

What's New in Road Estimator 6?

Faster Drawing engine

Road Estimator 6 boasts of a much powerful and enhanced core drawing engine which means your outputs are generated much faster than was earlier required. Saving a project and opening the project takes lesser amount of time and taking outputs is also much quicker. We have overhauled the internal drawing engine and memory management completely to achieve this.

MRU

Most recently used road estimator project files are now listed in the file menu for easy access and opening and upto last 9 open projects are listed.

New from Template

Now you can have a quick start when you begin your project with the new option for ***New from Template*** wizard. You can browse through various types of cross section templates for road and airport project. Once you select a template a blank project is created for you with all the pavement layers definitions, display settings, template settings, element settings & all you have to do is get your original & design data into the project and your cross section will be ready. You also have the option to save a road estimator project file as a template file which can be re-used later.

Auto-Recovery

In the uneventful situation where you were working on a project and there system failure, do not panic from now on. With the Auto-recovery option of Road Estimator 6 you can get your project back and continue as if nothing has happened. You can customize your settings for auto save time so that Road Estimator keeps backing up your project as you work. Use command **AST** to change your auto save timings.



Slide Show

To enhance user experience and browse through various cross sections a new 'Play and Pause' option tool has been added in the main screen. This tool is extremely useful to review lot of chainages easily. Once Play option is used, cross section view is shown as slide show. You can Pause the slide show and perform changes and again continue from the same position.



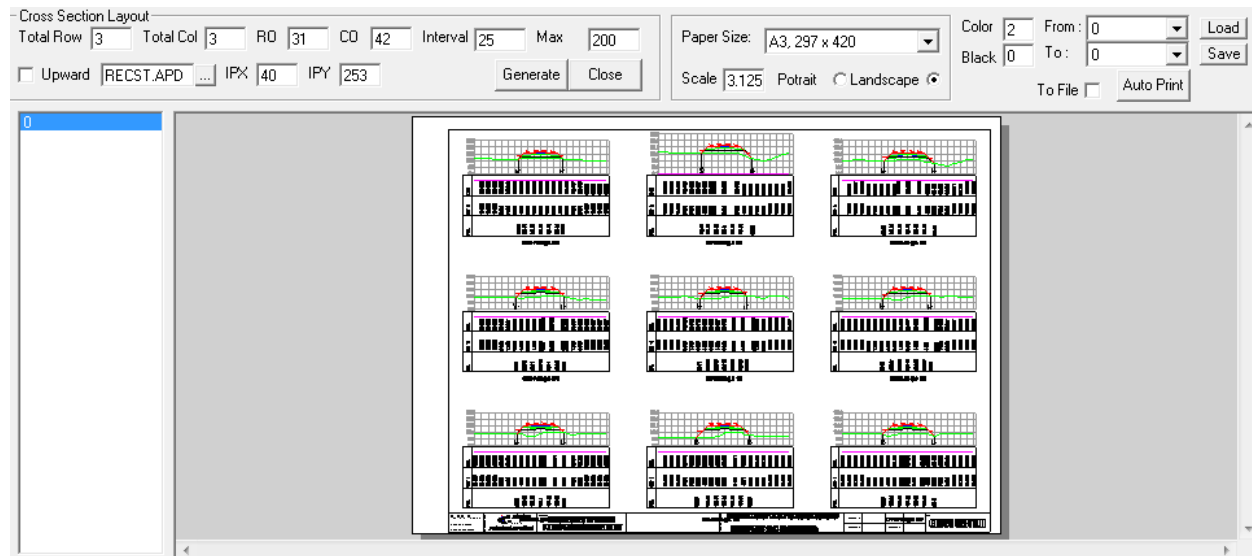
Dynamic Re-calculation

When changes were made in design or OGL which may include toe modification, pavement layer changes or any other operation with elements, a complete re-processing of data was necessary to view the changes and update the quantities accordingly. This is a thing of past with the new feature for

Dynamic Update of drawing in Road Estimator 6.0. Now you can see your changes immediately with immediate calculation of toe, application of pavement layers & elements etc.

Multi Sheet Cross-Section View

To enhance & speed up the overall delivery time from concept to finish, Multi sheet cross-section view option is added. This feature gives you greater control on output generation. With this feature, sheet template can be fixed and layout editing can be done in a single view. You can easily print all the sheets



or save the sheets in other drawing formats with a just a single click of button. It also gives you flexibility to print number of copies & perform gray scale printing automatically. From now on, you do not have to spend your valuable time printing your cross sections as Road Estimator 6.0 will do it remotely & silently.

Enhancement in OGL sheet

Paste Un-limited data from Excel™ to OGL Sheet: In earlier versions of Road Estimator when you copied more than 16K rows of data and pasted it in Road Estimator, data upto only 16K rows were only pasted. So there was only one way to get this data in project, using file import option. With Road Estimator 6.0 this is a thing of past. Using **Ctrl+Shift+V** to paste the data and all rows copied from Excel™ will be pasted in Road Estimator's OGL sheet.

Filter OGL Data based on chainage: It is sometimes necessary to have only data for chainage which fall in a particular interval. With the new Filter option in OGL screen, you can simply specify the interval at which data is required and road estimator will keep only the data falling in specified interval and remove the rest.

Selective chainage: It is sometimes necessary to keep data for selective chainages. With the new option for selective chainage you can just enter the chainages required and the rest of the OGL not corresponding to chainages mentioned will be removed automatically. Use **Ctrl+F11** key to activate this option in OGL screen.

Height based scarification

There are situations when scarification is performed only if the design level and original ground level difference exceeds a certain height. Up till now there was no easy way out and we needed to identify the chainages where height difference criteria matches and used to scarify individual chainages.

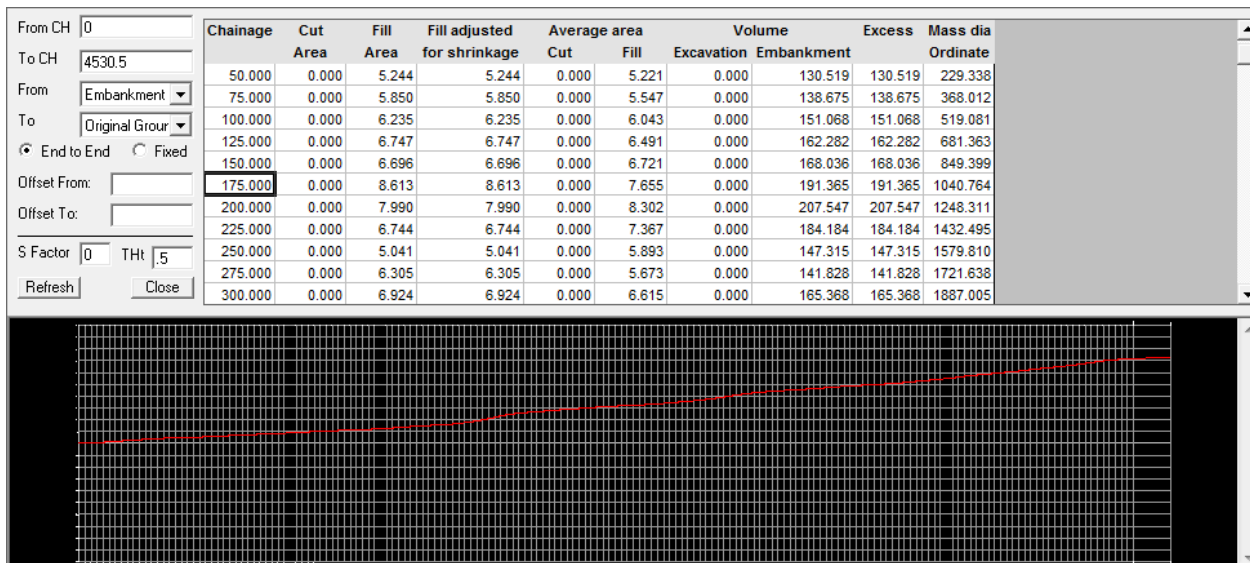
Scarify all chainages ☒ Scarify from chainage ☐ To Scarification Slope Conditional Ht
Use Scarified for Calculation ☐ From Offset To Offset Depth

	Chainage	Offset	Elevation	Road Edge
1	31100.000	-13.000	158.011	NO
2	31100.000	-9.000	157.691	NO
3	31100.000	-7.330	157.591	NO
4	31100.000	-5.000	157.671	NO
5	31100.000	-2.500	157.741	NO

Now a new feature has been added in Scarification screen: *Conditional scarification* which takes into account the height difference criteria automatically and scarifies only those chainages which meet this criterion.

Mass Haul Diagram

To enhance your analysis experience, mass haul diagram has been added as a standard feature in Road Estimator 6.0. Mass hauls can be generated as per your user defined specification of reference quantity.



The report and diagram can be directly printed or saved to other formats. You can also add additional comments, tags, progress status in the diagram.

Single Side Slope

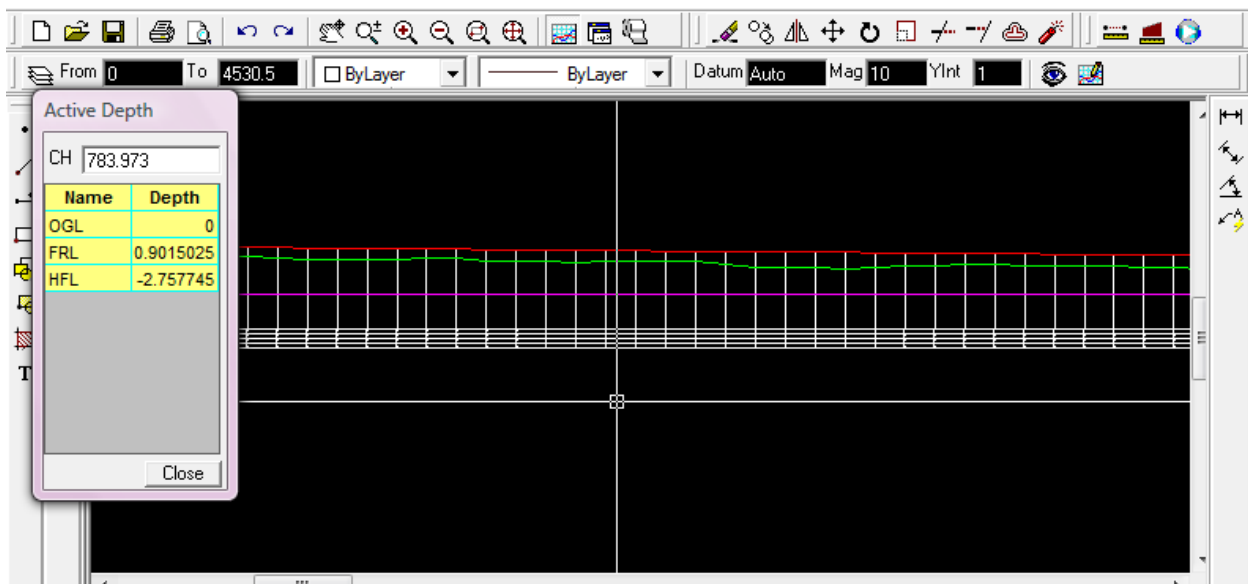
In Road Estimator Side Slope definition has various options such as berm condition based on height, berm top slope etc. which can be applied to individual chainages. In certain case, such definitions are not necessary as single side slope is used. To simplify the process, a new feature to define slope directly for corresponding chainage has been added in Road Estimator 6. With this feature you can directly enter slope value with prefix #.

Crossings

Crossing such as culvert, bridge, intersections have different way of quantification and should not be included in general road quantities. They can now be easily accommodated in report generation for quantities. This saves a lot of time in removing the quantities individually for specific chainages and re-calculation for corresponding chainages are done automatically.

Active Depth Display

You can easily track the difference in level between selected lines in cross section and longitudinal profile with the new feature for active depth display. This tool is very useful for cross checking, design verification, compensation for quantities and other analysis. This is a dynamic tool which displays the level difference as you move your cursor along the lines. Use command **ADP** to use this feature.



Active change in FRL & Side Slope

Like OGL now active change option has been extended to FRL & Side Slopes. So you can simply drag FRL location or toe location and change on screen. Once you combine this option with the active change option these changes are reflected immediately on your screen.

Existing Road Layer Group

A new type of layer group anchor is added in Layer group definition so that you can easily define layers on top of existing road surface. There is a provision for excavation on existing surface and you can provide starting and ending offset the layers in the layer group like any other standard layers.

Upgrades to Baseline settings

In Road Estimator, one of the most powerful features has been automatic calculation and creation of embankment top line also known as base line. You earlier had limited control on this automated feature. In Road Estimator 6 some significant features have been added to baseline settings to give you more control on auto-creation of base line or Embankment line.

Baseline Settings

	From Offset	To Offset	Condition
1	LS1	LPS1	OGL_B
2	RPS1	RS1	OGL_B
3	LO	RO	P2P_MB
4			
5			
6			
7			
8			
9			

Exclusion

☒ Use Median? ☒ Use Left & Right Layer End?

☐ Limit at OGL in Cutting? ☒ Use Existing Road info?

☐ Extend Layers to toe

☒ Direct edit & update ☒ Offset change in direct mode

☐ Prompt before change?

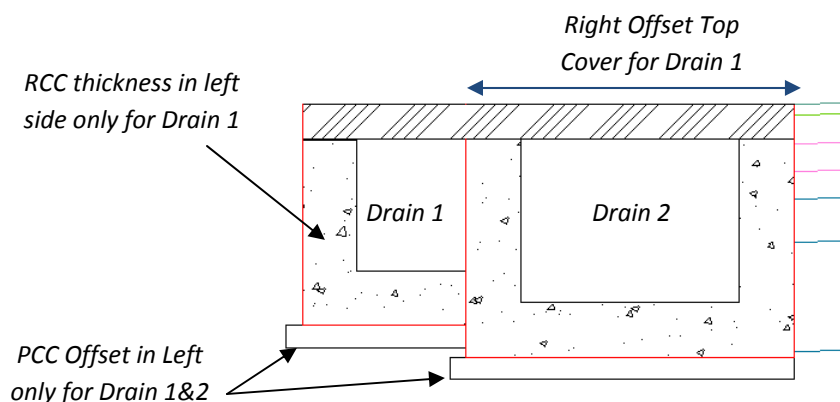
Close

From Offset and To Offset now supports the use of F10 key for easy selection of offset. Also a new feature for condition is added using which you can either specify OGL line for baseline calculation (*OGL_B*) or median area calculation (*OGL_M*) or both (*OGL_MB*). You can now define a line based on 2 points also and pass it for baseline calculation (*P2P_B*) or median calculation (*P2P_M*) or both (*P2P_MB*). With this feature you can now have complete control during service road construction as well as main carriageway construction.

New features in Drain

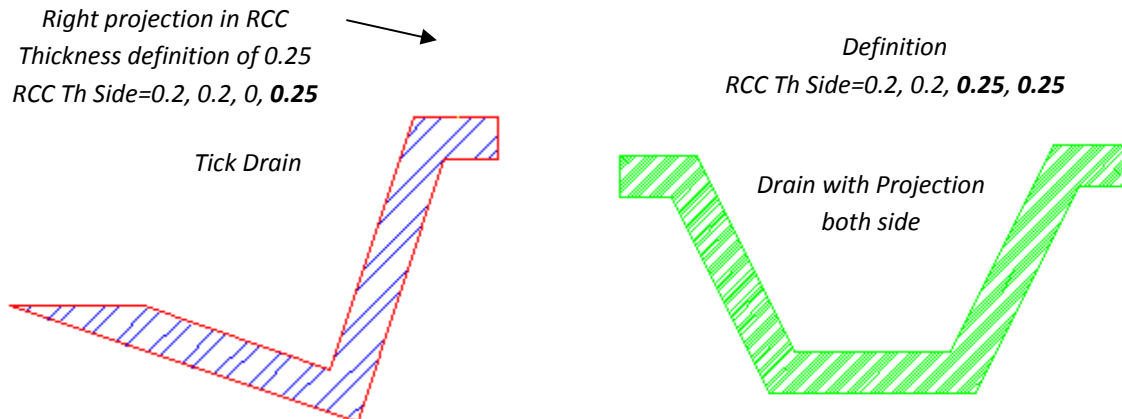
More flexibility has been added the drain definition so that you can create any desired shape of drain. Some of the new features added are given below (*Refer user manual for all options*):-

Separate Left & right Offset for drain top cover, Bottom cover, and PCC cover: You can now specify the left and right offset of drain top cover, bottom cover and PCC cover by separating both offsets with a comma e.g. 0.2, 0 means 0.2 offset in left side and 0 offset in right side.

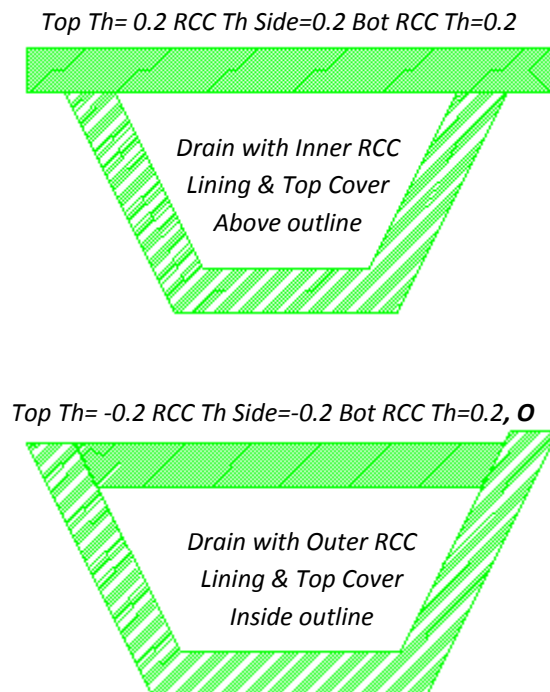


Separate Thickness of Inner RCC lining: You can specify the left and right RCC thickness of inner lining separately by separating both left thickness & right thickness with a comma e.g. 0.2, 0 means 0.2 thickness in left side and 0 offset in right side.

RCC Lining Projection: RCC Thickness accepts another type of definition where there are 4 fields separated by comma "F1, F2, F3, F4". While F1 & F2 represent the RCC thickness for left and right side respectively, F3 & F4 represent amount of projection in left and right sides respectively.

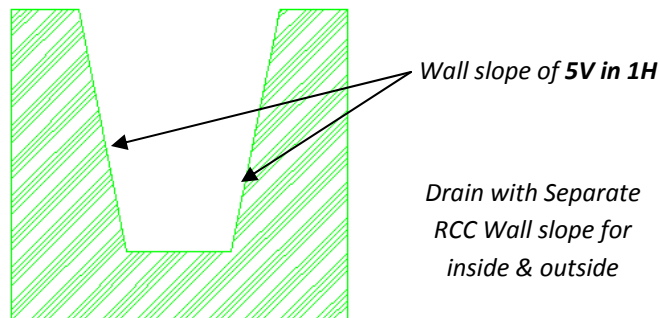


Inner & Outer lining & cover: You can now specify whether the lining & top cover needs to be provided for inside the drain outline or outside by simply changing the sign. By default, the Top Cover is applied above the drain outline. If you specify the thickness for top cover with a negative sign then top cover is applied inside the drain outline. Similarly RCC lining of drain including bottom is applied inside the outline. Once you use negative sign for thickness of RCC side and notation O for bottom, lining is applied outside the drain outline.



Separate Inner RCC Internal wall slope: In case your RCC lining has different slope for the internal wall, it can be easily defined with the new option. You can enter the slope to follow for right and left side for internal wall.

Left RCC Top Lev=LTL, 5/1 Right RCC Top Lev=RTL, 5/1



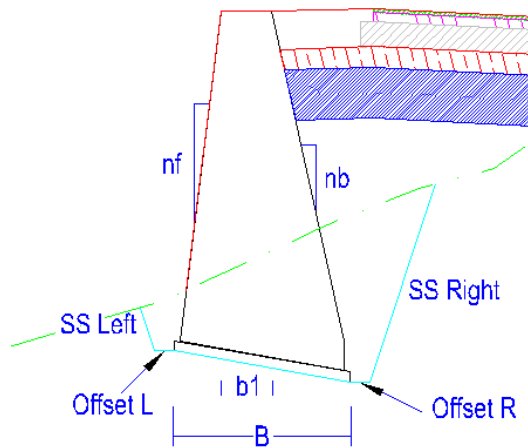
Side Slope definition & variable offset location support for Drain side slope: It is sometimes desired that the drain side slope be fixed at a particular offset which varies as per chainage. This can be achieved with this feature. It is also possible to set an initial slope which can be taken directly from side slope definition and then fix the final point of drain using variable offset. With this feature, more flexibility in drain side slope definition is added. The earlier features for fixing side slopes to anchor point etc. are also available.

Final Point to OGL/FRL/Fixed location/Auto: By default side slope for drain stops either at OGL or at FRL depending on the location of OGL line and FRL line with respect to drain slope line and Road Estimator automatically determines the termination point. With the new feature, now you can instruct Road Estimator whether to stop slope line at OGL or FRL or at a fixed location for left and right side separately. Entry should be made in "Left/Right DR Top SI" as F1, F2 where F1 can be **OGL** for termination at OGL line, **FRL** for termination at FRL line, & **FIX** for stopping slope at drain top level. F2 can be the slope from drain to toe location which is applied only when drain is outside road toe.

New features in Retaining Wall

Retaining wall now boasts of new feature: Library. Using Library option you can easily define **Composite retaining walls, Gabion breast walls, Composite breast walls** or get height based parameters for normal retaining wall definition.

Composite Retaining Wall: In composite retaining wall, entries of various parameters are height based, so Road Estimator can automatically detect the condition to apply for your composite retaining wall. Outer slope **nf**, inner slope **nb**, Base width **B**, bottom slope **q**, bottom width **b1**, and depth of foundation **d** are height based. Special option is provided for initial cutting condition and cutting slope for right & left can be defined separately along with offset of cut in left and right side. Cutting slopes and offsets can be defined using fixed entry or variable name so that it can be varied based on chainages.

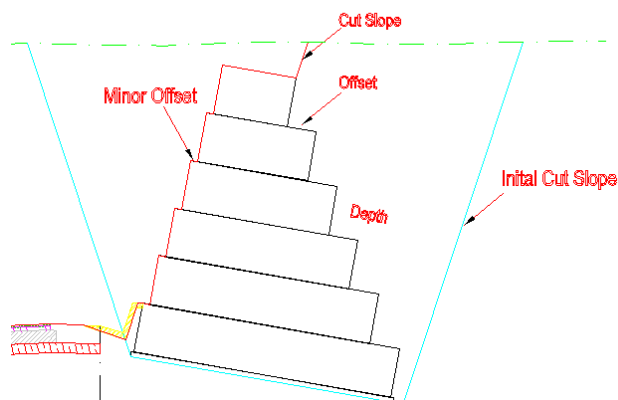


Definition	@1	Add	Save	Delete	Close
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Height	d	b1	nb	nf	B	q
1	0.5	0.5	7.75	8	0.88	5.67
2	0.6	0.5	4.5	8	1.4	5.67
3	0.6	0.5	4	8	1.85	5.67
4	0.6	0.5	3.75	8	2.3	5.67
5	0.75	0.5	3.75	8	2.75	5.67
6	0.75	0.5	4.25	6	3.21	5.67

Cut?	SS Left?	SS Right?	Offset L	Offset R	Top Cut
Y	3 in 1	3 in 1	0	0	3 in 1

Gabion Breast Wall: Gabion breast wall parameter entries are height based and Road Estimator automatically detects number of steps to be provided and the foundation depth required as per the height conditions. Minor & major offset for steps can be specified as fixed entry or variable. Top cut slope and depth from anchor point can be specified as fixed or variable. Special option is provided for initial cutting and cut slope for outside portion can be defined separately along with offset from base.



Definition	@3	Add	Save	Delete	Close
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Height	h	TW	BW
1	0.5	1.5	2.25
2	0.5	1.5	3
3	1	1.5	3.75
4	1	1.5	4.5
5	1	1.5	5.25
6	1	1.5	6
7	1	1.5	6.75

Beta	MOffset	Offset	Top Cut	Depth	Cut O-O	Cut Slope
-1/5.67	0.15	0.6	3 in 1	0	0.2	3 in 1

Composite Breast Wall: Composite Breast wall is similar to composite retaining wall. Some more parameters are added for breast wall portion. You can define a filter media layer in the outside breast wall portion.

