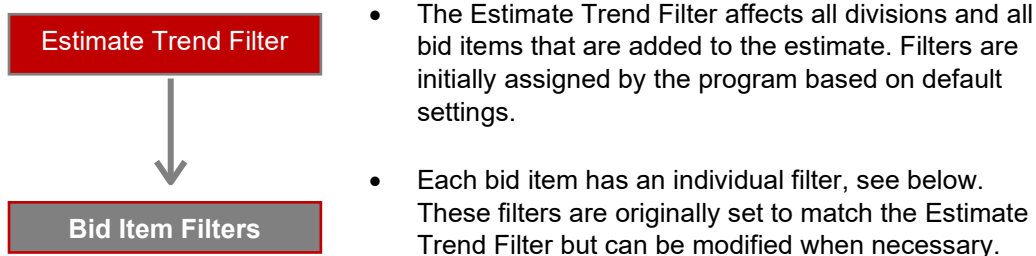


# Estimate Trend Filters

Previous estimating tools were based on a broad average cost across all work types for bid items over a 2-year period. That broad method worked well for overall programming but could be noticeably inconsistent project to project. iPDWeb allows for bid item pricing to be developed based on similar projects with the use of the **Estimate Trend Filters**. Estimate Trend Filters identify parameters and characteristics from past projects that have similarities to the current estimate. The bid items from these identified projects are then used to run a regression analysis to predict the pricing for items in the estimate. This allows for a more detailed analysis of the pricing for bid items. Trend filters can be set globally for bid items at the estimate level and further defined for each individual bid item with the Item Trend Lookup (See Chapter [5.2.2.4.5 Item Trend Filters In iPDWeb](#)).

The program will automatically apply default filters that in most cases will identify sufficient past projects to develop cost data and will not require the user to adjust the filters. However, changes can be made by the user in situations where more detailed pricing analysis is required.

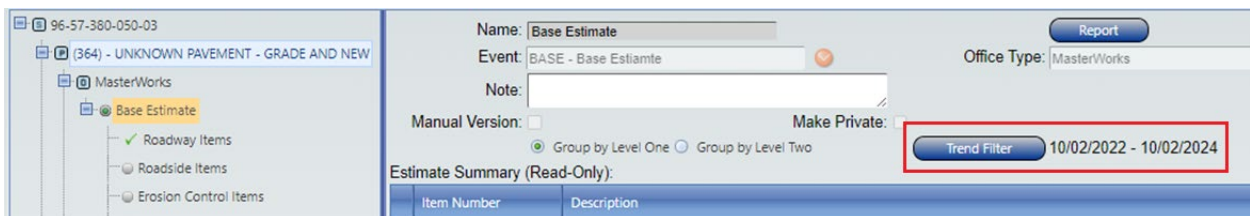
**Figure 1: Filter Workflow**



**NOTE:** Any changes to the Estimate Trend Filter will overwrite all filters at the Plan Item level. It is highly recommended to not change the estimate trend filter after modifications have been made to individual bid item filters to avoid the potential loss of work.

## Estimate Trend Filter

The Trend Filter button is located on the main estimate page. Setting the Trend Filter at the Base Estimate level will apply the selected filters to all the plan items in all of the containers in the Base Estimate.



**NOTE:** Individual plan item filters can later be modified to allow for more detailed cost analysis.

Once you select the trend filter, a popup will appear giving filter option tabs for Main, Locations, Work Type, and Estimate Parameters. Each tab will have default settings applied to allow for a broad selection of bid items to be analyzed. The “Main” tab allows for projects to be filtered by date, bidders, item price, quantity, delivered by, and season of letting. The default filters are set as shown in the graphic but can be changed if needed.

The screenshot shows the 'Trend Filter' dialog box with the 'Main' tab selected. The dialog is titled 'Item Trend Lookup Filter'. It contains several input fields and radio button options. The 'Begin Date' is set to 10/2/2022 and the 'End Date' is set to 10/2/2024. There are empty fields for 'Min bidders per contract', 'Max bidders per contract', 'Min Item Price', 'Max Item Price', 'Min Item Quantity', and 'Max Item Quantity'. The 'Project Delivered By' field is set to 'DOT'. Under 'Price Adjustment', the 'Adjust all years' radio button is selected. Under 'Bidders', the 'Awarded bidders' radio button is selected. The 'Season of Letting' section has two columns: 'Unassigned' and 'Assigned'. The 'Unassigned' column contains four items: 'FALL (SEP21-DEC20)', 'SPRING (MAR21-JUN20)', 'SUMMER (JUN21-SEP20)', and 'WINTER (DEC21-MAR20)'. The 'Assigned' column is empty. At the bottom of the dialog are three buttons: 'Import Project Parameters', 'OK', and 'Close'.

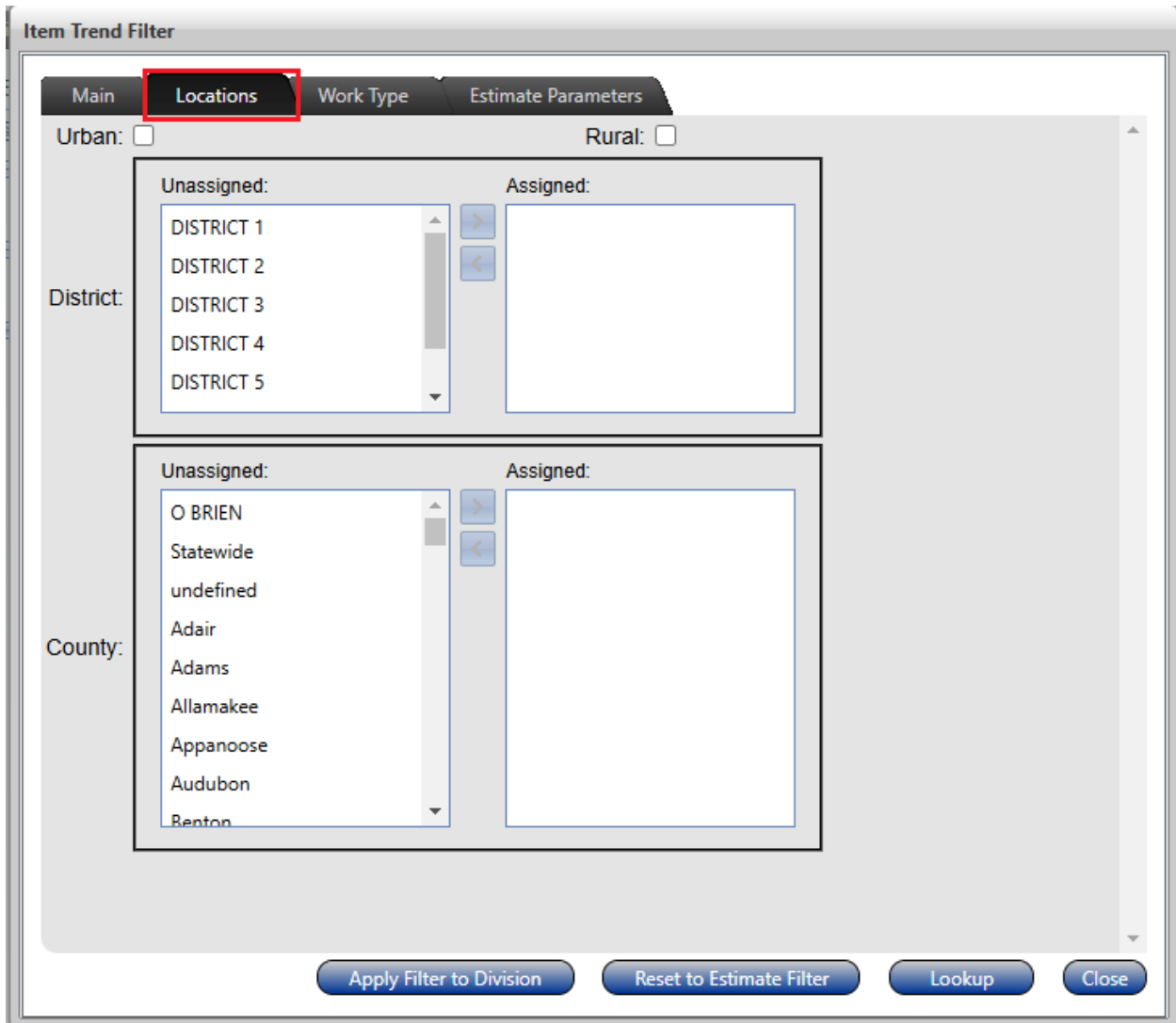


**NOTE:** The Begin and End Date fields default to a 2-year period.



**BEST PRACTICE:** Leave filters at default settings until after the first analysis of plan items to see the data set provided and to avoid the number of past projects used to calculate the unit price of the plan items to become too small to be considered useful.

The “Locations” tab allows for projects to be filtered by urban and rural, district, and county. The default setting has no filters applied for this tab to allow for maximum number of projects to be included. When both Urban and Rural are selected only projects that have both a rural and urban designation will be returned (this is an “and” function and not an “or” function).



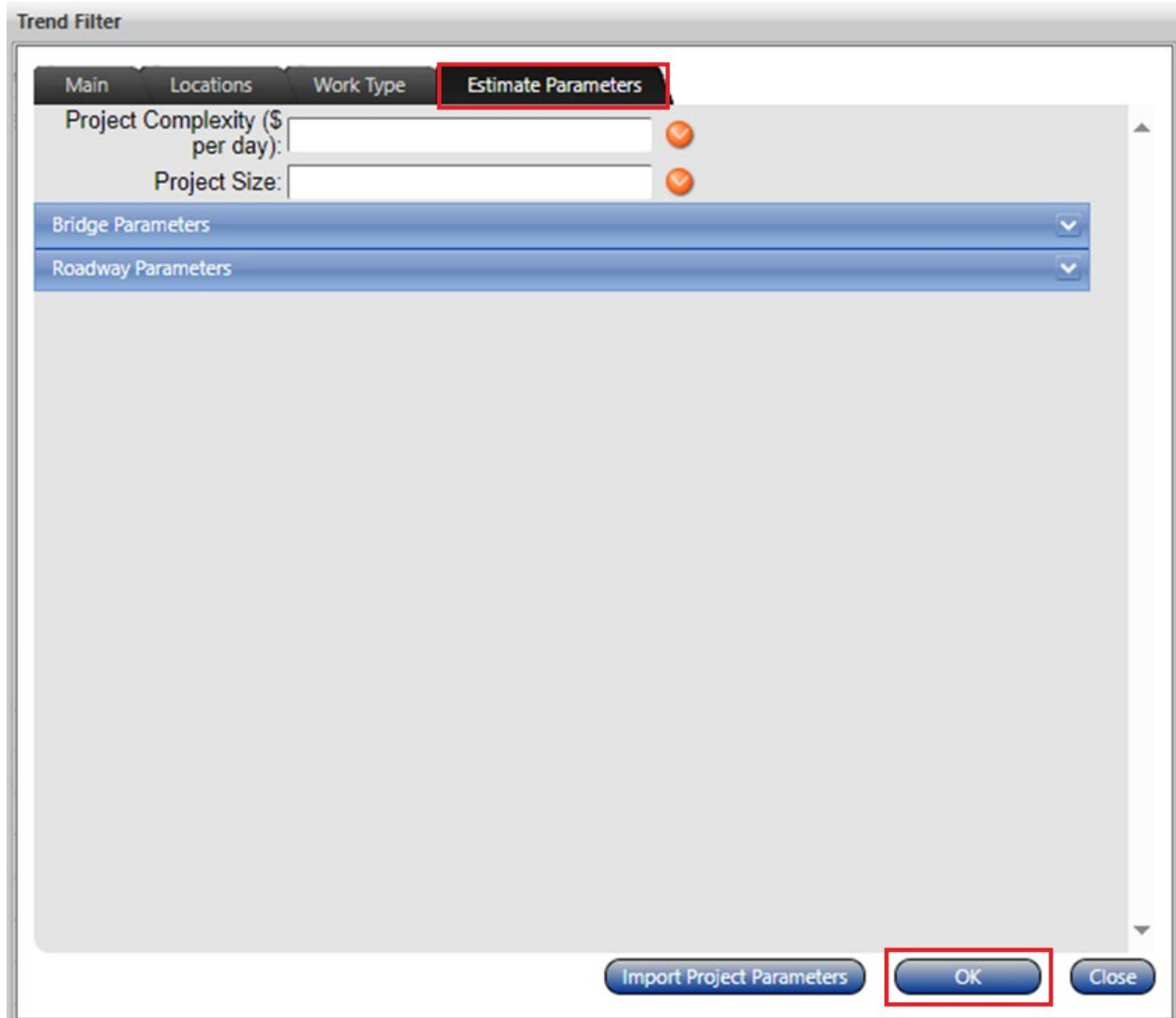


The “Estimate Parameters” tab should not be used at this time.

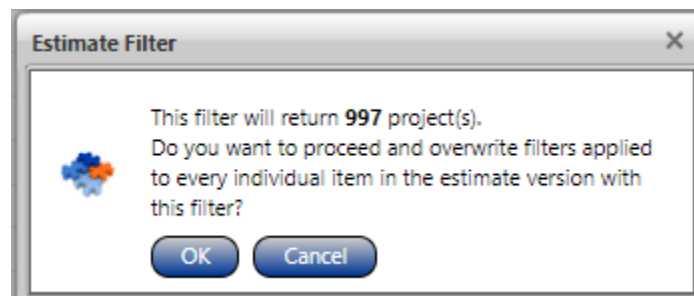
After all desired filters have been selected, click on the OK button. The program will now search out projects matching the chosen filters.



NOTE: Clicking OK will cause previous filters in all divisions in the estimate to be reset to the current trend filter. This includes any filters that were previously changed for individual bid items.



A dialog box will appear noting how many projects were found, as shown below.



If less than 10 projects are generated, then it will be necessary to go back and expand the filters to include more projects.



**BEST PRACTICE:** It is recommended to have a minimum of 10 projects in order to have sufficient data to generate unit pricing.

## Item Trend Filter

Item trend filters will only affect the specific items selected. The other items will still be set to the estimate trend filter.

Select the desired item and right click and select the Item Trend Filter. The filter options are the same as the one for the estimates and the same best practices apply to the item too.

PDWeb

Estimating Dashboard Cost Estimating

Search: 16-00-000-020 Save Pause

16-00-000-020

- (65) - PCC SIDEWALK/TRAIL
  - Office Of Design
  - Office Of Bridges & Struc
  - Office of Right Of Way
- (66) - RIGHT OF WAY
- (19) - PCC SIDEWALK/TRAIL
- (20) - RIGHT OF WAY
- (48) - PCC SIDEWALK/TRAIL
  - Office Of Design
    - C02-EW number 1
      - New Division
      - D00-Field Exam 2017
      - D00-Field Exam 2017
      - D02-New Version
      - D09-RCE
      - DM5-New Version
      - DM5-New Version
    - Office Of Bridges & Struc
  - (49) - RIGHT OF WAY

Division Header

Name: New Division

Description: New Division

Alternate:  Alternate

Design Number:  Trend Filter De

Use Suggestion:  Update Suggested Price Suggested Price Up

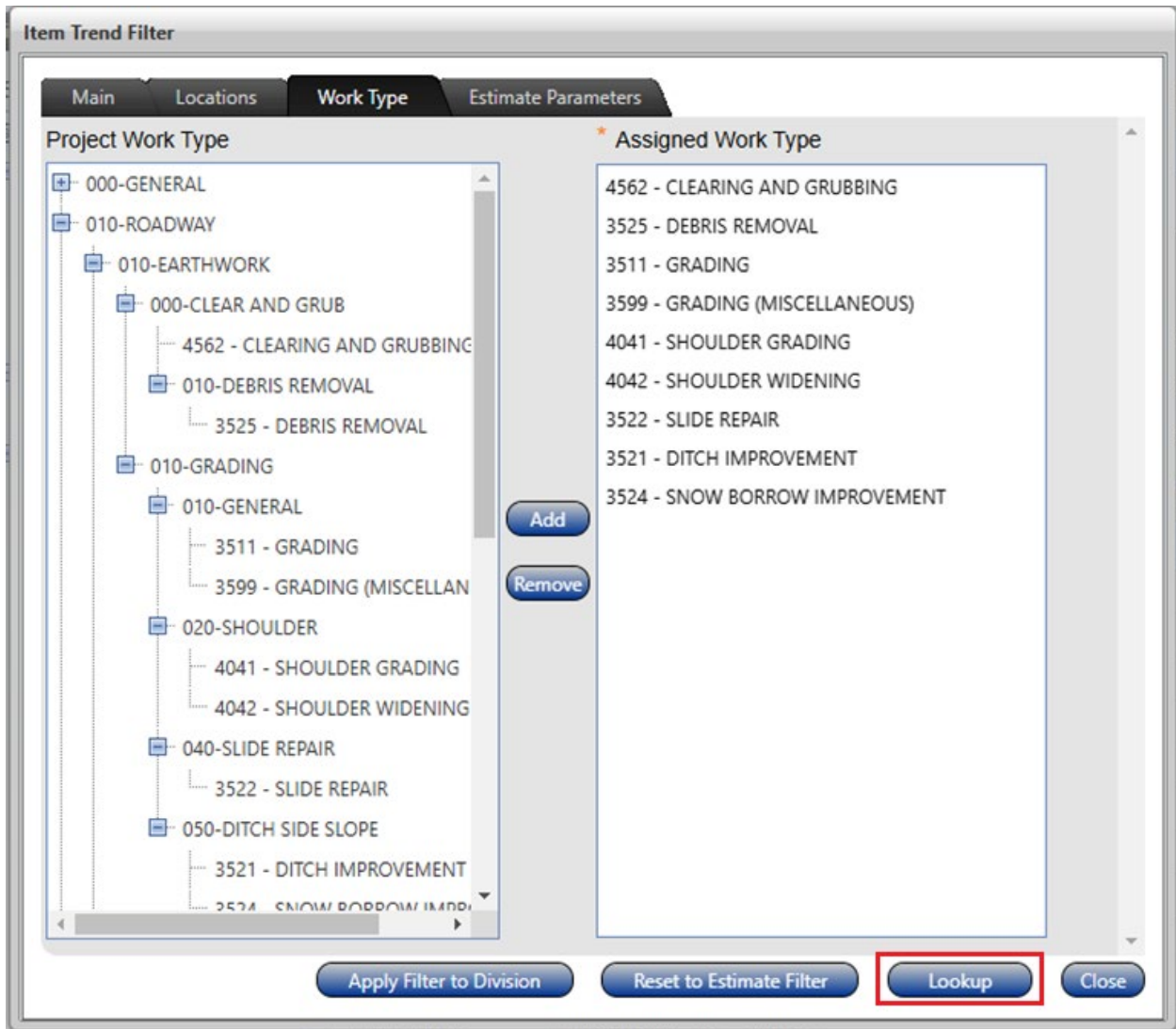
Group by Level One:  Group by Level Two:  Cu

Item Number	Description
2101-0850001	CLEAR+GRUBB
2102-0425070	SPECIAL BACKFILL
2102-0425071	SPECIAL BACKFILL
2102-27	3, WASTE
2113-00	MAT'L, POLYMER GRID
2115-01	SE
2212-04	ION OF BASE
2213-71	MAIL BOX
2303-1033382	HMA ST SURF, 3/8", FRIC L-2
2303-1033503	HMA ST SURF, 1/2", FRIC L-3
2303-1033504	HMA ST SURF, 1/2", FRIC L-4

Context Menu:

- Add Item(s)
- Delete Item(s)
- Copy Item(s)
- Item Trend Filter
- Item Trend Lookup

Once the desired adjustment has been made select lookup.



Review the results of the changes. Note the number of samples. If you are happy with the changes, click the accept button.

**Item Trend Filter**

Item #: 2102-2713090 (EXCAVATION, CL 13, WASTE) 
 Exclude All  Show all items in Chart  Exclude Outliers

Project Number	Work Type	Route	Bid Date	Quantity	Unit	Let Unit Price	Unit Price (Today's \$)	Excl.
ER-029-4(126)57--06-78	3599-GRADING (MISCELLANEOUS)	I-29, N	05/18/2021	135.00	CY	\$25.00	\$0.00	<input checked="" type="checkbox"/>
ER-029-1(126)0--06-36	3599-GRADING (MISCELLANEOUS)	I-29	05/18/2021	5,625.00	CY	\$11.75	\$0.00	<input checked="" type="checkbox"/>
BRF-169-2(025)--38-88	3511-GRADING	U.S. 169	09/20/2022	216.16	CY	\$11.50	\$6.87	<input type="checkbox"/>
NHSX-030-6(256)--3H-86	3511-GRADING	US 30, E	10/19/2021	1,363.50	CY	\$16.00	\$14.22	<input type="checkbox"/>
IM-035-4(317)97--13-77	3511-GRADING	I-35	07/19/2022	359.50	CY	\$30.00	\$17.92	<input type="checkbox"/>
NHSX-030-5(276)--3H-85	3511-GRADING	U.S. 30	01/18/2023	286.00	CY	\$20.00	\$25.55	<input type="checkbox"/>

Average Value: \$15.56
Median Value: \$21.74
Predicted Value: \$18.56

# of Samples: 4
High Value: \$25.55
Low Value: \$6.87

$R^2$ : 0.03
Standard Deviation: 9.39
Suggestion Range: \$0.58 - \$599.50

**Item Trend Chart**

Updated By: brian.smith@iowadot.us Update Date: 11/04/2024

Export
Modify Filter
Accept
Cancel

Notice the suggested price will be highlighted with red lettering for items with Item Trend Filters applied.

Item Number	Description	UOM	Quantity	Unit Price	Use Suggestion	Suggestion	Suggestion Range	Est.
2101-0850001	CLEAR+GRUBB	ACRE	2.350	\$6,446.85	<input checked="" type="checkbox"/>	\$6,446.85	\$5,483.20 - \$7,579.87	
2102-0425070	SPECIAL BACKFILL	TON	7,056.000	\$21.16	<input checked="" type="checkbox"/>	\$21.16	\$20.12 - \$22.26	
2102-0425071	SPECIAL BACKFILL	CY	10,218.000	\$32.90	<input checked="" type="checkbox"/>	\$32.90	\$22.23 - \$48.70	
2102-2713090	EXCAVATION, CL 13, WASTE	CY	3,733.00	\$18.56	<input checked="" type="checkbox"/>	\$18.56	\$0.58 - \$599.50	
2113-0001100	SUBGRADE STABIL MATL, POLYMER GRID	SY	5,600.000	\$3.07	<input checked="" type="checkbox"/>	\$3.07	\$2.82 - \$3.33	
2115-0100000	MODIFIED SUBBASE	CY	3,733.000	\$43.74	<input checked="" type="checkbox"/>	\$43.74	\$41.77 - \$45.81	
2212-0475095	CLEAN+PREPARATION OF BASE	Mile	11.830	\$483.59	<input checked="" type="checkbox"/>	\$483.59	\$112.02 - \$2,087.63	
2213-7100400	RELOCATION OF MAIL BOX	EA	1.000	\$227.82	<input checked="" type="checkbox"/>	\$227.82	\$167.42 - \$310.00	
2303-1033382	HMA ST SURF, 3/8", FRIC L-2	TON	22.000	\$0.00	<input checked="" type="checkbox"/>	\$0.00		
2303-1033503	HMA ST SURF, 1/2", FRIC L-3	TON	22.000	\$76.24	<input checked="" type="checkbox"/>	\$76.24	\$67.03 - \$86.71	



## Chronology of Changes to Manual Section:

### 5.2.1.1.5 Estimate Trend Filters

11/07/2024    NEW