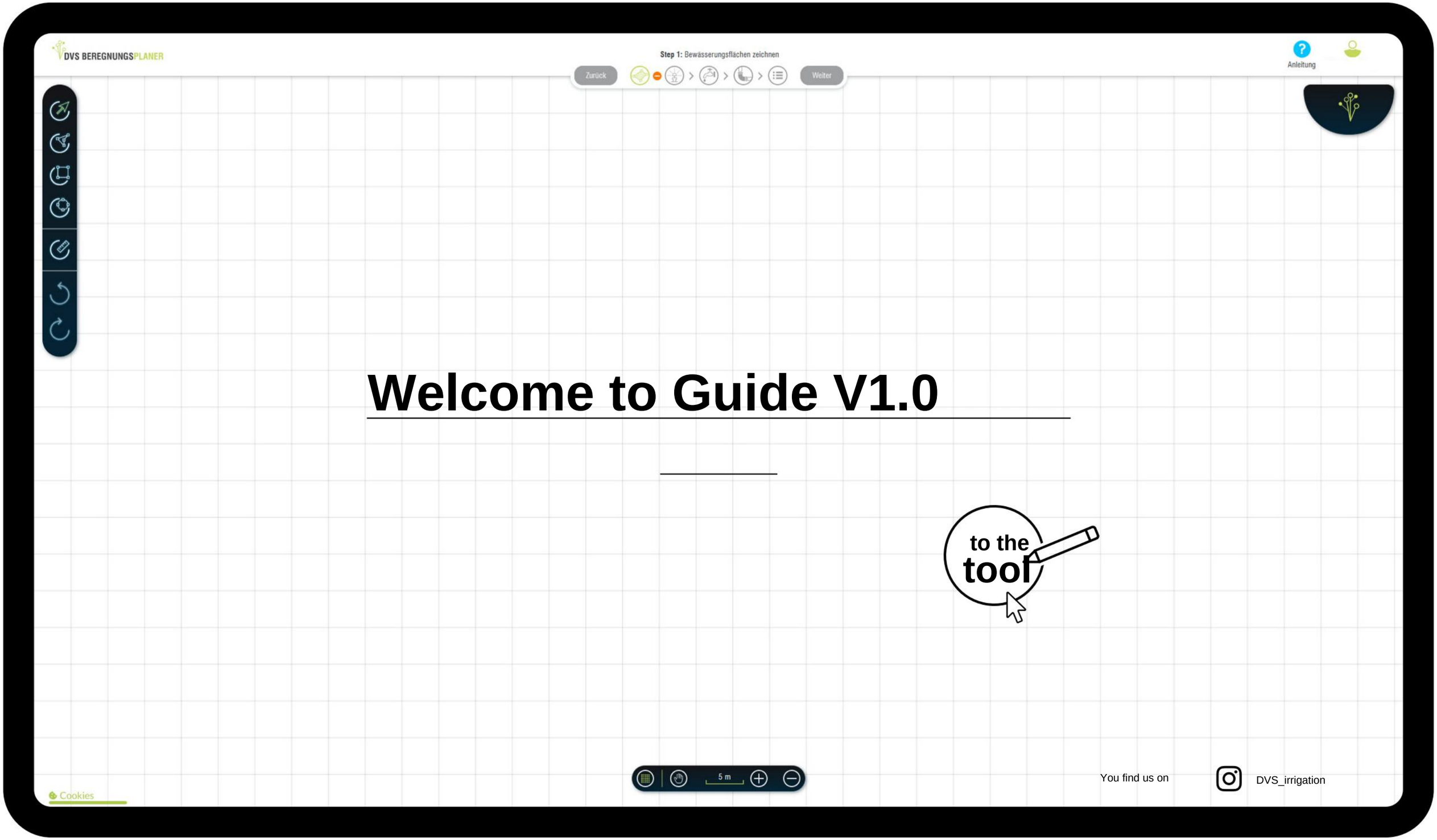
DVS irrigation planner

GARDEN IRRIGATION



contents

klick

JUMP MARK
With a mouse click you jump directly to the corresponding page.

Welcome to DVS irrigation planner!

Walk into the digital planning office!
It has never been so easy to plan and implement customized garden irrigation.

We, the professionals at DVS Beregnung, support you with online planning and accompany you step by step with this guide through our DVS Irrigation Planner.

If you have any questions during the planning, we have put together an FAQ list with many answers on page 20.

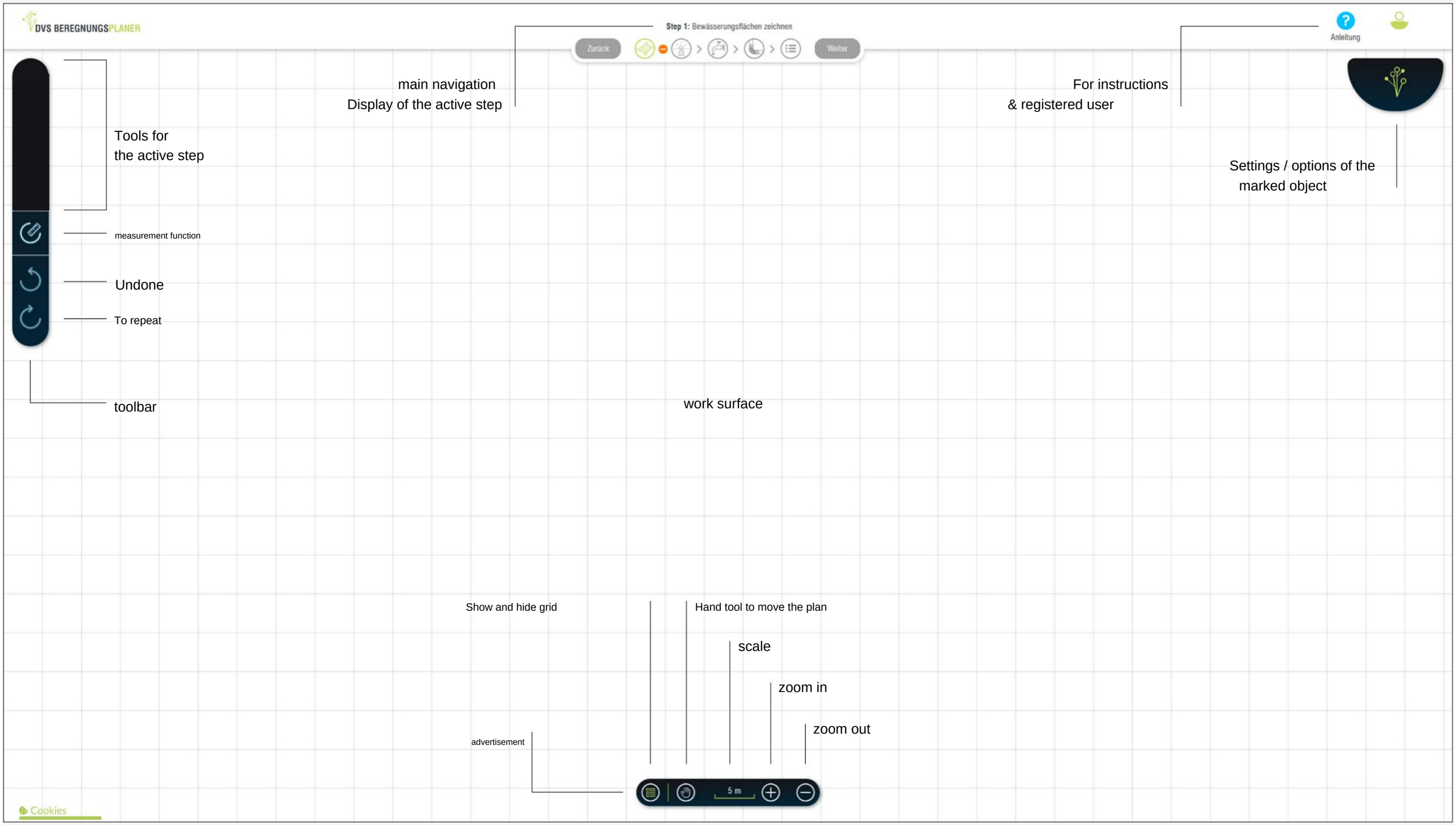
And when you have finished planning your irrigation system, you can send us your plan for a professional check.

So let's get started - have fun with our DVS irrigation planner!

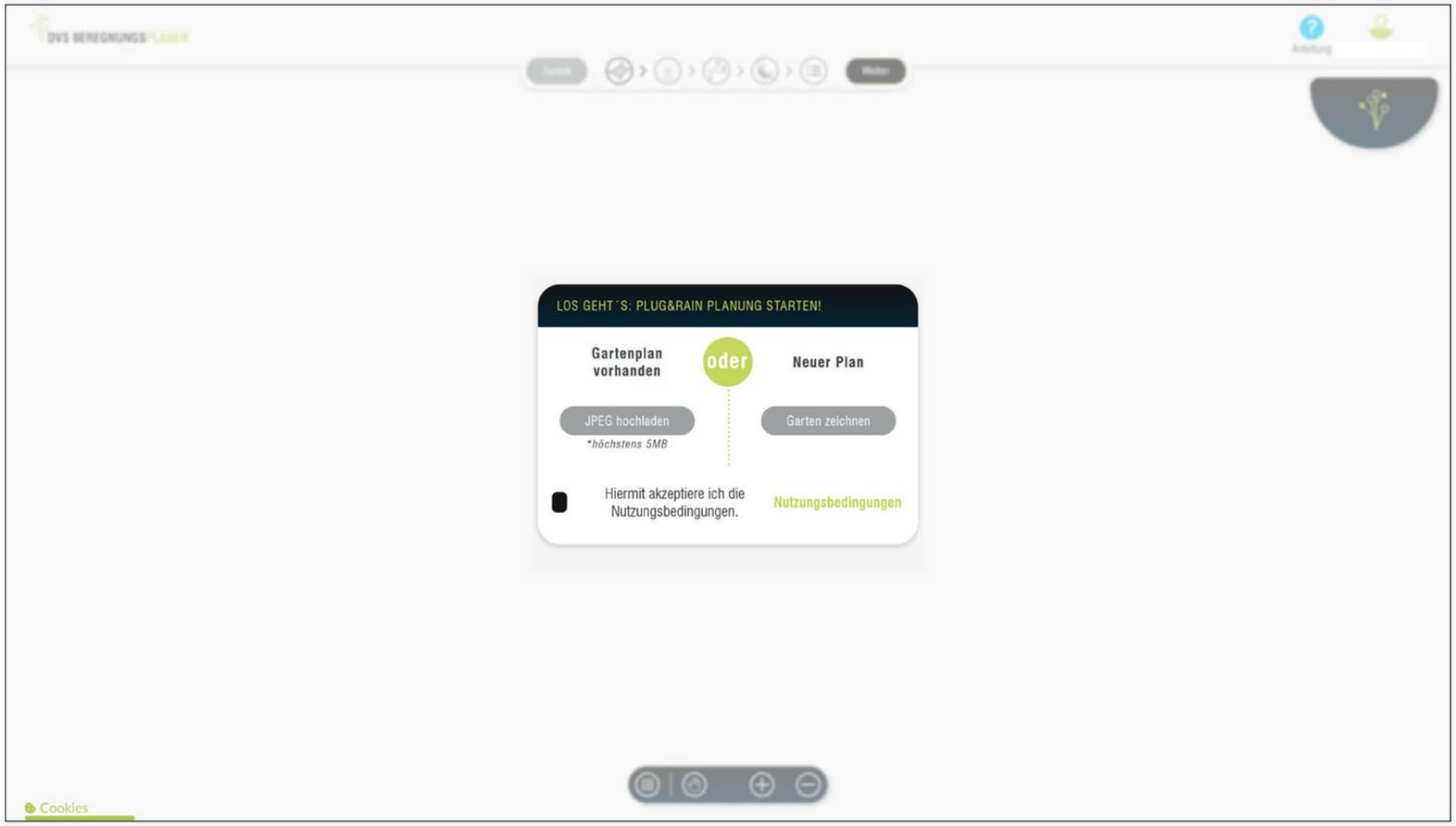
klick
PLANNING GUIDE

klick
PLUG&RAIN® CATALOGUE

user interface



Registration & Terms of Use



If you have logged in, first accept the terms of use in order to be able to use the DVS irrigation planner.

YOU NOW HAVE TWO OPTIONS:

option 1

You upload your own garden plan as a true-to-scale sketch or alternatively an aerial photo (e.g. via Google Earth) as a JPEG file.

option 2

You draw lawn and bed areas using the software. Therefor

Various drawing tools are freely available to you. As soon as you have drawn the first area, you will receive a project link by email. From now on every step will be saved.

Using the tools, first draw in your areas and ver

see these with the appropriate properties. For this, go directly to Step 1

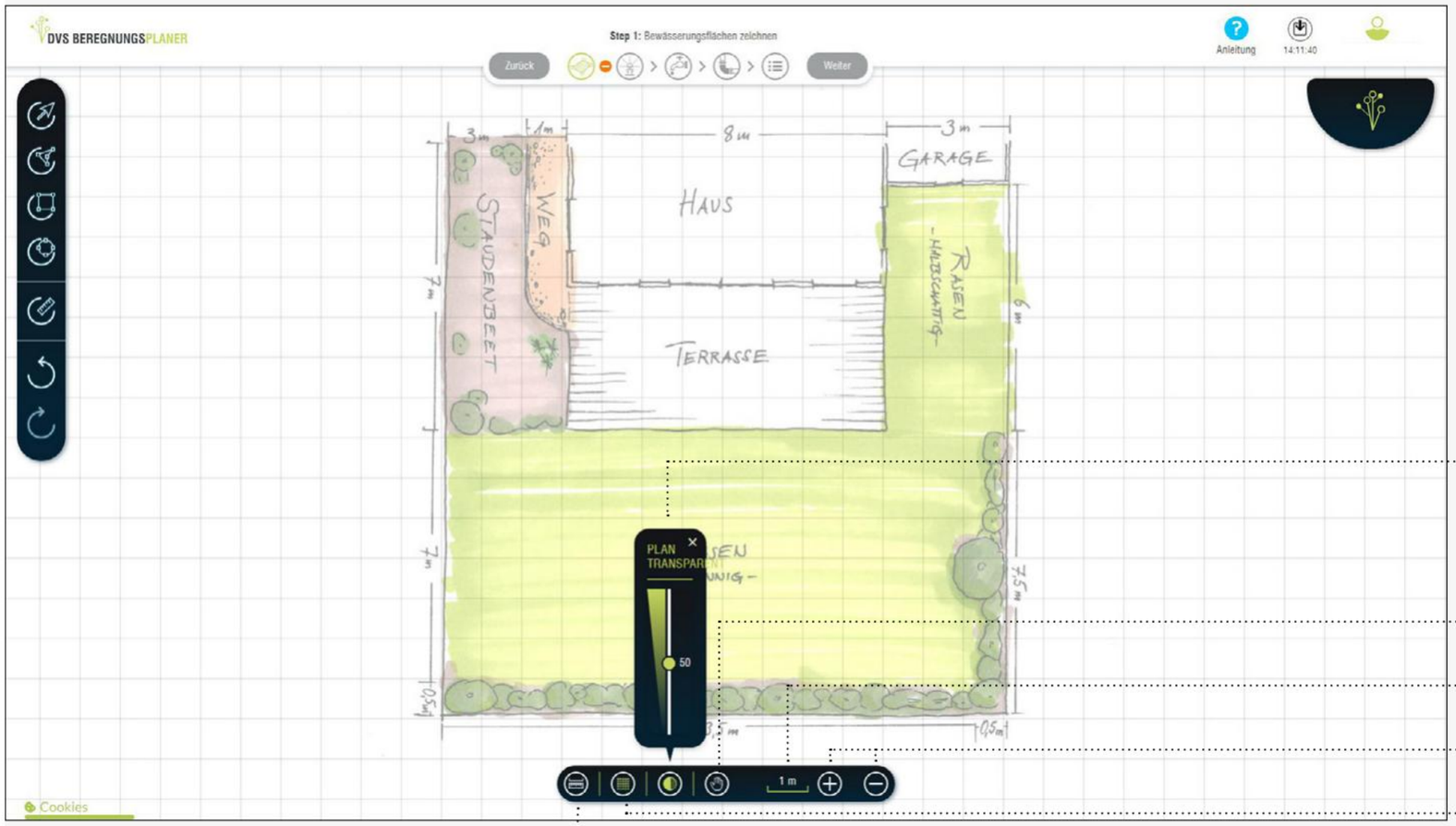
→ klick

Upload JPEG option: scale

DETERMINE SCALE

Mark a known length in your plan and enter it in the space provided.
Confirm by clicking on the tick.
The software now adopts the appropriate scale.

Upload JPEG option: transparency



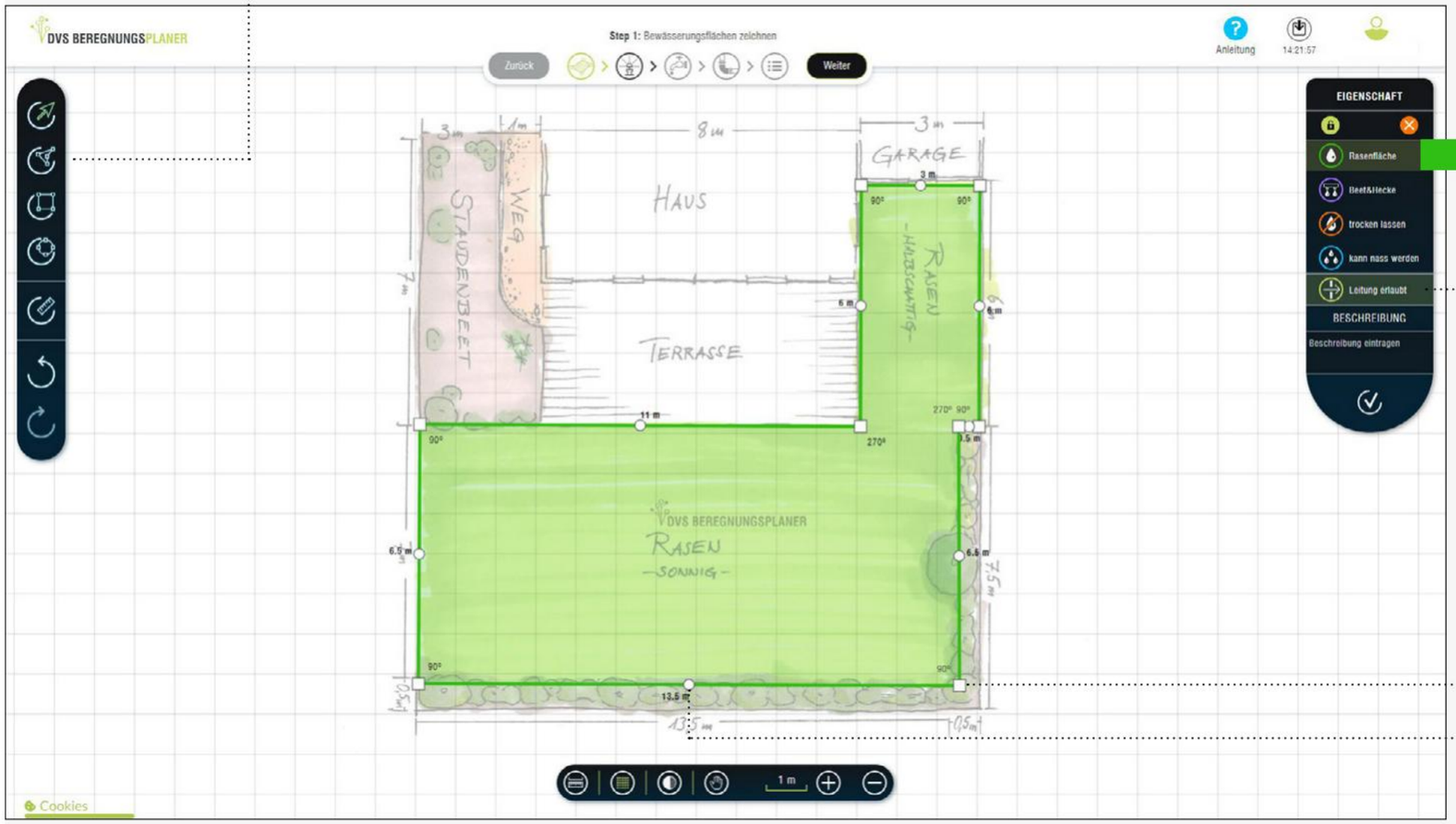
ADJUST TRANSPARENCY

If you use the slider on the bottom bar in the DVS Irrigation Scheduler move, the transparency can be changed.

Your other options on the bottom bar:

- Hand tool to move the plan
- Scale = 1 × 1 m (alternatively mouse wheel)
- Zoom in / zoom out
- Show and hide the grid
- Correction of scale

Draw irrigation areas: Lawn



DRAW LAWNS

To draw in the lawn, we recommend the "Draw free forms" tool in the left bar. Use this to mark the outline of your lawn area in a coherent manner and with as few points as possible on the plan.

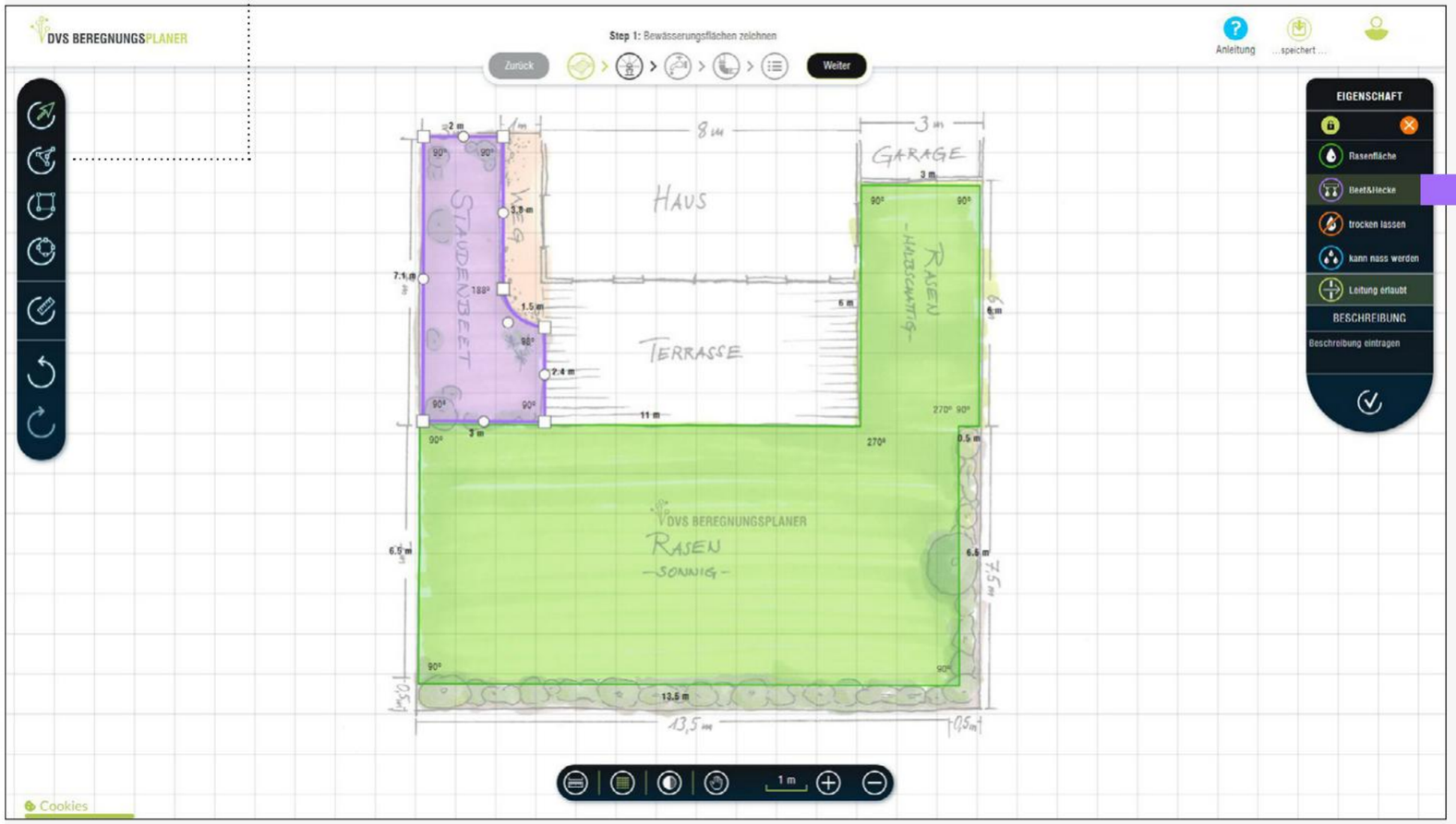
Once you have drawn your lawn area, select the properties for that area on the right rail. Here you can also specify whether lines may be routed through the respective area or not. To do this, click on the corresponding “Line allowed” button. If a line bushing is permitted, the button has a green background.

The squares on the outlines mark vertices.
For application:

- Move vertex: click and drag
- Remove corner point: double click on square
- Add vertex: click on a line
- Spacebar: Move plan while drawing

Use the circles to draw curves. You can read how to do this in the Shape curves chapter → klick.

Draw irrigation areas: bed &/ hedge



DRAW AREAS FOR BED AND/OR HEDGE

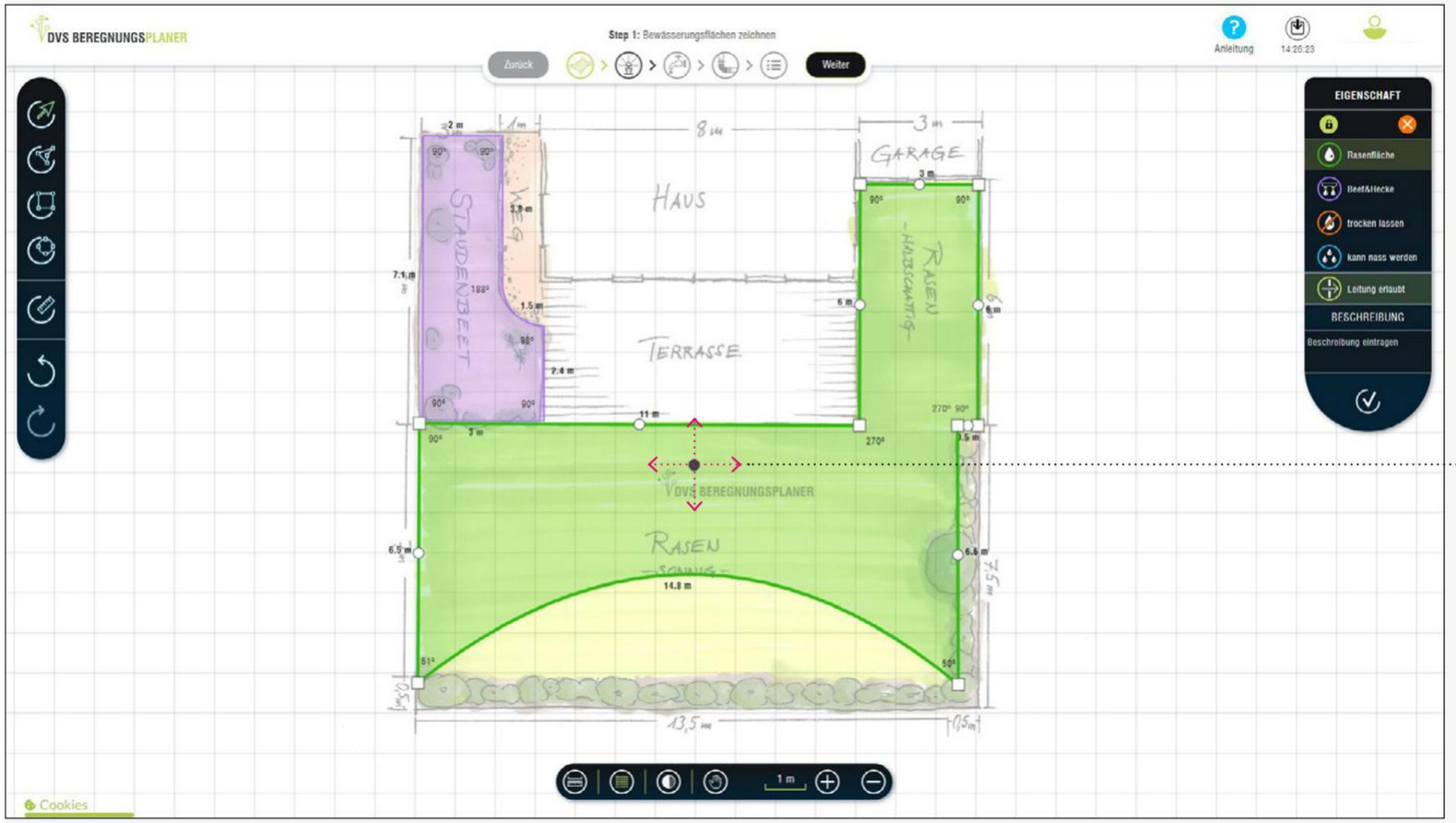
Use the "Draw free forms" tool and use it to draw in the outline of the bed and/ or hedge.

Select the Bed&Hedge property on the right-hand bar.
Since bed and hedge areas are not irrigated with sprinklers but with drip lines, it is important to determine the properties of the area accordingly.

Good to know for future planning:

- The software calculates three meters of drip line per square meter bed.
- At least one connection point is provided for each bed area.
- Watering potted plants: see FAQ → klick
- The number of drip line connectors and drip line sets required can be adjusted in the parts list.

form curves



DRAWING TIP

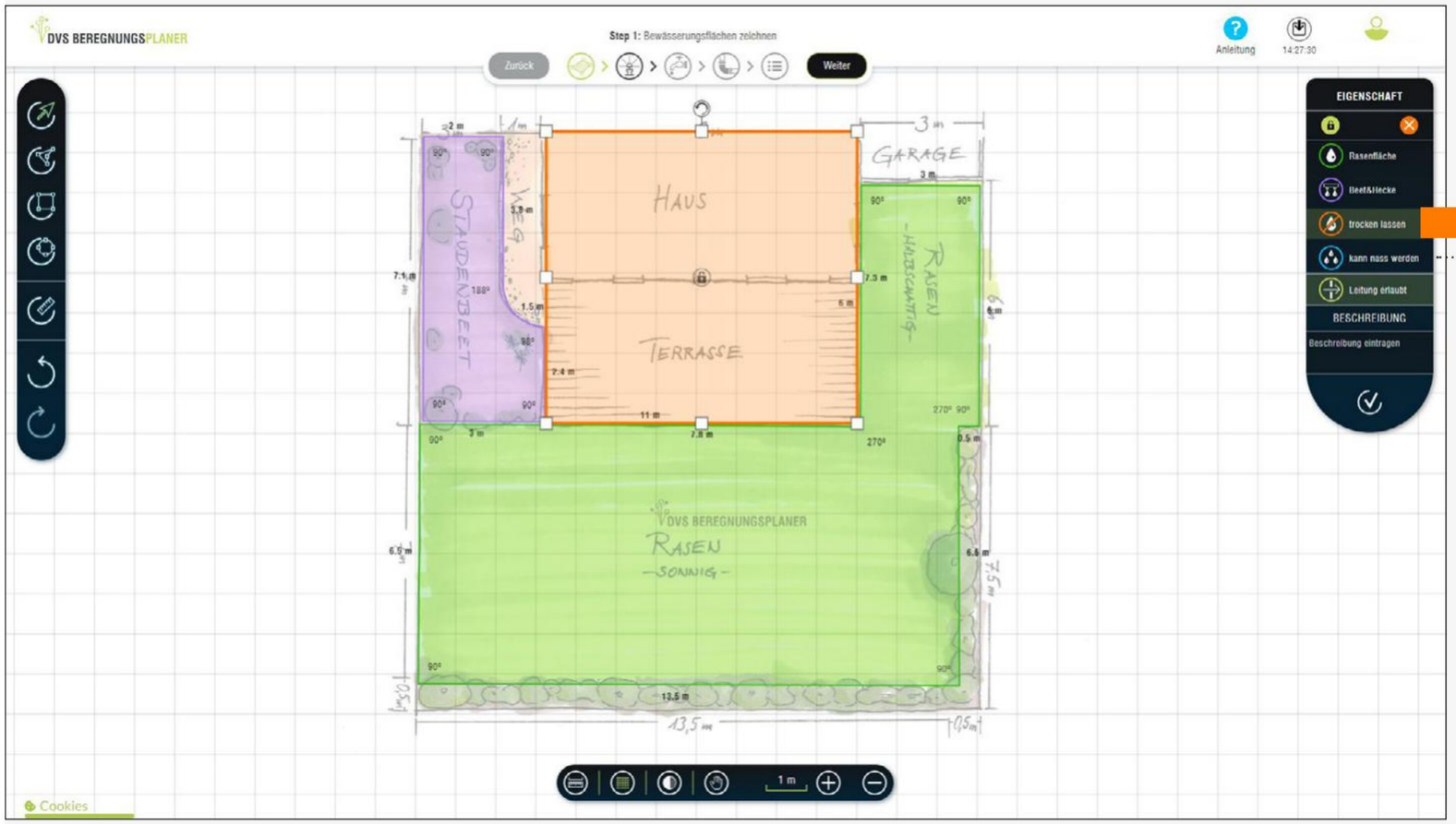
To form a curve, drag the circle on the outline between two corner points in the desired direction until the required curve is achieved.

Remove rounding: double click on the circle

NOTE Please do not draw a fillet with small line segments. Otherwise you will have a lot of points afterwards - that makes it difficult

the automatic positioning of the sprinklers (see example image on the left).

What can get wet and what not?



LET SURFACES DRY

Now draw in the areas that should never get wet (e.g. terrace or objects on the lawn).

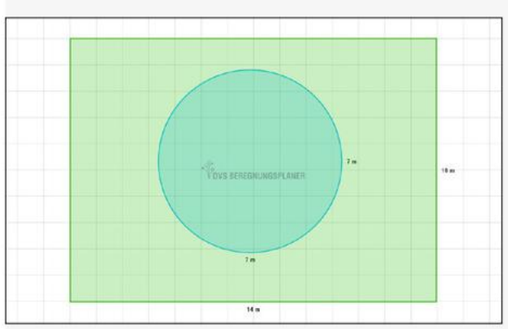
Once you have drawn in the areas, set the "Let dry" property on the right-hand bar.

SURFACES THAT MAY GET WET

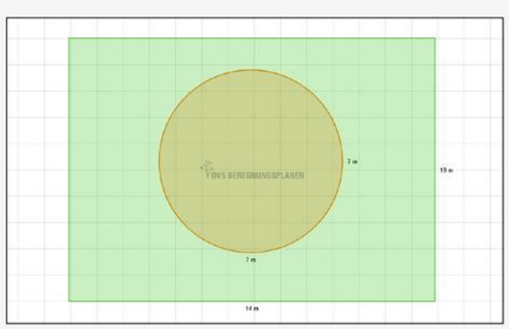
Now draw in the areas that can get wet (e.g. adjacent, undeveloped properties, shoulders, etc.).

Once you have drawn in the areas, set the property “can get wet” on the right-hand bar.

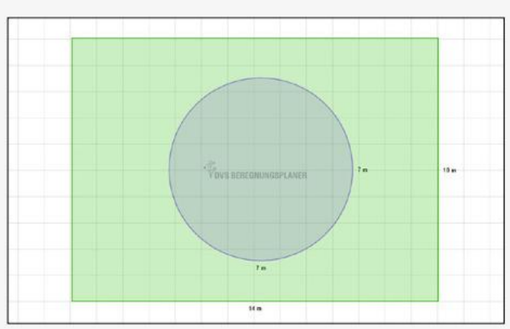
No sprinklers are positioned here, but these areas may be sprayed over if necessary.



MAY GET WET

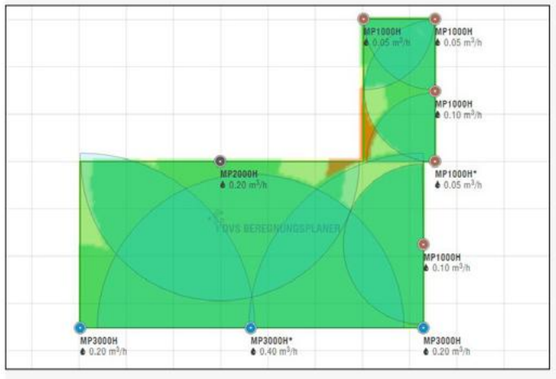


DO NOT GET WET



BED AREA

Sprinkler position lawn: automatically



Brown areas

The water distribution is not yet optimal here. Select a circular or strip sprinkler from the left bar and position your sprinkler at a suitable location.

CALCULATE SPRINKLER POSITIONS

If you now click on "Next" in the top bar, the sprinklers will first be placed by an algorithm.

Please note: Each sprinkler must be placed so that it sprays up to the neighboring sprinkler. Sufficient watering of the lawn is only guaranteed with this overlap (circular flower pattern).

TIP Use the precipitation simulation to check the evenness of the watering.

If the algorithm does not provide a perfect result, you must manually adjust the radii, arcs or sprinkler position → klick

Sprinkler position lawn: manually

MANUALLY POSITION SPRINKLER

Select a circular or strip sprinkler from the left bar and position your sprinkler at a suitable location.

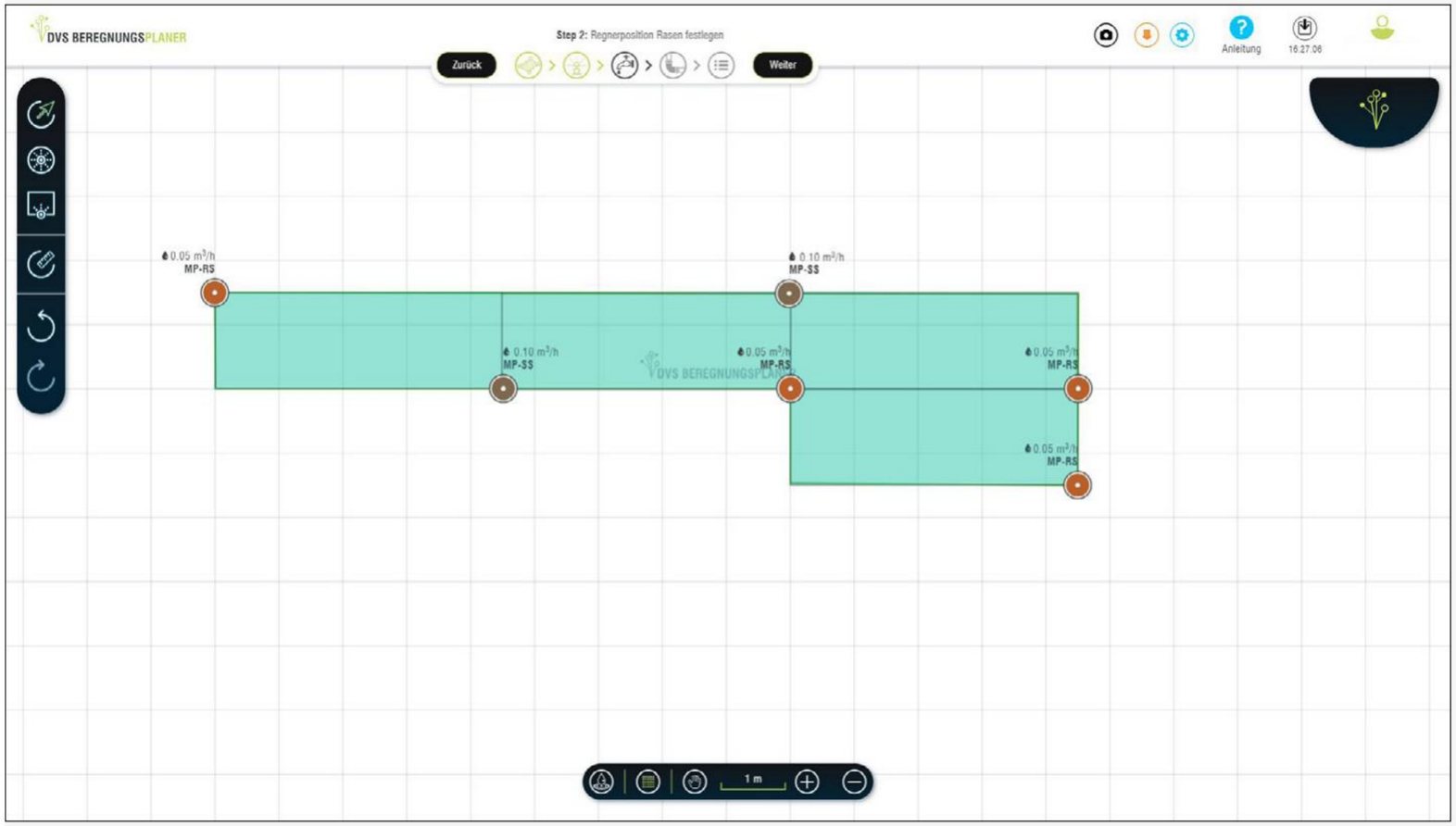
In the field on the right you define the properties of your strip sprinklers.

More options:

- Setting the start angle: Drag the white circle the arrow line (leg with triangle).
- Adjust watering angle: Move the white circle (shank without triangle).
- Change Radius: Hold one of the two small, white ones Lock circles and move them toward the sprinkler (decrease) or away from the sprinkler (enlarge).

Optimal water distribution If your drawing is evenly colored green, the water is optimally distributed and your garden is perfectly irrigated.

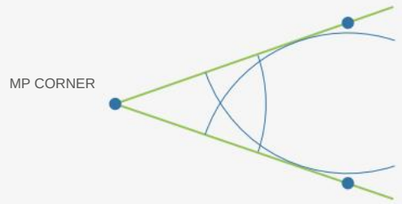
sprinkler positions: The tricky cases



NARROW STRIPS OF LAWN

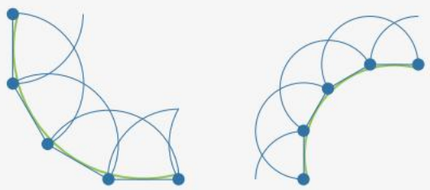
- Strip sprinklers (MP strip rotators) are suitable for lawn strips of less than 3 m.
- Up to 1.5 m wide: Position nozzles diagonally opposite so that two throw areas completely overlap.
- From a width of 1.5 m: position the nozzles opposite one another.

ACCURATE ANGLE



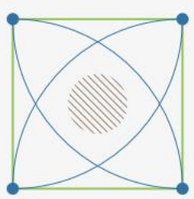
- From 45 °: Water with MP-Corner. This sprinkler requires in acute angle no overlap.

CURVES



- Here the radius of one sprinkler determines the position of the next.
- Head-to-head irrigation remains.

OBSTACLES (e.g. TREES)



- The sprinkler position should be chosen so that at least three sprinklers spray the tree from different sides.
- This way the lawn around the obstacle is evenly watered.

Determine water supply

DETERMINE WATER CONNECTION AND WATER TYPE

Select the water supply in the left bar and place the water connection in the appropriate place.

Now select the type of water in the right-hand bar (drinking water, rainwater, well water). A drinking water separation station is preset for drinking water. This is provided in accordance with DIN EN1717 and prevents garden water from running back into the drinking water network.

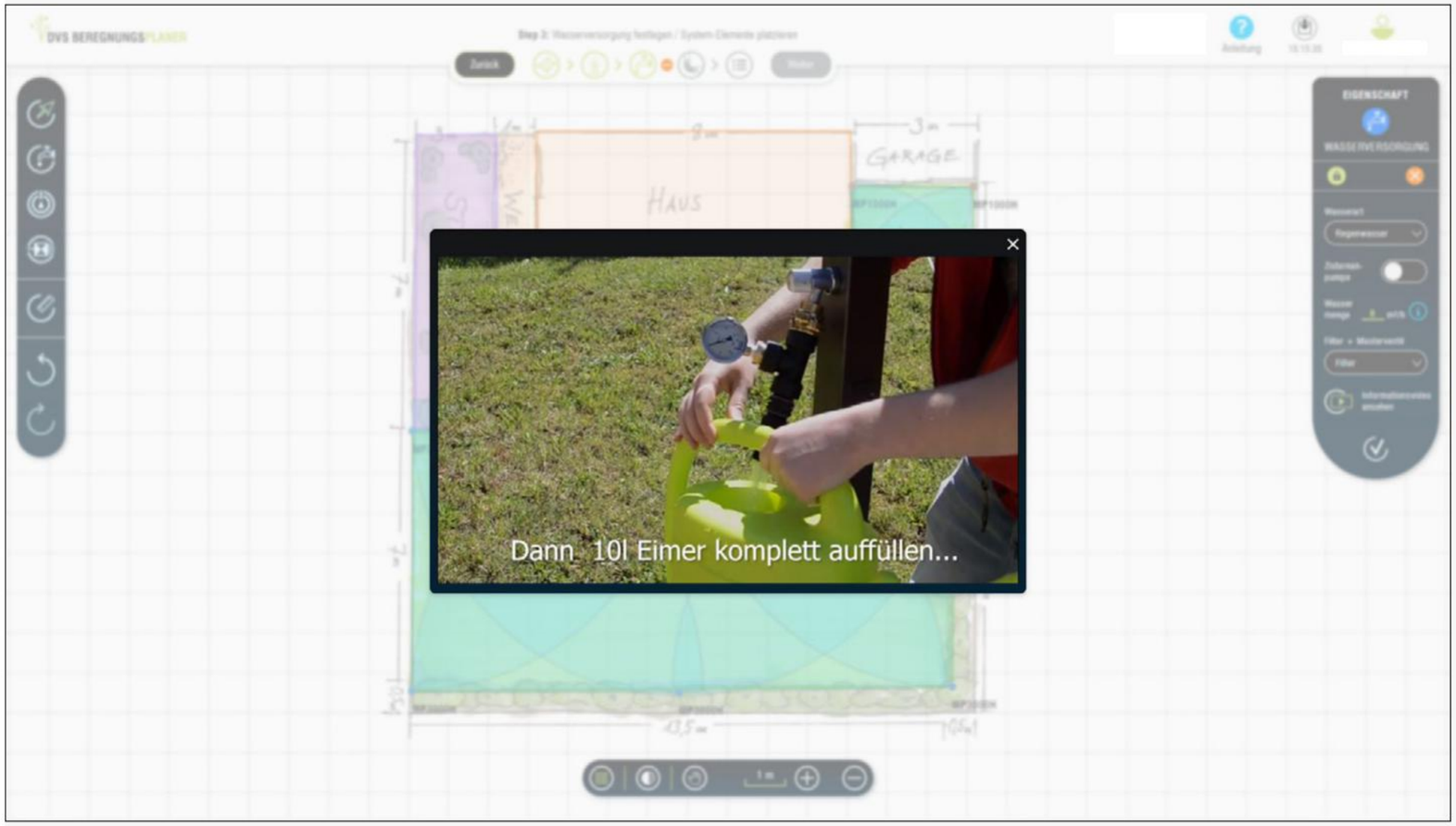
In the next step, enter the amount of water. Then → klick on. the software can correctly dimension the irrigation circuits of your system.

DRINKING WATER	WELL WATER	RAINWATER
separation station	Pump 1.8m³/h	Pump 1.8m³/h
Yes No	Yes No	Yes No
	FILTER	FILTER
WITHOUT FILTER	WALL MOUNTING	UNDERFLOOR BOX
optional	highly recommended	highly recommended

Video tutorial for

Determining the amount of water Viewing is strongly recommended, the function of the system depends on it!

determine the amount of water



Full concentration is required now! Because this step determines whether your system works well in the end:

Knowing exactly how much water is available to your irrigation system is important for successful irrigation planning. This determines the number of sprinklers that can be connected to a circuit.

We now determine how much water (m³/h) can be removed without the line pressure falling below the required operating pressure of the system (3.5 bar). You can use the Plug&Rain® measuring device for this use.

Proceed:

- Screw the GEKA adapter onto the water tap
- Connect measuring device to GEKA adapter
- Open the water tap fully
- Regulate the water flow with the ball valve so that the gauge shows a line pressure of 3.5 bar
- Fill a 10 l bucket and measure the filling time in seconds

$$\frac{\text{Contents of the bucket [l] } \times 3.6^*}{\text{Determined time [s]}} = \text{amount of water in m3 / h}$$

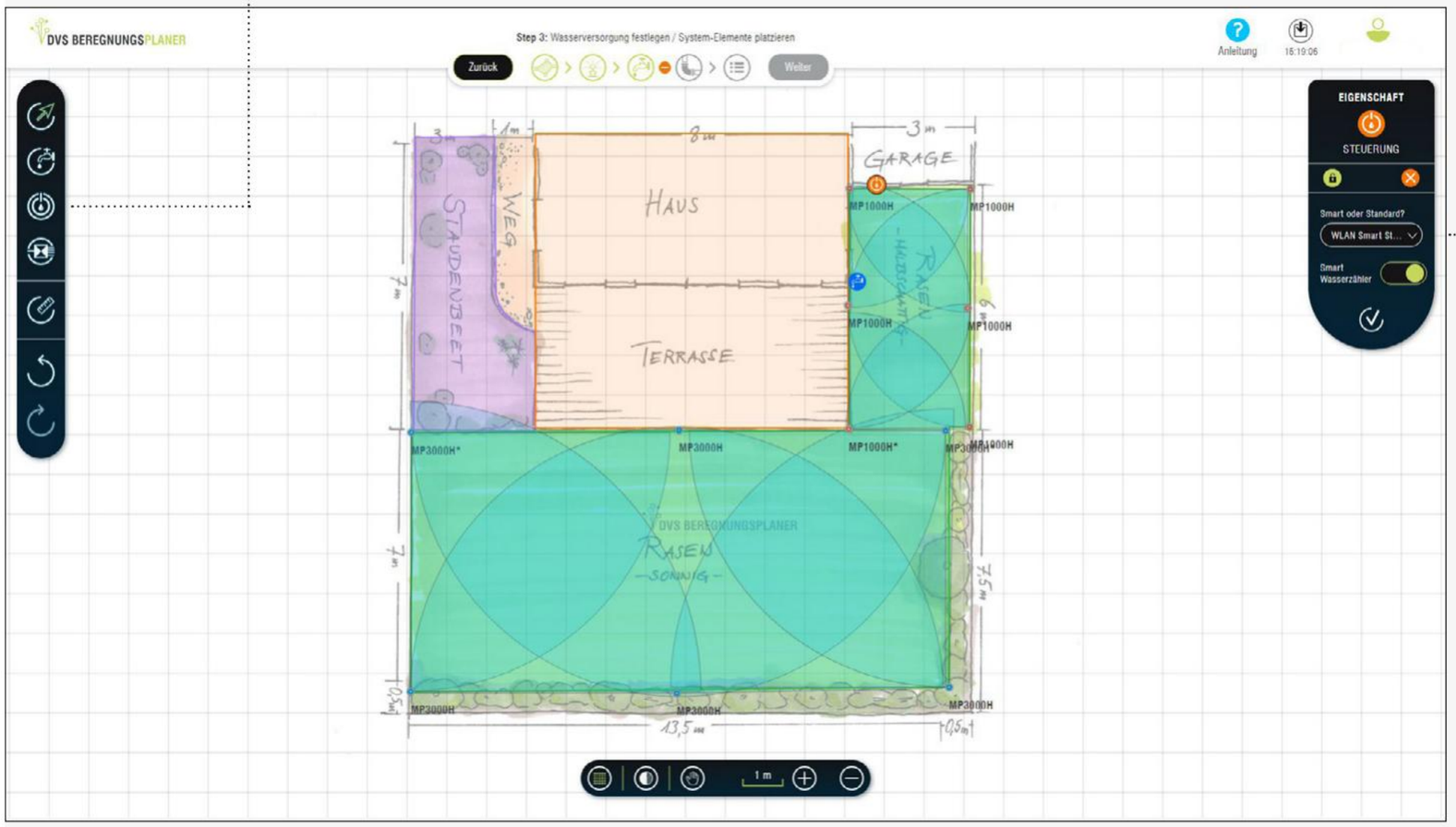
* The number 3.6 corresponds to the conversion from [s] to [h] (× 3600) and from [l] to [m3] (÷ 1000).

EXAMPLE

Her 10 l bucket is in 30 seconds filled

$$\frac{10 \text{ [l] } \times 3.6^*}{30 \text{ [s]}} = 1.2 \text{ m3 /hr}$$

Place system elements: steering



DETERMINE LOCATION CONTROL

Select the Irrigation Control in the left rail and choose where to place it.

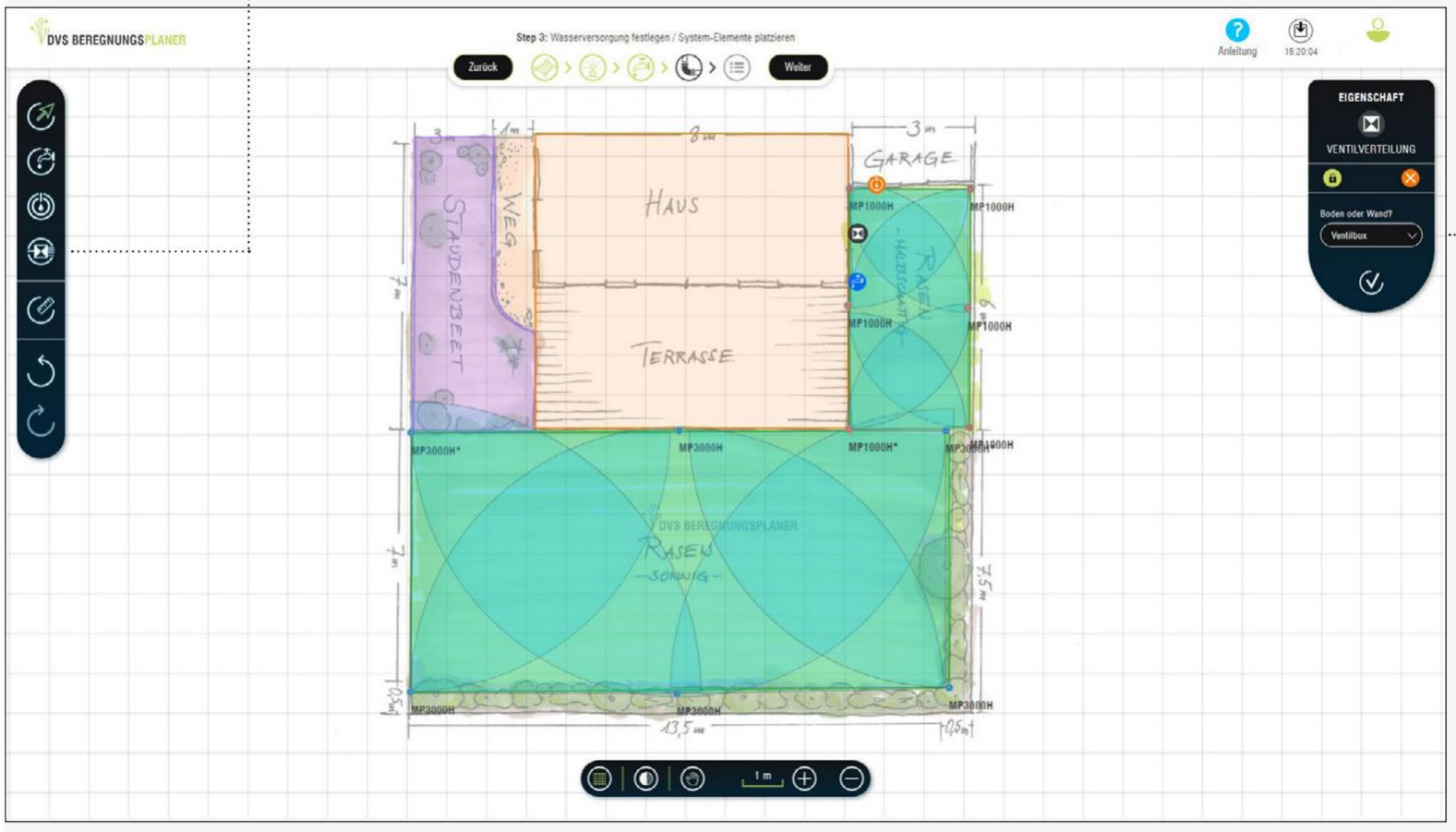
In the field on the right, you can choose between WiFi smart control and the standard X-Core control.

X-CORE STANDARD CONTROL WIFI SMART CONTROL

- local sensor only
- no connection to the internet possible
- Set programs directly on the device
- no water meter can be integrated

- Internet connection via WLAN
- Conveniently set and program using an app on your smartphone
- Obtain weather data from the Internet
- optional smart water meter

Place system elements: valve distribution



DETERMINE LOCATION OF VALVE DISTRIBUTION

Select the valve distribution in the left bar and set its position.

In the field on the right, select whether your valve box is to be used for underfloor installation or as a distributor for wall mounting.

Planning lines: automatically

If you click on "Next" in the top bar, the lines will be placed automatically.

If possible, the lines should be designed as ring lines.

The more lines are in one trench, the less earthwork is required.

AUTOMATIC PLANNING

- Number of circles
- When clicking on a circle
  - line length
  - Water consumption / remaining amount of water
- Is the amount of water evenly distributed?
- Does the division of circles make sense?
  - Sun / shade areas
  - logically related sprinklers

Planning lines: manually

MANUAL ADJUSTMENT

- Delete individual elements (double click or red ×)
- Delete entire circle (red ×)

ADD PIPES MANUALLY

01 Draw main line (click)
02 Click on valve box
03 Click on sprinkler or set corner points by clicking
04 Connect the sprinkler until the water volume is used up (see Advertisement)
05 Close the circle by clicking on the tube

LINE TO BED

Run the line from the valve box into the bed, then activate the drip line connection.

Made! When the lines are laid, the planning is complete. Now we calculate what material you need for installation.

Materials list for your irrigation system

Your shopping list gives you an overview of everything you need Products.

We recommend the products Plug&Rain® Expert, but you can adjust the quality:

- EXPERT With EXPERT products you get a high-quality irrigation system with many additional features at an optimal price.
- ECO Our ECO line offers you simple, price-conscious watering.
- PREMIUM The name says it all. PREMIUM products come in uncompromisingly high quality.

If you want to change the number of products or remove products, press + or -.

At the bottom of the shopping cart you can download installation instructions for your system. When you click "Add to Cart" the project will be completed. Your order will be forwarded to us at DVS Beregnung.

Please note: once your project is complete, it cannot be modified. However, you can access your plan at any time via the project link (e.g. for installation).

Options and alternatives list: Here you can add additional parts from the Plug&Rain catalogue.

And now: after-work beer for you and work for our warehouse!

FAQ

WHY MP ROTATOR AND NOT GEAR SPRINKLER?

The Hunter MP Rotator is ideal for lawn watering because it can evenly water areas with a wide range of throw distances, strips and curved shapes.

This is because the nozzle has been developed in such a way that it always generates the same amount of precipitation per m² when arranged correctly (head-to-head) – even if you change the sector.

With geared sprinklers, rainfall varies with throw, nozzle used, and arc set. Accordingly, it is much more complex to carry out proper precipitation and hydraulic planning with geared sprinklers.

WHY DO THE SPRINKERS OVERLAP?

A sprinkler alone does not produce even watering: the further away from the individual sprinkler, the lower the rainfall.
When sprinklers don't overlap sufficiently, there are areas that stay dry or get less wet than others.

This is compensated for by the recommended head-to-head arrangement. If the next sprinkler is located where the spray radius of one sprinkler ends, the precipitation in this network is even.

In the short term you can save money with fewer sprinklers. With a service life of 20-25 years, well-placed sprinklers bring a lot of fun, efficiency and a healthy lawn.

WHY ARE MP800 IN THE SAME CIRCLE?

While all MP nozzles deliver 10 mm/h of precipitation, the MP800 has 20 mm/h.

Ideally, therefore, the MP800 are grouped together in a separate irrigation circuit. Alternatively, radii can be increased to 2.9 m (MP1000) or strip nozzles can be used to
to replace MP800.

But if everything looks great with the MP800 and no alternative fits, we turn a blind eye, make the radius a bit smaller or reduce the overlap. On a weekly basis, the additional amount of water dispensed by the MP800 is manageable.

WHY DOES THE DVS IRRIGATION PLANNER ALLOW ONLY ONE POSITION FOR THE VALVE BOX?

Only one water source is used because of the hydraulic calculation and bill of materials generation.

If more than one valve box is to be used, line and cable lengths can be adjusted manually. When planning the lines, you can e.g. B. as if you were going to a second valve box. Then, using the scale, shorten the new values (more 25 mm PN16 pipe, more cable, less 24 mm PN6 pipe).

THE SPRINKLER LINE MUST ALWAYS BE A RING RUN?

A ring line distributes the pressure more evenly to the connected sprinklers than a branch line.

Sometimes not having to dig the extra trenches for a ring closure saves a lot of work. It can also work well if there are only a few sprinklers per circle. In doubt? Then you can test the spray width of the sprinklers before sealing the ditches. If everything fits – trenches closed. Are the last sprinklers not spraying far enough? Then dig and connect the stitch.

WHEN SHOULD PE PIPE 32MM (1") BE USED WILL?

For most projects, the Blu-Lock System 24mm is the best mounting system.

We calculate that if a maximum of 1.8 m³/h of water is moved at a line pressure of 3.5 bar and the most distant sprinkler is 100 m away from the water supply.

If the water volume is to be larger and the lines are to be longer, then 32 mm PE pipe can lead to lower pressure losses.

The item numbers can be reversed using the Plug&Rain catalogue
be written: ZS-MP24EXP then becomes ZS-MP32EXP, for example.

HOW CAN I SCHEDULE WATER OUTLETS?

A T-piece branches off the permanent line. If a water meter is used, it should be in front of the water meter.

Required parts:
ZZ-JS77040-25
Z33-01
ZS-WD25EXP-VM

HOW CAN I WATER POT PLANTS?

A separate irrigation circuit should be provided for watering tub plants.
Draw a small bed area on the terrace, then it will
an additional valve is provided and the line is routed from the valve box to the potted plants.

Required parts:

- Drip line connection
- 16mm tube
- Micro irrigation

When using pumps, please ensure that the water consumption is large enough or that an adequately dimensioned expansion tank is provided. Switching the pump on and off too frequently reduces its life expectancy.

You can find out more about this topic in our micro- irrigation planning manual

HOW DO I DEAL WITH BUSHES / TREES IN THE LAWN? Bushes and trees can shade the water jets from the sprinklers.
Then the lawn behind the plants no longer gets water.

This can best be counteracted if the sprinklers are arranged in such a way that they spray the plants from at least 3-4 sides.

Depending on the size and water requirements, the bushes and trees
be supplied via the lawn irrigation or through a drip line /
RZWS can be irrigated individually.

HOW CAN I WATER INDIVIDUAL TREES?

Individual trees can be watered using the Root Zone Watering System (RZWS) or multiple rings of drip line.

HOW IS IRRIGATION IN HEDGES / BEDS CALCULATED?

For the calculation of bed and hedge irrigation, 3 m drip line per m² bed is calculated. They are laid at a distance of 30 to 35 cm or in a ring around larger plants.

DISCLAIMER / DISCLAIMER

By using this garden planner (“garden planner for irrigation by DVS Beregnung”), you as the user agree that you use the planner and the planning results developed from it at your own risk. As the provider, we assume no liability for the correctness, completeness and topicality of the planning content and results provided. The purpose of the Garden Designer at your disposal is to provide you, the user, with a quick and efficient method to design and purchase an outdoor chilled water sprinkler system for personal installation and use. Despite our efforts to provide you with the most accurate planning results possible, planning errors unfortunately cannot be ruled out. This applies in particular to draft plans, bills of materials and assembly instructions that result from the planning process. Due to the 2D representation in the planning software, it can also happen that the site-specific factors existing in the garden plots such as inclination, soil type, vegetation type, local climate, characteristics of the plot or other physical factors affecting the construction, installation, performance, safety or Code requirements for a sprinkler system can have a significant impact, are not realistically reproduced and are therefore not or not correctly taken into account in the planning result. The results determined with the garden planner therefore represent excellent assistance for you, but cannot replace expert advice and planning from a specialist consultant. As a user, you are therefore solely responsible for checking all planning results in detail for consistency and feasibility and, if in doubt, for obtaining expert advice.

DVS sprinkling GmbH | Ernst-Simon-Str. 8 | 72072 Tuebingen | info@dvs-beregnung.de