LEARN ROAD ESTIMATE

A Software for Quantity Estimation & Cost, Project Control for Road

By :
Y.A. Agboatwala &
Fatima.Y. Agboatwala
1802, Jamuna Amrut,
219, Patel Estate, S.V.Road,
Jogeshwari(W), Mumbai - 400102
Phone: 09820792254 , (022) 26783525
Url: www.supercivilcd.com,
www.agboatwala.com
Email : yaa@supercivilcd.com,
yaa@agboatwala.com,
supercivilcd@gmail.com

LEARN ROAD ESTIMATE

Create New File   ◆ [STEP NO. 1](#)

Edit Items   ◆ [STEP NO. 2](#)

Add Record   ◆ [STEP NO. 3](#)

Edit Quantities (Records)   ◆ [STEP NO. 4](#)

Edit Material Coefficients   ◆ [STEP NO. 5](#)

Edit Labour Coefficients   ◆ [STEP NO. 6](#)

Summary (Display Results)   ◆ [STEP NO. 7](#)

Display Pie / Bar Charts   ◆ [STEP NO. 8](#)

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Typical Forms/Formats   ◆ [STEP NO. 10](#)

Copy, Delete, Edit & Export to Excel.   ◆ [STEP NO. 11](#)

Monthly Cash Flow, Material, men
Consumption & S Curve.   ◆ [STEP NO. 12](#)

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LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 1

Road Estimate .... Quantity Estimation & Cost Control Software for Road

File Edit Items Add Record Copy + Edit Quantities Edit Coefficients Summary Graphics Area_Volume

ROAD ESTIMATE
Quantity Estimation & Project Control

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☐ **When Program starts, the graphics above is displayed. The Menu bar contains following options.**

    I. File
    II. Edit Items
    III. Add Record
    IV. Copy + Edit Quantities
    V. Edit Coefficients
    VI. Summary
    VII. Graphics
    VIII. Area_Volume

Click the FILE option in the MENU bar. The following window will open.

File
    Make New File
    Delete File
    Copy File
    Edit Project File
    Export QTY to Excel
    Gnatt Chart / Cash Flow
    Warranty
    Disclaimer
    f a q
    Register
    Calculator
    Exit
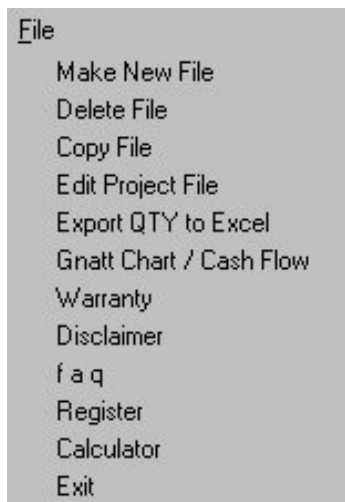
☐ **Now click "Make New File" option. The following window will open.**

You must create a separate Folder / Directory to store your files.
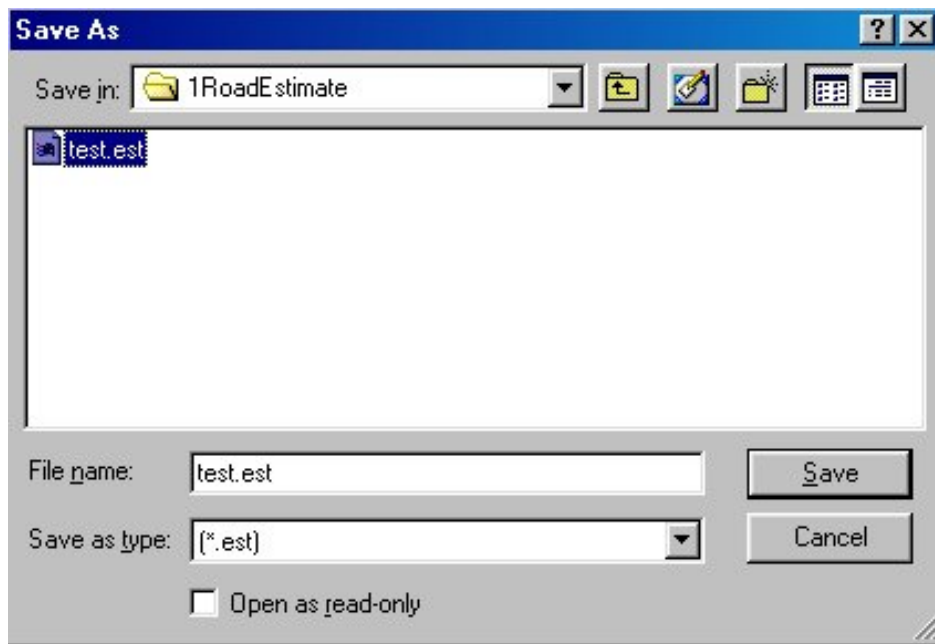
I have created a Directory called " 1RoadEstimate " in C drive to store my ROAD ESTIMATE files.
Now go to this folder & give a file name to your project. I have given " test " as the name of my new project file. Click the save button.

When you click the save button, following window will open.

Project File : Add Project Details

File Name : C:\1RoadEstimate\test.est   Date : 9/10/06

Organization :			
Project :			
Project No :			
Client ID :			
Building / Structure ID :			
Project Duration in Months :	24	Project Over Head in %	10
Taxes in %		Profit Margin in %	10
Rate per Cement Bag	200	Rate per M3 of Sand	600
Rate per M3 of Aggregates	600	Rate per Kg of Bitumen	5.0
Mason Wage/day	250	Carpenter Wage / day	250
Skill labour Wage / day	250	Un Skilled Labour Wage	180
Foreman Cost / day	350	Mobilization Advance in %	10
Recovery of Advance in %	10	Security Deposit in %	10

OK

☐ The window requires various project details. Whatever values you will fill here will serve as default values for the project.
I have filled up the above values as required by my new project "test".
You can change these values now OR later by clicking "Edit Project File" option in File Menu.
Now click the OK button, following window will appear.

Please Note :

⚠ File Creation is Complete.
Use Edit Item Menu to Fill / Edit Item Rates,
and Use Add Record Menu to Fill Records.

OK
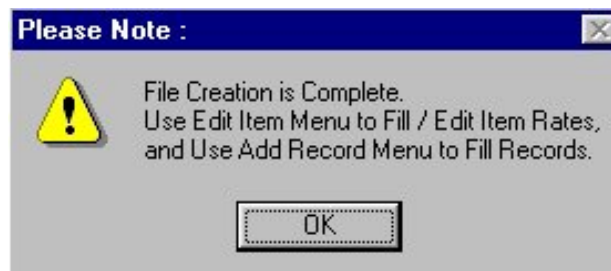
☐ Click OK button. Now project File creation is complete.
The above window gives the following two vital information.
1. Use Edit Item Menu to Fill Rates of various Items &
2. Use Add Record Menu to add Quantities of various Items.

STEP NO. 1 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 2

ROAD ESTIMATE
Quantity Estimation & Project Control

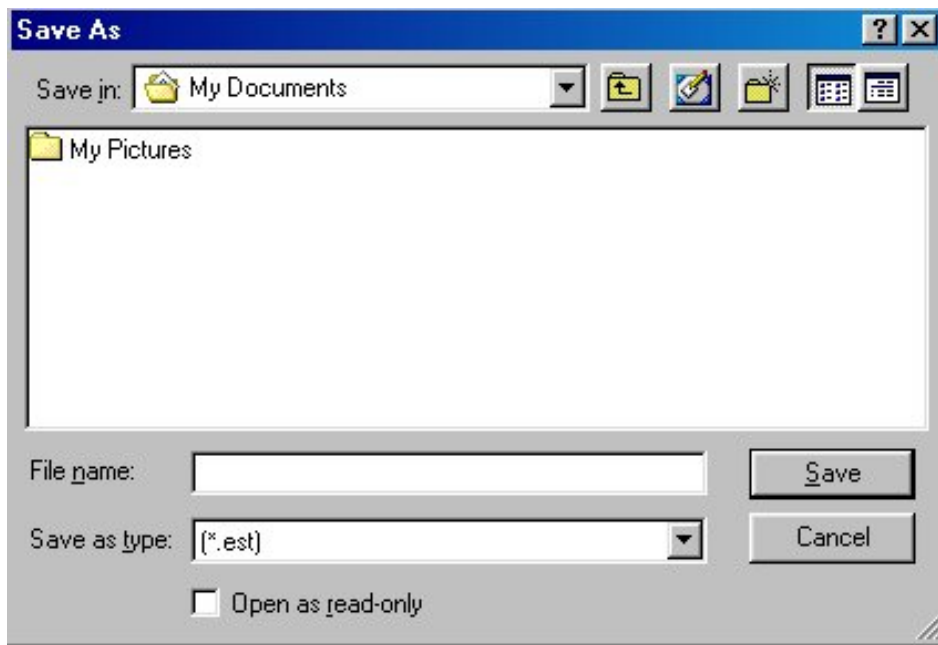### Y. A. AGBOATWALA
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▶ **Refer the graphics above. The Menu bar contains following options.**

I. File
II. Edit Items
III. Add Record
IV. Copy + Edit Quantities
V. Edit Coefficients
VI. Summary
VII. Graphics
VIII. Area_Volume
IX. Forms_1
X. Forms_2

Click the Edit Item option in the MENU bar. The following window will open.

Open

Look in: 1RoadEstimate

RE_1.est
RE_2.est
test.est

File name: test.est   Open

Files of type: (*.est)   Cancel

☐ Open as read-only

▶ **Now click "test" file & click open. A new window with all Sections will appear as follows. The heading is Edit / Delete Items - Double Click any option. This we will call Item Menu.**
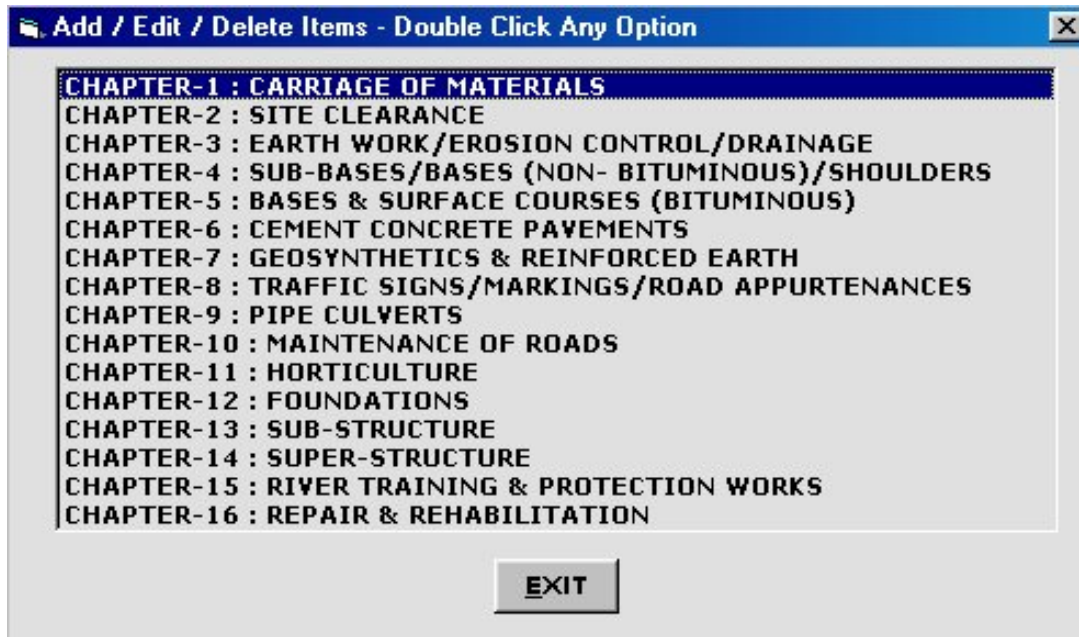
▶ **Now double click " CHAPTER - 1 : CARRIAGE OF MATERIALS ".**
A new window will appear as follows. This is main window which can perform the following functions.

● **Display all items.**
● **Print all items.**
● **Add your own items.**
● **Delete any existing item.**
● **Add Material, Labour, Subcontractor & Equipment Rates.**
● **One more field called " Item_ID " is given, in case you want to identify items apart from the existing Item No.**

You can select any item from 1.1 to 1.10 by taking the Blue cursor to that item row or just clicking with the mouse on any item row.

DISPLAY/EDIT/DELETION/ADDITION OF ITEMS

Project No : 9812   **CHAPTER-1 : CARRIAGE OF MATERIALS**   Date : 9/10/06

Item_ID	Item No.	Item	Unit	Material R...	Labour Rate	Subcontra...	Equipment	
	1.1	Loading/unloading of boulder/aggrega...	M3					
	1.2	Loading/Unloading of Boulders by Man...	M3					
	1.3	Manual Loading/Unloading of Cement/...	TON					
	1.4	Cost of Haulage Excluding Loading/Unl...	T.KM					
	1.5	Cost of Haulage Excluding Loading/Unl...	T.KM					
	1.6	Cost of Haulage Excluding Loading/Unl...	T.KM					
	1.7	Hand Broken Stone Aggregates 63 m...	M3					
	1.8	Crushing of stone aggregates 13.2 m...	M3					
	1.9	Crushing of stone aggregates 20 mm ...	M3					
	1.10	Crushing of stone aggregates 40 mm ...	M3					

Edit Item No. 1.1

Item : `Loading/unloading of boulder/` Unit : `M3`   Material Rate : `____`   Labour Rate : `____`

Item ID : `____`   Subcontractor : `____`   Equipment : `____`

Item Rate : `0`   PRINT   ADD ITEM   EXIT   REMOVE   UPDATE

▶ **We will select item 1.1**
Enter Labour Rate = 1.0
Material Rate = 2.0 or leave it as it is.
Subcontractor Rate = 1.0 or leave it as it is.
Equipment Rate = 1.0 or leave it as it is.

Now Click UPDATE button.
You will see that Item Rate (With Pink background) will change to 6.2
Final window will look like as follows.

DISPLAY/EDIT/DELETION/ADDITION OF ITEMS

Project No : 9812   **CHAPTER-1 : CARRIAGE OF MATERIALS**   Date : 9/10/06

Item_ID	Item No.	Item	Unit	Material R...	Labour Rate	Subcontra...	Equipment	
	1.1	Loading/unloading of boulder/aggrega...	M3	1	2	1	1	
	1.2	Loading/Unloading of Boulders by Man...	M3					
	1.3	Manual Loading/Unloading of Cement/...	TON					
	1.4	Cost of Haulage Excluding Loading/Unl...	T.KM					
	1.5	Cost of Haulage Excluding Loading/Unl...	T.KM					
	1.6	Cost of Haulage Excluding Loading/Unl...	T.KM					
	1.7	Hand Broken Stone Aggregates 63 m...	M3					
	1.8	Crushing of stone aggregates 13.2 m...	M3					
	1.9	Crushing of stone aggregates 20 mm ...	M3					
	1.10	Crushing of stone aggregates 40 mm ...	M3					

Edit Item No. 1.1

Item : Loading/unloading of boulder/   Unit : M3   Material Rate : 1   Labour Rate : 2

Item ID :   Subcontractor : 1   Equipment : 1

Item Rate : 6.2   PRINT   ADD ITEM   EXIT   REMOVE   UPDATE

▶ **Similarly you can give Rates of more items, which are likely to be used in the project. Always click UPDATE button to see the final rate. This final Item Rate is arrived at after adding Overheads, Taxes & Profit margin.**
Now Click the EXIT button to leave this window.
You are back to Item Menu. Here you can select other sections by double clicking any section & add the item rates of various items which you think will be required for your project.

STEP NO. 2 IS OVER.

Road Estimate .... Quantity Estimation & Cost Control Software for Road

File   Edit Items   Add Record   Copy + Edit Quantities   Edit Coefficients   Summary   Graphics   Area_Volume   Forms_1   Forms_2   Exit
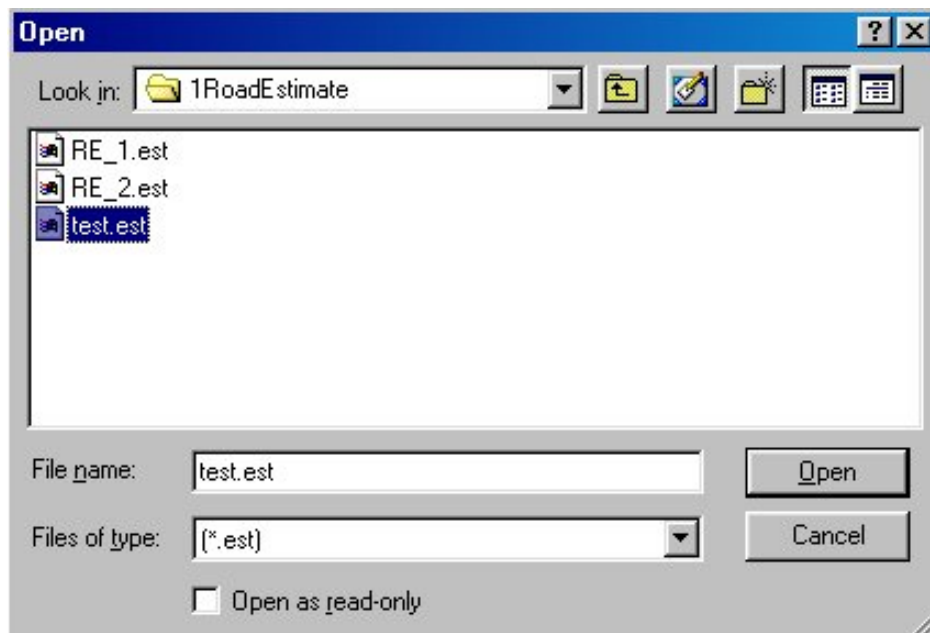
ROAD ESTIMATE

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▶ **Refer the graphics above. The Menu bar contains following options.**

   I. File
   II. Edit Items
   III. Add Record
   IV. Copy + Edit Quantities
   V. Edit Coefficients
   VI. Summary
   VII. Graphics
   VIII. Area_Volume
   IX. Forms_1
   X. Forms_2

   Click the Add Record option in the MENU bar. The following window will open.

Open		? ✕
Look in: 🗀 1RoadEstimate		

📄 RE_1.est
📄 RE_2.est
📄 test.est

File name:	test.est	Open
Files of type:	(*.est)	Cancel
	☐ Open as read-only	

► **Now click "test" file & click open. A new window with all Sections will appear as follows. The heading is Add Quantities - Double Click any Section. This we will call Add Menu.**
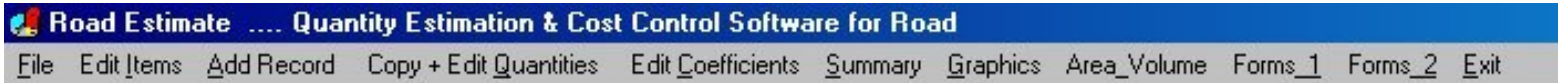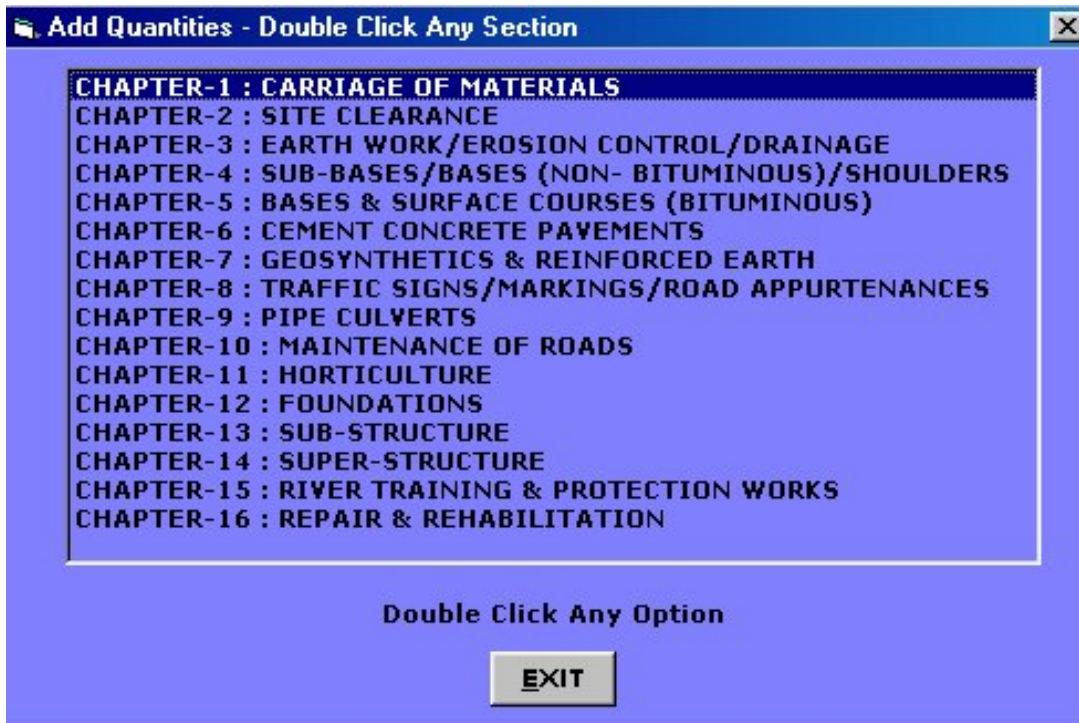

► **Now double click " CHAPTER-1 : CARRIAGE OF MATERIALS".**
A new window will appear, which will display all the items under CHAPTER - 1, as shown in following graphics.
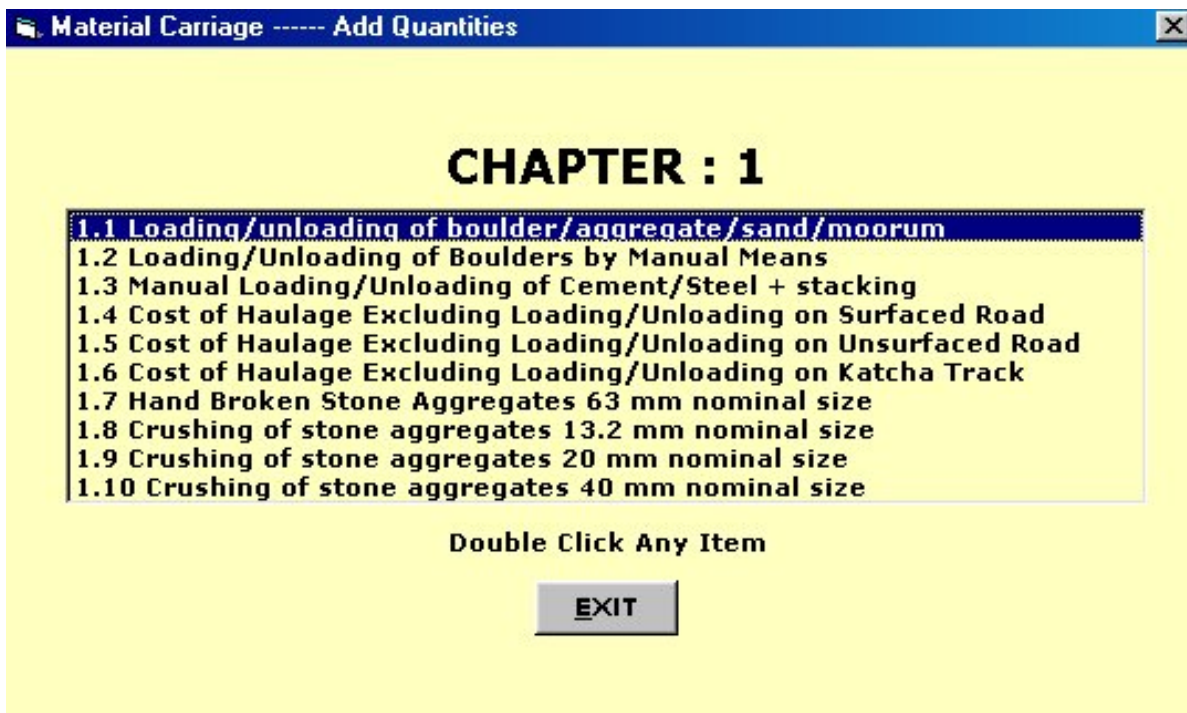
► **Now DB click the item " 1.1 Loading/unloading of boulder/aggregate/sand/moorum ".**
A new menu will appear with the heading of Add Quantities, as shown below.

CHAPTER-1 : CARRIAGE OF MATERIALS

File Name C:\1RoadEstimate\test.001

Record No.   1

Item ID :

Item No.   1.1

ITEM: Loading/unloading of boulder/aggregate/sand/moorum

Item Referance ....

Length in M ....

Width in M ....

Depth in M ....

Numbers ....

EXIT ITEM   ADD QTY   NEXT

Quantity in M3 ....

▶ **Fill the various fields in the above window & click ADD QTY button.**
  ● **If you want to deduct any QTY then give " Numbers " field a negative number.**
  ● **If you want to add another record then press " NEXT " button.**
  ● **Press " EXIT ITEM " button to exit this item.**
  Now you will be back to item menu. You can select another item for adding record OR you can exit this menu by pressing " EXIT " button.
  Now you will be back to Add menu. You can select another Section for adding record OR you can exit this menu by pressing " EXIT " button.
  ● **For quick and Fast additions of same Item use " Copy + Edit Quantities " option from the main menu.**

CHAPTER-1 : CARRIAGE OF MATERIALS

File Name C:\1RoadEstimate\test.001

Record No.   1

Item ID :

Item No.   1.1

ITEM: Loading/unloading of boulder/aggregate/sand/moorum

Item Referance .... test

Length in M 1

Width in M 1

Depth in M 1

Numbers 1

[EXIT ITEM]   [ADD QTY]   [NEXT]

Quantity in M3 1

▶ **I have added various information to various fields. The final window will look like the graphic shown above.**

STEP NO. 3 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 4

Road Estimate .... Quantity Estimation & Cost Control Software for Road

File   Edit Items   Add Record   Copy + Edit Quantities   Edit Coefficents   Summary   Graphics   Area_Volume   Forms_1   Forms_2   Exit

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Quantity Estimation & Project Control

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▶ **Refer the graphics above. The Menu bar contains following options.**

I. File
II. Edit Items
III. Add Record
IV. Copy + Edit Quantities
V. Edit Coefficients
VI. Summary
VII. Graphics
VIII. Area_Volume
IX. Forms_1
X. Forms_2

Click the Copy + Edit Quantities option in the MENU bar. The following window will open.

Open

Look in: 1RoadEstimate

RE_1.est
RE_2.est
test.est

File name: test.est   Open

Files of type: (*.est)   Cancel

Open as read-only

▶ **Now click " test " file & click open. A new window with all Sections will appear as follows. The heading is Edit / Delete / Copy Menu - Double Click any option.**

▶ **Now double click " CHAPTER-1 : CARRIAGE OF MATERIALS ".**
A new window will appear as follows, listing all the quantity records. Since I have added only one record, the following graphics will displays that record.

ROAD ESTIMATE

SECTIONAL DISPLAY/EDIT/DELETION/COPYING OF RECORDS

Project No : 9812   **CHAPTER-1 : CARRIAGE OF MATERIALS**   Date : 10/10/06

R...	It...	Item	Reference	Unit	Nos	L	W	D	Quantity	Remark	
1	1.1	Loading/unloading of boul...	test	M3	1	1	1	1	1		

Edit Record No. 1

Reference : test   Edit Nos 1   L : 1   W : 1   D : 1

COPY   REMOVE   MOVE UP   MOVE DOWN   UPDATE   EXIT   PRINT

| Reference : | test | Edit Nos | 1 | L : | 1 | W : | 1 | D : | 1 |

| COPY | REMOVE | MOVE UP | MOVE DOWN | UPDATE | EXIT | PRINT |

▶ **The above window is very important tool, which can perform the following functions.**

● **By Clicking " COPY" button, the selected record will get appended at the bottom of List.**
● **By Clicking " REMOVE " button, the selected record will be deleted.**
● **By Clicking " MOVE UP " or " MOVE DOWN " buttons, the selected record will move up or down.**
● **By Clicking " PRINT " button, all the records will be printed.**
● **The most important option available here is Editing. At the base of window there is a heading in RED which says " Edit Record no. 1 ".**
Just change the various fields (Values in the text boxes) & it will get reflected in the selected ROW above.
● **Click " UPDATE " button to recalculate quantities.**
I have changed the various fields, the final display is given in following graphics.

ROAD ESTIMATE

SECTIONAL DISPLAY/EDIT/DELETION/COPYING OF RECORDS

Project No : 9812   **CHAPTER-1 : CARRIAGE OF MATERIALS**   Date : 10/10/06

R...	It...	Item	Reference	Unit	Nos	L	W	D	Quantity	Remark	
1	1.1	Loading/unloading of boul...	P33	M3	2	3	4	1	24		

Edit Record No. 1

| Reference : | P33 | Edit Nos | 2 | L : | 3 | W : | 4 | D : | 1 |

| COPY | REMOVE | MOVE UP | MOVE DOWN | UPDATE | EXIT | PRINT |

▶ **Now Click the EXIT button to leave this window.**
You are back to Edit Menu.
Similarly you can display / Edit / Copy / Delete records from other sections by double clicking the required section.

STEP NO. 4 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 5

NOTE: DO NOT EDIT MATERIAL OR LABOUR COEFFICIENTS UNLESS YOU HAVE SOME VALID REASONS TO DO SO.

▶ THE MATERIAL COEFFICIENTS ARE USED FOR CALCULATION OF TOTAL CEMENT, SAND, AGGREGATE & BITUMEN QUANTITIES ONLY.

▶ THE LABOUR COEFFICIENTS ARE USED FOR CALCULATION OF TOTAL MASON, CARPENTER, SKILLED LABOUR, UNSKILLED LABOUR & FOREMAN QUANTITIES.

▶ THE ABOVE COEFFICIENTS ARE ALSO USED IN CALCULATION OF MONTHLY MATERIAL, LABOUR & CASH FLOW REQUIREMENTS AFTER USER HAS PREPARED THE PROJECT BAR CHART.

▶ Refer the graphics above. The Menu bar contains following options.

    I. File
    II. Edit Items
    III. Add Record
    IV. Copy + Edit Quantities
    V. Edit Coefficients
    VI. Summary
    VII. Graphics
    VIII. Area_Volume
    IX. Forms_1
    X. Forms_2

Click the Edit Coefficients option in the MENU bar. Here you will have two options.

🔴 Material Coefficients
🔴 Labour Coefficients

Click the Material Coefficients option. The following window will open.
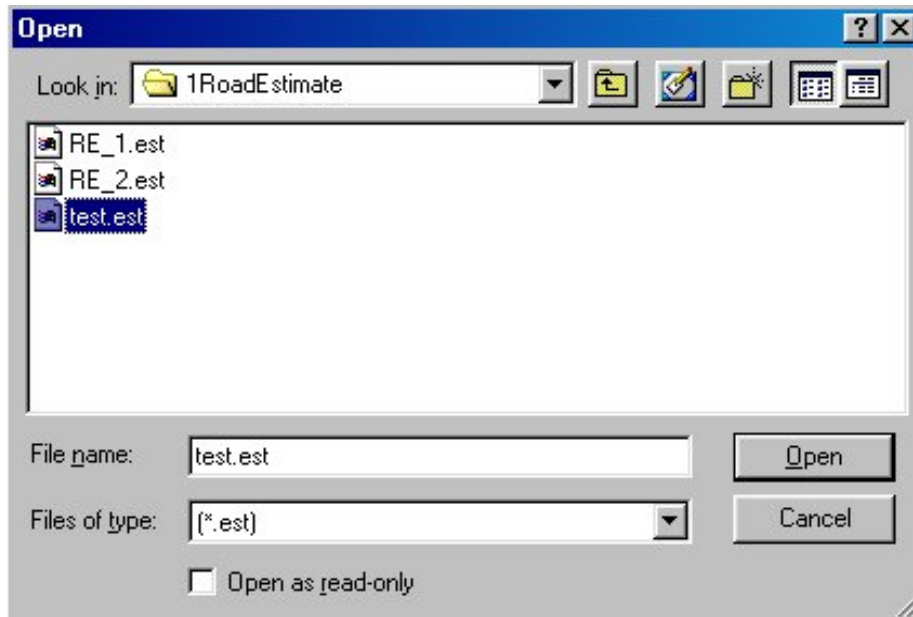
► **Now click " test " file & click open. A new window with all Sections will appear as follows. The heading is Edit / Delete Material Coefficients - Double Click any option.**
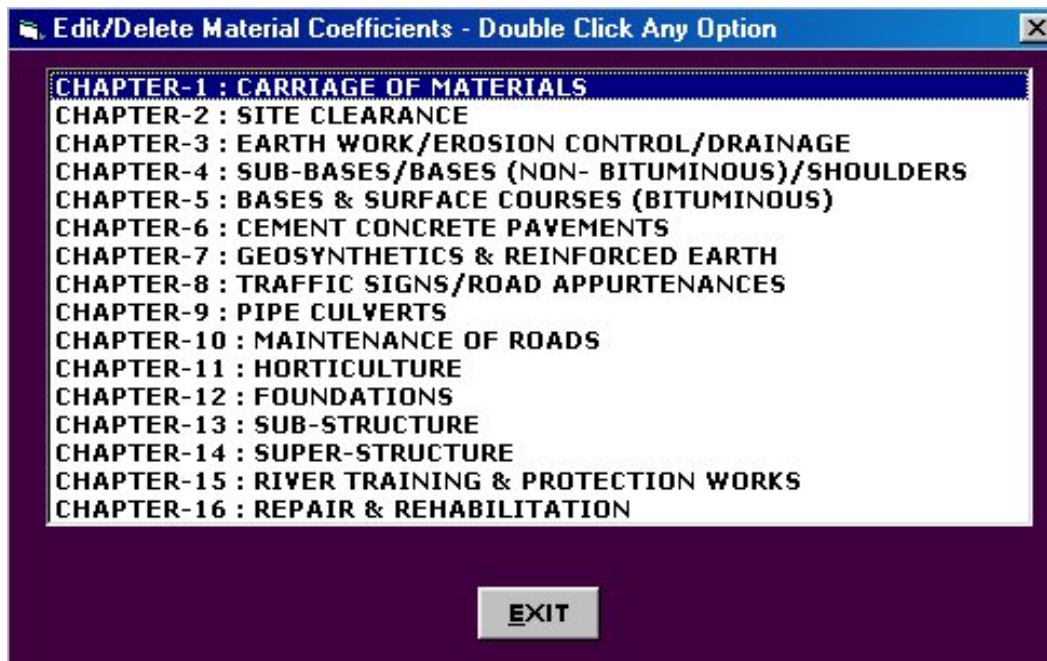
► **Now double click " CHAPTER-12 : FOUNDATIONS ".**
A new window will appear as follows, listing Material Coefficients of items having Cement, Sand, Aggregate & Bitumen Components.

DISPLAY/EDIT OF MATERIAL COEFFICIENTS

CHAPTER-12 : FOUNDATIONS

Item_ID	Item No.	Item	Unit	Cement	Sand	Aggreg...	Bitumen	
	12.8	Excavation in Ordinary Rock without Bl...	M3					
	12.9	Excavation in Hard Rock with Blasting b...	M3					
	12.10	Excavation in Hard Rock Blasting Prohi...	M3					
	12.11	Excavation in Marshy soil by Manual M...	M3					
	12.12	Excavation in Marshy soil by Mechanic...	M3					
	12.13	Back Filling in Marshy Foundation Pits	M3					
	12.14	Sand Filling in Foundation Trenches	M3		1.20	0.92		
	12.15	PCC 1:3:6 in Foundation	M3	4.4	0.46			
	12.16	Brick Masonry Work in Cement Mortar...	M3	2.45	0.252			
	12.17	Cement Mortar 1:3 (1 cement : 3 sand)	M3	10.20	1.05			
	12.18	Cement Mortar 1:2 (1 cement : 2 sand)	M3	13.4	0.93			
	12.19	Cement Mortar 1:4 (1 cement : 4 sand)	M3	8.0	1.12			
	12.20	Cement Mortar 1:6 (1 cement : 6 sand)	M3	5.8	1.34			
	12.21	Square Rubble Coursed Rubble Mason...	M3	3.06	0.315			
	12.22	Random Rubble Masonry in CM 1:3	M3	3.06	0.315			
	12.23	PCC Grade M15	M3	5.5	0.45	0.45		
	12.24	PCC Grade M20	M3	6.88	0.45	0.90		
	12.25	RCC Grade M20 Using Concrete Mixer	M3	6.88	0.45	0.90		
	12.26	RCC Grade M20 With Batching Plant + T...	M3	6.94	0.45	0.90		
	12.27	PCC Grade M25 Using Concrete Mixer	M3	7.98	0.45	0.90		
	12.28	PCC Grade M25 With Batching Plant + T...	M3	7.99	0.45	0.90		
	12.29	RCC Grade M25 Using Concrete Mixer	M3	8.06	0.45	0.90		
	12.30	RCC Grade M25 With Batching Plant + T...	M3	8.06	0.45	0.90		
	12.31	PCC Grade M30 Using Concrete Mixer	M3	8.10	0.45	0.90		
	12.32	PCC Grade M30 With Batching Plant + T	M3	8.10	0.45	0.90		

EXIT   UPDATE   PRINT

Edit Material Coefficients 12.23

Cement Bag : 5.5   Sand/Unit : 0.45   Aggregate/Unit : 0.45   Bitumen - Kg :

▶ **The above window can perform the following functions.**
  🔴 **By Clicking " PRINT " button, all the records will be printed.**
  🔴 **The most important option available here is Editing. At the base of window there is a heading in RED which says " Edit Material Coefficients 12.23 ".**
  Just change the various fields (Values in the text boxes) & it will get reflected in the selected ROW above.
  🔴 **Click " UPDATE " button to refresh changes.**

▶ **Now Click the EXIT button to leave this window.**
  You are back to Section Menu.
  Similarly you can Edit materials Coefficients of other sections by double clicking the required selected section.

STEP NO. 5 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 6

NOTE: DO NOT EDIT MATERIAL OR LABOUR COEFFICIENTS UNLESS YOU HAVE SOME VALID REASONS TO DO SO.

▶ THE MATERIAL COEFFICIENTS ARE USED FOR CALCULATION OF TOTAL CEMENT, SAND, AGGREGATE & BITUMEN QUANTITIES ONLY.

▶ THE LABOUR COEFFICIENTS ARE USED FOR CALCULATION OF TOTAL MASON, CARPENTER, SKILLED LABOUR, UNSKILLED LABOUR & FOREMAN QUANTITIES.

▶ THE ABOVE COEFFICIENTS ARE ALSO USED IN CALCULATION OF MONTHLY MATERIAL, LABOUR & CASH FLOW REQUIREMENTS AFTER USER HAS PREPARED THE PROJECT BAR CHART.

▶ Refer the graphics above. The Menu bar contains following options.

    I. File
    II. Edit Items
    III. Add Record
    IV. Copy + Edit Quantities
    V. Edit Coefficients
    VI. Summary
    VII. Graphics
    VIII. Area_Volume
    IX. Forms_1
    X. Forms_2

Click the Edit Coefficients option in the MENU bar. Here you will have two options.

● Material Coefficients
● Labour Coefficients

Click the Labour Coefficients option. The following window will open.
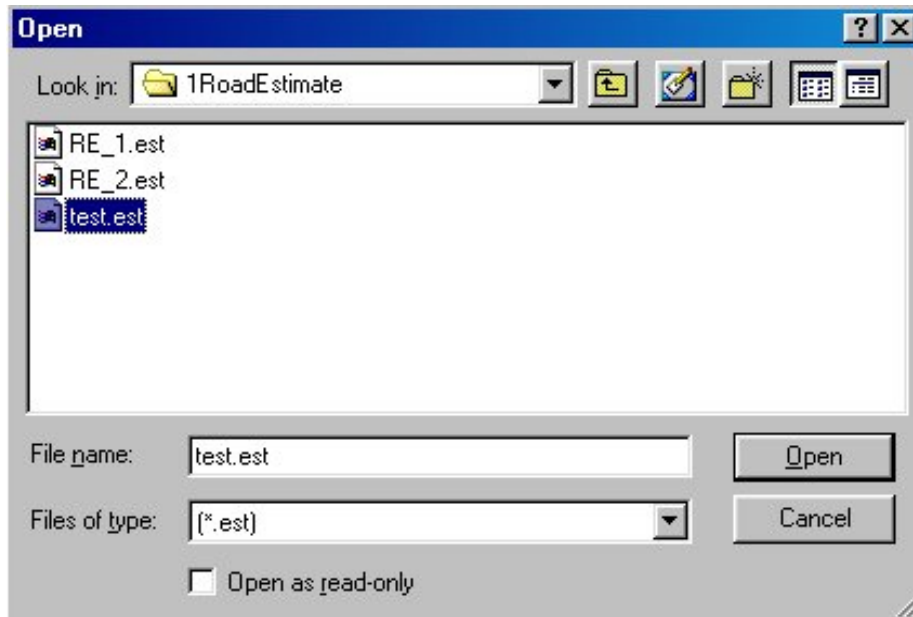
▶ **Now click " test " file & click open. A new window with all Sections will appear as follows. The heading is Edit / Delete Labour Coefficients - Double Click any option.**

▶ **Now double click " CHAPTER-12 : FOUNDATIONS ".**
A new window will appear as follows, listing Labour Coefficients of items having Mason, Carpenter, Skilled Labour, Unskilled Labour & Foreman Components.

DISPLAY/EDIT LABOUR COEFFICIENTS

CHAPTER-12 : FOUNDATIONS

Project : 9812   Date :   10/10/06

Item_ID	Item_no	Item	Unit	Mason	Carpent...	Skill	Unskilled	Foreman
	12.1	Excavation in Ordinary soil by Manu...	M3				0.35	0.014
	12.2	Excavation in Ordinary soil by Manu...	M3				0.45	0.018
	12.3	Excavation in Ordinary soil by Manu...	M3				0.60	0.024
	12.4	Excavation in Ordinary soil by Mech...	M3				0.034	0.0014
	12.5	Excavation in Ordinary soil by Mech...	M3				0.038	0.0015
	12.6	Excavation in Ordinary soil by Mech...	M3				0.56	0.0023
	12.7	Excavation in Ordinary Rock withou...	M3				0.50	0.020
	12.8	Excavation in Ordinary Rock withou...	M3				0.034	0.0013
	12.9	Excavation in Hard Rock with Blasti...	M3			0.075	0.80	0.035
	12.10	Excavation in Hard Rock Blasting Pr...	M3				0.50	0.020
	12.11	Excavation in Marshy soil by Manua...	M3				1.0	0.04
	12.12	Excavation in Marshy soil by Mecha...	M3				0.20	0.008
	12.13	Back Filling in Marshy Foundation P...	M3				0.50	0.02
	12.14	Sand Filling in Foundation Trenches	M3				0.30	0.01
	12.15	PCC 1:3:6 in Foundation	M3	0.067			1.0	0.043
	12.16	Brick Masonry Work in Cement Mo...	M3	0.80			1.84	0.10
	12.17	Cement Mortar 1:3 (1 cement : 3 sa...	M3				0.90	0.04
	12.18	Cement Mortar 1:2 (1 cement : 2 sa...	M3				0.90	0.04
	12.19	Cement Mortar 1:4 (1 cement : 4 sa...	M3				0.90	0.04
	12.20	Cement Mortar 1:6 (1 cement : 6 sa...	M3				0.90	0.04
	12.21	Square Rubble Coursed Rubble Ma...	M3	1.50			2.1	0.132
	12.22	Random Rubble Masonry in CM 1:3	M3	1.20			2.1	0.124
	12.23	**PCC Grade M15**	**M3**	**0.10**			**1.34**	**0.058**
	12.24	PCC Grade M20	M3	0.10			1.34	0.058

Edit Labour Coefficients for Item no. 12.23

Mason `0.10`   Carpenter `       `   Skilled Labour `       `   Unskilled Labour `1.34`   Foreman `0.058`

[EXIT]   [UPDATE]   [PRINT]

▶ **The above window can perform the following functions.**
   ● **By Clicking " PRINT " button, all the records will be printed.**
   ● **The most important option available here is Editing. At the base of window there is a heading in RED which says " Edit Labour Coefficients for item no. 12.23 ".**
   Just change the various fields (Values in the text boxes) & it will get reflected in the selected ROW above.
   ● **Click " UPDATE " button to refresh changes.**

▶ **Now Click the EXIT button to leave this window.**
   You are back to Section Menu.
   Similarly you can Edit Labour Coefficients of other sections by double clicking the required selected section.

STEP NO. 6 IS OVER.
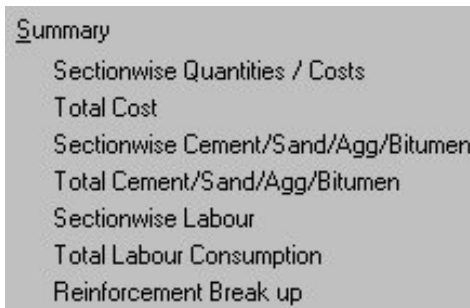
LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 7

File   Edit Items   Add Record   Copy + Edit Quantities   Edit Coefficients   Summary   Graphics   Area_Volume   Forms_1   Forms_2   Exit

ROAD ESTIMATE
Quantity Estimation & Project Control

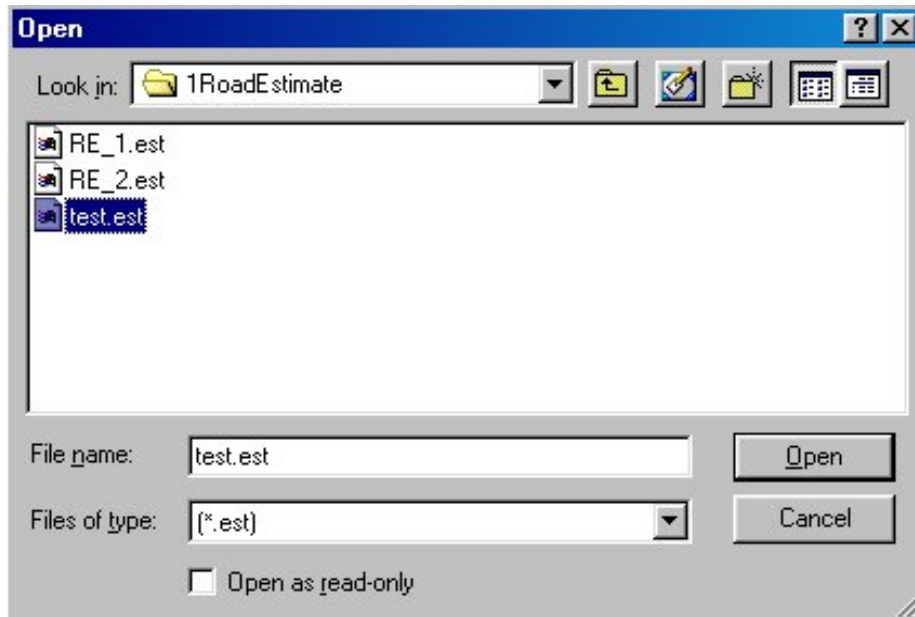**Y. A. AGBOATWALA**
B. E. (Civil), MIE, DBM, FIV

▶ **Refer the graphics above. The Menu bar contains following options.**

   I. File
   II. Edit Items
   III. Add Record
   IV. Edit Quantities
   V. Copy + Edit Coefficients
   VI. Summary
   VII. Graphics
   VIII. Area_Volume
   IX. Forms_1
   X. Forms_2

   Click the Summary option in the MENU bar. The following options will open up.

Summary

   Sectionwise Quantities / Costs
   Total Cost
   Sectionwise Cement/Sand/Agg/Bitumen
   Total Cement/Sand/Agg/Bitumen
   Sectionwise Labour
   Total Labour Consumption
   Reinforcement Break up

▶ **All the above options display the various quantities & cost aspect of a given project. I have added random quantities & appropriate rates to various items in sections.**
When I click the " Total Cost " option, following window is displayed.

▶ **Click QTY file & click open. A new window with all Sectional costs appear as follows.**

SUMMARY OF PROJECT COST

Organization : Super CD

Project : New Project

Road ID : Grid 22

Total Project Cost : 29208.19

Total Taxes : 942.2

Client : y a agboatwala

Project No : 22/09/1951

Date : 10/10/06

Total Overhead : 2355.5

Total Profit : 2355.5

SECTION	COST	OVERHEAD	TAX	PROFIT	% TOTAL	
Chapter 1 : Material Carriage	744	60	24	60	2.54	
Chapter 2 : Site Clearence	620	50	20	50	2.12	
Chapter 3 : Earthwork	992	80	32	80	3.39	
Chapter 4 : Sub_Bases	2232	180	72	180	7.64	
Chapter 5 : Surfacing	1581	127.5	51	127.5	5.41	
Chapter 6 : PCC	3100	250	100	250	10.61	
Chapter 7 : Geosynthetics	620	50	20	50	2.12	
Chapter 8 : Traffic Sign	620	50	20	50	2.12	
Chapter 9 : Pipe Culvert	5208	420	168	420	17.83	
Chapter 10 : Maintainance	520.79	42	16.8	42	1.78	
Chapter 11 : Horticulture	2380.8	192	76.8	192	8.15	
Chapter 12 : Foundation	4761.6	384	153.6	384	16.3	
Chapter 13 : Sub_structure	992	80	32	80	3.39	
Chapter 14 : Super_structure	3720	300	120	300	12.73	
Chapter 15 : River Training	372	30	12	30	1.27	
Chapter 16 : Repair Works	744	60	24	60	2.54	

EXIT   PRINT

▶ Similarly when you click other options appropriate window will open & display the required parameters.

STEP NO. 7 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 8

Road Estimate .... Quantity Estimation & Cost Control Software for Road

File   Edit Items   Add Record   Copy + Edit Quantities   Edit Coefficients   Summary   Graphics   Area_Volume   Forms_1   Forms_2   Exit

ROAD ESTIMATE

Quantity Estimation & Project Control

Y. A. AGBOATWALA
B. E. (Civil), MIE, DBM, FIV

▶ **Refer the graphics above. The Menu bar contains following options.**

    I. File
    II. Edit Items
    III. Add Record
    IV. Copy + Edit Quantities
    V. Edit Coefficients
    VI. Summary
    VII. Graphics
    VIII. Area_Volume
    IX. Forms_1
    X. Forms_2

Click the Graphics option in the MENU bar. The following window will open up.
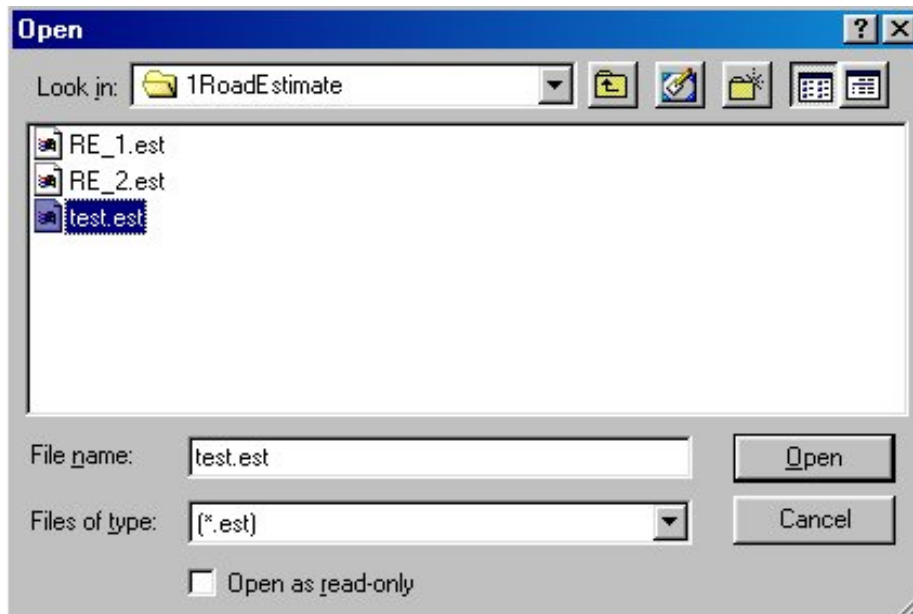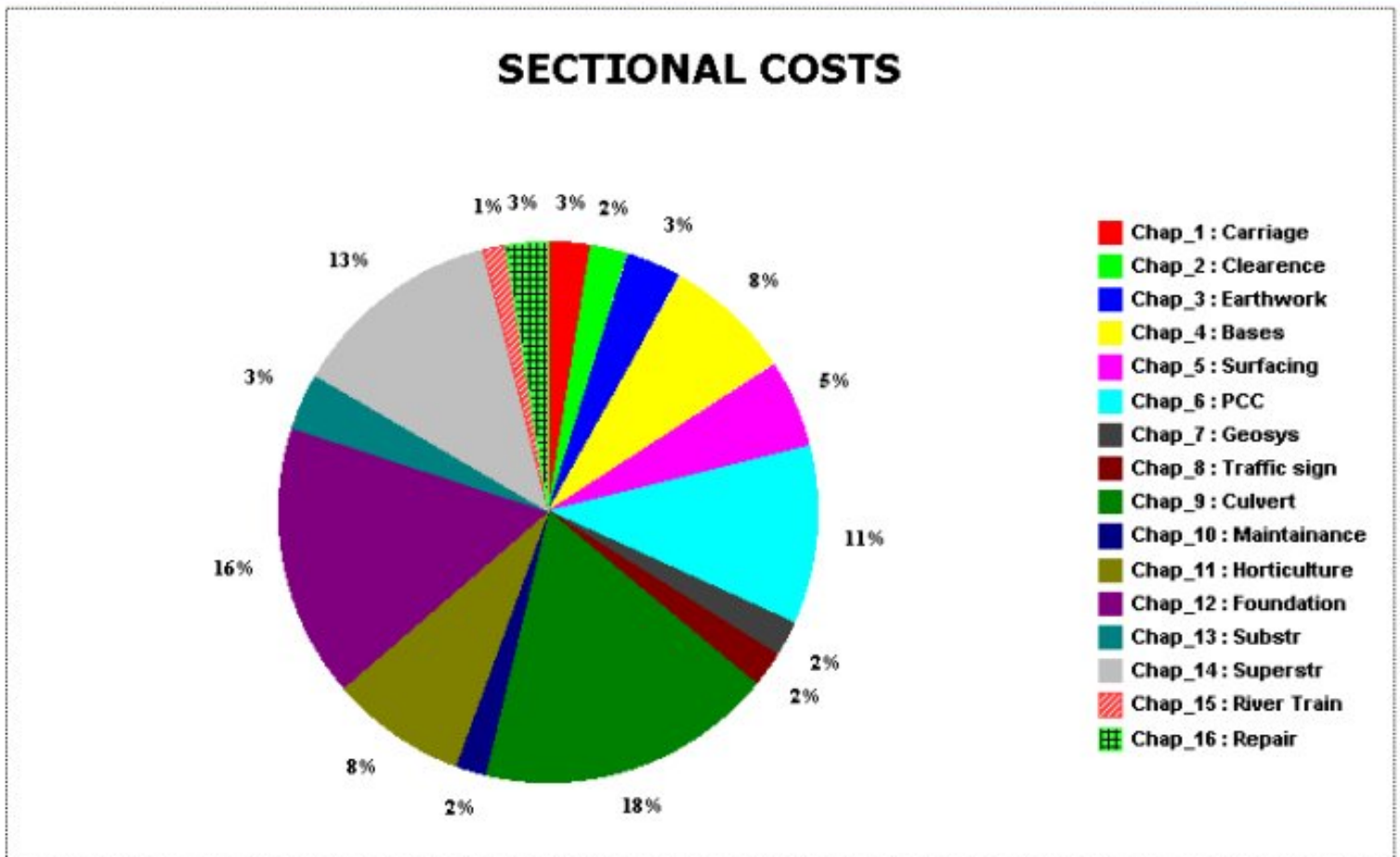
▶ **Click " test " file & click open. A new window will open Displaying Chart Menu as under.**

Chart Menu - Double Click Any Item ☒

```
Total Cost : Pie Chart
Total Cost : Bar Chart
Total Overheads : Bar Chart
Total Profit : Bar Chart
Total Taxes : Bar Chart
Cement/Sand/Agg/Bitumen : Bar Chart
Total Labour : Bar Chart
Total Labour : Pie Chart
Reinforcements : Pie Chart
Reinforcements : Bar Chart
```

EXIT

▶ **All the above options display the various quantities & cost aspect of a given project in Pie or Bar Chart form.**
When I double click the " Total Cost : Pie Chart " option, following Pie Chart is displayed.

Road Estimate ..... Graphics

SECTIONAL COSTS

Chap_1 : Carriage
Chap_2 : Clearence
Chap_3 : Earthwork
Chap_4 : Bases
Chap_5 : Surfacing
Chap_6 : PCC
Chap_7 : Geosys
Chap_8 : Traffic sign
Chap_9 : Culvert
Chap_10 : Maintainance
Chap_11 : Horticulture
Chap_12 : Foundation
Chap_13 : Substr
Chap_14 : Superstr
Chap_15 : River Train
Chap_16 : Repair

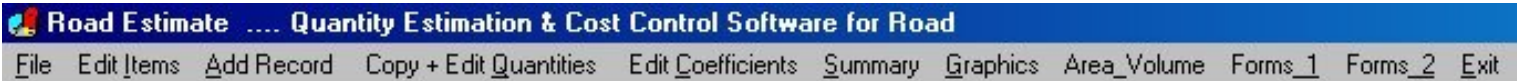| Organization : | Super CD | Date : | 10/10/06 | PRINT | EXIT |
| Project : | New Project | Building / Structure : | Grid 22 | | |
| Client : | y a agboatwala | Project No : | 22/09/1951 | | |

▶ **Similarly when you double click other options, appropriate windows will open & display the required Pie / Bar Chart.**

STEP NO. 8 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 9

▶ **Refer the graphics above. The Menu bar contains following options.**

I. File
II. Edit Items
III. Add Record
IV. Copy + Edit Quantities
V. Edit Coefficients
VI. Summary
VII. Graphics
VIII. Area_Volume
IX. Forms_1
X. Forms_2

Click the Area_Volume option in the MENU bar. The following options will open up.

AREA / VOLUME CALCULATION
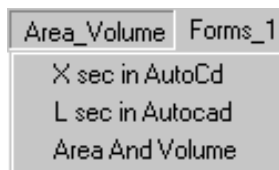
▶ **Click the 3rd option viz; " Area And Volume ".**

The following options will open up.

Area Calculation
Area & Volume of Cut / Fill on Horizontal Ground
Area & Volume of Cut / Fill on Slopping Ground
Contour Grading & Volume Calculation
Contour Software.

◆ **Area Calculation**

◆ **Area & Volume of Cut / Fill on Horizontal Ground**

◆ **Area & Volume of Cut / Fill on Sloping Ground**

◆ **Volume of Longitudinal Section**

◆ **Volume of Longitudinal Section with Transverse Slope**

◆ **Contour Grading & Volume Calculation**

◆ **CONTOUR SOFTWARE :**
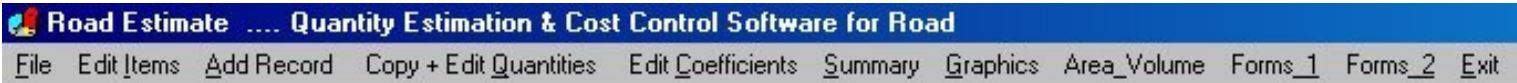

▶ **The above programs are self explanatory.**
Click on any of the above Link & Appropriate Program will Commence.
For " X sec in AutoCAD " and " L sec in AutoCAD " refer Step no. 13 and 14.

STEP NO. 9 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 10

▶ **Refer the graphics above. The Menu bar contains following options.**

I. File
II. Edit Items
III. Add Record
IV. Copy + Edit Quantities
V. Edit Coefficients
VI. Summary
VII. Graphics
VIII. Area_Volume
IX. Forms_1
X. Forms_2

Click the Forms_1 option in the MENU bar. The following options will open up.

```
Measurement Sheet
R A Bill - CPWD Item Rate
R A Bill - CPWD Lump Sum
Advance Payment - CPWD
R A Bill - General
Projected Delay Report
Projected Profit
Projected Material Consumption
Projected Labour Consumption
Actual Delay Report
Actual Profit / Loss
Actual Material Consumption
Actual Labour Consumption
Profit Control
Material Control
Labour Control
Daily Progress Report
Material Inward Report
Material Transfer Receipt
Material Issue Slip
Daily Store Consumption
Daily Departmental Labour Slip
Watchman Report - Material
Watchman Report - Visitors
Inspection Report
Indent Slip
Pending Requisitions
Material Consumption Statement
Cement Consumption Statement
```

▶ **If you click the Forms_2 option then following graphics will appear.**

```
Electricity Consumption Statement
Water Consumption Statement
Machinery Status Report
Machinery Maintainance Report
Excess Material List
Progress Report
Material Planning Schedule
Activity Schedule
Crash Cost Schedule
Calendar Date / Working Day
Material Order/Receipt Schedule
Labour Payment Schedule
```

▶ **The Forms_1 & Forms_2 options display various typical forms, formats or templates generally used in construction industry. A typical quantity measurement sheet is displayed as under.**

MEASUREMENT / QUANTITY SHEET
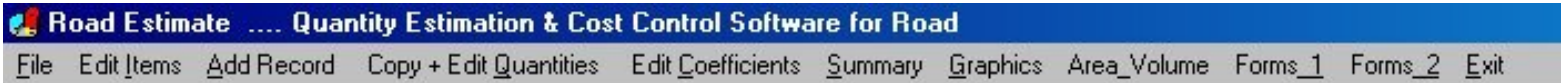
CHAPTER – 3 : EARTHWORK

SN	Item No	Item – Description	Unit	Nos	L	W	D	QTY
1	B1	Rough Excavation – area a1	M3	1	10	10	.5	
2	B1	Rough Excavation – area a2	M3	2	5	5	1	
3	B2	Banking – area a1	M3	1	2	2	.3	
4	B2	Banking – area a2	M3	2	3	3	.4	
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								

▶ **All the above Forms / Formats / Templates are in M. S. WORD format.**
In case of any difficulty in opening the above documents, user can directly access the above files from C: \ Program files \ ROAD ESTIMATE \ Form directory.

STEP NO. 10 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 11

Road Estimate .... Quantity Estimation & Cost Control Software for Road

File Edit Items Add Record Copy + Edit Quantities Edit Coefficients Summary Graphics Area_Volume Forms_1 Forms_2 Exit

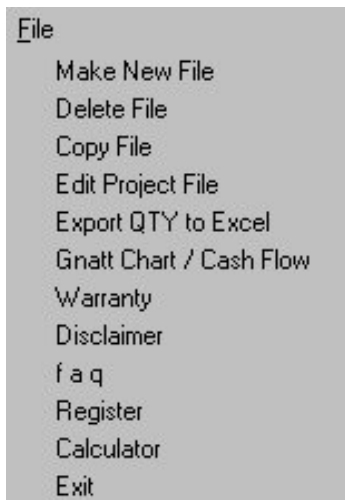# ROAD ESTIMATE

Quantity Estimation & Project Control

Y. A. AGBOATWALA
B. E. (Civil), MIE, DBM, FIV

▶ **Refer the graphics above. The Menu bar contains following options.**

I. File
II. Edit Items
III. Add Record
IV. Copy + Edit Quantities
V. Edit Coefficients
VI. Summary
VII. Graphics
VIII. Area_Volume
IX. Forms_1
X. Forms_2

Click the FILE option in the MENU bar. The following window will open.

File
  Make New File
  Delete File
  Copy File
  Edit Project File
  Export QTY to Excel
  Gnatt Chart / Cash Flow
  Warranty
  Disclaimer
  f a q
  Register
  Calculator
  Exit

▶ **Now click Copy File option. A new window will appear as follows, asking for the name of the File to be copied.**
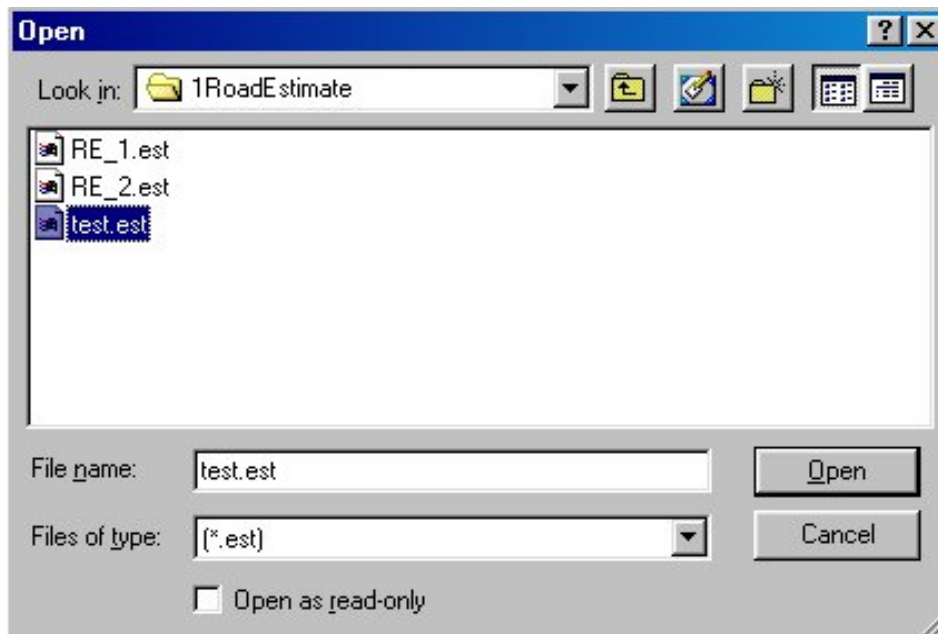
▶ **Now click " test " file & click open. A new window will appear as follows, asking for the name of the destination file.**
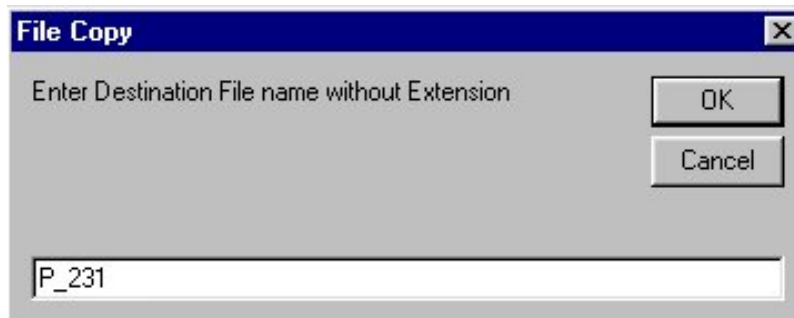
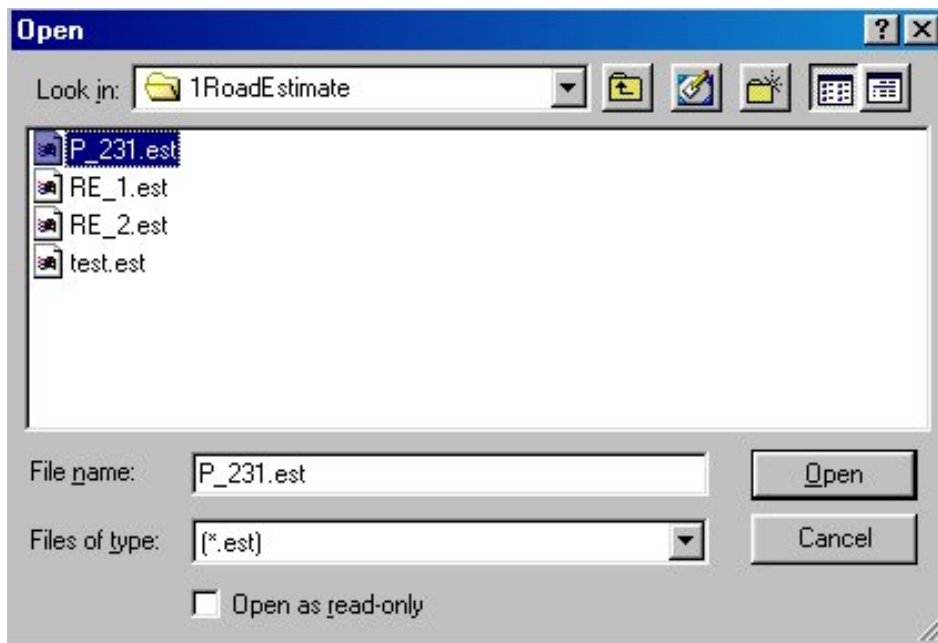▶ **Give the destination file name as P_231. Press " OK " button. A new message window will appear as follows.**


▶ **The above message confirms the copying of all respective files to new P_231 file. Note that original file " test " is intact. Press " OK " button to exit.**

▶ **Again Now click Delete File option. A new window will appear as follows, asking for the name of the File to be deleted.**

Open dialog box

Look in: 1RoadEstimate

P_231.est
RE_1.est
RE_2.est
test.est

File name: P_231.est

Files of type: (*.est)

Open   Cancel

☐ Open as read-only

▶ **Select P_231 file & click " Open " button. A new window will open as follows, requiring confirmation.**

File Deletion ?

Do you want delete the File C:\1RoadEstimate\P_231.est

OK   Cancel
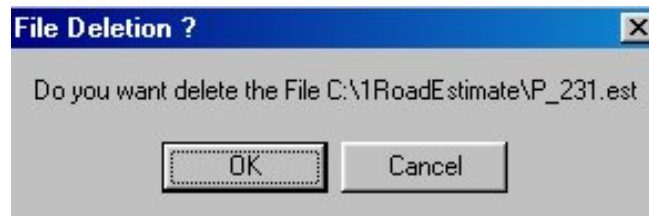
▶ **Click the " OK " button, again a new window will open as follows, confirming deletion of P_231 qty & item files.**

Please Note :

❌ File Deletion is Complete.

OK
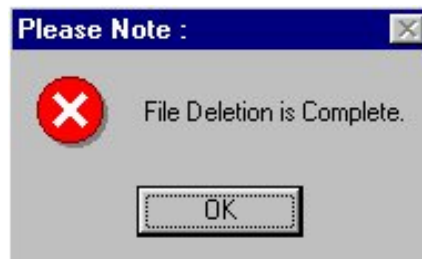
▶ **Now click Edit Project File option. A new window will appear as follows, asking for the name of the project File to be Edited.**
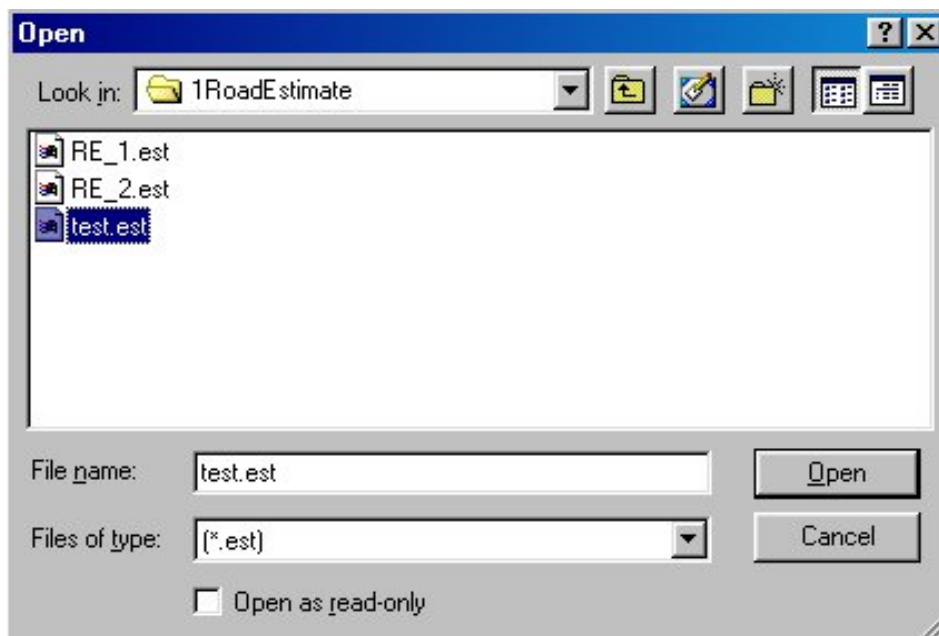
▶ **Now click " test " file & click open. A new window will appear as follows, enabling user to change the various project parameters.**

Project File : Edit Project Details

File Name : C:\1RoadEstimate\test.est   **Date : 10/10/06**

Organization :	Super CD
Project :	New Project
Project No :	22/09/1951
Client ID :	y a agboatwala
Road ID :	Grid 22

Project Duration in Months :	24	**Project Over Head in %**	10
Taxes in %	4	**Profit Margin in %**	10
Rate per Cement Bag	200	**Rate per M3 of Sand**	600
Rate per M3 of Aggregates	600	**Rate per Kg of Bitumen**	1.0
Mason Wage/day	250	**Carpenter Wage / day**	250
Skill labour Wage / day	250	**Un Skilled Labour Wage**	180
Foreman Cost / day	350	**Mobilization Advance in %**	10
Recovery of Advance in %	10	**Security Deposit in %**	10

EXIT   **PRINT**

▶ **After you have completed editing the various project parameters click " EXIT " button.**

► **Now click Export QTY to EXCEL option. A new window will appear as follows, asking for the name of the project File to be Exported to EXCEL.**

Open ? X

Look in: 🗀 1RoadEstimate ▾ 🔼 📝 🗂 ▦ ▦

RE_1.est
RE_2.est
test.est

File name: test.est   Open
Files of type: (*.est)   ▾   Cancel
☐ Open as read-only
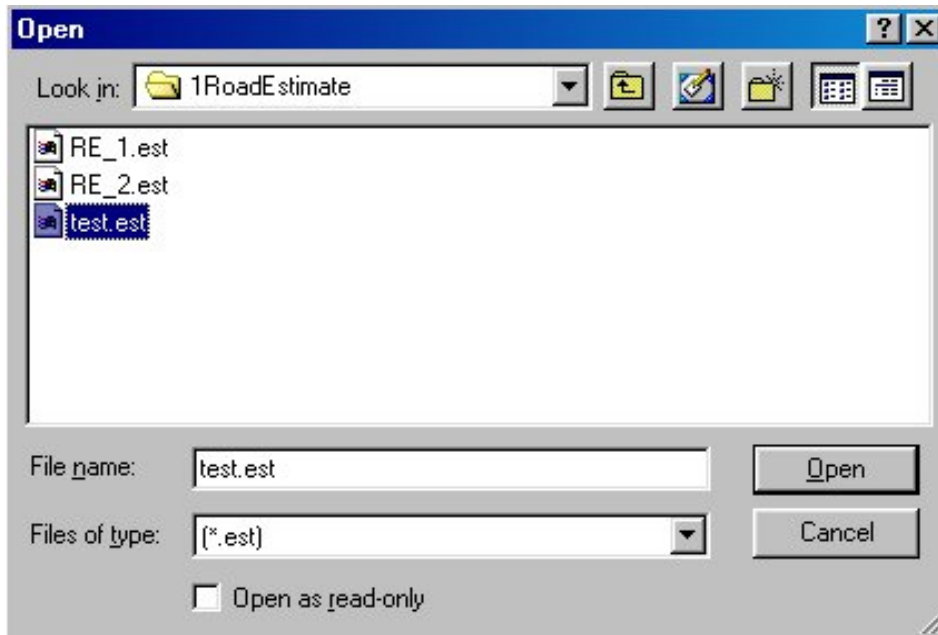
► **Now click " test " file & click open. A new window will appear as follows, indicating that all the quantity files are copied to a new file with .TXT extension.**

Export to EXCEL : ☒

ⓘ All Quantity Files are copied to
    Document File C:\1RoadEstimate\test.txt
    User can open this Text file in EXCEL as
    Comma Seperated Text File.

         OK

► **User can open this Text file in EXCEL as comma separated Text File.**

STEP NO. 11 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 12
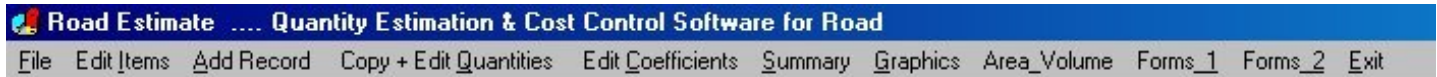
Road Estimate .... Quantity Estimation & Cost Control Software for Road

File Edit Items Add Record Copy + Edit Quantities Edit Coefficients Summary Graphics Area_Volume Forms_1 Forms_2 Exit

ROAD ESTIMATE
Quantity Estimation & Project Control

Y. A. AGBOATWALA
B. E. (Civil), MIE, DBM, FIV

▶ **Refer the graphics above. The Menu bar contains following options.**

    I. File
    II. Edit Items
    III. Add Record
    IV. Copy + Edit Quantities
    V. Edit Coefficients
    VI. Summary
    VII. Graphics
    VIII. Area_Volume
    IX. Forms_1
    X. Forms_2

    Click the FILE option in the MENU bar. The following window will open.

File
    Make New File
    Delete File
    Copy File
    Edit Project File
    Export QTY to Excel
    Gnatt Chart / Cash Flow
    Warranty
    Disclaimer
    f a q
    Register
    Calculator
    Exit

▶ **Now click Gnatt Chart / Cash Flow option. A new window will appear as follows, asking for the file name.**
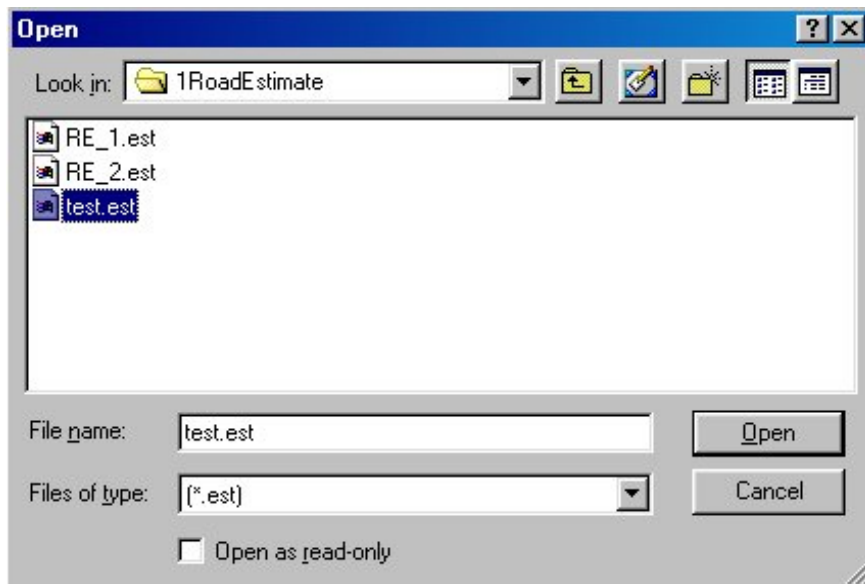
▶ **Now click " test " file & click open. A new window will appear as follows, showing empty Gnatt / Bar Chart.**

	Chapter / Item	Time in Months																						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Carriage																								
2	Clear Site																								
3	Earthwork																								
4	Bases																								
5	Surfacing																								
6	PCC																								
7	Geosynthetics																								
8	Traffic Signs																								
9	Culvert																								
10	Maintainance																								
11	Horticulture																								
12	Foundation																								
13	Substructure																								
14	Superstructure																								
15	River training																								
16	Repairs																								

Cash Flow / Material / Men : Distribution	Edit Bar Chart	Exit	Print

Pipe Culvert	Maintainance	Horticulture	Foundation	Substructure	Superstructure	River Training	Repairs

Material Carriage	Clear Site	Earthwork	Sub Bases	Surfacing	PCC	Geosynthetics	Traffic Signs

▶ **Now let us start constructing Gnatt / Bar Chart.**
Click " Material Carriage " button situated at the left bottom corner of chart. The following window will appear asking for " Enter Start of Material Carriage ". Type 0 & press " OK ".

Start of Bar

Enter Start of Material Carriage

OK

Cancel

0

▶ **Again a new window will appear asking for " Enter End of Material Carriage ". Type 1 & press " OK ". This window is displayed as under.**
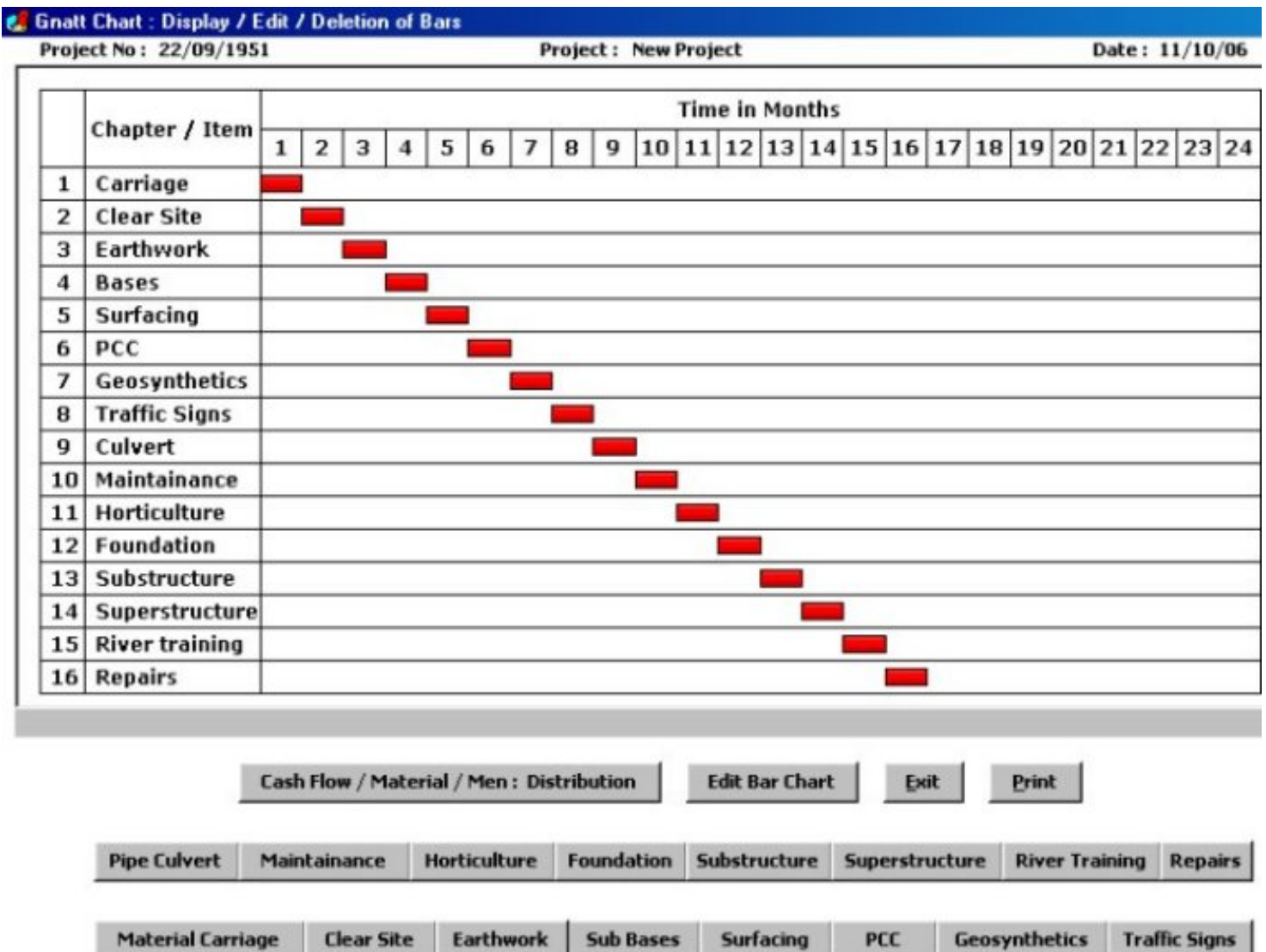

Finish of Bar not > 24

Enter End of Material Carriage

OK

Cancel

1

▶ **Now you will see a RED BAR is displayed between 0 and 1 on the " Material Carriage " ROW. Similarly you can prepare the complete GNATT / BAR CHART by clicking various activity buttons such as Clear Site, Earthwork, Bases, Surfacing etc.... I have completed the BAR CHART for the whole project as follows.**

Gnatt Chart : Display / Edit / Deletion of Bars

Project No : 22/09/1951   Project : New Project   Date : 11/10/06

	Chapter / Item	Time in Months
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

1 Carriage
2 Clear Site
3 Earthwork
4 Bases
5 Surfacing
6 PCC
7 Geosynthetics
8 Traffic Signs
9 Culvert
10 Maintainance
11 Horticulture
12 Foundation
13 Substructure
14 Superstructure
15 River training
16 Repairs

Cash Flow / Material / Men : Distribution   Edit Bar Chart   Exit   Print

Pipe Culvert | Maintainance | Horticulture | Foundation | Substructure | Superstructure | River Training | Repairs

Material Carriage | Clear Site | Earthwork | Sub Bases | Surfacing | PCC | Geosynthetics | Traffic Signs

▶ **In case you have made any mistake or wants to change the Bar Chart, just click " Edit Bar Chart " button. Following window will appear.**

Gnatt Chart

EDIT/DELETION OF BARS

Section	Item	Bar_Start	Bar_End	
1	Carriage	0	1	
10	Maintainance	9	10	
11	Horticulture	10	11	
12	Foundation	11	12	
13	Substructure	12	13	
14	Superstructure	13	14	
15	River Training	14	15	
16	Repairs	15	16	
2	Clear Site	1	2	
3	Earthwork	2	3	
4	Sub Bases	3	4	
5	Surfacing	4	5	
6	PCC	5	6	
7	Geosynthetics	6	7	
8	Traffic Signs	7	8	
9	Culvert	8	9	

Edit Bar Start : 0   **Edit Bar End :** 1

REMOVE   **UPDATE**   **EXIT**

▶ **Just Edit Bar Start or Edit Bar End and click on UPDATE button to register changes.**
Note that bar end should always be greater then bar start.
If you want to delete any activity, (BAR) just take mouse to that ROW & click (select) and press the " REMOVE " button. Now you will notice that the selected activity has disappeared from this edit menu as well as the corresponding RED BAR has also been removed from the BAR CHART.
Click Exit.

▶ **Click on the " Cash Flow / Material / Men distribution : " Button to display these parameters. A new window will appear as shown in following 3 nos. of graphics.**

COST DISTRIBUTION / CUMULATIVE CASH FLOW :

Organization :   Super CD

Project :   New Project

Road ID :   Grid 22

Client : y a agboatwala

Project No : 22/09/1951

Date : 11/10/06

Month	1	2	3	4	5	6	7	8	
Value	744	620	992	2232	1581	3100	620	620	
% Cumulative	2	4	8	15	21	31	33	35	
Over Head	60	50	80	180	127.5	250	50	50	
Tax	24	20	32	72	51	100	20	20	
Profit	60	50	80	180	127.5	250	50	50	
Cement - Bag	0	0	0	0	0	15	0	32	
Sand - M3	0	0	0	1.15	0	2.25	0	3	
Aggregate - ...	0	0	0	2.67	65.79	4.5	0	6	
Bitumen - Kg	0	0	0	0	5319	0	0	0	
Mason - No	0	0	0	0	0	0	0	0.55	
Carpenter - ...	0	0	0	0	0	0	0	0	
Skill Lab - No	0	0	0	0.02	1.17	0.06	25	0	
Unskill Lab -...	0	60	3.75	0.1	3.78	0.24	50	4.5	
Foreman - No	0	2	0.15	0	0.19	0.01	4	0.2	
Cash Param...									
Cost	684	570	912	2052	1453.5	2850	569.99	570	
Labour Cost	0	11500	727.5	23	1039.4	61.7	16650	1017.5	
Material + O...	684	-10930	184.5	2029	414.09	2788.3	-16080.01	-447.5	
Adv. Recovery	0	74.4	62	99.2	223.2	158.1	310	62	
SD Recovery	0	74.4	62	99.2	223.2	158.1	310	62	
Cash Flow	2920.81	-8667.99	2030.51	2616.6	1333.79	2122.8	-14835.5	723.01	

Read Me   S Curve   Print   Exit

COST DISTRIBUTION / CUMULATIVE CASH FLOW :

Organization :   Super CD

Project :   New Project

Road ID :   Grid 22

Client :   y a agboatwala

Project No : 22/09/1951

Date : 11/10/06

8	9	10	11	12	13	14	15	16	17
620	5208	520.79	2380.8	4761.6	992	3720	372	744	0
35	53	55	63	80	83	96	97	100	10
50	420	41.99	192	384	80	300	30	60	0
20	168	16.79	76.8	153.6	32	120	12	24	0
50	420	41.99	192	384	80	300	30	60	0
32	46	0	0	0	0	6.82	0	0	0
3	4.5	0	0	0	0	0.45	12	0	0
6	9	0	0	0	0	0.9	60	0	0
0	0	0	0	0	0	0	0	0	0
0.55	0.67	0	0	0	1.6	0.1	21	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0.54	0.08	0.28	0	0	0
4.5	10	18	48	18.41	2.36	2.08	45	2	0
0.2	0.42	0.96	1.92	0.77	0.13	0.08	2.4	0.12	0
570	4788	478.79	2188.79	4377.59	912	3419.99	342	684	0
1017.5	2114.5	3576	9312	3718.3	890.3	497.4	14190	402	0
-447.5	2673.5	-3097.21	-7123.22	659.29	21.7	2922.58	-13848	282	0
62	62	520.8	52.07	238.08	476.16	99.2	372	37.2	74
62	62	520.8	52.07	238.08	476.16	99.2	372	37.2	74
723.01	-447.99	-2531.09	-8329.23	-3019.67	-759.99	-485.5	-14622.08	-878.48	23

[Read Me]   [S Curve]   [Print]   [Exit]

COST DISTRIBUTION / CUMULATIVE CASH FLOW :

Organization : Super CD   Client : y a agboatwala

Project :   New Project   Project No : 22/09/1951

Road ID :   Grid 22   Date : 11/10/06

17	18	19	20	21	22	23	24	Total
0	0	0	0	0	0	0	0	29208.19
100	100	100	100	100	100	100	100	100
0	0	0	0	0	0	0	0	2355.48
0	0	0	0	0	0	0	0	942.19
0	0	0	0	0	0	0	0	2355.48
0	0	0	0	0	0	0	0	99
0	0	0	0	0	0	0	0	23
0	0	0	0	0	0	0	0	148
0	0	0	0	0	0	0	0	5319
0	0	0	0	0	0	0	0	23
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	27
0	0	0	0	0	0	0	0	268
0	0	0	0	0	0	0	0	13
0	0	0	0	0	0	0	0	26852.69
0	0	0	0	0	0	0	0	65719.6
0	0	0	0	0	0	0	0	-38866.92
74.4	0	0	0	0	0	0	0	2920.81
74.4	0	0	0	0	0	0	0	2920.81
2355.52	0	0	0	0	0	0	0	2355.52

[Read Me]   [S Curve]   [Print]   [Exit]

▶ **The project duration of maximum of 24 months is allowed at a time. Note that Cash Flow / Material / Men distribution is entirely dependent on Gnatt Chart. If you prepare a Bar Chart of 12 months duration & only few required activities then Cash Flow / Material / Men distribution will correspond to 12 months duration & those selected activities.**

▶ **Lastly Click on the " S CURVE " button. The " S CURVE " will be displayed as under.**

S CURVE

Organization : Super CD

Project : New Project

Building / Structure : Grid 22

Client : y a agboatwala

Project No : 22/09/1951

Date : 11/10/06

EXIT   PRINT

▶ Click EXIT " 3 " times to return to main menu.

STEP NO. 12 IS OVER.

LEARN ROAD ESTIMATE STEP BY STEP

STEP NO. 13

Road Estimate .... Quantity Estimation & Cost Control Software for Road

File   Edit Items   Add Record   Copy + Edit Quantities   Edit Coefficents   Summary   Graphics   Area_Volume

ROAD ESTIMATE
Quantity Estimation & Project Control

Y. A. AGBOATWALA
B. E. (Civil), MIE, DBM, FIV

☐   **Refer the graphics above. The Menu bar contains following options.**

I. File
II. Edit Items
III. Add Record
IV. Copy + Edit Quantities
V. Edit Coefficients
VI. Summary
VII. Graphics
VIII. Area_Volume
IX. Forms_1
X. Forms_2

Click the Area_Volume option in the MENU bar. The following drop down menu appears.

Graphics	Area_Volume	Exit
	Area And Volume	
	Earthwork Quantities	
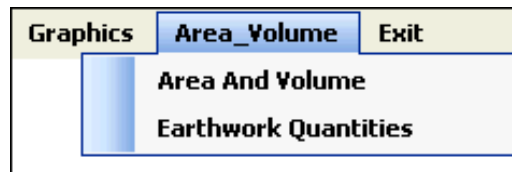
Click on Eathwork Quantities Option.
The following window will open.
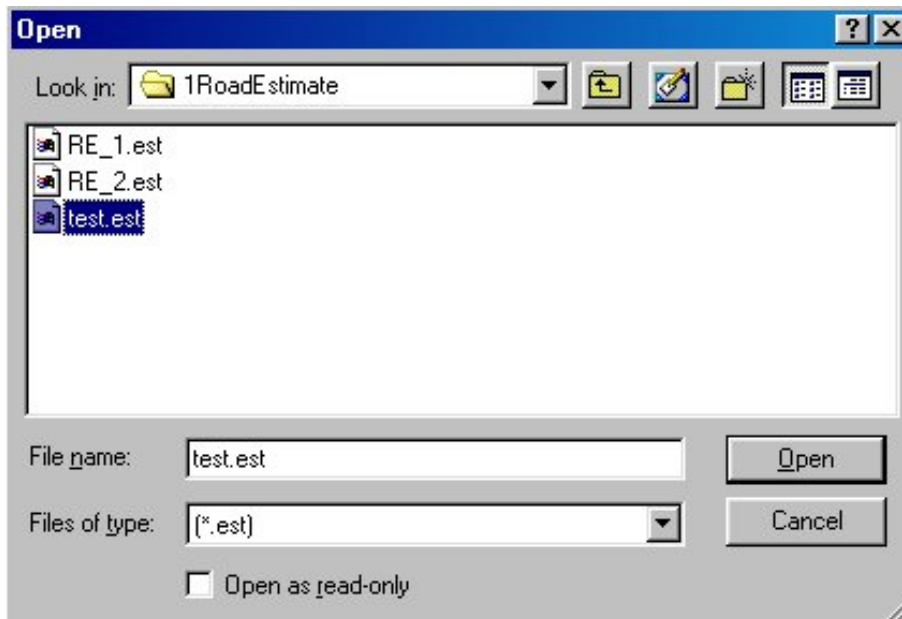
- [ ] **Now click "test" file & click open.**

- [ ] **"Earthwork Quantities" is for calculation of Area / Volume of Road Longitudinal Section & Cross Section & AutoCAD Drawing.**

  Following Window will open up.

EARTHWORK QUANTITIES

Grid Data

X Interval : [ ]   Y Interval : [ ]   Start X : [ ]   Start Y : [ ]   End X : [ ]   End Y : [ ] | Create Table | Datum : [ ]

| **GL & FL** | L Section Quantities | X Section Quantities | Road Thickness Quantities |

	X Coordinate	Y Coordinate	G.L (M)	F.L (M)
*				

Pavement Width: [ ] **M**

PROFILE CORRECTION

- ○ Cut = Fill
- ○ Limit Fill Deficit To : [ ] M3
- ○ Limit Excess Cut To : [ ] M3

| Calculate FL |

FLEXIBLE PAVEMENT

Bituminous Surfacing THK: [ ] MM

Granular Base / WBM THK: [ ] MM

Granular Sub Base THK: [ ] MM

**RIGID PAVEMENT**

Concrete Pavement THK: [ ] MM

Lean Concrete THK: [ ] MM

IMPORT FROM AUTOCAD / EXCEL

- ○ AutoCAD [ ] | Browse |
- ○ Excel [ ] | Browse |

| Import |

| Calculate Earthwork Quantities | | Print | Save |
| | | Read Me | Exit |

The Ground Level (G.L) & Formation Level (F.L) data should be entered at fixed X & Y Intervals.
Enter the X and Y Interval, Start X, Start Y, End X & End Y Values in Metres (M).
Next Enter the Datum.
All Data should be entered in Metres(M) , unless specified.

ENTERING G.L AND F.L

The G.L and F.L at various x and y distances can be entered using Road Estimate Interface or can be imported from AutoCAD or Excel.

Import from Excel :

The Data Entered in Excel File should be in the Following Format.
The First Row should be heading.
The Name of the Sheet should be "Sheet1".
Save the Excel File in xls Format.

X Coordinate	Y Coordinate	GROUND LEVEL	FORMATION LEVEL
0	0	94.65	94.75
5	0	98.75	98.85
10	0	99.6	99.7
15	0	98.75	98.85
20	0	97.3	97
0	5	96.75	96.85
5	5	98.5	98
10	5	96.75	96
15	5	95.25	95
20	5	97.7	97.8
0	10	97.6	97.75
5	10	96.95	97
10	10	95.6	95.7
15	10	96.25	96.35
20	10	98.35	98.45
0	15	98.9	99

In order to import the G.L and F.L at various x and y distances select Excel from Import from Autocad/ Excel option as shown below.

```
IMPORT FROM AUTOCAD / EXCEL
  ○ AutoCAD  [          ]  Browse
  ⦿ Excel    [          ]  Browse
              Import
```

Next Click on Browse to select the Excel File.
Click on Import.
The X, Y, G.L and F.L values will be displayed in the G.L & F.L tab.

EARTHWORK QUANTITIES

Grid Data

X Interval: 5   Y Interval: 5   Start X: 0   Start Y: 0   End X: 20   End Y: 20   Create Table   Datum: 94

GL & FL | L Section Quantities | X Section Quantities | Road Thickness Quantities

X Coordinate	Y Coordinate	G.L (M)	F.L (M)
0	0	94.65	94.75
0	5	96.75	96.85
0	10	97.6	97.75
0	15	98.9	99
0	20	100.5	100.75
5	0	98.75	98.85
5	5	98.5	98
5	10	96.95	97
5	15	99.25	99
5	20	98.8	98
10	0	99.6	99.7

Pavement Width: 0 **M**

PROFILE CORRECTION

○ Cut = Fill

○ Limit Fill Deficit To: _____ M3

○ Limit Excess Cut To: _____ M3

Calculate FL

FLEXIBLE PAVEMENT

Bituminous Surfacing THK: 0 MM
Granular Base / WBM THK: 0 MM
Granular Sub Base THK: 0 MM

RIGID PAVEMENT

Concrete Pavement THK: 0 MM
Lean Concrete THK: 0 MM

IMPORT FROM AUTOCAD / EXCEL

○ AutoCAD _____ Browse
⊙ Excel D:\Road Estimate Browse

Import

Calculate Earthwork Quantities   Print   Save

Read Me   Exit

Import from AutoCAD :

The G.L and F.L values should be entered in Grid Format.
Draw the Grid in AutoCAD as shown below.
The Grid should be drawn to scale in the Layer "GRID".
Every Horizontal and Vertical Line should be a complete line and not broken at an intersection.
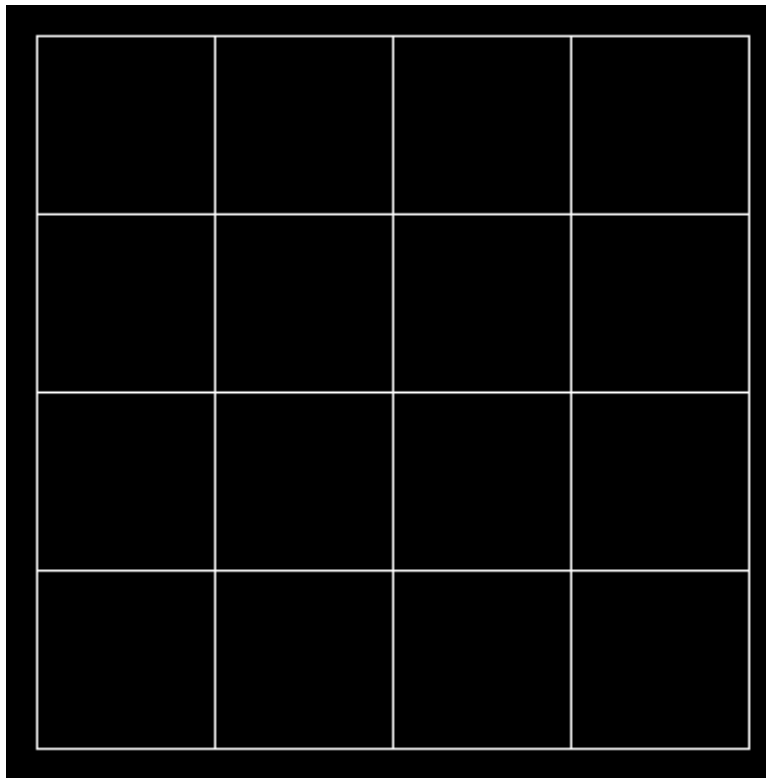
Next Draw the G.L text at every Grid Intersection in the Layer "G.L".
Next Draw the F.L text at every Grid Intersection in the Layer "F.L".
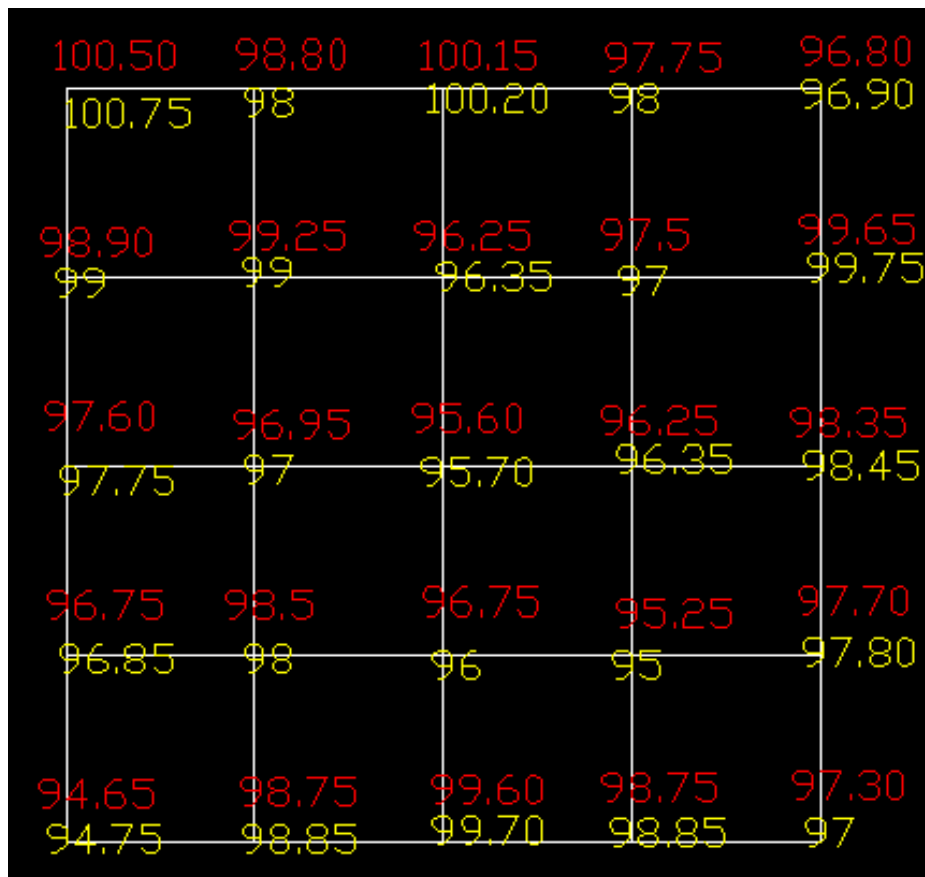
Next Save the AutoCAD Drawing in dxf Format.

In order to import the G.L and F.L at various x and y distances select AutoCAD from Import from Autocad/ Excel option as shown below.

Next Click on Browse to select the dxf File.
Click on Import.
The X, Y, G.L and F.L values will be displayed in the G.L & F.L tab.

AUTO CREATION OF G.L AND F.L TABLE :

To Auto Generate the G.L and F.L Table.
Enter the X and Y Interval, Start X, Start Y, End X & End Y Values in Metres (M).
Next, Click on Create Table Button.
The Table Containing the X and Y Coordinates will be Auto Generted as shown below.
The Existing Data will be overwitten.

Next the G.L and F.L data may be entered.

DATA ENTRY ERROR :

If an Error as shown below is Generated, mentioning "Data at an X, Y interval is missing".

It indicates that either the Data is missing or not an extra Data is entered between the Given X, Y Inetrvals, which does not correspond to the Fixed Grid Intervals.

In the Example Below Data, at X = 0 and Y = 15 is missing

In the Example below, Extra Data (0, 17) is entered between fixed interval points (0, 15 and 0, 20),
Hence an Error of Missing data at X = 0 and Y = 20, will be generated.

Grid Data

X Interval: 5   Y Interval: 5   Start X: 0   Start Y: 0   End X: 20   End Y: 20   Create Table   Datum: 94

GL & FL | L Section Quantities | X Section Quantities | Road Thickness Quantities

X Coordinate	Y Coordinate	G.L (M)	F.L (M)
0	0	94.65	94.75
0	5	96.75	96.85
0	10	97.6	97.75
0	15	98.9	99
0	17	96.8	96.9
0	20		
5	0		
5	5		
5	10		
5	15		
5	20	98.8	98

Road Estimate ☒

Error : Data at X = 0 and Y = 20 Not Found!

OK

Next Enter the Pavement Width and Thickness Details for Rigid / Flexible Pavement.

EARTHWORK QUANTITIES

Grid Data
X Interval: 5   Y Interval: 5   Start X: 0   Start Y: 0   End X: 20   End Y: 20   [Create Table]   Datum: 94

GL & FL | L Section Quantities | X Section Quantities | Road Thickness Quantities

X Coordinate	Y Coordinate	G.L (M)	F.L (M)
0	0	94.65	94.75
0	5	96.75	96.85
0	10	97.6	97.75
0	15	98.9	99
0	20	100.5	100.75
5	0	98.75	98.85
5	5	98.5	98
5	10	96.95	97
5	15	99.25	99
5	20	98.8	98
10	0	99.6	99.7

Pavement Width: 20 M

PROFILE CORRECTION
○ Cut = Fill

○ Limit Fill Deficit To: _____ M3

○ Limit Excess Cut To: _____ M3

[Calculate FL]

FLEXIBLE PAVEMENT
Bituminous Surfacing THK: 100 MM
Granular Base / WBM THK: 250 MM
Granular Sub Base THK: 290 MM

RIGID PAVEMENT
Concrete Pavement THK: 0 MM
Lean Concrete THK: 0 MM

IMPORT FROM AUTOCAD / EXCEL
○ AutoCAD [_____] [Browse]
○ Excel [_____] [Browse]
[Import]

[Calculate Earthwork Quantities]   [Print] [Save]
[Read Me] [Exit]

Next, To calculate Earthwork Quantities Click on Calculate Earthwork Quantities Button.

Road Estimate

Quantity Calculations Complete.
L & X Section AutoCAD Drawing saved as D:\Road Estimate_New\Files\test_sec.scr

[OK]

View the L & X Section Quantties in the L Section & X Section Quantities Tab

L Section Quantites:
The L section quantities shows Average Quantiites at Mid Y Value.

	At Chainage	From (M)	To (M)	Cut Area (M2)	Fill Area (M2)	Cut Volume (M3)	Fill Volume (M3)
▶	10	0	5	0	2.625	11.251	4.687
	10	10	15	3.75	1.375	17.709	5.833
	10	15	20	3.75	1.375	8.847	5.409
	10	5	10	5.75	0.5	22.563	3.5
✳							

Total Fill Volume = 19.429 M3   Total Cut Volume = 60.37 M3   Soil Deficit = 0 M3   Excess Soil = 40.941 M3

X Section Quantites:

GL & FL | L Section Quantities | X Section Quantities | Road Thickness Quantities

	At Chainage	From (M)	To (M)	Cut Area (M2)	Fill Area (M2)	Cut Volume (M3)	Fill Volume (M3)
▶	0	0	5	0	0.25	0	1.25
	0	5	10	0	0.25	0	1.562
	0	10	15	0	0.375	0	1.562
	0	15	20	0	0.25	0	2.188
	5	0	5	0	0.5	5.209	0.208
	5	5	10	2.5	0	5.681	0.057
	5	10	15	0	0.25	2.604	0.104
	5	15	20	1.25	0	13.125	0
	10	0	5	0	0.5	8.272	0.147

Total Fill Volume = 17.47 M3   Total Cut Volume = 58.408 M3   Soil Deficit = 0 M3   Excess Soil = 40.938 M3

Road Thickness Quantites:

| GL & FL | L Section Quantities | X Section Quantities | **Road Thickness Quantities** |

Length = 20 M

Pavement Width = 20 M

FLEXIBLE PAVEMENT

Bituminous Surfacing Quantity = 40 M3

Granular Base / WBM Quantity = 100 M3

Granular Sub Base Quantity = 116 M3

RIGID PAVEMENT

Concrete Pavement Quantity = 0 M3

Lean Concrete Quantity = 0 M3
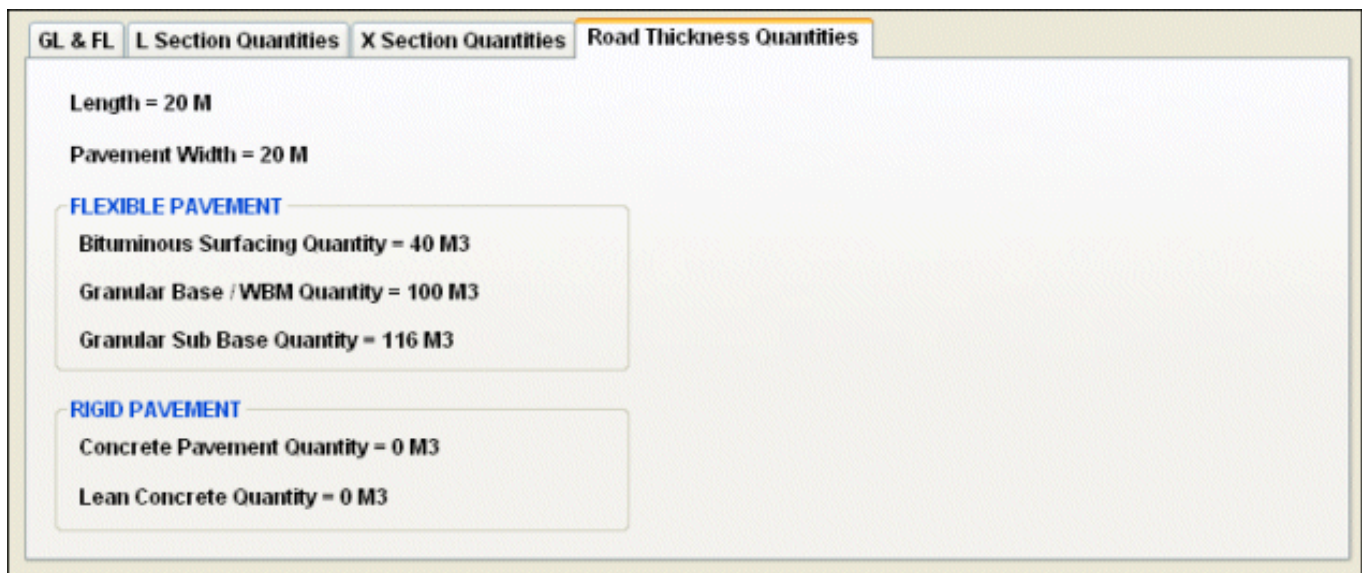
View Longitudnal & Cross Section In AutoCAD:

The AutoCAD Script File is saved in the same Folder as the Project File
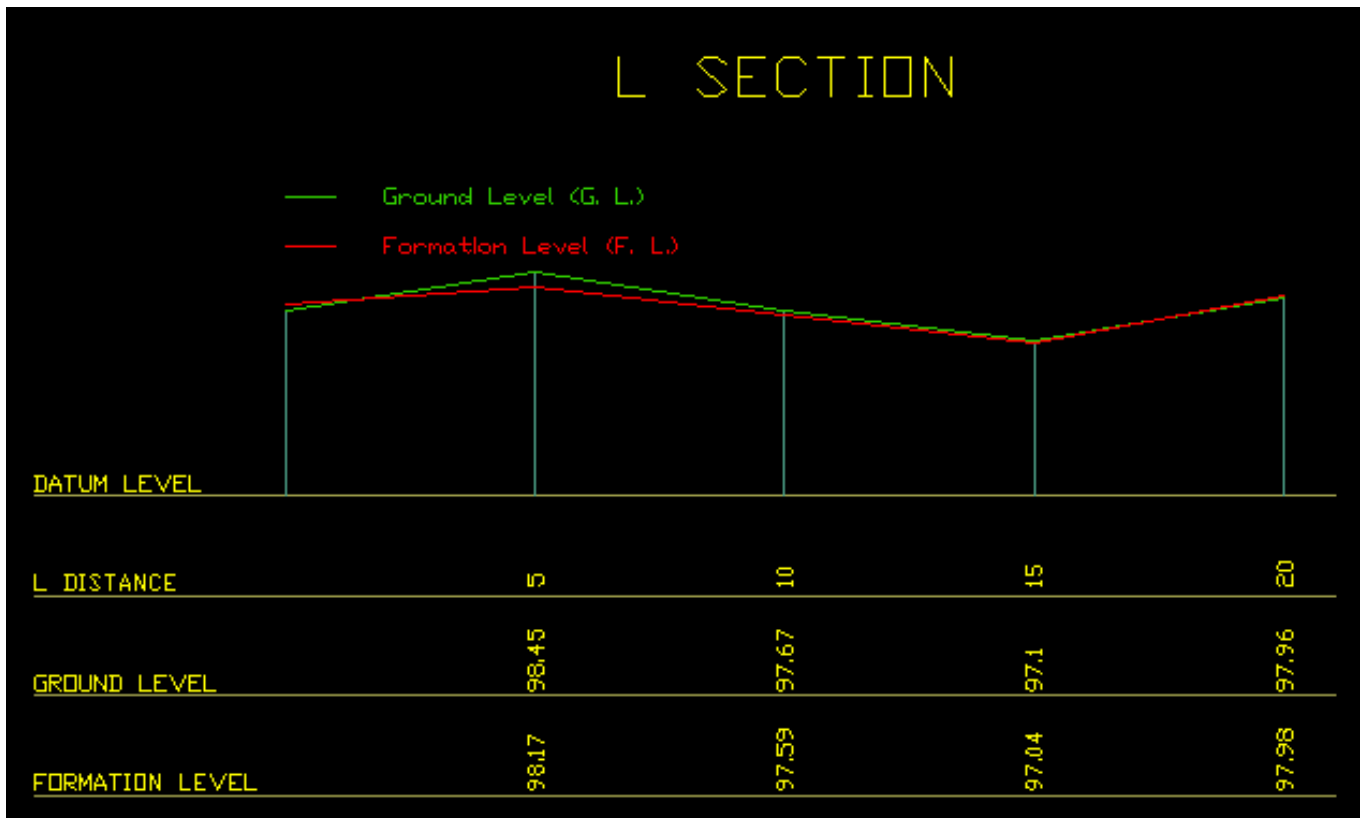
☐ **Start AutoCAD.**
In AutoCAD click on Tools. From the drop down menu click on Run Script.
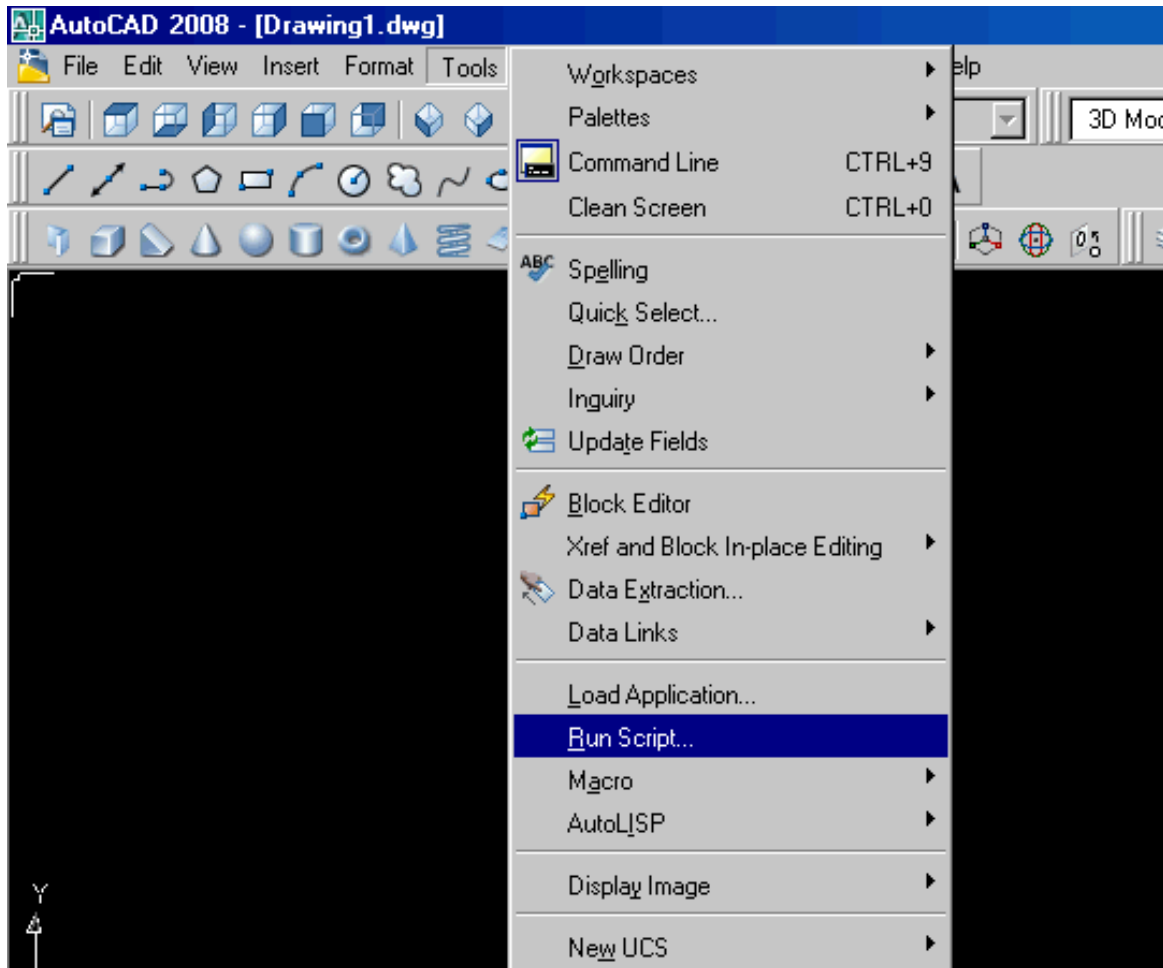
☐ **A window dialogue box appears .**
Click on test.scr and Click on open.
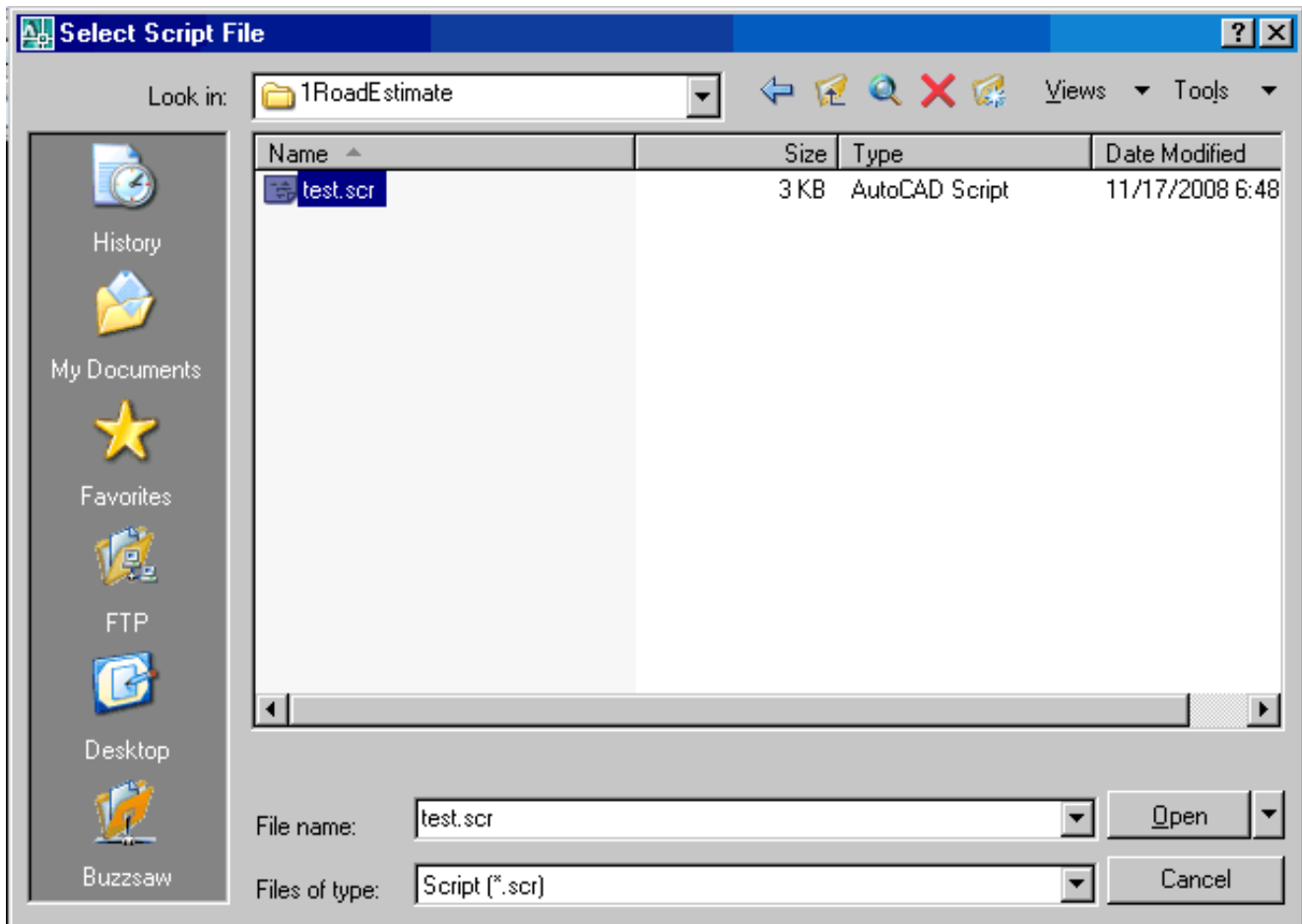
☐ **It will take a few seconds for the script to run, after which the Road Logitudnal & Cross Section will appear in the form of AutoCAD drawing . The display will be as follows.**
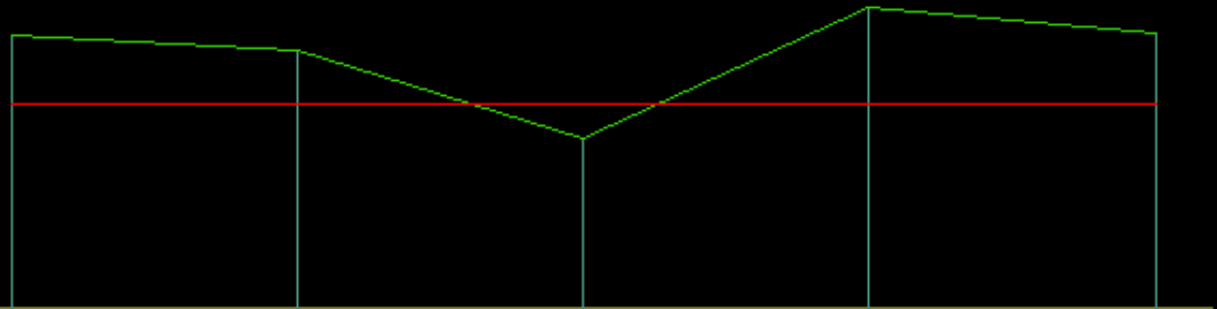
The Corresponding L Section table is also drawn in AutoCAD.

FROM CHAINAGE	TO CHAINAGE	CUT AREA	FILL AREA	CUT VOLUME (M3)	FILL VOLUME (M3)
0	20	4.15	0	22.964	14.963
20	40	0	3.35	0	129.5
40	60	0	9.6	30.52	55.022
60	80	7.15	0	41.563	21.563
80	100	0	5.15	0	106.5
100	120	0	5.5	0.728	49.027
120	140	0.67	0	0.778	45.079
140	160	0	5.1	0	165.5
160	180	0	11.45	7.583	88.583
180	200	3.35	0	17.562	14.463
200	220	0	3.04	0	153.2
220	240	0	12.28	27.4	76.897
240	260	7.33	0	76.7	0
260	280	0.34	0	0.152	69.252
280	300	0	7.25	44.38	33.781
300	320	9.31	0	109.3	0
320	340	2.62	0	17.876	3.876
340	360	0	1.22	0	67.3

Cross Sections are drawn at all Intersections
Shown below is Road Cross Section at chainage = 0

X SECTION AT X = 5

— Ground Level (G. L.)
— Formation Level (F. L.)

DATUM LEVEL

L DISTANCE   5   10   15   20

GROUND LEVEL   98.5   96.95   99.25   98.8

FORMATION LEVEL   97.56   97.56   97.56   97.56

The Corresponding X Section table at that chainage is also drawn in AutoCAD.

FROM CHAINAGE	TO CHAINAGE	CUT AREA	FILL AREA	CUT VOLUME (M3)	FILL VOLUME (M3)
0	5	5.94	0	26.575	0
5	10	4.69	0	7.096	3.02
10	15	0	3.06	15.487	2.035
15	20	8.44	0	36.575	0

**Please note that the above drawing is Editable in AutoCAD.**

The above drawing is drawn in the following layers , they are
1) Formation : It denotes the formation level.
2) Ground : It denotes the ground level.
3) hdist : It denotes the horizontal distance.
4) vdist : It denotes the Vertical distance.
5) texthead : It denotes the text.
The layers can be turned Off / On at any time for convenience.
just go to format option and click on layer from the drop down menu.
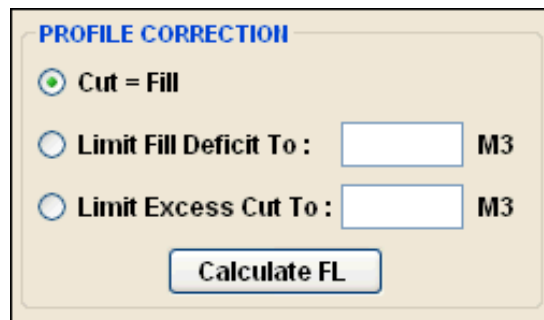**Save the above Drawing in AutoCAD i.e. (.dwg) format**
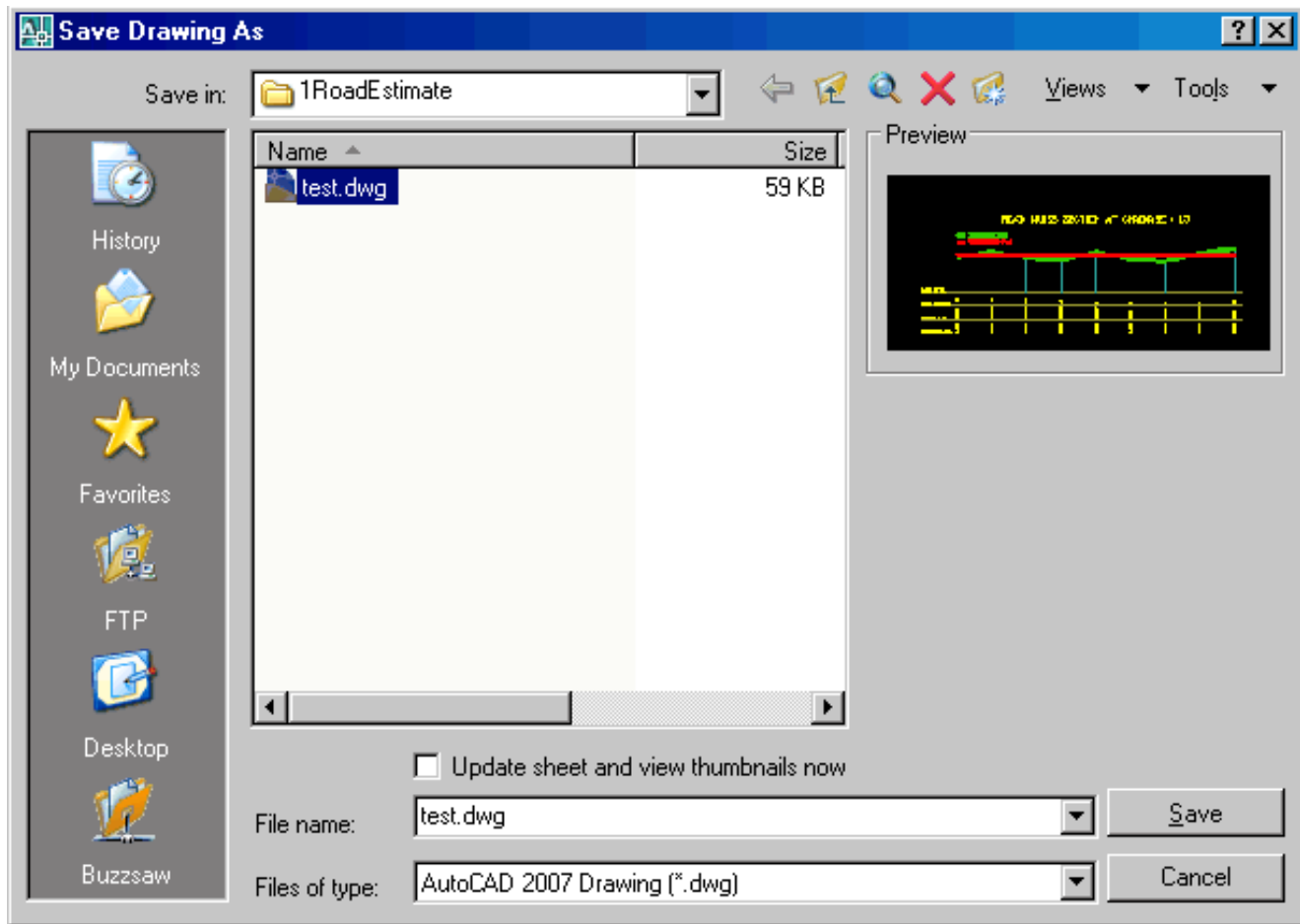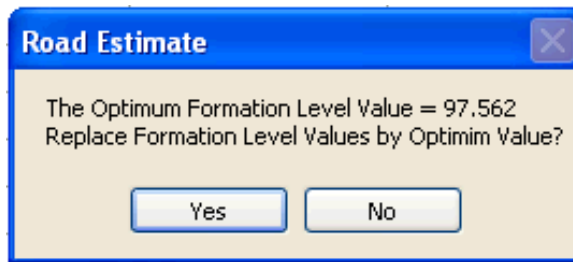
PROFILE CORRECTION :

CUT = FILL

Use this Option to Obtain a Formation Level at which Cut Volume = Fill Volume

To Get the Optimim Formation Level Value at which Cut Volume = Fill Volume ,
select Cut = Fill Option , as shown below

Next, Click on Calculate F.L button.
Following Window is displayed.

Road Estimate

The Optimum Formation Level Value = 97.562
Replace Formation Level Values by Optimim Value?

[Yes]   [No]

If Yes is clicked, the Formation Level Values in the G.L & F.L table will be replaced with the Optimim Values at which Cut = Fill.
Next to calculate the Quantities at the Optimum F.L Click on "Calculate Earthwork Quantities" Button.
As seen below, the L Section quantities show that Cut Volume = Fill Volme.

GL & FL | **L Section Quantities** | X Section Quantities | Road Thickness Quantities

At Chainage	From (M)	To (M)	Cut Area (M2)	Fill Area (M2)	Cut Volume (M3)	Fill Volume (M3)
10	0	5	14.225	11.34	72.39	24.839
10	10	15	11.565	20.43	37.512	97.15
10	15	20	3.44	18.43	35.457	41.655
10	5	10	19.195	3.06	62.23	44.058

Total Fill Volume = 207.702 M3   Total Cut Volume = 207.589 M3   Soil Deficit = 0.113 M3   Excess Soil = 0 M3

Similarly X Section Quantities show that Cut Volume = Fill Volme.

GL & FL | L Section Quantities | **X Section Quantities** | Road Thickness Quantities

At Chainage	From (M)	To (M)	Cut Area (M2)	Fill Area (M2)	Cut Volume (M3)	Fill Volume (M3)
0	0	5	0	7.28	0	23.275
0	5	10	0	2.03	0.011	4.848
0	10	15	0.095	0	8.6	0
0	15	20	3.345	0	26.725	0
5	0	5	5.94	0	26.575	0
5	5	10	4.69	0	7.096	3.02
5	10	15	0	3.06	15.487	2.035
5	15	20	8.44	0	36.575	0
10	0	5	10.19	0	18.215	2.893

Total Fill Volume = 201.292 M3   Total Cut Volume = 201.179 M3   Soil Deficit = 0.113 M3   Excess Soil = 0 M3

LIMIT FILL DEFICIT

Use this Option to Obtain a Formation Level to restrict the Soil Deficit (Fill Volume - Cut Volume) to a particular value.

Let us calculate the Formation Level at which Soil Deficit = 100 M3
To Get the Optimim Formation Level Value at which Soil Deficit = 100 M3 ,
select Limit Fill Deficit Option, and enter the required value in the box, as shown below

PROFILE CORRECTION

- ○ Cut = Fill
- ◉ Limit Fill Deficit To : [100] M3
- ○ Limit Excess Cut To : [ ] M3

[Calculate FL]

Next, Click on Calculate F.L button.
Following Window is displayed.

Road Estimate ☒

The Optimum Formation Level Value = 97.812
Replace Formation Level Values by Optimum Value?

[Yes]   [No]

If Yes is clicked, the Formation Level Values in the G.L & F.L table will be replaced with the Optimim Values at which Soil Deficit = 100 M3
Next to calculate the Quantities at the Optimum F.L Click on "Calculate Earthwork Quantities" Button.
As seen below, the X Section quantities show that Soil Deficit = 100 M3

GL & FL | L Section Quantities | **X Section Quantities** | Road Thickness Quantities

At Chainage	From (M)	To (M)	Cut Area (M2)	Fill Area (M2)	Cut Volume (M3)	Fill Volume (M3)
0	0	5	0	7.905	0	26.4
0	5	10	0	2.655	0	7.962
0	10	15	0	0.53	5.692	0.216
0	15	20	2.72	0	23.6	0
5	0	5	4.69	0	20.325	0
5	5	10	3.44	0	3.817	5.993
5	10	15	0	4.31	11.238	4.038
5	15	20	7.19	0	30.325	0
10	0	5	8.94	0	14.022	4.946

Total Fill Volume = 254.835 M3   Total Cut Volume = 154.72 M3   Soil Deficit = 100.115 M3   Excess Soil = 0 M3

LIMIT EXCESS CUT

Use this Option to Obtain a Formation Level to restrict the Excess Cut Volume (Cut Volume - Fill Volume) to a particular value.

Let us calculate the Formation Level at which Excess Cut = 80 M3
To Get the Optimim Formation Level Value at which Excess Cut = 80 M3 ,
select Limit Excess Cut Option, and enter the required value in the box, as shown below

PROFILE CORRECTION

○ Cut = Fill

○ Limit Fill Deficit To : [   ] M3

◉ Limit Excess Cut To : [80   ] M3

[Calculate FL]

Next, Click on Calculate F.L button.
Following Window is displayed.

Road Estimate   ✕

The Optimum Formation Level Value = 97.362
Replace Formation Level Values by Optimum Value?

[Yes]   [No]

If Yes is clicked, the Formation Level Values in the G.L & F.L table will be replaced with the Optimim Values at which Excess Cut = 80 M3
Next to calculate the Quantities at the Optimum F.L Click on "Calculate Earthwork Quantities" Button.
As seen below, the X Section quantities show that Excess Cut = 80 M3

| GL & FL | L Section Quantities | X Section Quantities | Road Thickness Quantities |

At Chainage	From (M)	To (M)	Cut Area (M2)	Fill Area (M2)	Cut Volume (M3)	Fill Volume (M3)
0	0	5	0	6.78	0	20.775
0	5	10	0	1.53	0.416	2.754
0	10	15	0.595	0	11.1	0
0	15	20	3.845	0	29.225	0
5	0	5	6.94	0	31.575	0
5	5	10	5.69	0	10.444	1.369
5	10	15	0	2.06	19.371	0.923
5	15	20	9.44	0	41.575	0
10	0	5	11.19	0	21.966	1.643

Total Fill Volume = 166.376 M3   Total Cut Volume = 246.257 M3   Soil Deficit = 0 M3   Excess Soil = 79.881 M3

PRINT EARTHWORK QUANTITIES

In order to Print Earthwork Quantities click on Print button.

Main Report			

ORGANIZATION : Super Civil CD **CLIENT ID : y a agboatwala**

PROJECT : XYZ **ROAD ID : RD1**

PRPJECT NO : 8912 **DATE 29/01/2012**

GROUND & FORMATION LEVELS

X Coordinate	Y Coordinate	G.L (M)	F.L (M)
0	0	94.65	94.75
5	0	98.75	98.85
10	0	99.6	99.7
15	0	98.75	98.85
20	0	97.3	97
0	5	96.75	96.85
5	5	98.5	98

Current Page No.: 1   Total Page No.: 5   Zoom Factor: 80%

Exit

ORGANIZATION : Super Civil CD **CLIENT ID :** y a agboatwala

PROJECT : XYZ **ROAD ID : RD1**

PRPJECT NO : 8912 **DATE** 29/01/2012

L SECTION QUANTITIES

Chainage	From (M)	To (M)	Cut Area (M2)	Fill Area (M2)	Cut Volume (M3)	Fill Volume (M3)
10	0	5	0	2.625	11.251	4.687
10	10	15	3.75	1.375	17.709	5.833
10	15	20	3.75	1.375	8.847	5.409
10	5	10	5.75	0.5	22.563	3.5

Total Fill Volume = 19.43 M3

Total Cut Volume = 60.37 M3

Soil Deficit Volume = 0.00 M3

Excess Soil Volume = 40.94 M3

Current Page No.: 3 Total Page No.: 5 Zoom Factor: 80%

Page 3 0f 4 (X Section Quantities)

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