Access Water Balance Plan from Navigation Panel

2015 ENROLLED FIELDS ◄ ►

▼ Farm Name

● Sunny Ridge PLAN

◗ East Meadow

▪ Lookout Brook

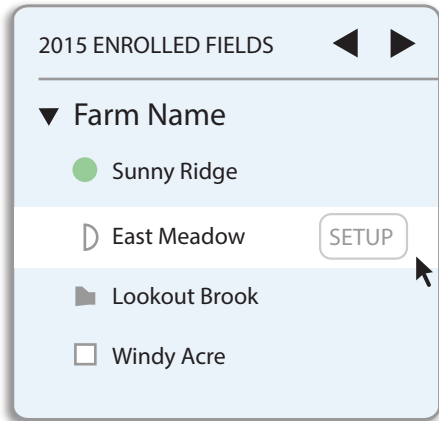▪ Windy Acre
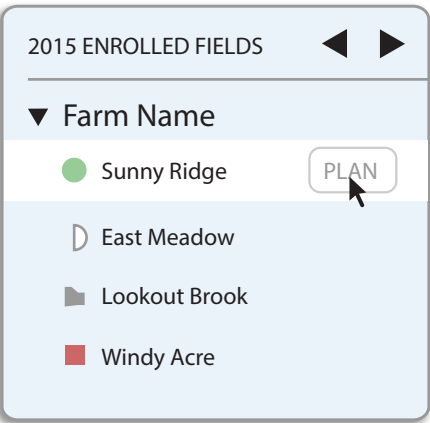
Field Icon Color Coding

Fields that have not been set up, or which have a partially complete setup will have a grey outline and a white fill. Once a field is set up, if it does not have a probe in the ground, it will have a grey outline and white fill.   Once data starts coming in from the probe, the icon and raster will use the refill alert colors.
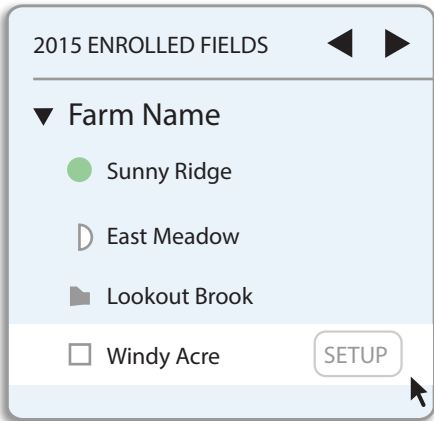
Field Button

The button text of fields which have not yet been completely set up will read SETUP. The button text of fields which have been completely set up will read PLAN. If we are in the pre-season, with no probe in the ground, clicking the PLAN button will launch the pre-season plan. If we are in-season, clicking the PLAN button will launch the Water Balance Screen.

Examples

Field with untouched setup flow

2015 ENROLLED FIELDS ◄ ►

▼ Farm Name

● Sunny Ridge

◗ East Meadow SETUP

▪ Lookout Brook

☐ Windy Acre

Field with partially complete setup flow.

2015 ENROLLED FIELDS ◄ ►

▼ Farm Name

● Sunny Ridge

◗ East Meadow

▪ Lookout Brook

☐ Windy Acre SETUP

Set up field, during pre-season.

2015 ENROLLED FIELDS ◄ ►

▼ Farm Name

● Sunny Ridge

◗ East Meadow

▪ Lookout Brook PLAN

☐ Windy Acre

Set up field, in-season.

2015 ENROLLED FIELDS ◄ ►

▼ Farm Name

● Sunny Ridge PLAN

◗ East Meadow

▪ Lookout Brook

☐ Windy Acre

In-Season Water Balance

SELECTED PIVOT PASS: START: MAY 08,   CYCLE: 170 Hrs,   RATE: 1"
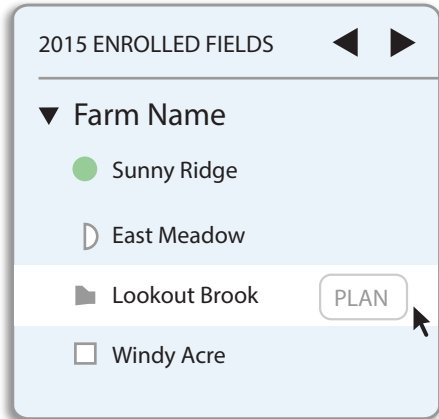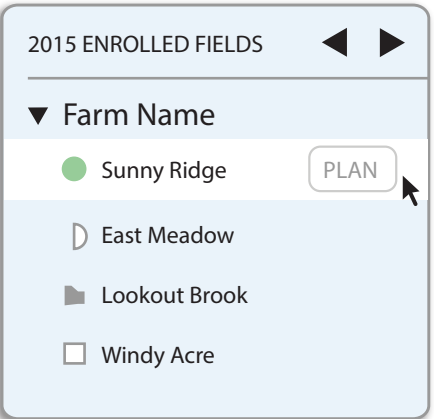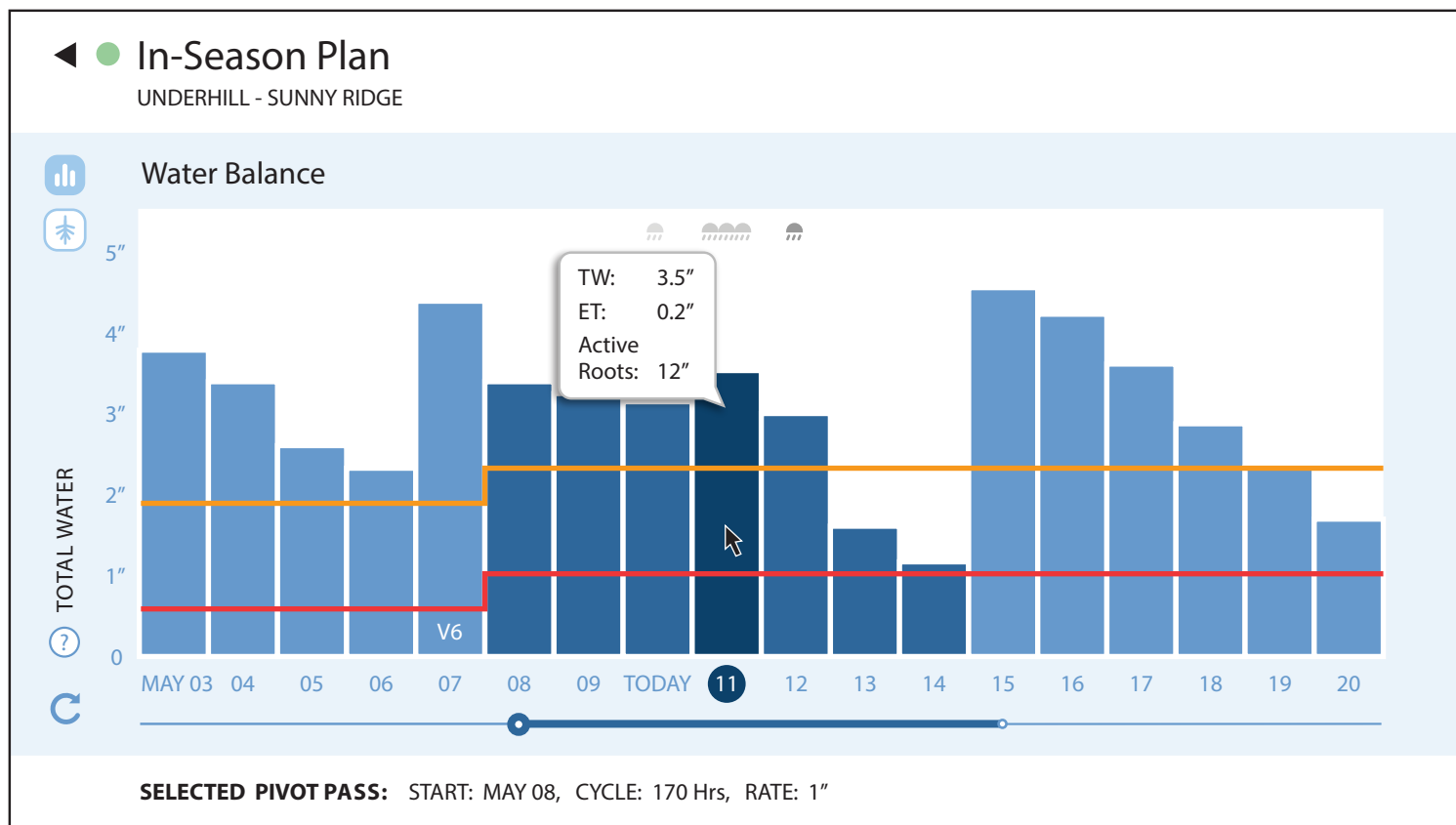
Chart Selection

The user can view either the Water Balance chart (bar chart) or the TW by Soil Depth chart (roots) by clicking the toggle icons near the upper right corner.

Daily and Pivot Pass Metrics Selection

The user can view a day's metrics by clicking within the rectangular chart box, or below it on the pivot pass line. The selected date bar will darken and a bubble-shaped overlay panel will appear. The overlay panel will contain TW, ET, and Active Roots. The x-axis line marking the pivot pass which is (or will be, or was) in progress during the selected day will also thicken and darken. The current day is the default selection.

Allocation Meter

The allocation meter is not part of the first release of in-season planning, but empty space will be set aside for this widget in the upper right corner

Pivot Pass Metrics Display

Pivot Pass stats appear below the bars. If the selected pivot pass is in the past, or is currently running, a marker will appear to the right, stating it is not editable. If the selected pivot pass is a future pass, this marker will become a button. Clicking the button will enable the edit mode.

X-axis Markers

The month abbreviation for the first bar's day will appear under the first bar only. If a new month occurs within the 18-day range, the new month's abbreviation will appear underneath the bar for the first of the month.. The text TODAY will appear beneath the current day. A maturity marker will appear at the base of a bar when the maturity stage changes.

Precipitation

Precipitation during a single day is indicated by the presence of a cloud icon in the area above the bar. The y-axis will always slightly exceed the maximum possible value for TW plus precip, so there will room above the bars for maturity and cloud markers. Note that the 5" y-axis mark is shy of the chart top. The chance of rain is hinted by the darkness value of the cloud icon. The amount of rain is hinted by the number of cloud icons (one, two or three) placed over a single bar. The user may click on the icon to display a small overlay with number values for percentage and amount of rain.

Selection Highlighting

There will be three possible shades to any bar, a light shade, a middle shade and the darkest shade. Shades are light-to-dark variations on the base color, either blue or green. Bars which are not part of the selected pivot pass will be the light shade. When a bar is selected, the following highlight states occur:

a.) The bar will switch to the darkest shade. If the bar includes precipitation, the base color will match.

b.) The set of bars which make up the pivot pass will switch to the middle shade. The first day of the pivot pass will be included in this set. The last day of the pivot pass will not be included.

c.) The pivot pass line that includes the selected date will have a higher stroke width and become the middle shade

e.) the x-axis date will become white and will be contained in a bubble in the darkest shade. This bubble will be a circle for dates, or a rounded rectangle for text that is more than two digits.

f.) A bubble containing TW, ET and root depth will appear over the selected bar.

In-Season Precipitation Overlay

Precipitation Overlay

The default value for "Add to TW" will always be NO, but users can toggle that value to YES for individual events once the precip event overlay is open.

When YES is toggled, the y-axis height of the event's bar will increase so the estimated amount is added. The bar area that represents precipitation increase will have a pattern of diagonal striping. The background color of the diagonal pattern will be match the bar color.

Once precip events are in the past, if precip has not occurred, the cloud icon will vanish. If the Add to TW was toggled on, then it will be toggled off, so no diagonal pattern will show.

If the precip event has occurred, the "Chance of Precip" line will vanish. The "Precip Estimate" line will change to "Precip Total" and the value will equal the reported amount of precip. The "Add to TW" toggle will change, and precip will automatically be added to TW. The diagonal pattern for the amount of precip will appear on the bar.

Once the user clicks off the overlay, it wll vanish.

Data Update

Probe data will automatically update at regular to-be-decided intervals. A user can trigger an update at any time by clicking the update icon in the lower left corner. While the update is in progress, the icon will spin.

Chart Legend

If the user clicks the encircled question mark on the y-axis label, a legend overlay will appear

In-Season Selection of Future Pivot Pass

◄ ● **In-Season Plan**
UNDERHILL - SUNNY RIDGE

Water Balance

TW: 4.2"
ET: 0.2"
Active Roots: 16"

MAY 03 04 05 06 07 08 09 TODAY 11 12 13 14 15 16 17 18 19 20

SELECTED PIVOT PASS: START: MAY 15, CYCLE: 170 Hrs, RATE: 1"

EDIT PIVOT PASS »
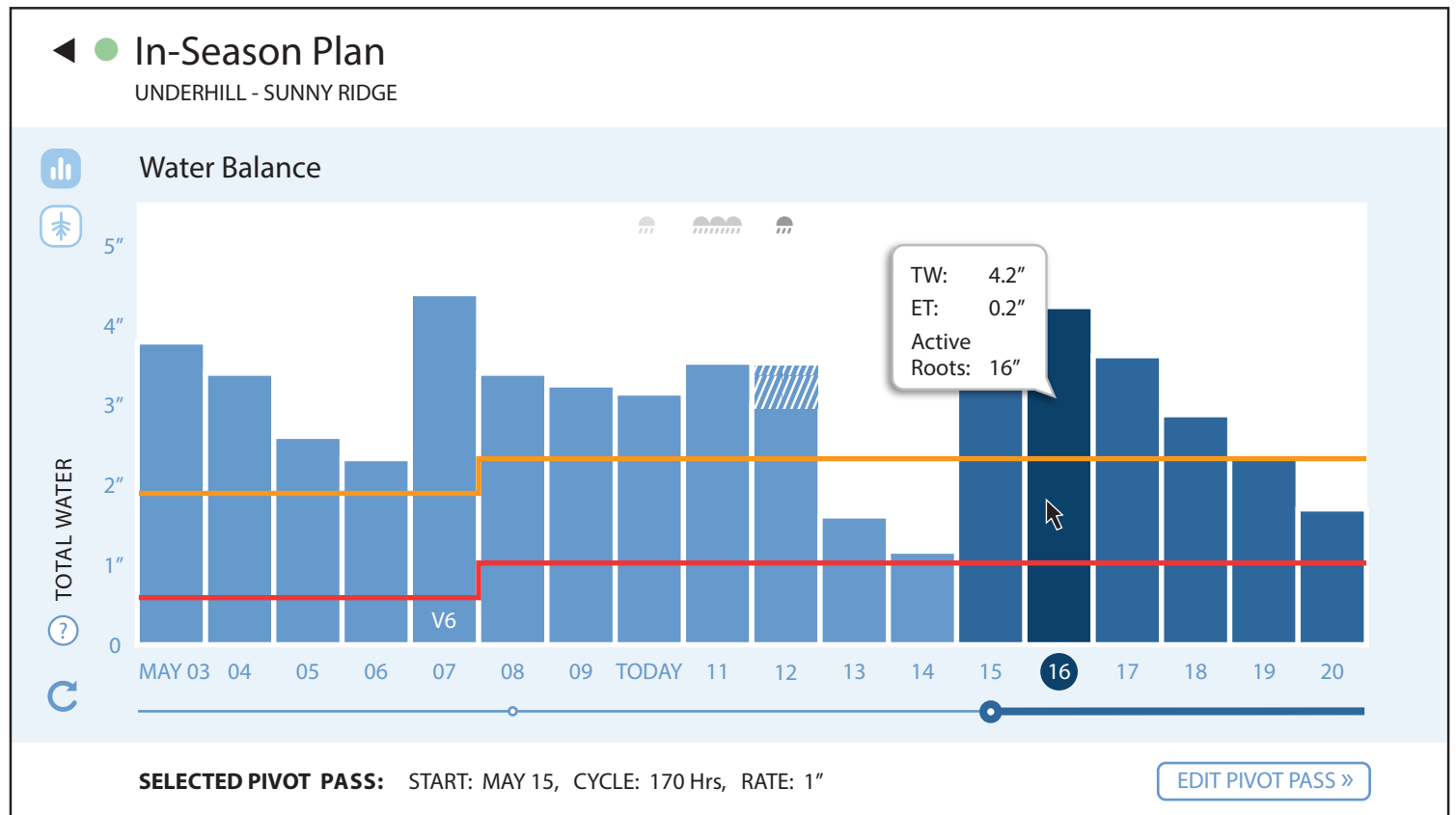
TW Overlay

Note that the position of the TW overlay is not higher than last screen, even though the bar is taller. The overlay arrow is positioned at the center top of a bar element, unless the height would cause the overlay to obscure the precipitation area at the top of the chart. In that case, the overlay will be positioned as high as it can be, without obscuring the precip markers.

Edit Button

Now that the user has entered a future pivot pass, a button appears that will enable editing

In-Season Plan Editing

Daily and Pivot Pass Metrics

Once the user clicks the edit icon, the Daily Water Balance x-axis will horizontally shorten to display only the current day and the 10 day forecast. The calendar dates and pivot pass line will adjust accordingly.

Pivot Cycle and Rate Editability

Pivot Cycle and Rate are interdependent. Each is prefaced by a radio button that activates an input field around the selected value. The unselected value will not have an input field. The default selected value is Pivot Cycle. When the user edits the a value inside an input field, the value without an input field will update immediately. There is no white separator line between the Cycle and Rate lines

Pausing the Pivot

A user can create an irrigation pause in the pivot plan by moving the start date of a future pivot pass forward in time.

If the original plan looks like this, and the user wants to create a stop between pass #1 and pass #2

A break will be introduced. All future passes maintain rate and duration, but any irrigation that occurs beyond the end of the season will need to be truncated.

Water Balance / Soil Depth Toggle

When the user is in edit or comparison mode, the soil depth chart will not be available, therefore the toggle in the upper left corner will not display.

Selection Rules in Edit Mode

In Edit or Preview/Compare mode, if a user selects a bar outside the pivot pass currently being edited...

a.) the pivot pass being edited will NOT change

b.) the pivot pass highlight on the pivot pass line will NOT change

c.) the middle blue highlights on each bar in the pivot pass set will NOT change

d.) the selected bar will acquire the darkest shade highlight.

e.) the stat bubble that displays TW, ET and root depth will switch to the selected bar

In-Season Plan Editing w/Apply Cycle/Rate Toggle

In-Season Plan
UNDERHILL - SUNNY RIDGE

Water Balance

TW: 3.5"
ET: 0.2"
Active
Roots: 12"

TOTAL WATER

5"
4"
3"
2"
1"
0

TODAY   11   12   13   14   15   **16**   17   18   19   20

SELECTED PIVOT PASS: START: MAY 15,   CYCLE: 170 Hrs,   RATE: 1"

Edit Future Pivot Plan

Pivot Pass Start: MAY   15

● Pivot Pass Cycle: 192   Hours

○ Pivot Pass Rate: 1"

Apply Cycle/Rate To: [THIS | EVERY] Pass

Load Mgmt Start: MAY   08

Load Mgmt End: JUN   12

Load Mgmt Hrs/Day: 3

« CANCEL EDIT   [COMPARE PLAN »]

Apply Cycle/Rate

Once an entry field for either Cycle or Rate has been changed, another line, "Apply Cycle/Rate To", will appear. This line does not appear if the user only edits Pivot Pass Start or the Load Mgmt values.

If the grower is extending the duration of pass #2, and the pivot plan is like this:

PASS 1   PASS 2   PASS 3   PASS 4   PASS 5   END OF SEASON

If the grower applies cycle/rate to THIS pass, then pass #3 will be deleted and the start of pass #4 will move backward to start just after pass #2 ends. An extra pass may need to be added to the season end.

PASS 1   PASS 2   PASS 4   PASS 5   PASS 6   END OF SEASON

If the grower chooses to apply cycle/rate ro EVERY Pass, then every pass after pass #2 will lengthen. Any irrigation time that extends beyond the season end will truncate to end on that date.

PASS 1   PASS 2   PASS 3   PASS 4   END OF SEASON

If the grower *shortens* the duration of pass #2, and the original pivot plan is like this:

PASS 1   PASS 2   PASS 3   PASS 4   PASS 5   END OF SEASON

If the grower applies cycle/rate to THIS pass, then all future pass start dates will move back in time. An extra pass may need to be added to the season end.

PASS 1   PASS 2 PASS 3   PASS 4   PASS 5   PASS 6   END OF SEASON

If the grower chooses to apply cycle/rate ro EVERY Pass, then every pass after pass #2 will shorten. Extra passes will need to be added to the season end.

PASS 1   PASS 2 PASS 3 PASS 4 PASS 5 PASS 6 PASS 7 PASS 8 PASS 9 PASS 10 PASS 11   END OF SEASON

In-Season Comparison

In-Season Plan
UNDERHILL - SUNNY RIDGE

Water Balance

CURRENT PLAN   NEW PLAN

Old TW:	3.5"
New TW:	3.9"
ET:	0.2"
Active Roots:	12"

5"
4"
3"
2"
1"
0

TOTAL WATER

MAY 03 04 05 06 07 08 09 TODAY 11 12 13 14 15 16 17 18 19 20

V6

« BACK to EDIT   SAVE NEW PLAN »

Expansion Button

The expansion button hides the editing fields and brings the 7-day history back into view.

The editing fields will return if the user click the collapse button in the upper right corner.

Selection Rules in Preview/Compare Mode

Rules are identical to those in other modes with one exception. When a day is selected, both bars will be selected, and both will darken accordingly.

Standard and Hovered Bar Colors

	Current Plan Standard	Current Plan Hovered		New Plan Standard	New Plan Hovered
Not in the selected pivot pass set	#6698cb	#588db5			
Within the selected pivot pass set	#326699	#1e5d87		#3e773e	#336833
The selected bar	#0f416b	#033148		#214c24	#1d391d

In-Season Email
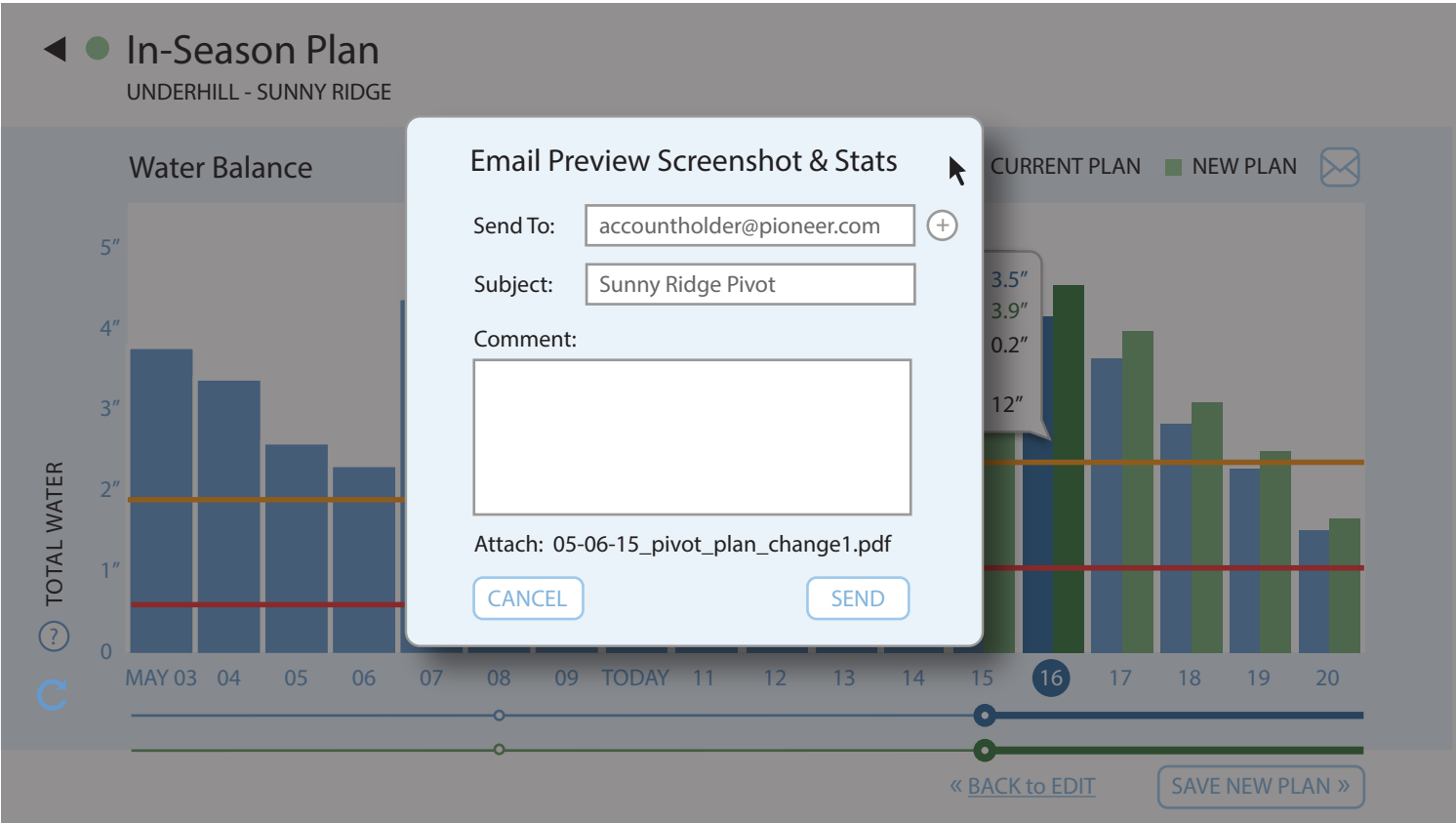
Email Panel

If the user clicks the email button, an overlay pops up, and the screen beneath the overlay will dim. The overlay allows the user to send a screenshot of the plan preview, plus a comment, to one or more recipients. The first recipient field is pre-populated with the account-holder's email address. If the account holder wants to add another recipient, he/she must click the encircled plus icon, which will add another entry field below the first. The number of permissible entry fields is five, after which the plus-icon will vanish. The subject line value will be pre-populated with the field name concatenated with the text "Pivot". The attachment name is defaulted as the date, concatenated with "_pivot_plan_change", appended with a numeral, in case the account holder sends more than one preview per day.

The .pdf will include a screen shot of the comparison bar chart, as well as full stats for the current plan vs. the new plan, including any load balancing changes.

The user must click SEND to send the email. If the user decides to cancel out of the email flow, he/she may click cancel, or click outside the overlay.