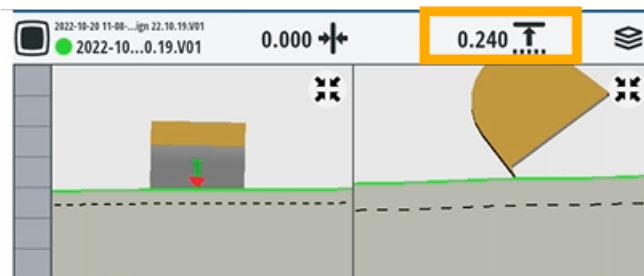
- To specify where the focus point of your bucket is, tap **Here**.



- When you've set up your offset, tap **Save**.
- Tap **Apply**.

TIP – You can create as many offsets as you like.

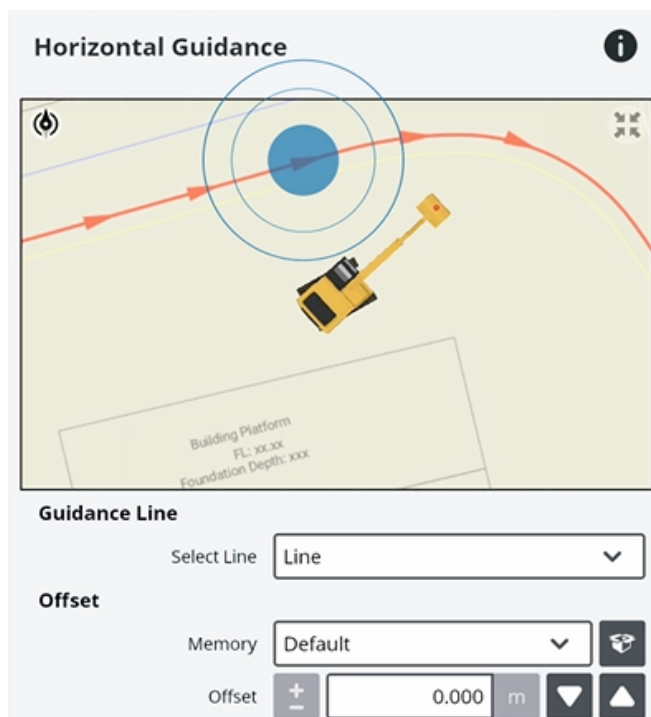
- To toggle through offsets you've saved, tap the elevation offset  icon.



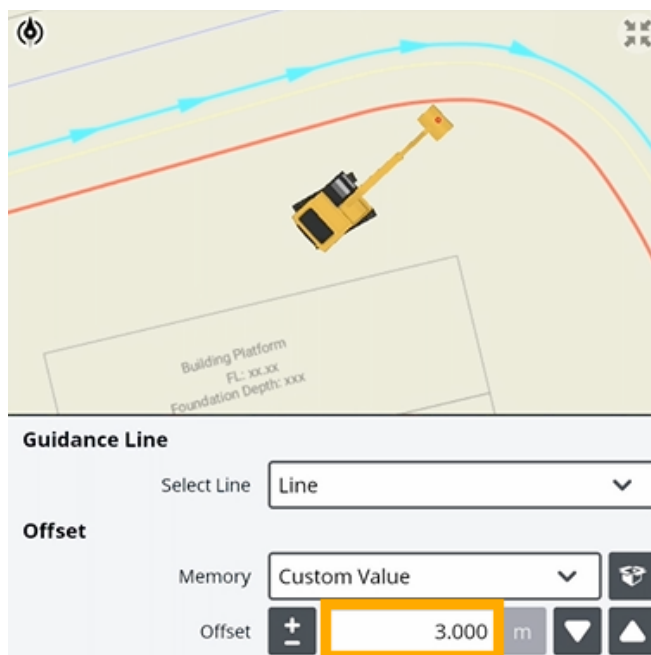
HORIZONTAL OFFSETS

EXAMPLE – You might want to create a horizontal offset for a boundary fence that's 3 meters from the road.

- Tap and hold the horizontal offset  icon.
- Tap the line you want to offset from.



3. In the **Offset** field, specify a value for your offset.



4. Tap **Apply**.

Measure distance

You'll often find yourself needing to measure the distance between two points on a site.

EXAMPLE – You might need to measure the distance from the bottom of the batter to the boundary line.

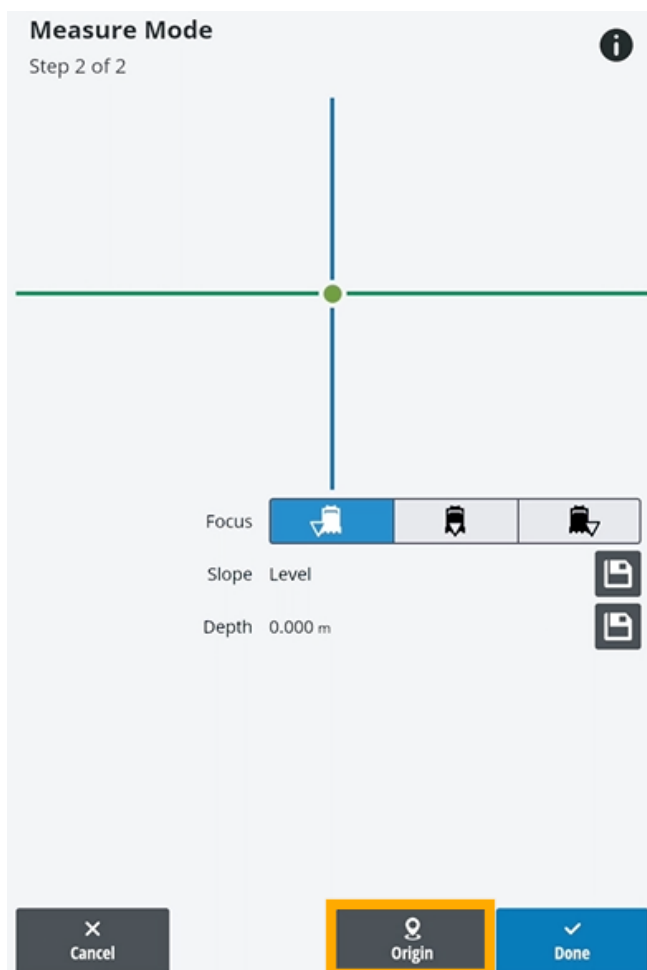
You can use Trimble Earthworks to measure distance without getting out of the cab. This is especially useful if it's raining or there's no-one available to hold the other end of the tape measure.

Your results will be a lot more accurate if you use Trimble Earthworks.

NOTE – You need two GNSS receivers on your machine for it to know where it is.

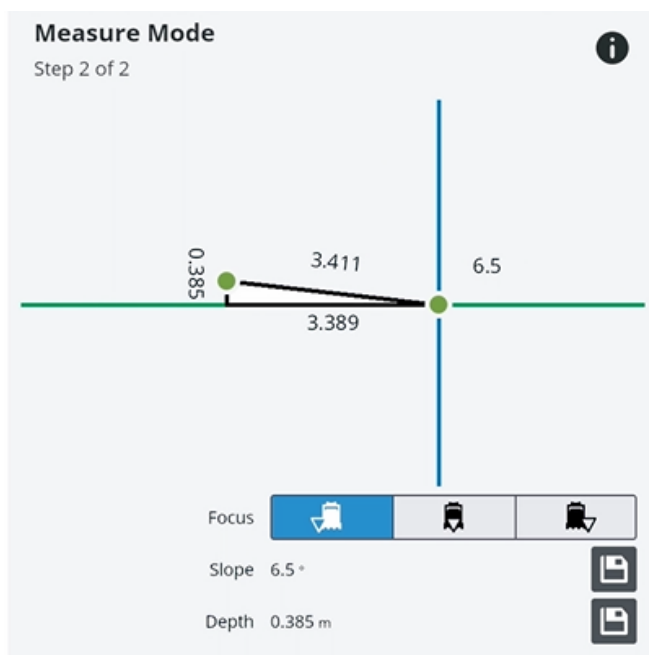
Step by step

1. Tap the Work Settings  icon.
2. Tap **Measure Mode**.
3. Put your bucket down on the point you want to start measuring from.
4. Tap **Origin**.



NOTE – The green point shows where your bucket is.

5. Move the machine to the point you want to measure to and put your bucket down.



NOTE – The numbers on the screen change in real time as you move the machine.

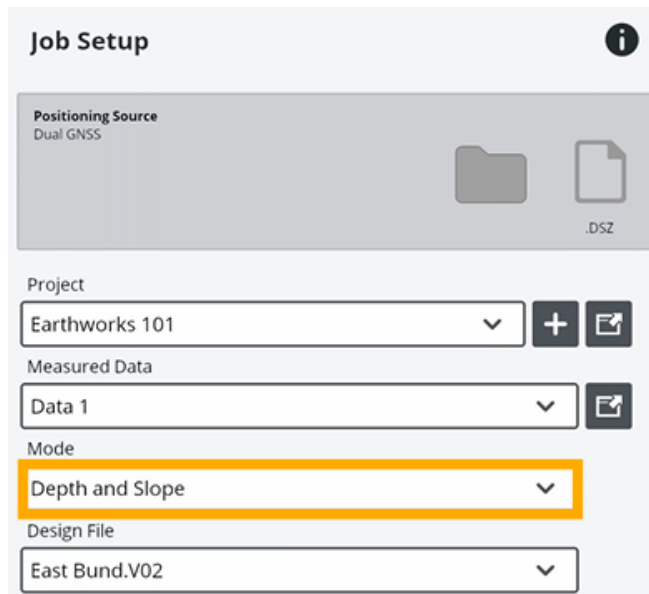
Trimble Earthworks 2.23. Updated December 2025.

Make a flat pad

One of the first things you need to do when you start working on a site is make a flat pad. This could be for a crane, a site office, or a stock pile to organize building material.

Step by step

1. Tap **Job Setup** on the Dashboard.
2. For Mode, select **Depth and Slope**.



Job Setup

Positioning Source
Dual GNSS

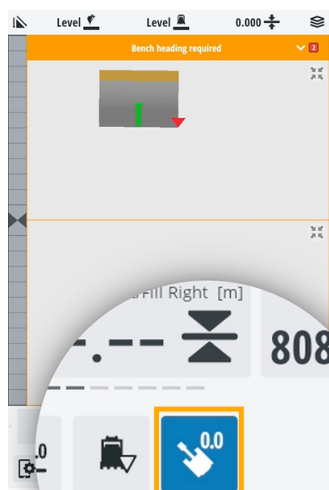
Project
Earthworks 101

Measured Data
Data 1

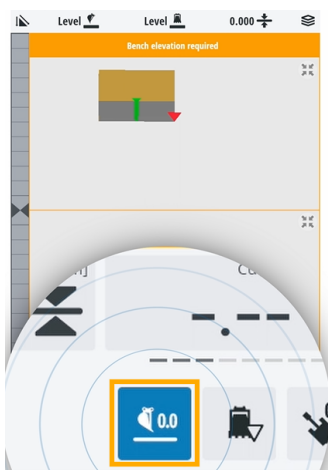
Mode
Depth and Slope

Design File
East Bund.V02

3. Tap **Apply**.
4. To specify which way you're facing, tap the bench heading  icon.



5. Position your bucket where you want the flat pad to be.
6. Bench the elevation.



7. If you want to adjust the height of the pad, tap the elevation offset  icon.

TIP – You can also change the height of the pad by rebenching the elevation and the heading.

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Drain water

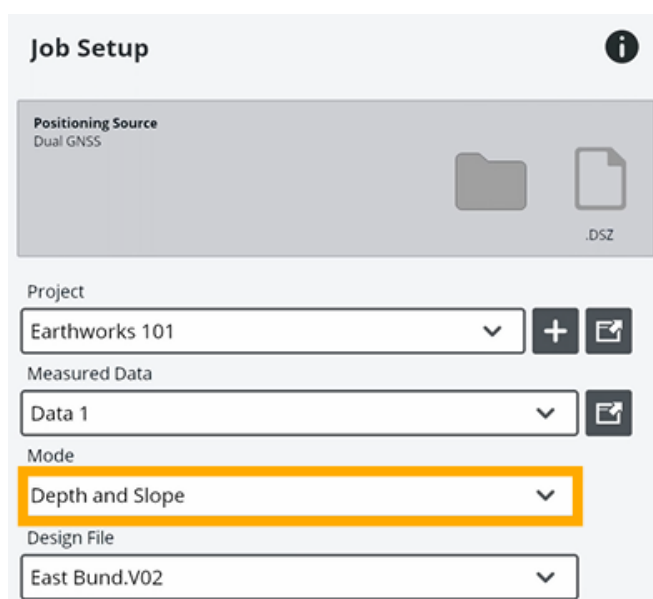
You can use Trimble Earthworks to dig a basic trench to drain water and prevent unwanted pools on a site.

EXAMPLE – Once you've [created a flat pad](#) you could put a cross-slope on it to drain water away from the site.

To drain water you need to bench the heading so you know which way the water will go.

Step by step

1. Tap **Job Setup** on the Dashboard.
2. For Mode, select **Depth and Slope**.



Job Setup ⓘ

Positioning Source
Dual GNSS

Project
Earthworks 101 ▼ + ↗

Measured Data
Data 1 ▼ ↗

Mode
Depth and Slope ▼

Design File
East Bund.V02 ▼

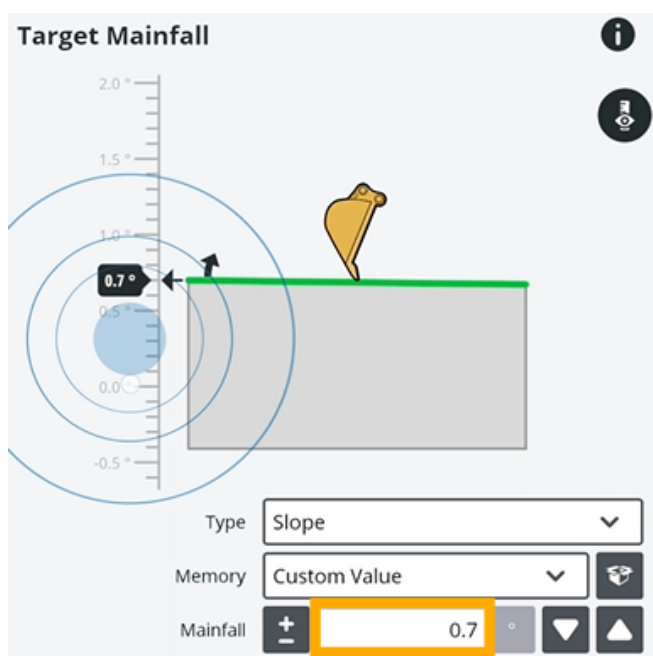
3. Tap **Apply**.
4. Tap **Start**.
5. Tap the bench heading  icon.

NOTE – In this scenario we want water to fall in front of the machine.

6. Tap the bench elevation  icon
7. To put a fall on the drain, tap and hold the Mainfall level  icon.

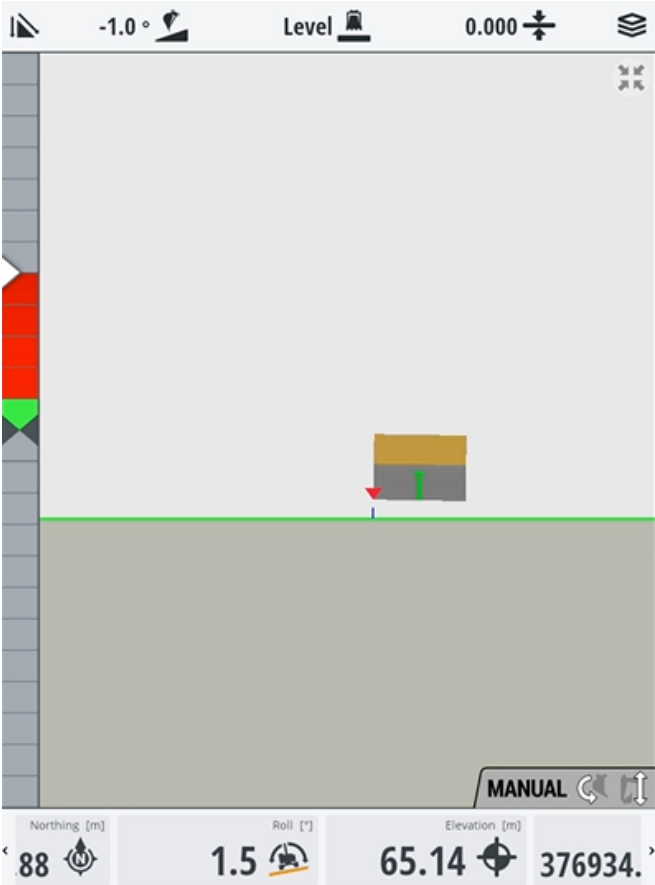


8. To specify the degree for the fall, drag the slider or enter a value in the **Mainfall** field.



EXAMPLE – You might want water to fall by 1°. If you enter **-1**, the water will flow down in front of where your machine is facing.

9. Tap **Apply**.
10. Drive the machine to where you want to start the drain.
11. Start digging back to where you took your first point.



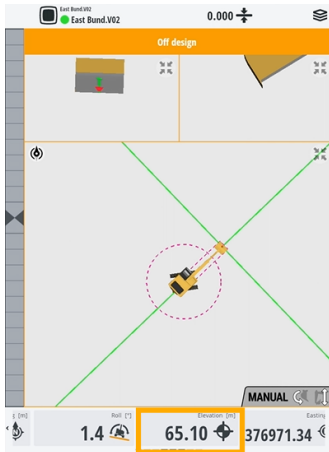
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Find the lowest point

Before you start working on a site you need to find the lowest point so you know which way water will flow when it rains. On a flat site it can be hard to tell where the lowest point is by just looking. When you know where the lowest point is you can also decide on a good spot to [dig a pond](#).

Step by step

1. To see how high you are above sea level, check the Elevation button on the Text Ribbon.



2. Drive your machine around the site and put your bucket down at various points until you find the lowest point.

NOTE – The elevation will change on the screen in real time as you do this.

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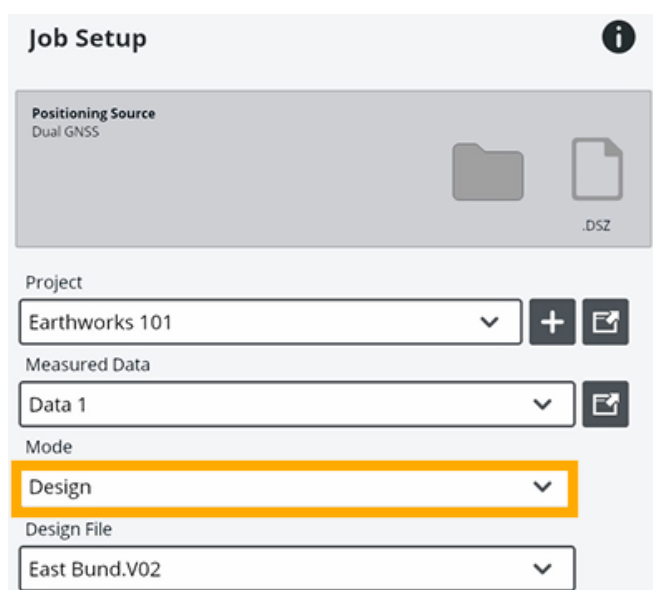
Build an access road

You might need to build an access road for vehicles to enter and leave a construction site.

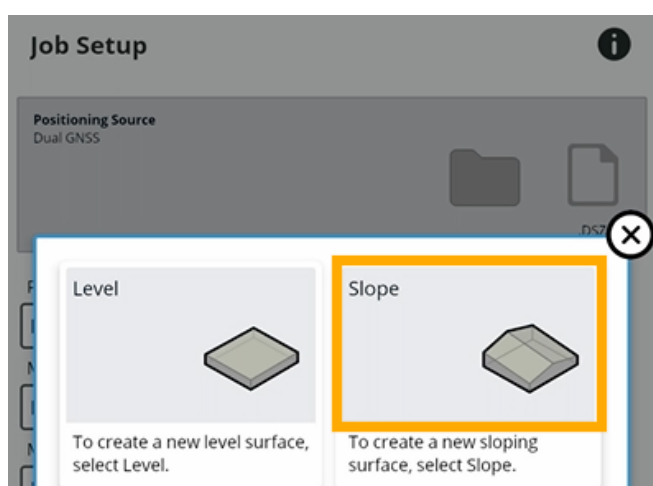
You can put a slope on your road so water runs to each side. How you do this depends on whether you're making a one-way or a two-way road.

Step by step

1. Tap **Job Setup** on the Dashboard.
2. In the Mode field, select **Design**.



3. Tap the add  icon beside the **Guidance Surface** field.
4. To create a design for the road, tap the **Slope** tile.

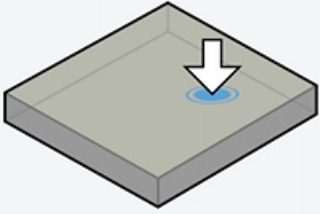


5. To take your first point:

- a. Drive your machine to where you want the road to start and put your bucket down.
- b. Tap **Here**.

Create Slope i

Step 1 of 4: Set Alignment Point 1



Guidance Focus   

Northing m

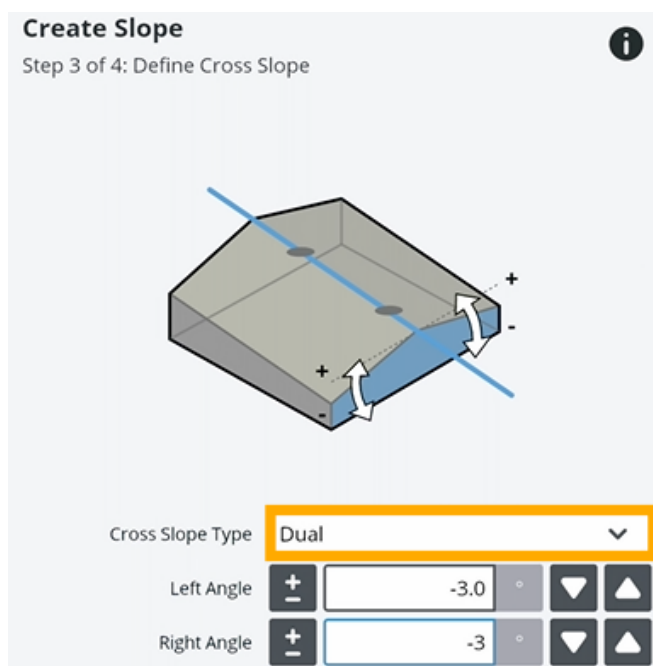
Easting m

Elevation m

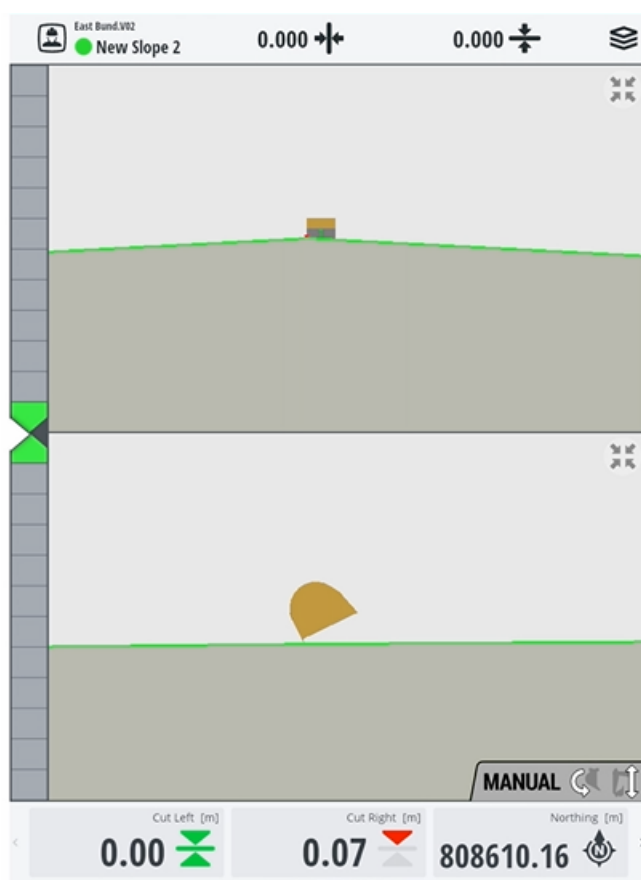
✕ Cancel 📍 Here ▶ Next

- c. Tap **Next**.
6. To take your second point:
 - a. Drive the machine to the other end of where your road will be and put the bucket down.
 - b. Tap **Here**.
 - c. Tap **Next**.
7. In the **Cross Slope Type** field, specify whether you want a single or a dual fall.

NOTE – If you choose a dual fall, enter the fall for either side of the road.



8. When you've finished setting up your slope, tap **Next**.
9. Enter a name for your design and tap **Apply**.
10. Tap **Start** to see your design and start building the road.

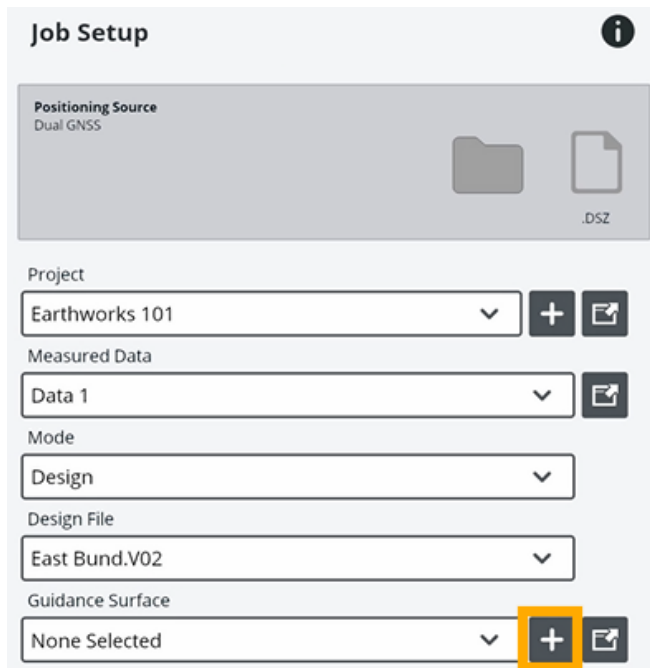


Build a drain

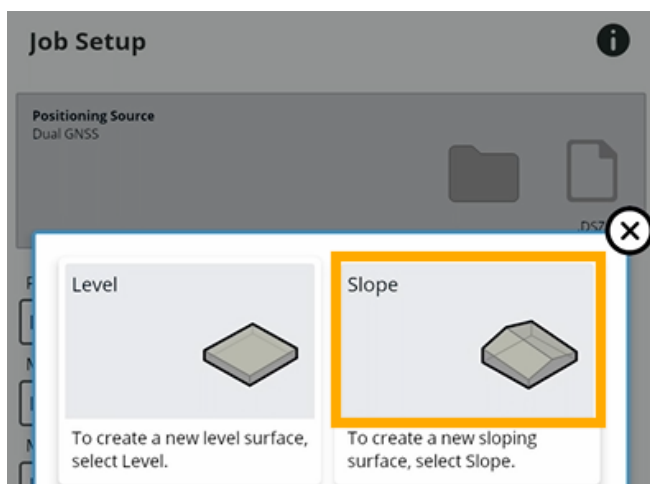
Once you've created a [flat pad](#), you might need to drain water from there to somewhere else on the site.

Step by step

1. Tap **Job Setup** on the Dashboard.
2. Tap the add **+** icon beside the **Guidance Surface** field.

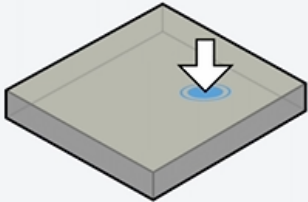


3. Tap the **Slope** tile.



4. To take your first point:
 - a. Drive your machine to where the bottom of the drain will be and put your bucket down.
 - b. Tap **Here**.

Create Slope
Step 1 of 4: Set Alignment Point 1

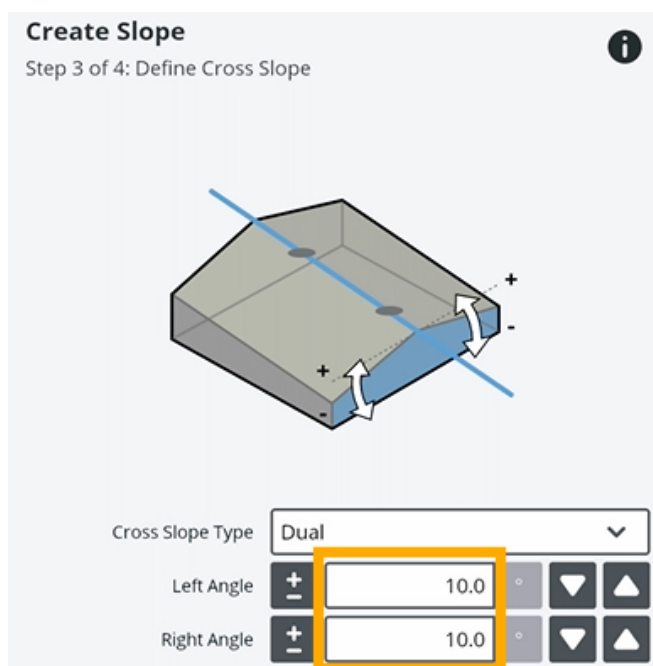


Guidance Focus

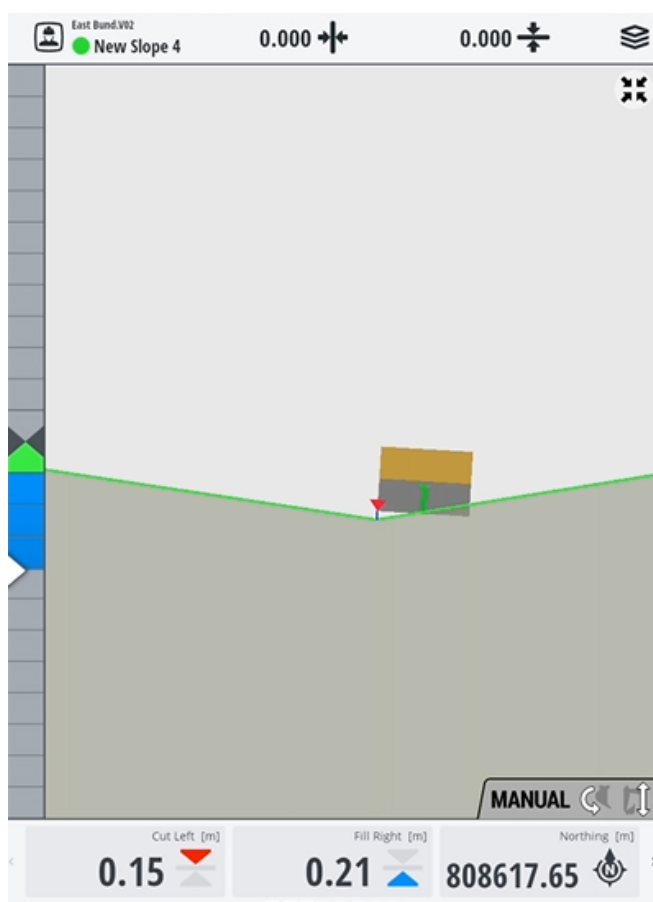
☒  ☐  ☐ 
Northing -- m
Easting -- m
Elevation -- m

- c. Tap **Next**.
5. To take your second point:
 - a. Drive your machine to where the other end of the drain will be and put the bucket down.

NOTE – This is where the drain will start. It will fall back to where you took your first point.
 - b. Tap **Here**.
 - c. Tap **Next**.
6. In the Cross Slope Type field, select **Dual**.
7. Enter positive angles for either side of the drain.



8. When you've finished setting up your slope, tap **Next**.
9. Enter a name for your design and tap **Apply**.
10. Tap **Start** to see your design and start digging the drain.

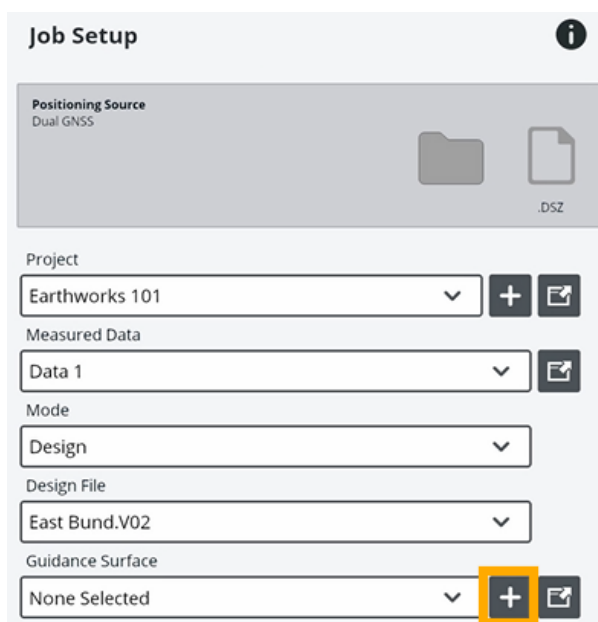


Dig a pond

One of the first jobs you might need to do on a new site is dig a pond to control water or sediment.

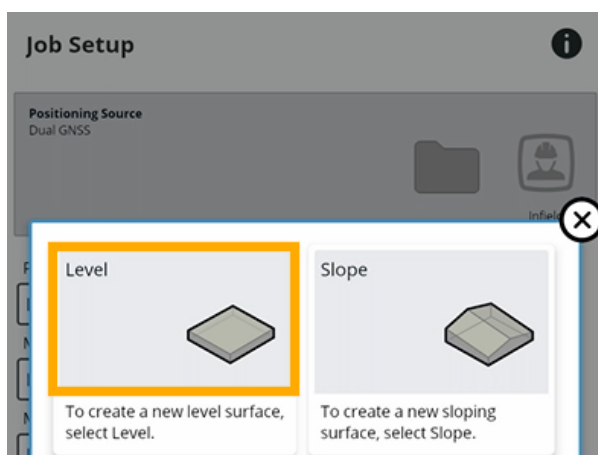
Step by step

1. Tap **Job Setup** on the Dashboard.
2. Create a new level:
 - a. Tap the add  icon beside the **Guidance Surface** field.



The screenshot shows the 'Job Setup' screen. At the top, there's a 'Positioning Source' section with 'Dual GNSS' and icons for a folder and a file labeled '.DSZ'. Below this are several dropdown menus: 'Project' (Earthworks 101), 'Measured Data' (Data 1), 'Mode' (Design), and 'Design File' (East Bund.V02). The 'Guidance Surface' dropdown is currently set to 'None Selected'. A yellow box highlights the plus icon (+) to the right of the 'Guidance Surface' dropdown, indicating where to tap to add a new level.

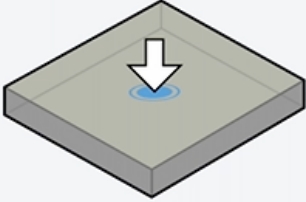
- b. Tap the **Level** tile.



This screenshot shows a modal dialog box with two options: 'Level' and 'Slope'. The 'Level' tile is highlighted with a yellow border. It features a 3D icon of a flat surface and the text: 'To create a new level surface, select Level.' The 'Slope' tile features a 3D icon of a sloped surface and the text: 'To create a new sloping surface, select Slope.' A close button (X) is visible in the top right corner of the dialog.

- c. To specify how deep you want your pond to be, tap **Here** or enter the level in the Elevation field.

Create Level Pad ⓘ



Name

Guidance Focus ☒ ☐ ☐

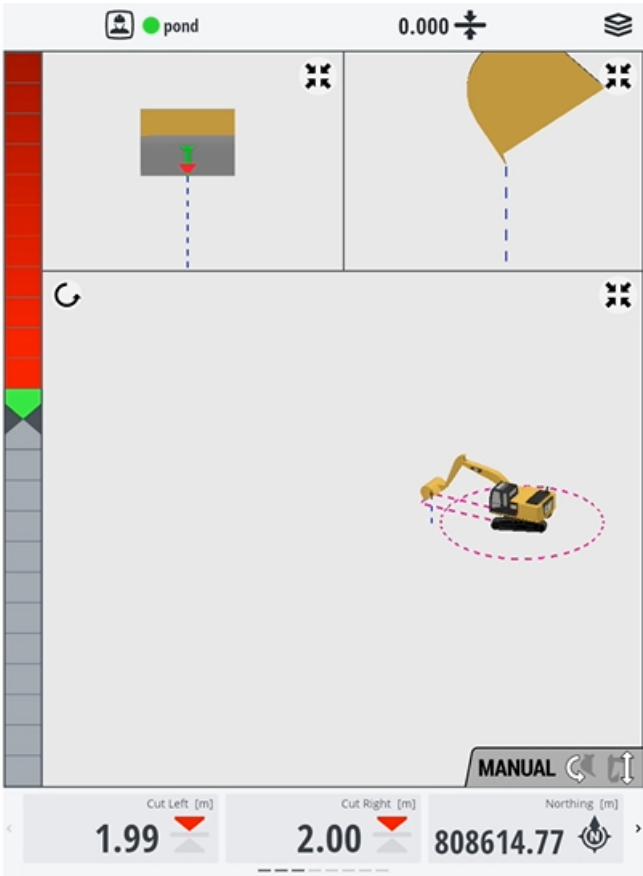
Elevation m

EXAMPLE – If Trimble Earthworks shows you're 65 meters above sea level and you want your pond to be 2 meters deep, adjust the level to 63 meters.

- d. Enter a name for your pond design and tap **Apply**.

TIP – If you know you're going to be digging more than one pond, you can save and reuse this design.

3. Tap **Start** to see your design and start digging your pond.



Trimble Earthworks 2.23. Updated December 2025.