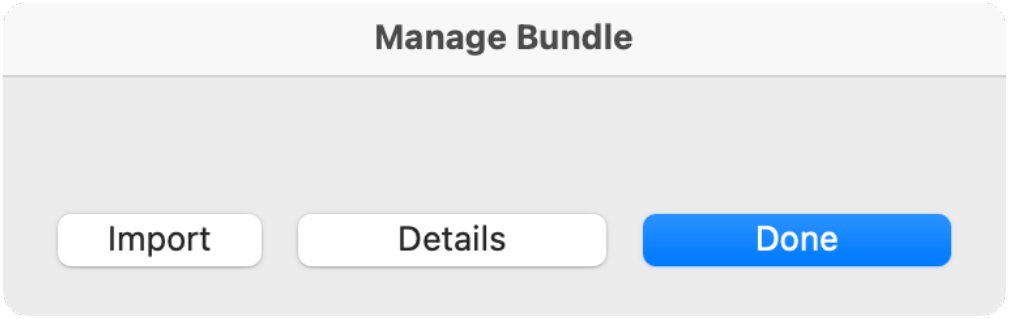
Dirt Work Bundle

The Dirtwork bundle in TradeTek enables a collection of capabilites to describe Existing and Proposed contour elevations, demolition, topsoil removal, construction cuts and optional pond features. Contour and Cut/Fill maps are generated along with customer ready reports of all calculated quantities. Large jobs can be split into multiple Existing/ Proposed page pairs and stitched together to produce seamless maps and consolidated reports.

Import Dirtwork Bundle

To get started, contact TradeTek Software to enable the Dirtwork Bundle for your Serial Number. From the Store panel, click the **Manage Bundle** button to select the downloaded Dirtwork Bundle file and then click the **Import** button.



Once the Dirtwork bundle has been enabled and imported, a DirtworkAssemblies tab is added to the Template panel. Notice the **Contour** button at the top right of the Template panel is now active. This button can be used to create a Template Assembly and customize it with SubItems, properties and formulas. A pre-configured assembly is provided that most users can use for their earthwork jobs with no customization needed.

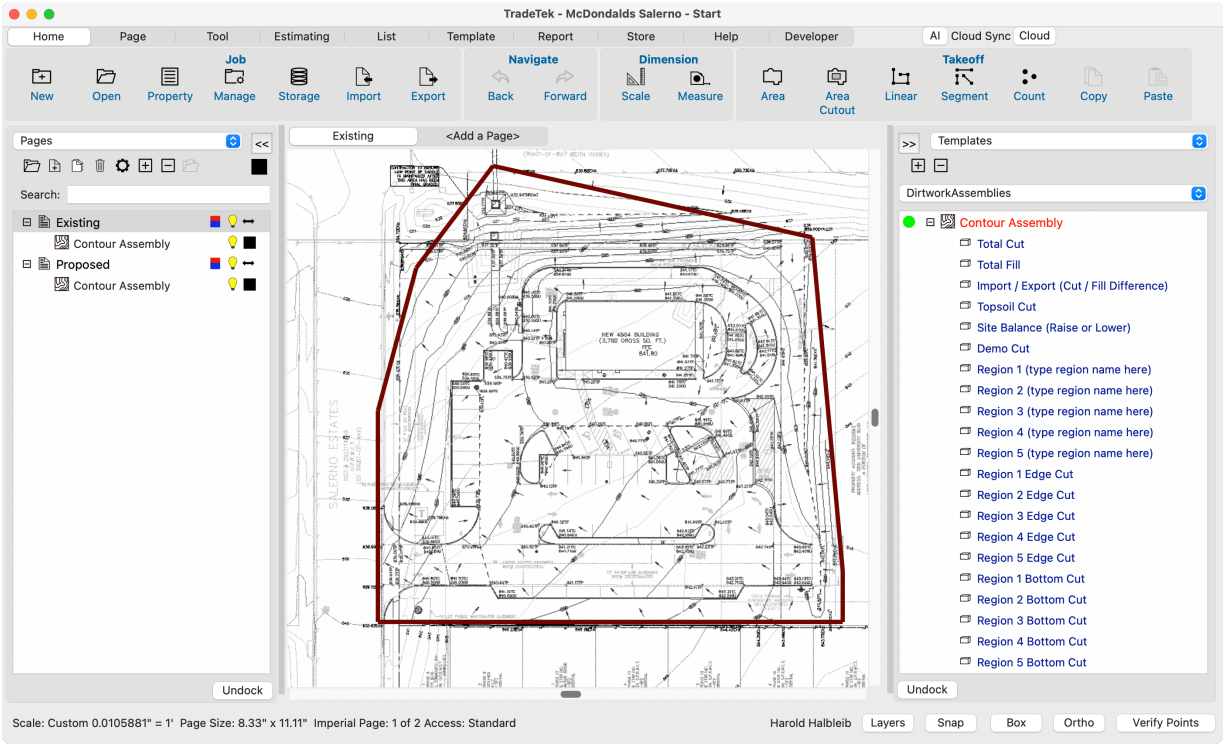


The Dirtwork Cut Fill and Dirtwork Site Balance reports have been added to the Report panel. A **Contour** button is enabled in the Preferences dialog to customize features for a dirtwork job. The takeoff process begins from the Home panel, by adding Existing and Proposed pages to a job and instantiating the Contour Assembly from the Template side panel on the right.

Create a Job

To create a dirtwork job, click the **New** button at the top left of the Home panel. In the New Job dialog, name the job and select the Image Type provided by the architect. Plans are usually provided as individual PDF, JPG or PNG files or a Bound PDF containing multiple plan pages.

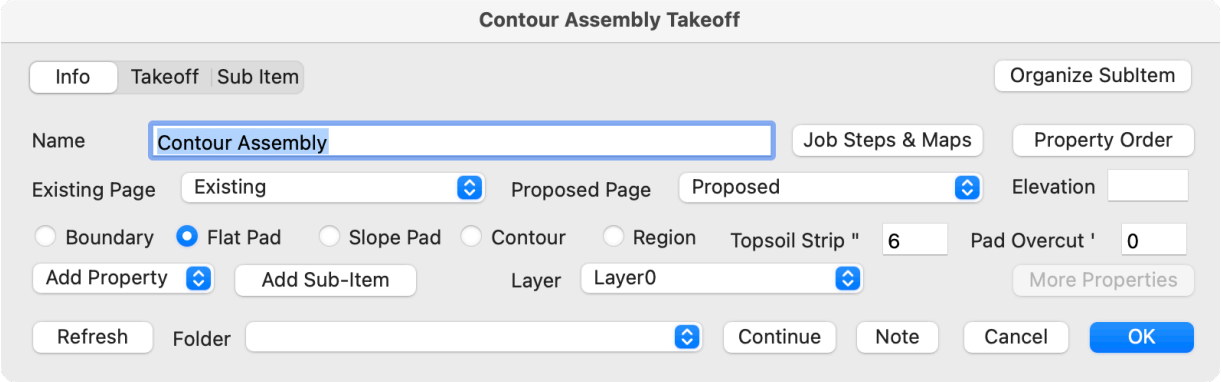
Every dirtwork job contains at least two pages, the Existing contour page and the Proposed contour page. If the architect indicates existing and proposed elevations and construction features on the same page, duplicate that page from the left Pages side panel and clearly title one page as the Existing page and another as the Proposed page. Scale the Existing and Proposed pages before starting the takeoff process.



Use the Contour Assembly

Select the Existing page in the Home panel to start the takeoff process.

For most jobs, the entire process is done using one instance of the Contour Assembly. To launch the Assembly the first time, select the Dirtwork Assemblies panel in the Templates side panel at the right side of the Home tab. Select the Contour Assembly, then click the green dot to present the Contour Assembly dialog.



Within the dialog, name the assembly and select the Existing and Proposed pages. This dialog is the starting point of virtually every step in the dirtwork estimating process. Select the Boundary radio button, then click **OK** to dismiss the dialog.

An area drawing tool is now active. Click on each corner of the site boundary where dirtwork will be performed. For example, assume the job boundary is a simple rectangle. The user might click at the top left corner, then click the top right corner, then click the bottom right corner and then click the bottom left corner and press the ESC key to complete the Boundary area. The Boundary area can also be completed by double-clicking on the last point.

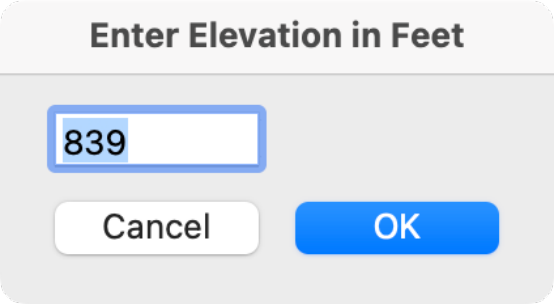
The boundary is typically represented with a heavy brown line, but the color and thickness of the line is configurable from the Contour Preferences dialog to be discussed later. Points of a Boundary area can be moved, deleted or added with the same process used by Linear or Area takeoffs.

After drawing the Boundary on the Existing page, notice the Contour Assembly item that was added to the Existing page shown in the left Pages side panel. Elevations on the Existing page are indicated with Contour lines, loops and points (spot elevations) drawn on the page to reflect the elevations on the page provided by the architect.

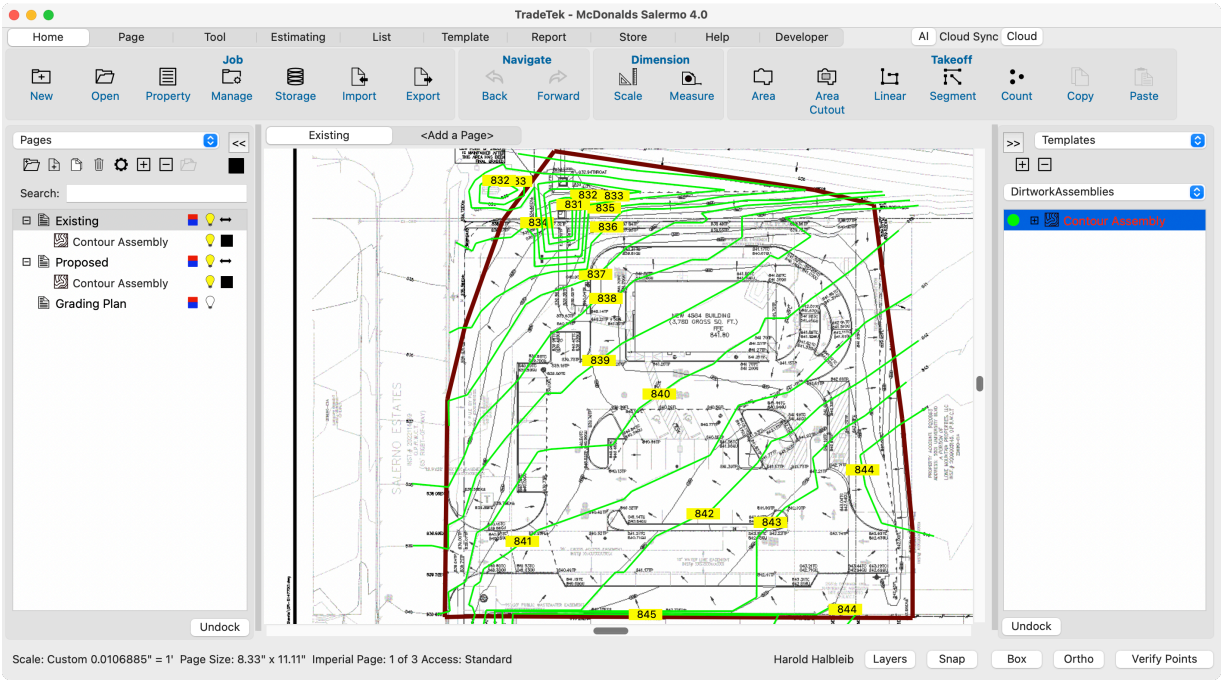
Double-click on the Contour Assembly item on the Pages side panel to present the Contour Assembly Takeoff dialog. Select the Contour radio button and click the **Continue** button to dismiss the dialog and start drawing contour lines. For the entire job, an Estimator uses the **Continue** button to add contour lines and other takeoff features to the same Contour object.

The Existing page will typically have dozens of contour lines each with an indicated Elevation in feet. Starting from one end of a contour line, click at various points along the line to trace the contour of a specified elevation. Double-click to complete a contour line or press the **N** key (Next item).

A dialog is presented to enter the elevation in feet of that contour line. TradeTek is now ready to draw the next contour line. When you are done drawing contour lines press the **ESC** key to terminate the takeoff process.



Some contour lines form a loop. After drawing a multiple point contour line, click on the first point to complete the loop and start the next contour line. Sometimes elevations are provided as a single point or spot elevation. Click the first point to begin the contour line, then double-click on or near that point to generate a single point spot elevation.

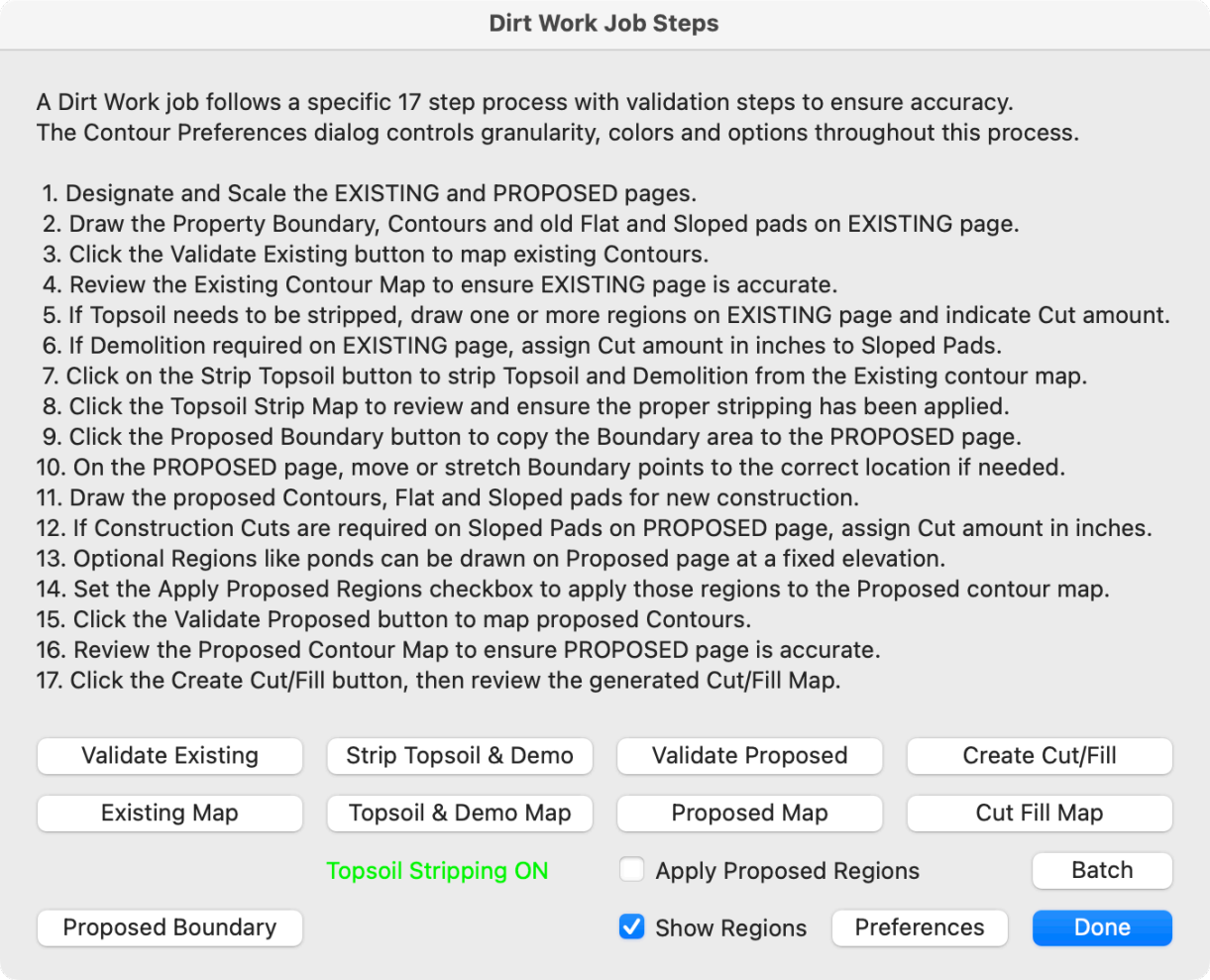


Existing Contour Map

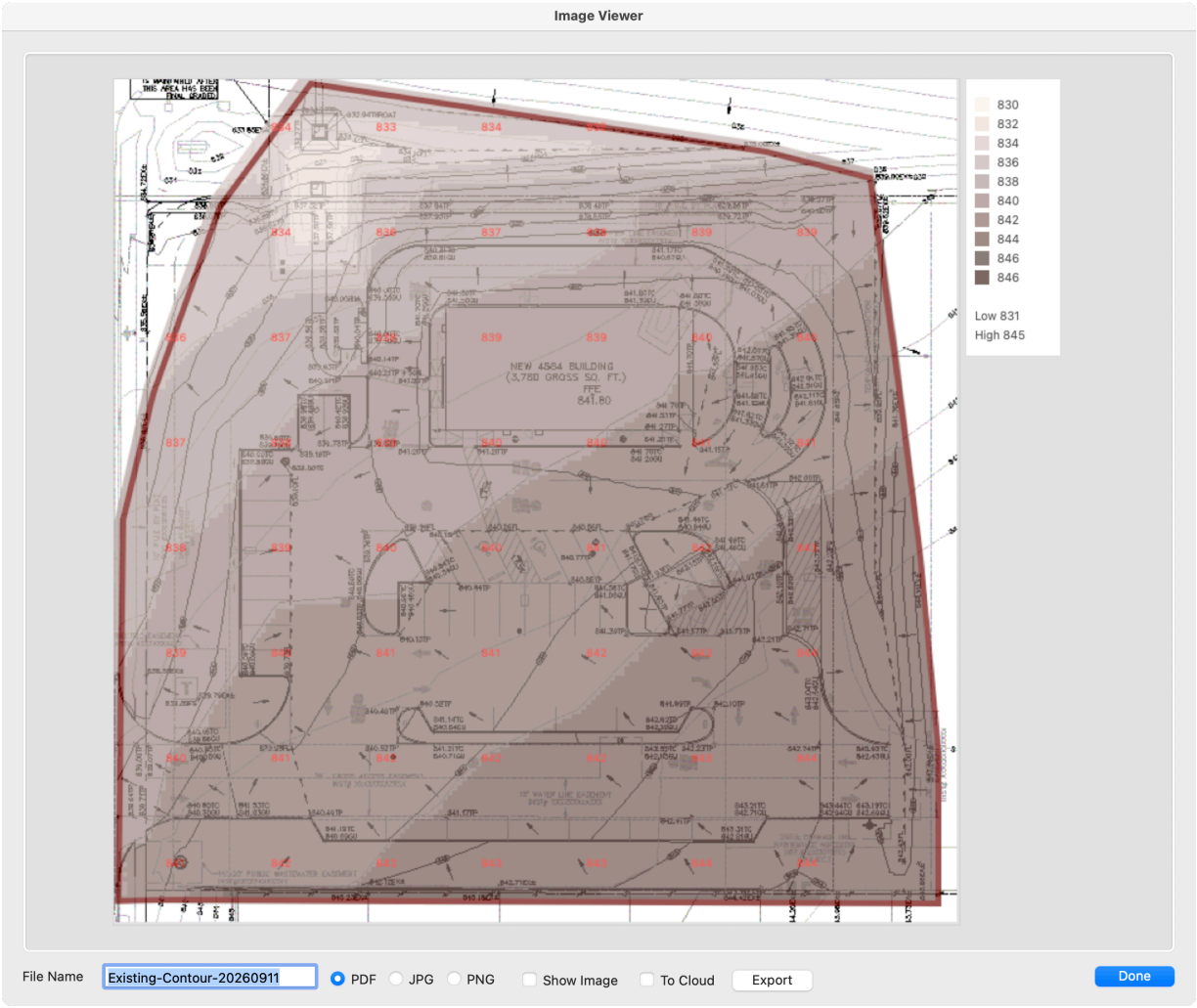
After scaling the Existing page, drawing the Boundary and drawing all contour lines with elevations, TradeTek has enough data to present a Contour map of the existing property. Double-click on the Contour Assembly item in the Pages side panel to present the Contour Area Takeoff dialog, then click the **Job Steps & Maps** button.

The Dirt Work Job Steps dialog outlines a step-by-step process to complete a dirt work job. Use the buttons on the bottom from left to right to complete the process starting with the Existing page, Topsoil stripping, the Proposed page and finally the Cut/Fill map. You will return to this dialog many times as you perform takeoff, validate the data you

have entered and view the generated map to ensure everything looks accurate.



Click the **Validate Existing** button to generate an extrapolated map of contour elevations. When the process completes, click the enabled **Existing Map** button to view the surface elevation of the existing job site.



Contour maps show elevations with a range of colors. The key at the top right shows the middle elevation for that color band.

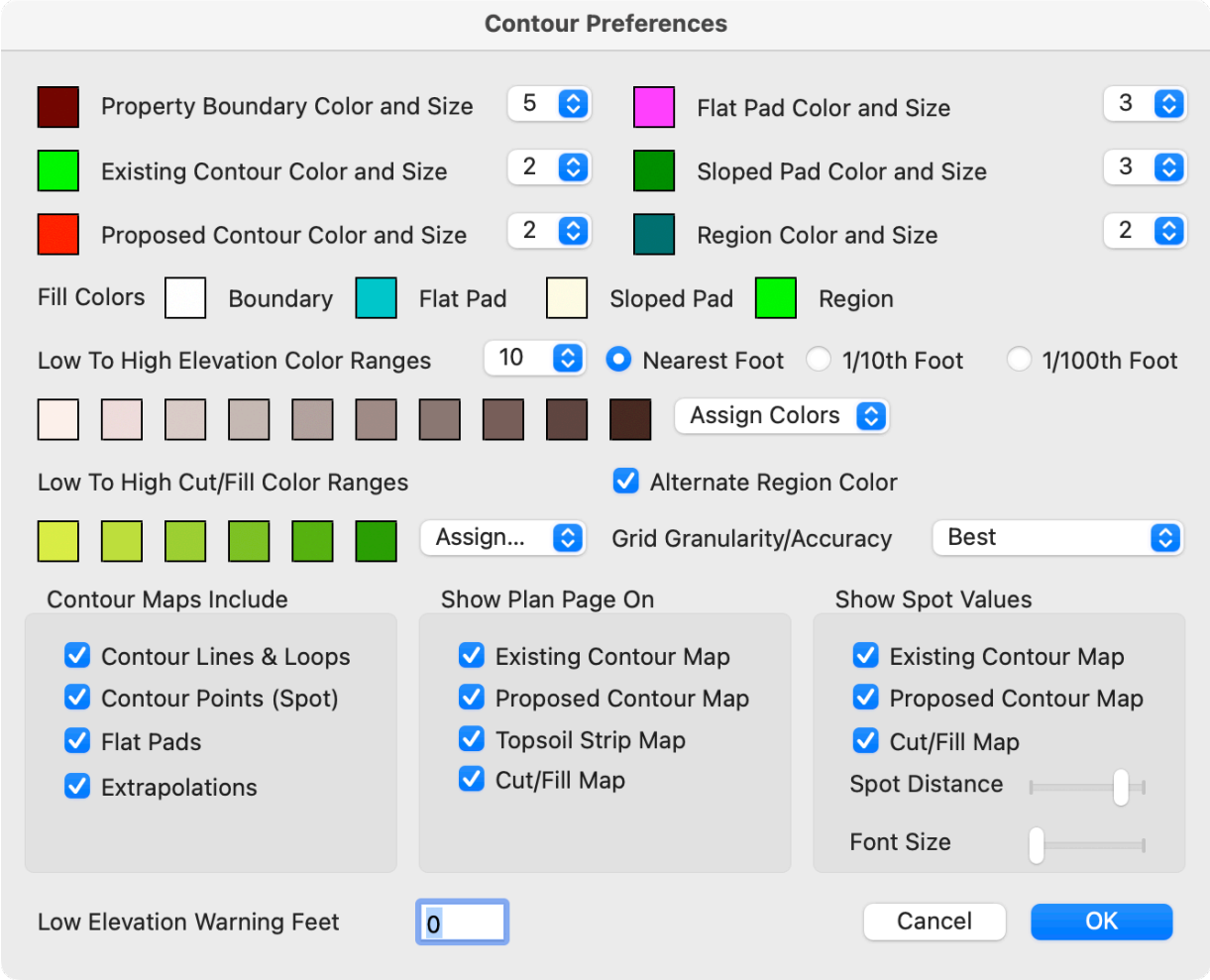
Contour Preferences

Click the **Preferences** button at the bottom of the Dirt Work Job Steps dialog to present the Contour Preferences dialog. This dialog can also be presented by clicking the **Contour** button on the general Preferences dialog.

At the top of the dialog, click in a colored box to change the color of various types of takeoff item lines on the Existing or Proposed page. Line width and Fill colors can also be changed.

The Low To High Elevation Color Ranges section is used to assign the number of ranges and colors to apply in the generated Existing and Proposed maps. To see the effects of a preference change, use the popup menu to select a different range of colors for the Contour maps, click **OK** to dismiss the dialog, then click the **Existing Map** button

again.



Grid Granularity is the most important option in the Contour Preferences dialog. When generating a Contour map, the job boundary is divided into a grid of boxes. An elevation is assigned to each box by first assigning known elevations from the user entered contour elevations and then extrapolating between known elevations.

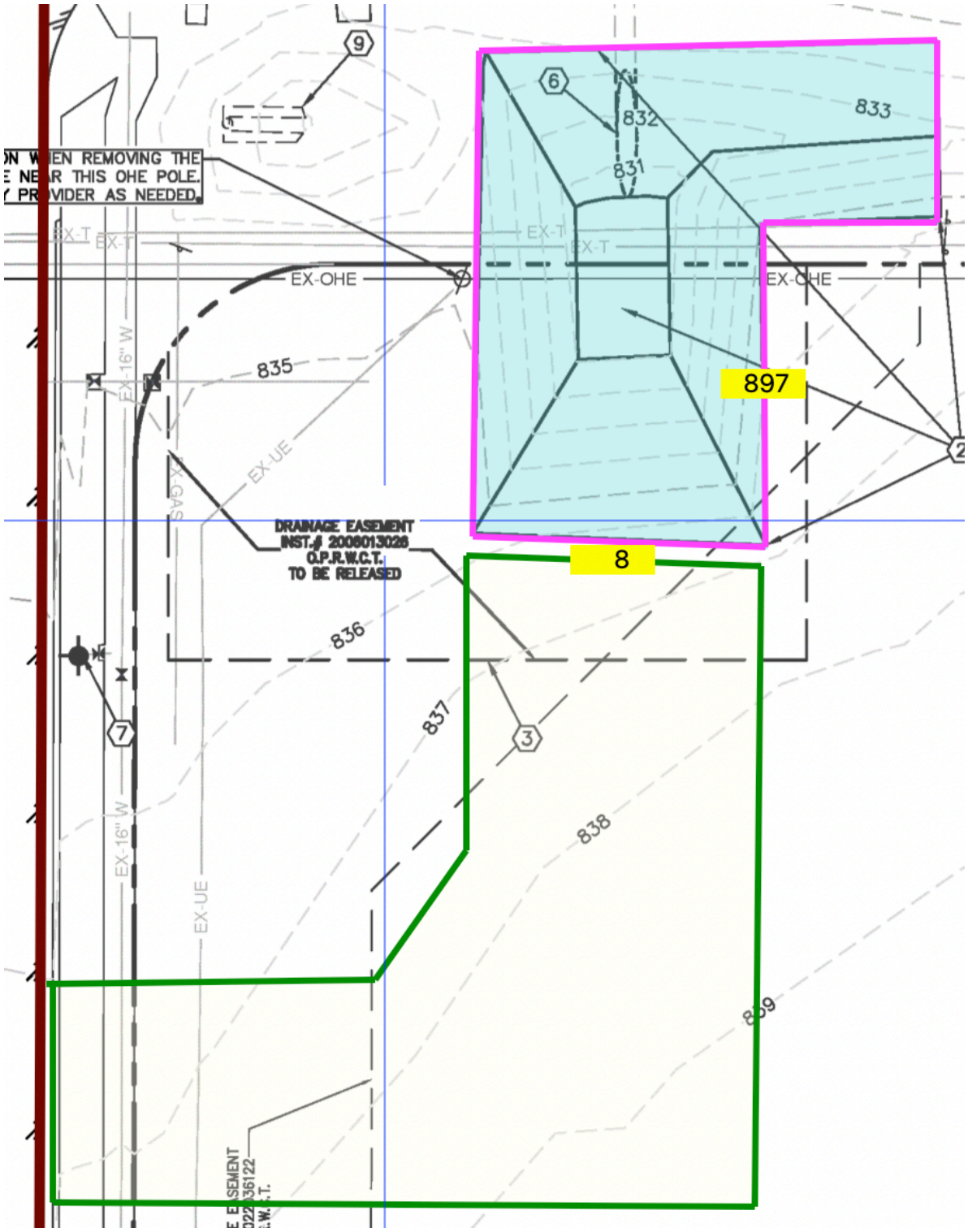
If Grid Granularity is set to Fastest, the boxes are bigger, map building is quick but can be less accurate. It usually works best to step through the entire process at the Fastest setting. After working through the entire process, now generate the final quantity values at the Best (slowest) setting.

Existing Page

The job boundary many have existing sidewalks, roads and building foundations that need to be removed before new construction can begin. Some jobs include a requirement to remove a specific depth of topsoil. Additional takeoff is required on the Existing page to satisfy these requirements.

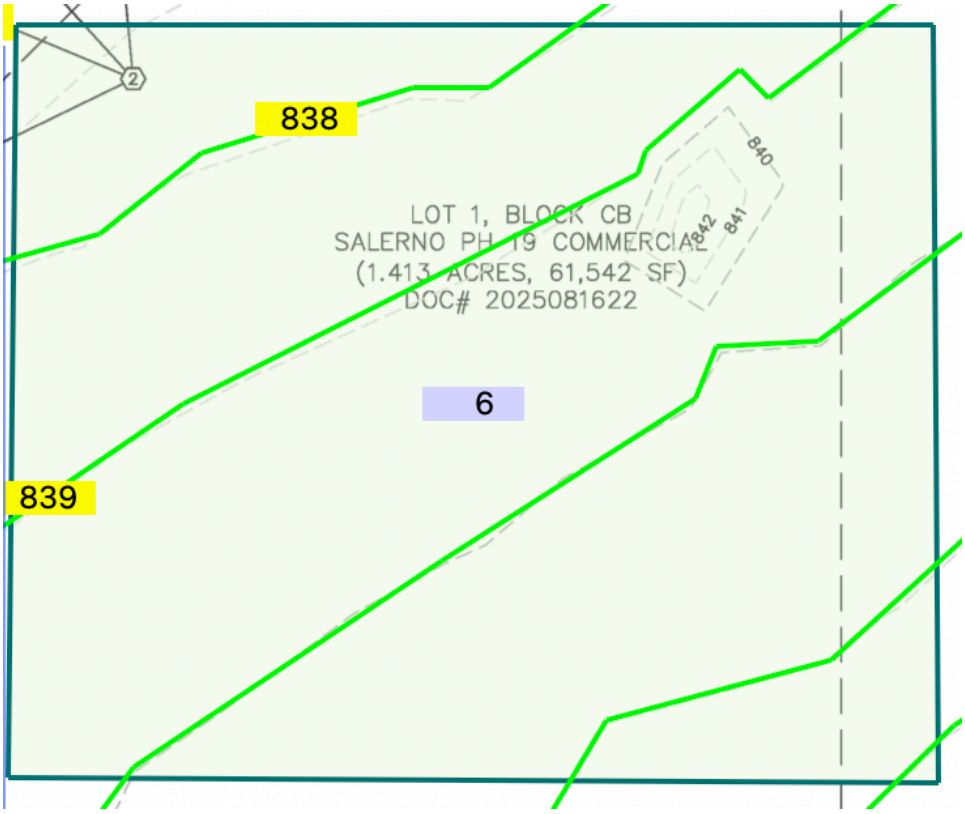
If the job boundary contains an existing building foundation, select the Flat Pad radio button on the Contour Assembly Takeoff dialog and click the **Continue** button. Draw an area takeoff around the existing building foundation. In the Edit Elevation dialog that is presented, enter the finished elevation to be cut from the job site.

Select the Sloped Pad radio button, then draw an area that defines an existing sidewalk or road that needs to be removed. Enter the number of inches to be removed from the existing contour of the property.



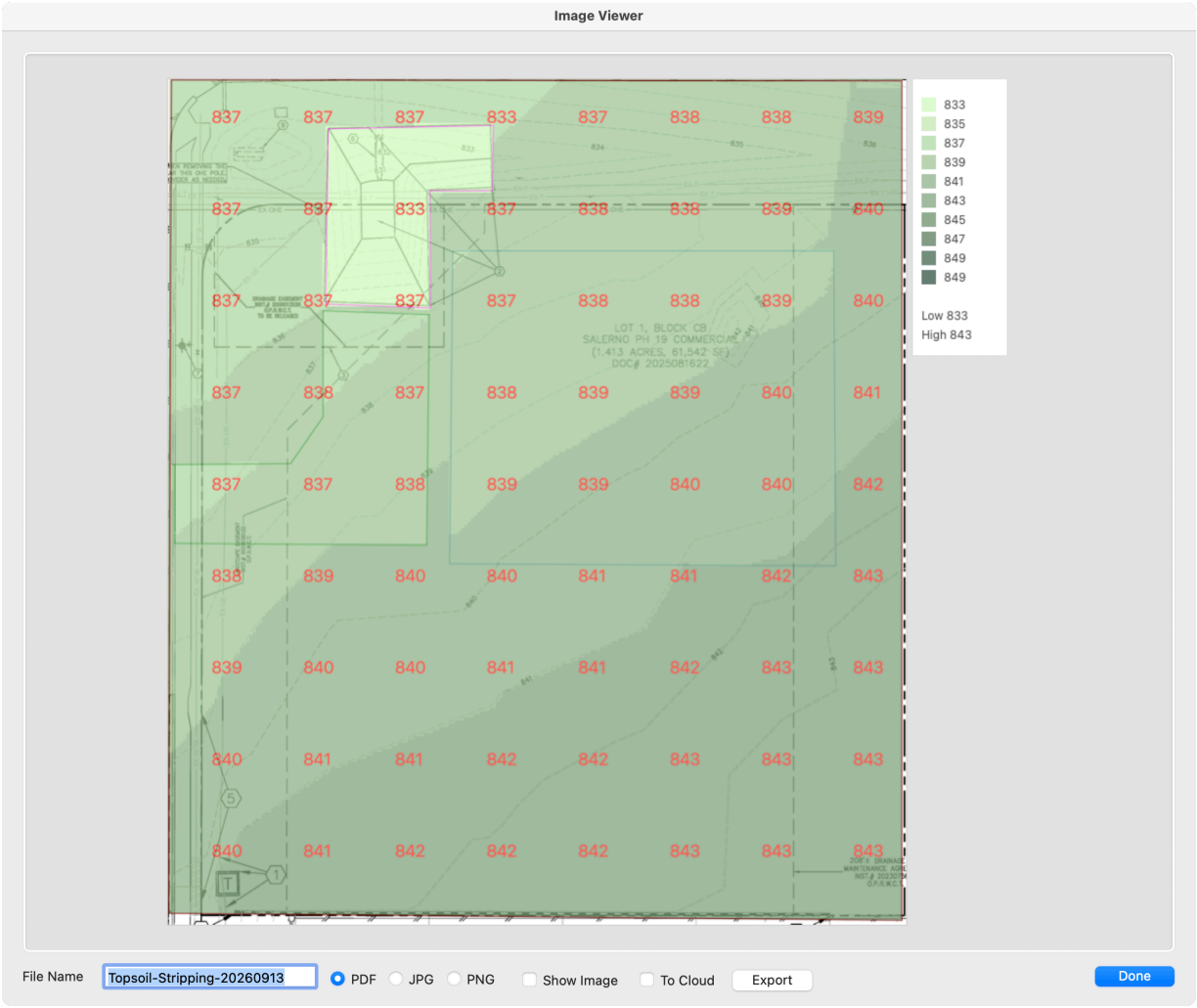
If the job requires Topsoil removal, select the Region radio button and draw an area takeoff around the area that is affected. When the area is completed, a dialog is presented where the Topsoil Cut in Inches can be entered. The border and fill color of the region can be assigned on the Contour Preferences dialog. The number displayed inside the region reflects the number of inches of topsoil removed from the Existing

grade.



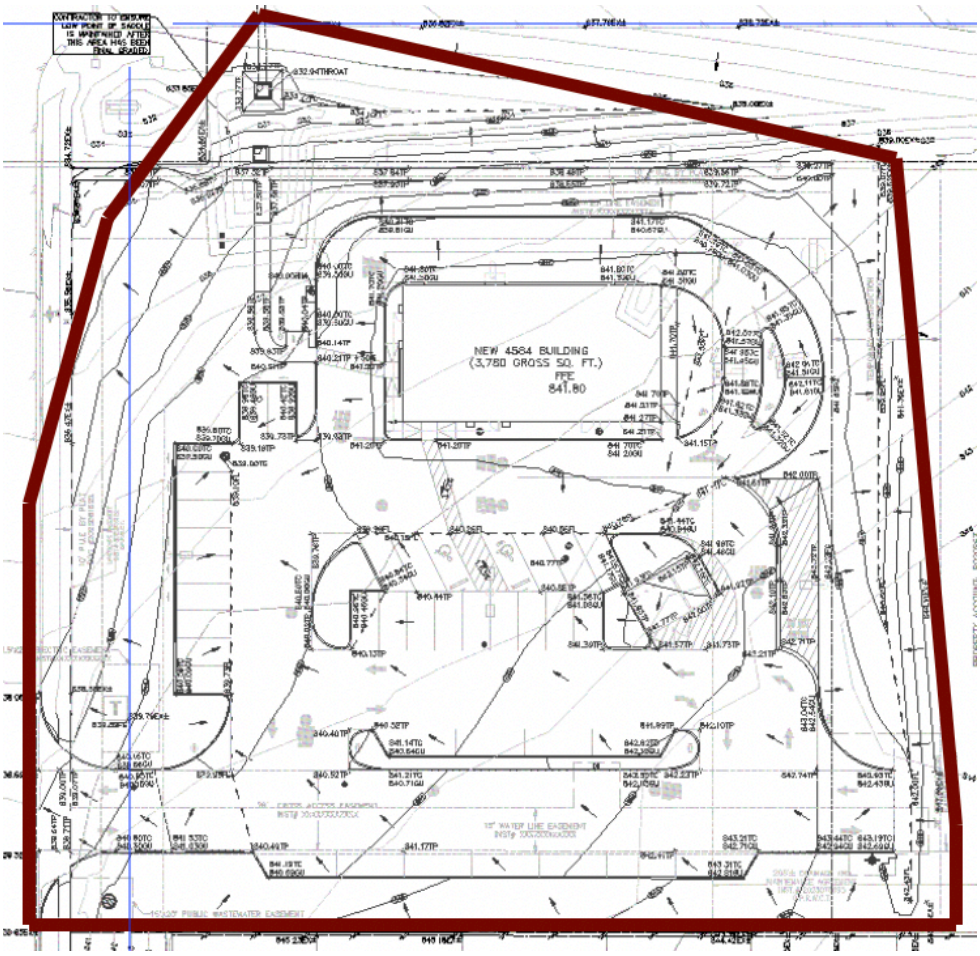
Once all demolition and topsoil removal areas have been identified, present the Dirt Work Job Steps dialog. Click the **Strip Topsoil & Demo** button to cut those areas from the Existing grade, then click the **Topsoil & Demo Map** buton to present the finished Contour map.

In the example below, spot elevations are shown across the Topsoil & Demo map. The font size and spacing of this optional feature is controlled from the Contour Preferences dialog. These numbers can be rounded to nearest foot or 1/10 or 1/100 of a foot. When comparing the elevation numbers shown on the Topsoil & Demo map with the original elevations shown on the Existing page, remember most numbers represent feet except for Sloped Pads (sidewalks and road) and Regions (Topsoil cuts) that are shown in inches to be removed.



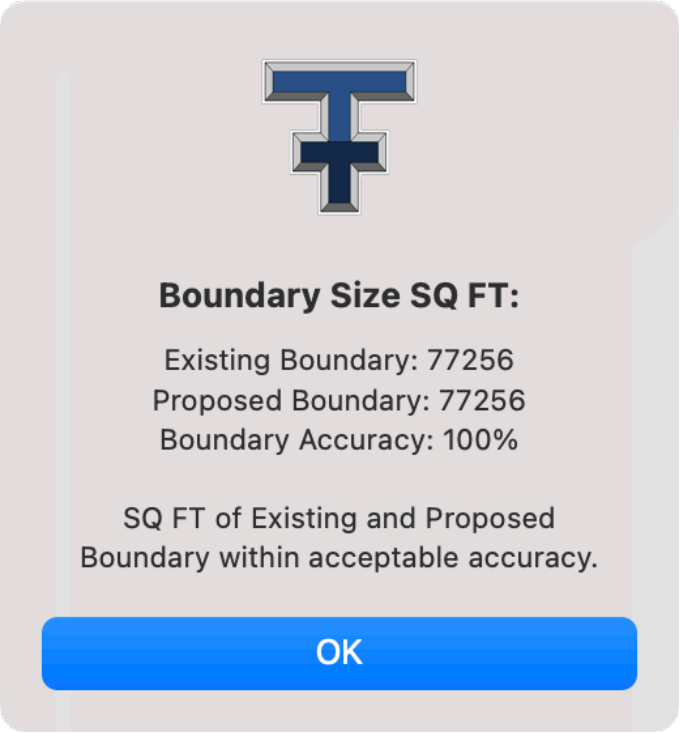
Proposed Page Boundary

Select the Proposed page from the Pages side panel. Several takeoff processes are used to generate the contour map of the finished job. The process starts by copying the job Boundary from the Existing page to the Proposed page. This is accomplished by clicking the **Proposed Boundary** button on the Dirt Work Job Steps dialog.



For most jobs, the architect provides the Existing and Proposed pages drawn at the same scale and property placement on the page. Examine the generated boundary on the Proposed page to confirm that it accurately depicts the area in which dirtwork will be performed and matches the boundary from the Existing page. If necessary, drag the entire Boundary area to the correct location or stretch each point on the perimeter to the correct location on the Proposed page.

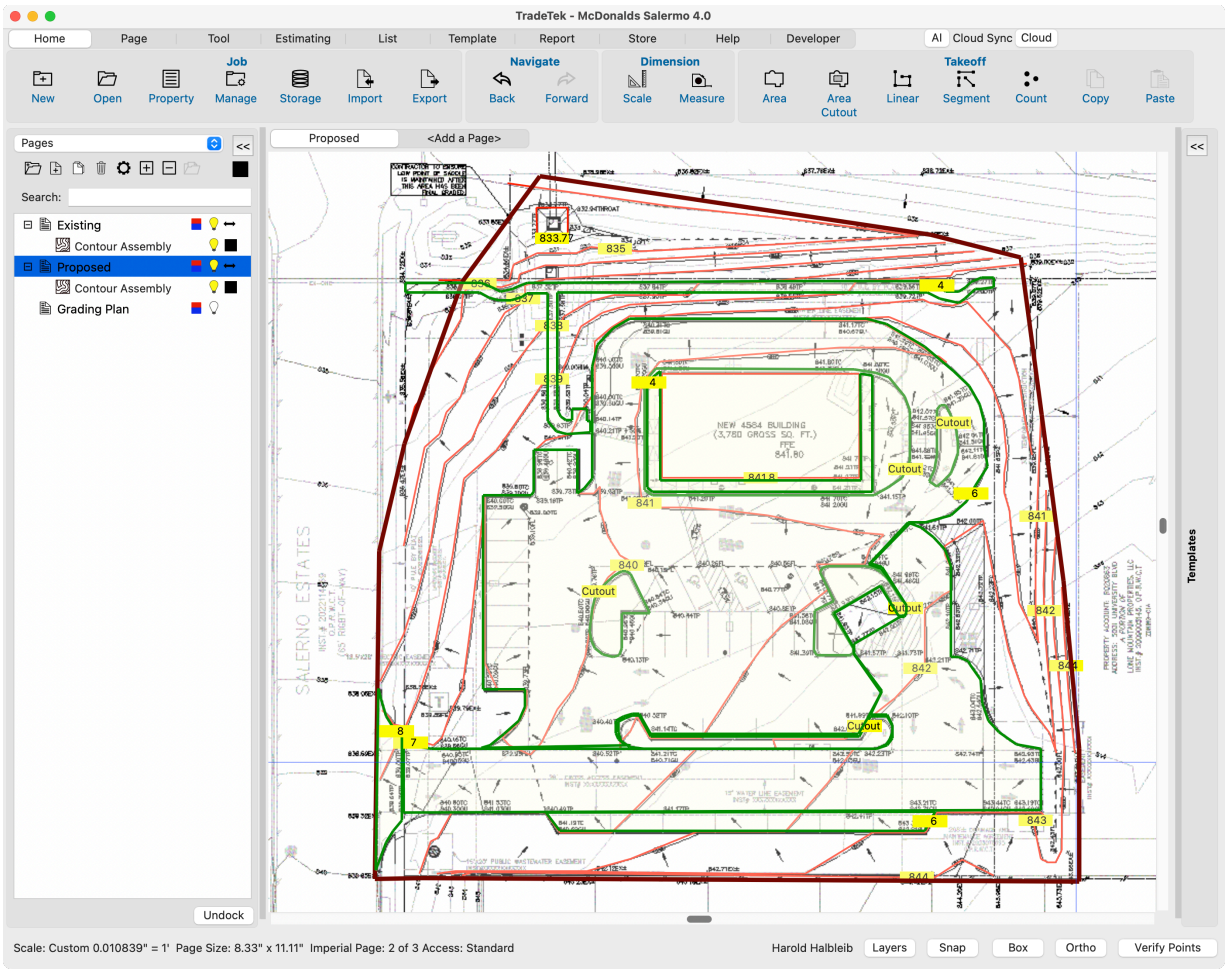
The **Proposed Boundary** button presents the Boundary Size dialog that compares the area of the boundary on the Existing and Proposed pages. This is the most important step of the Dirt Work takeoff process and has the biggest impact on the accuracy of generated quantities. Ensure these areas are nearly identical and represent the same work surface on the two pages.



Proposed Page Contours

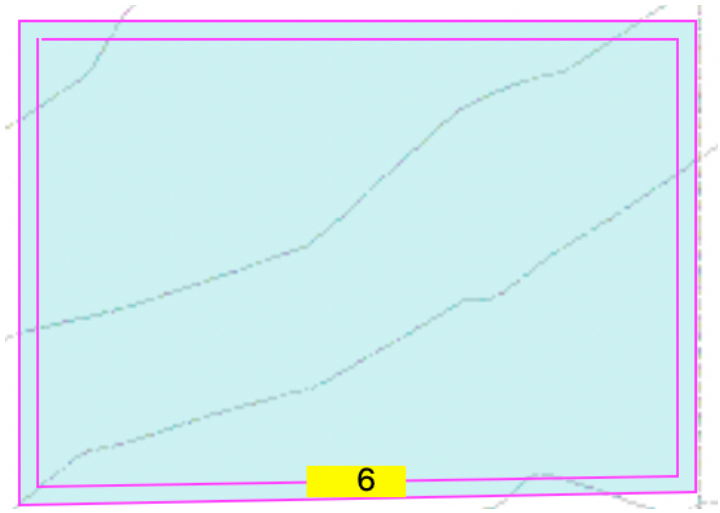
From the Pages side panel, present the Contour Assembly Takeoff dialog. Select the Contour button, then click **Continue** button to trace contour lines on the Proposed page. Note that the same Contour object used for all takeoff done on the Existing page is now being extended with takeoff done on the Proposed page.

In the following example, contour lines are drawn in red with an elevation in feet shown in a yellow box.



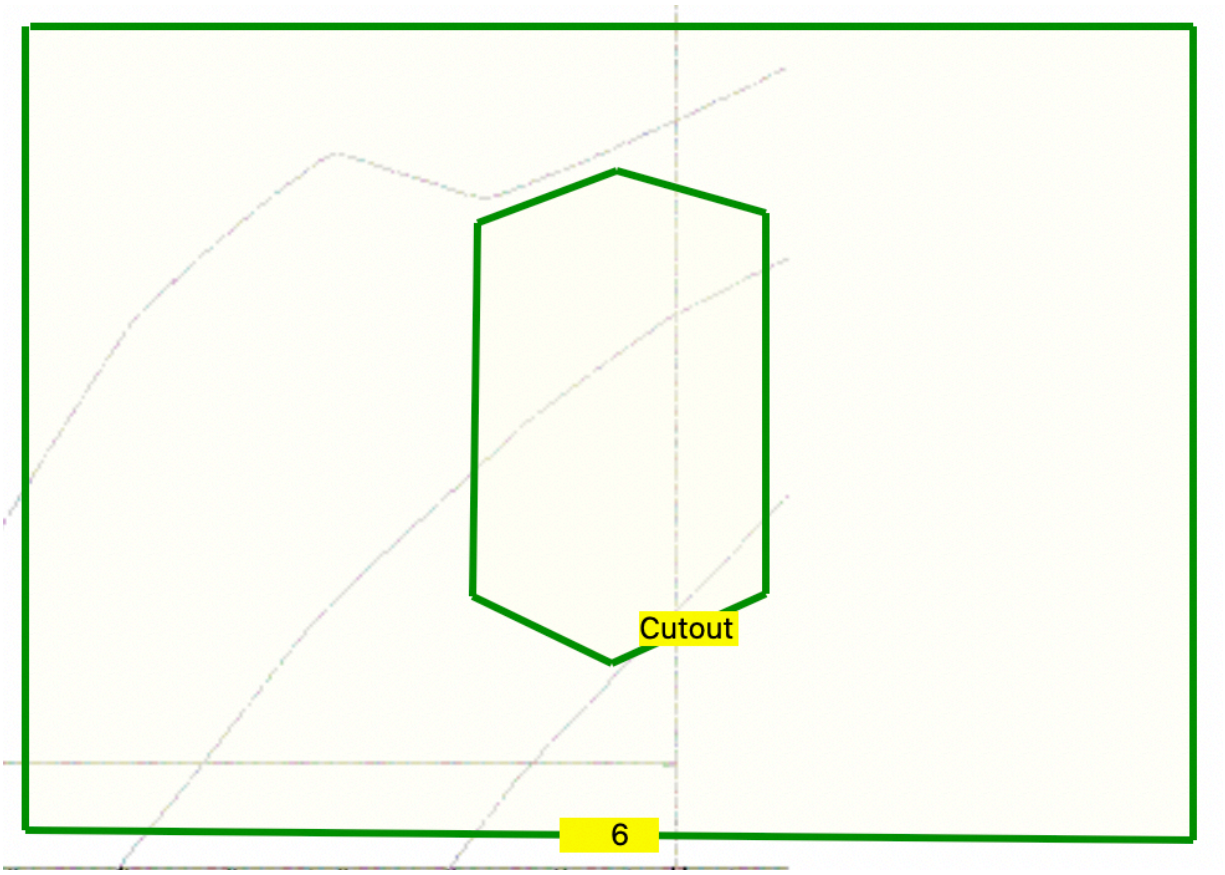
Several other takeoff types can be done on the Proposed page. Select the Flat Pad radio button on the Contour Assembly Takeoff dialog to outline the perimeter of building pads and depth of the construction cut in inches.

Sometimes an overcut of several feet is required around the building pad as illustrated below. The overcut in feet is defined from the Contour Assembly Takeoff dialog and represented on the page as a parallel line around the inside building pad area that the estimator has drawn.



Select the Sloped Pad radio button on the Contour Assembly Takeoff dialog and click the **Continue** button to outline the area for new sidewalks and roads. Sloped pads follow the contour of the job property. After drawing the Sloped Pad area, the Construction Cut in Inches dialog is presented to indicate the cut in inches from the proposed surface. A nested area within the sloped Pad can be designated as a Cutout useful for trees or other features within a parking lot takeoff.

A Sloped Pad can have multiple Cutout areas. Each Cutout area resides completely within the Sloped Pad. Cutout areas are excluded from the generated quantities.

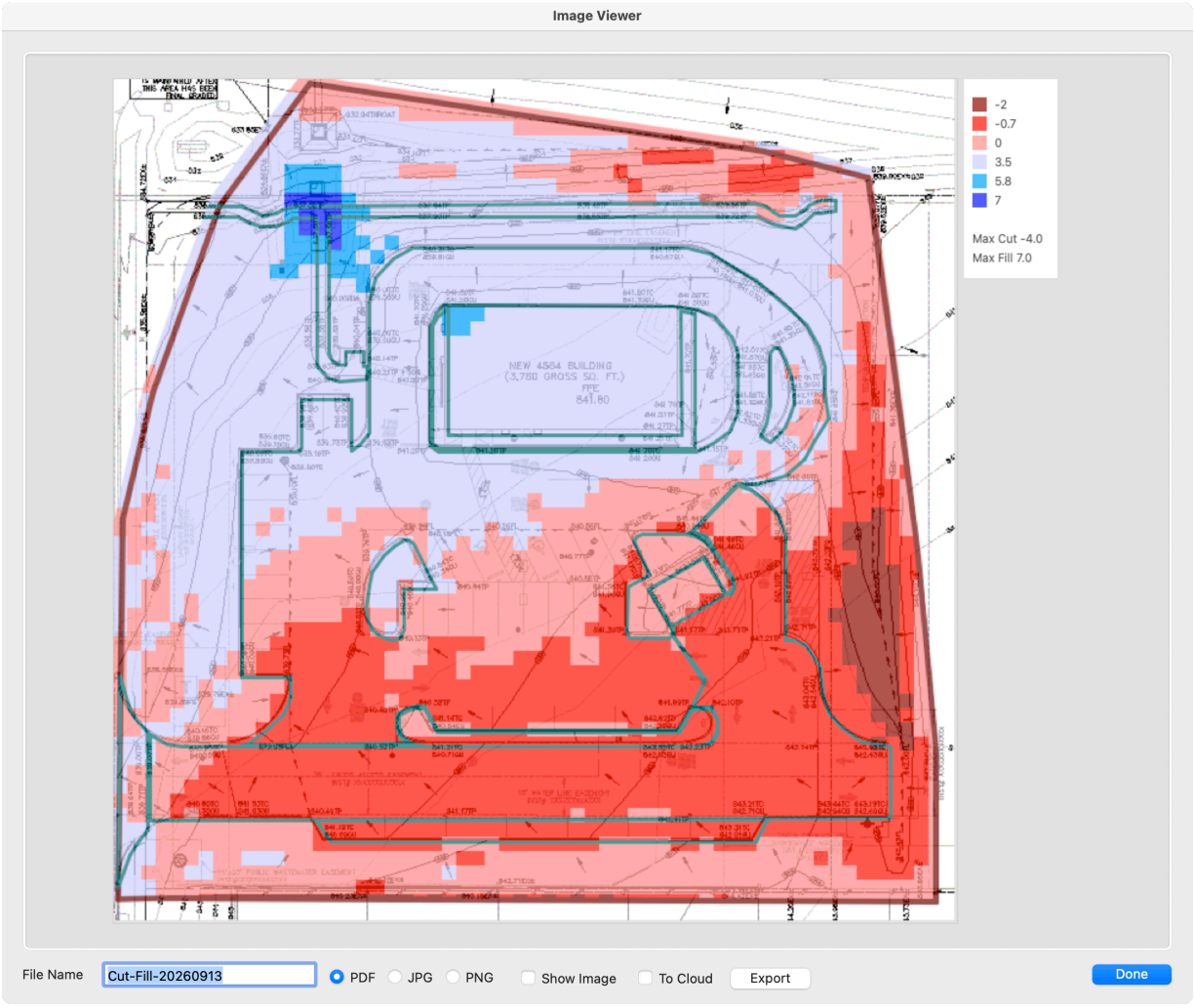


From the Dirt Work Job Steps dialog, click the **Validate Proposed** button to generate the proposed contour map based on contour elevations and Flat Pad and Sloped Pad cuts. The enabled **Proposed Map** button presents an Image View dialog to view the generated map. Buttons along the bottom of the dialog are used to name or export the image in various formats. Contour Preference options determine the color range options and if or how spot elevations are included.

Cut & Fill

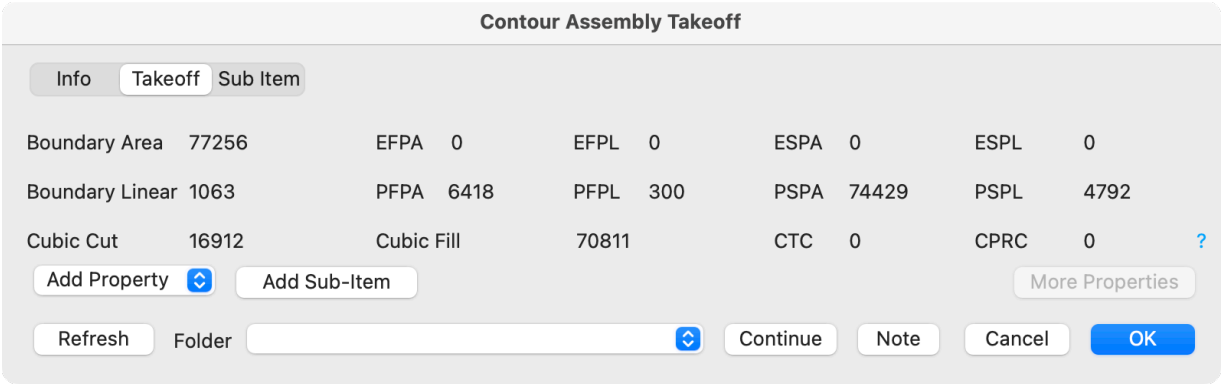
A Dirt Work takeoff results in a collection of properties usually expressed in cublc yards of dirt, topsoil or demolition material that needs to be cut, filled or moved to or from the job site. On the Dirt Work Job Steps dialog, click the **Create Cut/Fill** button to compare the surface grid of the Existing map with the Proposed map to generate quantity values. The **Cut Fill Map** button presents a color range map that illustrates the cut and fill amount required across the job site.

The map Key shows negative quantites for the depth of material to be cut and positive quantities for the material to be filled.

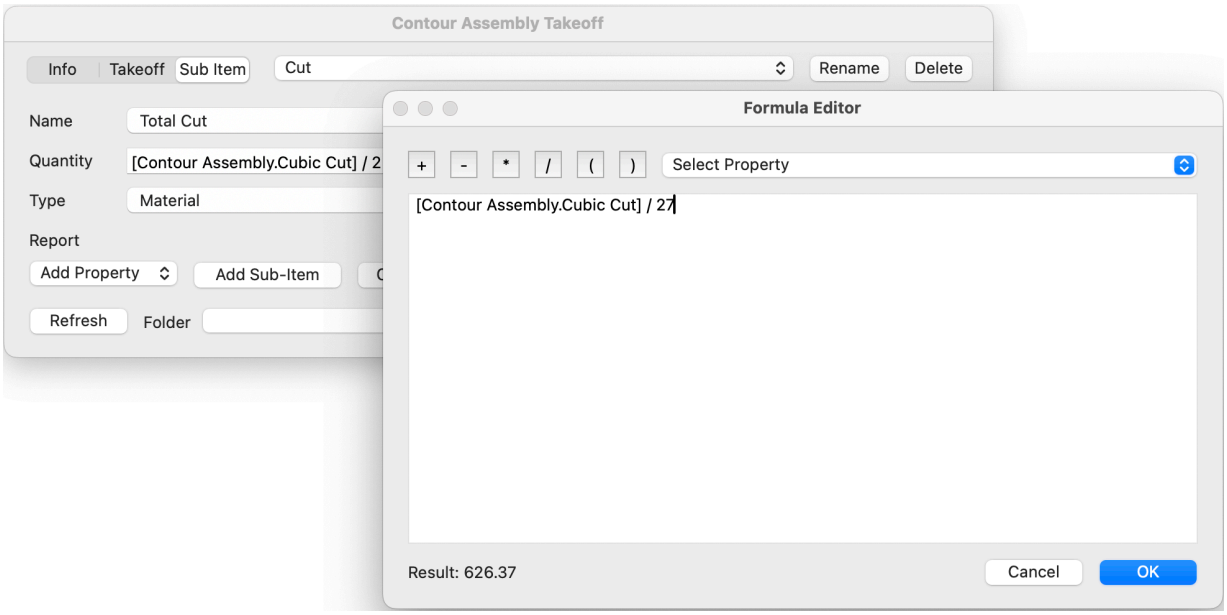


Generated Quantities

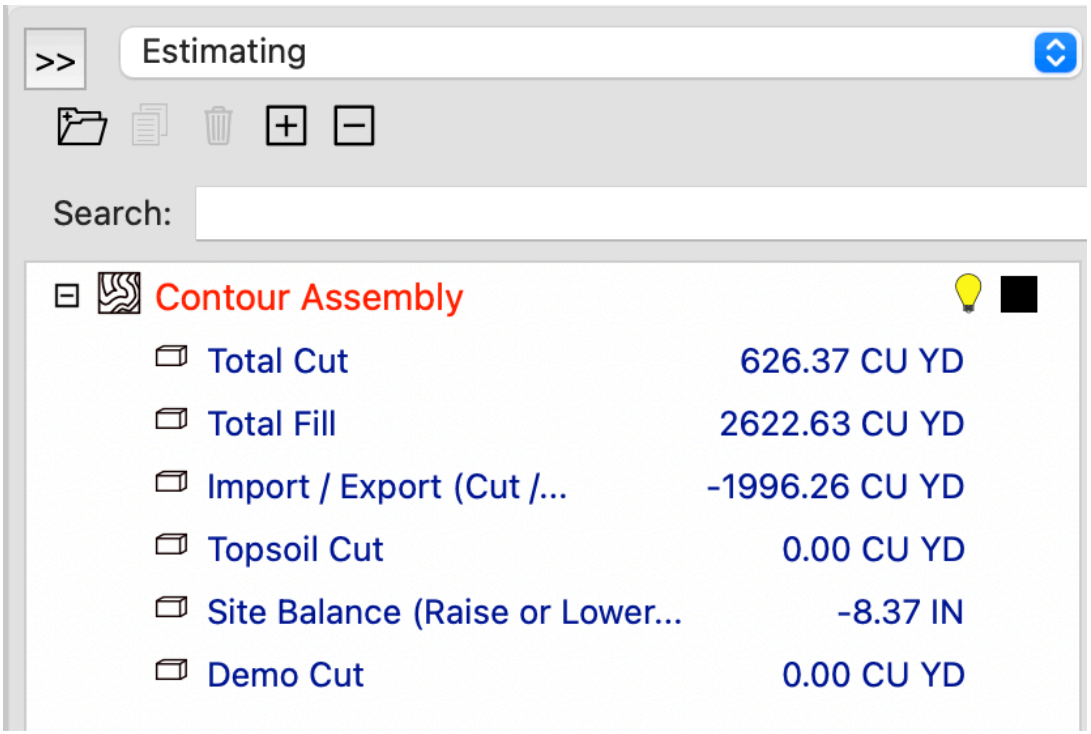
TradeTek generated quantities for a Dirt Work job are displayed in the Takeoff panel of the Contour Assembly Takeoff dialog. Some quantities of these standard properties indicate area in square feet, linear feet or volume in cubic feet. Position the screen cursor over a property label or value for a more descriptive name. Click the blue ? to see additional standard property names that are not directly displayed. Displayed and other properties are available to Assembly formulas and TradeTek reports.



The Contour Assembly is pre-configured with a collection of Sub Items that includes Quantity formulas based on the standard properties. In this example, the total cut quantity for the job is expressed in cubic yards.

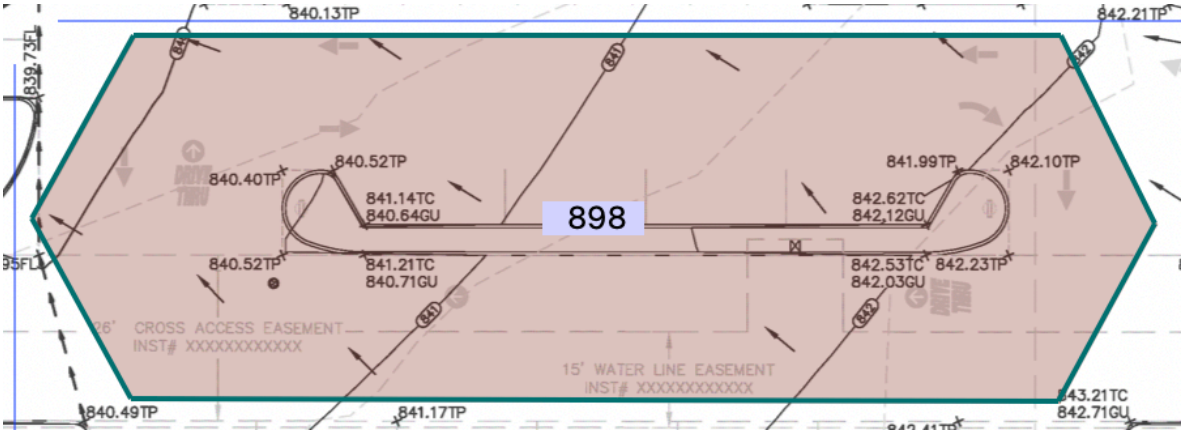


The Estimating panel or Estimating side panel shows various calculated quantities based on the standard properties provided by TradeTek from the estimator's takeoff job.

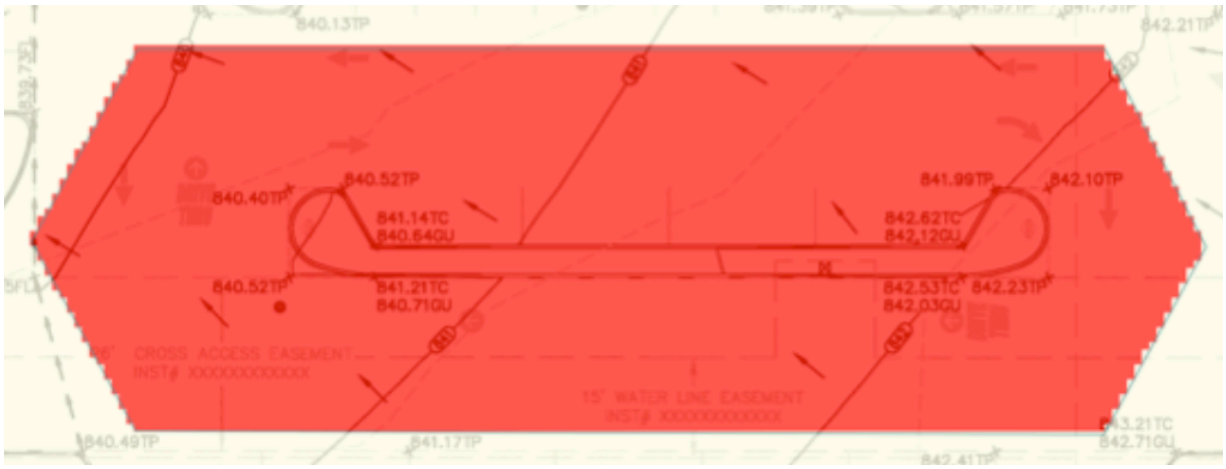


Optional Regions

A Dirt Work job may have one or more optional features like Ponds that can be separately calculated. From the Contour Assembly Takeoff dialog, select the Region radio button and click the **Continue** button to draw a region that outlines the edge of a pond.

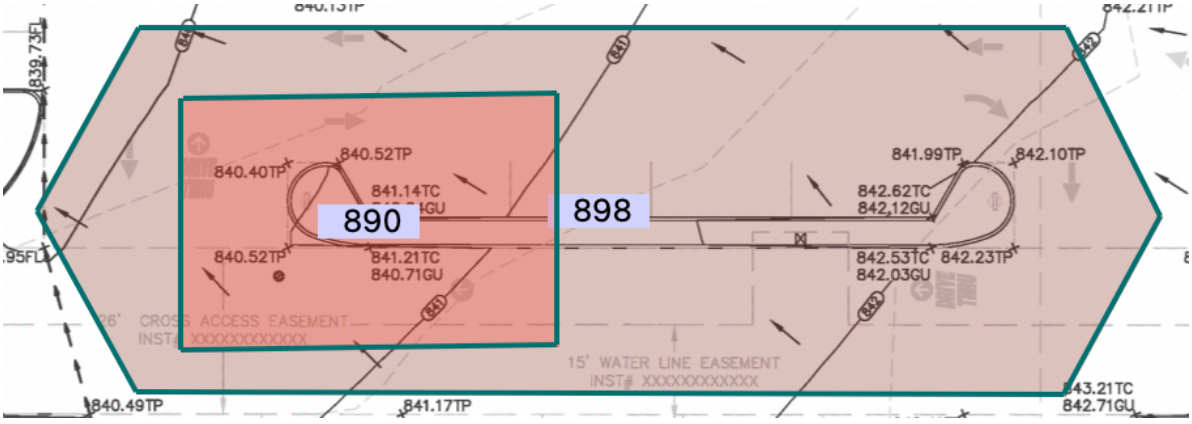


Press the **N** or **ESC** key to complete and close the region area. Enter the Proposed Elevation in Feet of the pond bottom. If the Apply Proposed Regions checkbox is set when clicking the **Validate Proposed** button on the Dirt Work Job Steps dialog, the elevation of the entire region is adjusted to the Elevation assigned to that region.

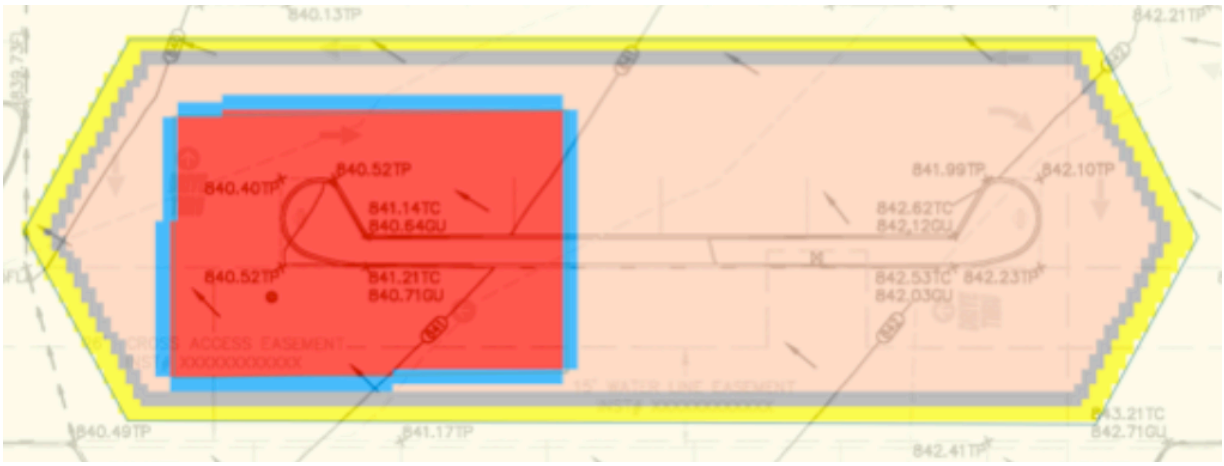


The first region drawn is Region 1, the second is Region 2, etc. TradeTek will generate separate cut volume quantity values for the first five regions using standard property names of CPRC1, CPRC2, etc. The CPRC properties accumulates the total cubic volume of all regions.

TradeTek allows for a more precise volume calculation of ponds by adding one nested region within the pond that identifies the pond bottom elevation. In this scenario the Outer region assigns the surface elevation and the pond perimeter. Create an Inner region fully nested within the Outer region. The Elevation assigned to the Inner region determines the elevation of the pond button. TradeTek only supports one nested Inner region within each Outer region.



The **Validate Proposed** button extrapolates the elevation between the Outer perimeter and Inner bottom regions. Notice there are several bands of color indicating different elevations.



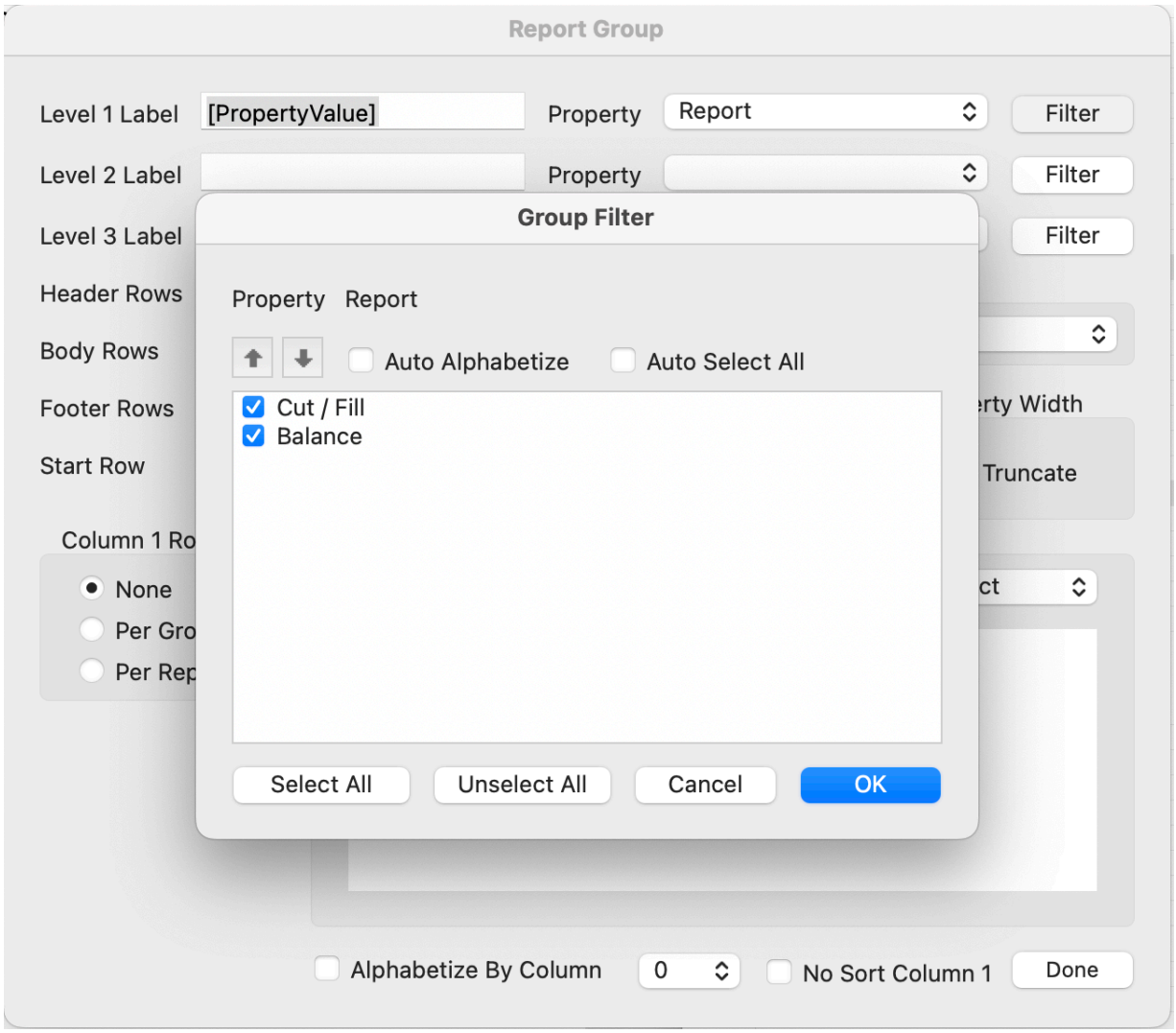
When using nested regions, TradeTek generates separate cut volume quantities for the bottom CPRCB1, CPRCB2, etc. It also generates separate cut volume quantities for the edges CPRCE1, CPRCE2, etc. The quantity CPRC1 is equal to CPRCB1 plus CPRCE1. These volume quantities are available as cubic feet from the Estimating panel or as cubic yards in a generated report.

Name	Qty	CPRC1	CPRCB1	CPRCE1
⊟ MyContour	0	59506.00	21963.00	37543.00
Total Cut	1440.59			
Total Fill	1827.56			
Import / Export (Cut / Fill Difference)	-386.96			
Topsoil Cut	276.04			
Site Balance (Raise or Lower)	-1.66			

Reports

To view a report, first choose the Build panel for a selected report, then click the **Group** button. Click the **Filter** button at the top left of the Report Group dialog, then set one or more checkboxes.

Now select the View panel to display live data from the Dirt Work job.



The Dirt Work bundle includes two pre-configured reports. The contents of the report will vary depending on which subitems are turned On or Off.

Date: 9/13/2026

Cut / Fill

McDonalds Salermo 4.0

Cut / Fill

Name	Description	Qty	Units
Total Cut		626.37	CU YD
Total Fill		2622.63	CU YD
Import / Export (Cut / Fill Difference)		-1996.26	CU YD
Topsoil Cut		0.00	CU YD
Demo Cut		0.00	CU YD

Balance

Name	Description	Qty	Units
Site Balance (Raise or Lower)		-8.37	IN

Date: 9/13/2026

Site Balance

McDonalds Salermo 4.0

Cut / Fill

Name	Description	Qty	Units
Total Cut		626.37	CU YD
Total Fill		2622.63	CU YD
Import / Export (Cut / Fill Difference)		-1996.26	CU YD
Topsoil Cut		0.00	CU YD
Demo Cut		0.00	CU YD

Balance

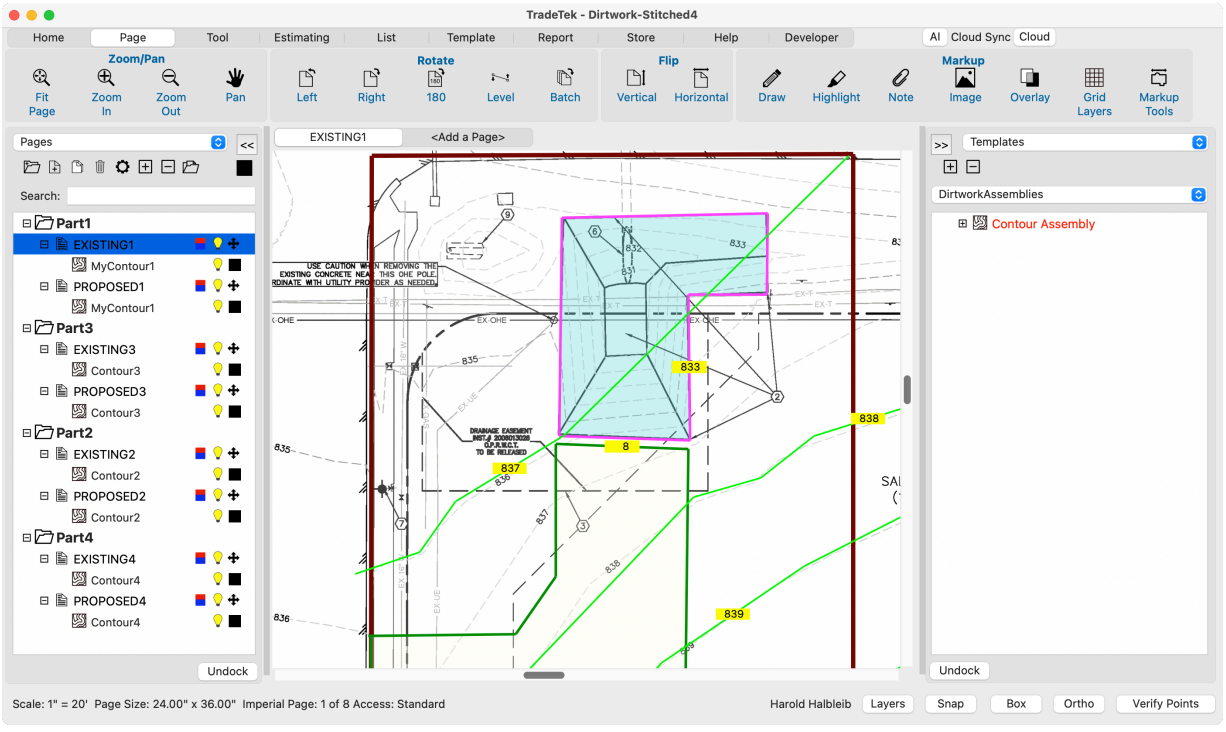
Name	Description	Qty	Units
Site Balance (Raise or Lower)		-8.37	IN

Stitch Together Contour Maps

Most Dirt Work jobs consist of one pair of Existing and Proposed pages. In rare cases, a large job is broken into two or more pairs of Existing and Proposed pages. TradeTek allows the estimator to work through the entire estimating process individually with each Existing/Proposed page pair and then at the end stitch them together into a consolidated map. This allows the estimator to validate boundary and contour accuracy of the estimating process.

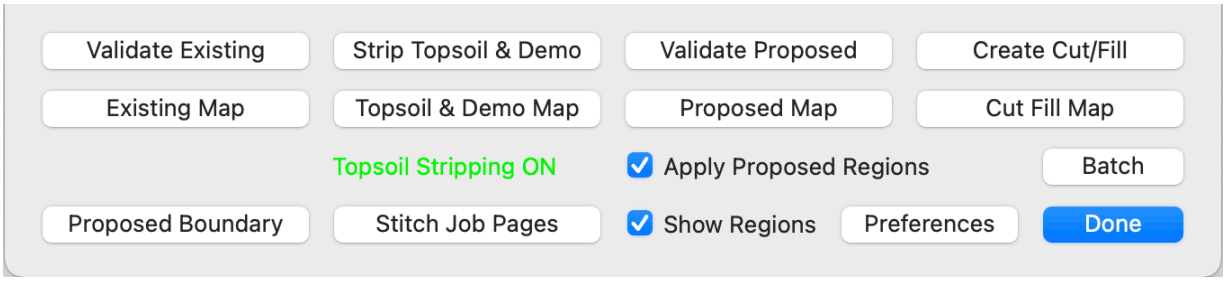
A large job might have two or three page pairs that fit together horizontally or vertically. TakeTek supports stitching up to 4 page pairs together. To illustrate the concept, assume a large job has been broken into four page pairs that are aligned two pages across and two pages down. In the Part1 folder, notice the Existing1 and Proposed1 page pair that uses Contour1. In the Part2 folder, notice the Existing2 and Proposed2 page pair that uses Contour2.

In this example, the MyContour1 determines the Existing, Proposed, Topsoil and Cut/Fill maps for the top-left quadrant of the completed job. Contour2 defines the top-right quadrant, Contour3 the left-bottom quadrant and Contour4 the bottom-right quadrant.



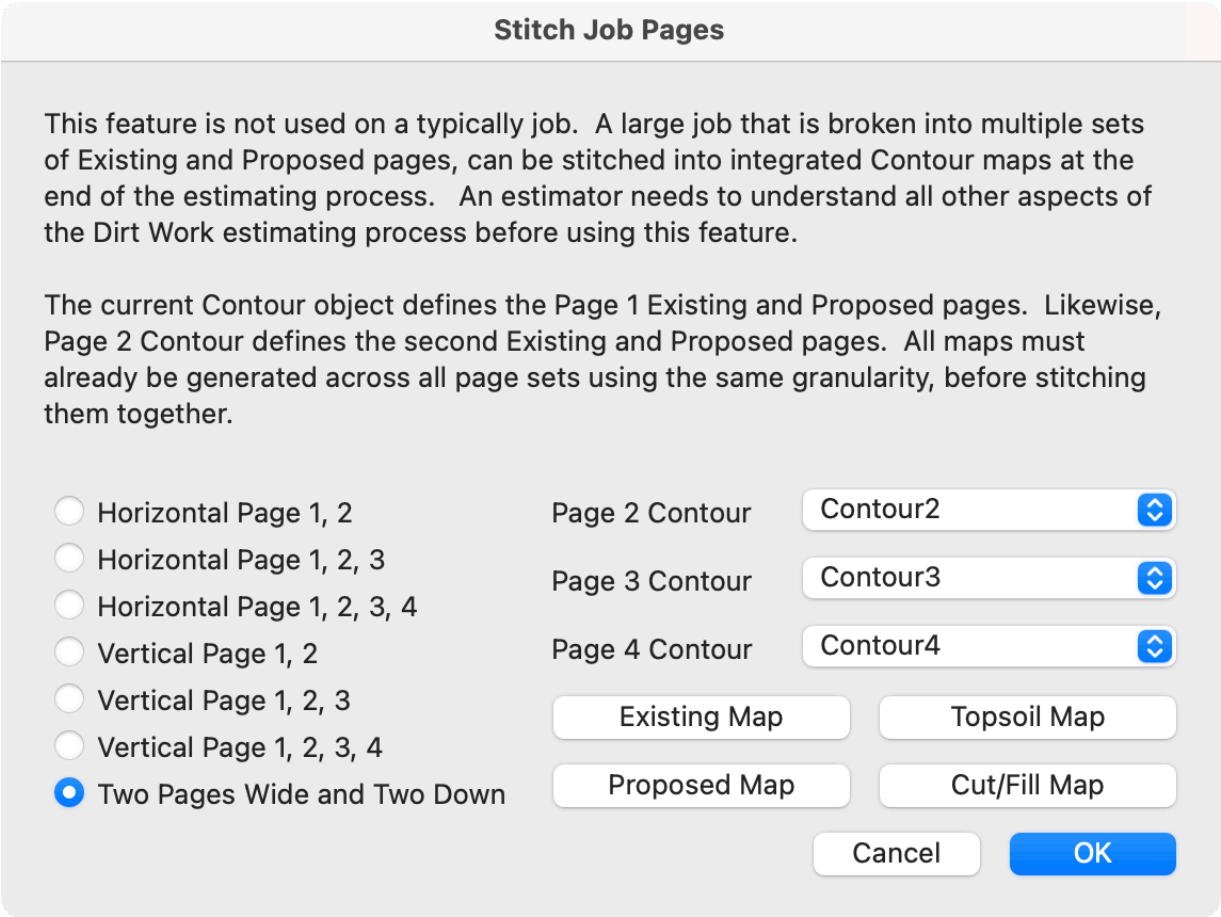
Before the Stitching process can begin, the estimator must complete all maps with each pair of pages using the same Preference options. From the Dirt Work Job Steps dialog, click the **Batch** button to regenerate all maps for the Page pair associated with each Contour object. In this example, notice the Existing Map, Topsoil & Demo Map,

Proposed Map and Cut Fill Map is enabled indicating that all maps have been generated. If this job doesn't use topsoil stripping, that button can be disabled.



Present the Dirt Work Jobs Steps dialog for Contour 1 associated with the first page pair. Click the **Stitch Job Pages** button to present the Stitch Job Pages dialog. Along the left edge, select the radio button that indicates the orientation of stitched pages. From the popup menus, select the contour associated with each page pair.

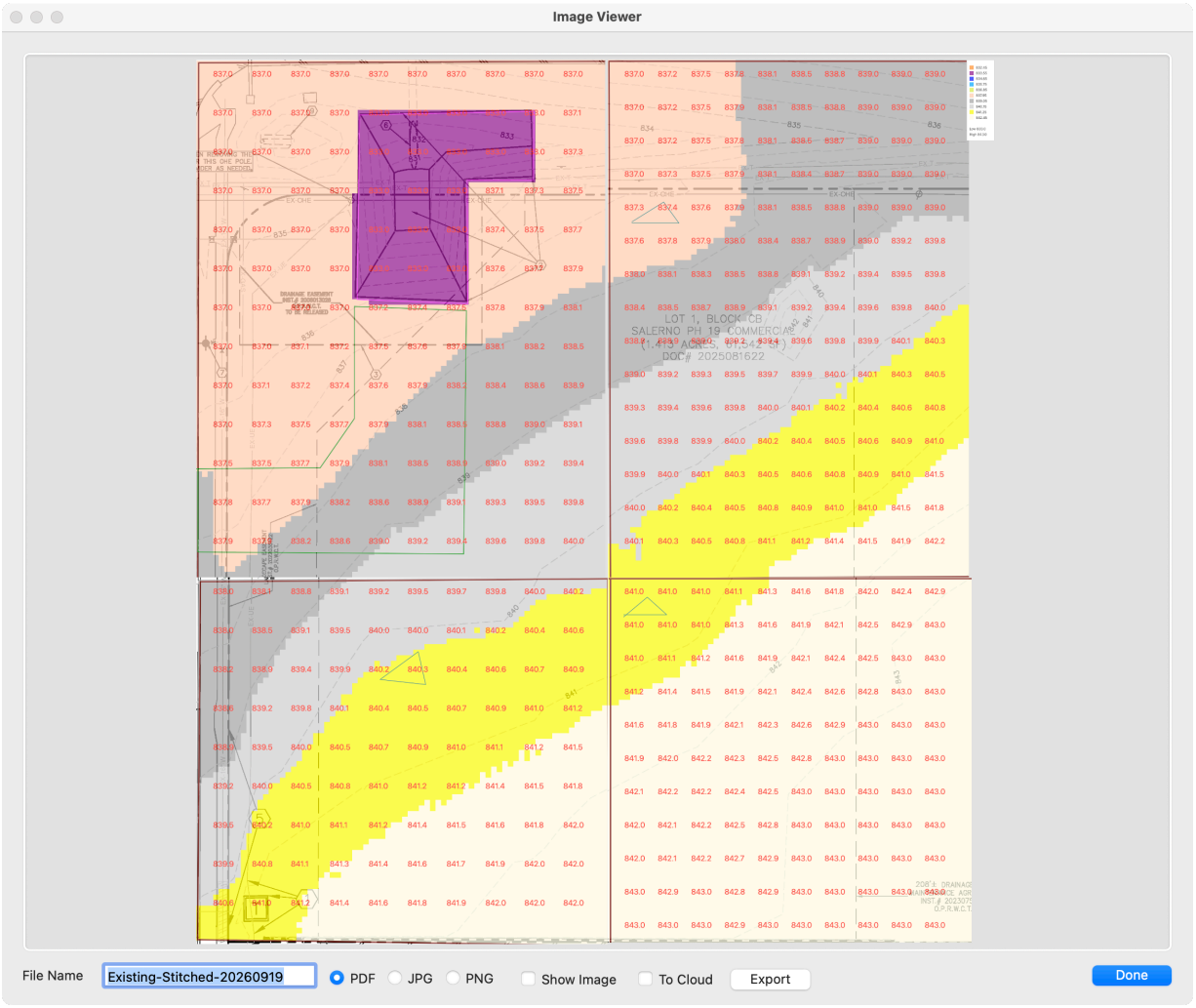
Had the job only required two horizontally stitched pages, select Horizontal Page 1, 2 radio, assign Contour 2 and ignore the other options.



The example below demonstrates the concept of stitching maps. The job used in this

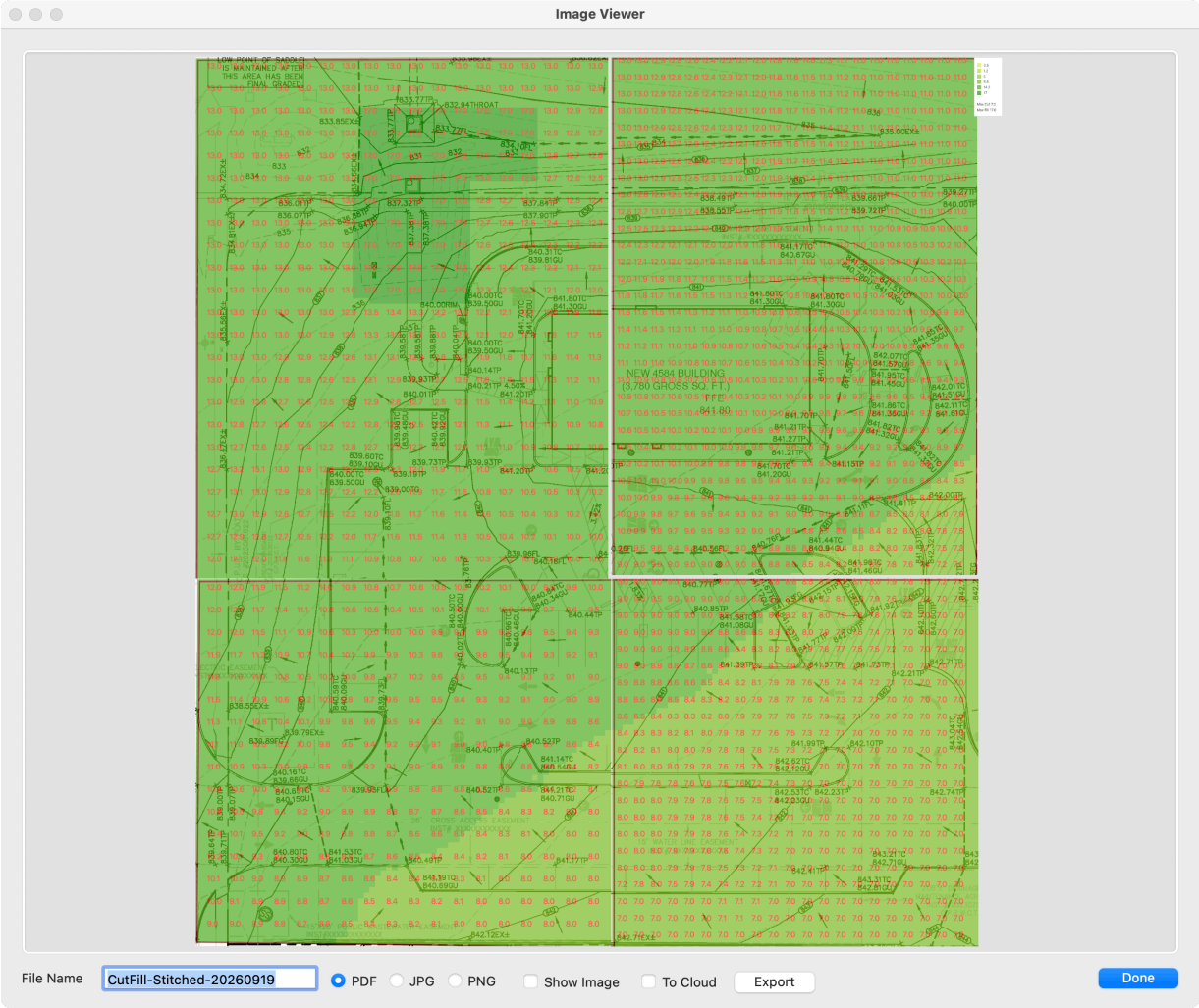
example does not have a completed set of contour lines and was generated with course granularity for speed rather than accuracy. When maps are generated for individual pages, each page set has its own optimal color range. When stitched together the color maps are normalized to the same scale. Other characteristics like range size and colors or spot elevations are determined by preference options.

Click the **Existing Maps** button to stitch together all the existing maps. From the stitched map, the estimator can verify the accuracy of job Boundaries and contour elevations. When Boundary lines are not quite horizontal or vertical they may not align nicely, showing the source of inaccuracy in generated quantities. Contour elevation generally create color bands that flow rather smoothly across pages.



When page boundaries and elevation bands align nicely, the estimator can be confident in the generated job quantities. The Proposed, Topsoil and Cut/Fill maps can also be stitched together.

In this gradient Cut/Fill map, spot amounts shown in feet show the amount of fill at each location.



Consolidate Page Quantities

The Dirtwork Bundle comes with two standard reports, Dirtwork Cut Fill and Dirtwork Site Balance that includes quantities calculated from the takeoff process. For a large job broken into multiple page sets, the generated quantities are consolidated into one report when the Consolidate Quantities checkbox is set in the Report Group dialog.

Perform Faster Takeoff

The takeoff process for a dirtwork job uses similar techniques to drawing Linear or Area takeoffs for estimating in other trades. Several convenience features are available to speed up the takeoff process. From the Preferences dialog, enable the Auto Scroll Near Page Edges checkbox if the estimator wants TradeTek to automatically scroll a page in the direction of travel when drawning contour lines. Points in a Contour line can be added, removed or the line extended with the same features used when drawing Linear takeoff.

Present the Keyboard Shortcuts dialog from the Preferences dialog. Pick an unused letter such as Z and use the popup menu to assign the Undo Point action, then click **OK** to close the dialog. Now when drawing a long multiple point contour line if you change your mind and need to remove a few of the last points, just press the Z key a few times.

Summary

The Dirt Work bundle and Contour Assembly features are seamlessly integrated into the TradeTek estimating process. Standard properties generated during the takeoff process can be used in Assembly formulas and reports. Additional calculated quantities or custom reports can be added to the predefined assembly and reports included with the Dirt Work bundle.

Experienced estimators can create their own Contour Assemblies, Reports or assign Presets to an assembly to further customize the estimating process.