

Concrete Take-Off

Catalog Number 26-1557

Radio Shack®
TRS-80
MICRO
COMPUTER
SYSTEM

Concrete Take-Off is a program that lets you make a complete price listing of materials and labor for the concrete portion of a construction job. The program asks for specifications such as material costs, dimensions, quantity, and labor. All you have to do is type in the answers. First you make a cost file, next you enter the type and amount of concrete elements in a Bill of Quantities. The computer will automatically calculate a final price listing.

Concrete Take-Off

Radio Shack

 A DIVISION OF TANDY CORPORATION
FORT WORTH, TEXAS 76102

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Introduction

Concrete Take-Off is a program that lets you make a complete price listing of materials and labor for the concrete portion of a construction job. It is very easy to operate. The program asks for specifications such as material costs, dimensions, quantity, and labor. All you have to do is type in the answers. First, you will make a Cost File (an itemized list of all the costs in Concrete construction). Next, you will enter the type and amount of Concrete elements in a Bill of Quantities. The computer will then put both of these reports together and automatically calculate a final price listing.

Concrete is adapted from the Orr System of Construction Cost Management. The Orr System is presently used throughout the world by contractors, architects, lenders, and owners in the construction industry.

The program runs on Radio Shack's 32K "Business System":

Level II, 16K TRS-80

Expansion Interface with 16K RAM

TRS-80 Line Printer and Cable

2 Mini Disk Drives

Getting Started

Diskettes can be damaged through contact with magnetic fields, mishandling, etc. To insure against loss of your program, before you begin running Concrete Take-Off, you should make a copy (Backup) of your Program diskette, and file it in a safe place. You must also prepare (Format) a blank diskette, which will be used to store your data. If you are not familiar with "Backup" and "Format" functions, refer to Appendices A and B in the back of this manual for detailed instructions.

Follow these steps in exact order:

1. Turn on the Disk Drives, printer, video display, and the Expansion Interface.
2. Insert the Backup copy of the "Concrete" Disk in Drive #0.

Note: Line Printer III Users.

This program requires that you use the LP3/CMD Program, supplied with the Line Printer III before you use Concrete Take-Off. Follow the instructions for turning on the system, except use the LP3 diskette in Drive 0. When DOS READY appears, type **LP3** and press **ENTER**. When the red light on the Disk Drive goes off, remove the LP3 diskette and insert the Concrete diskette. You are now ready to continue with the rest of the program. You must load LP3, using the above instructions, each time you run the program.

3. Insert your Data diskette in Drive #1.
4. Turn on the TRS-80 keyboard.

The screen will show:

This is what you type:

DOS READY

BASIC and press **ENTER**

HOW MANY FILES?_

press **ENTER**

MEMORY SIZE?_

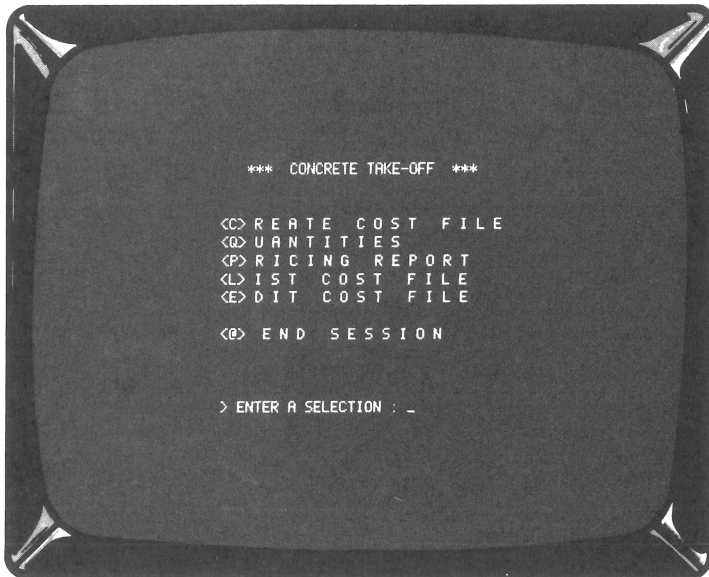
press **ENTER**

READY_

RUN"CONCRETE" and
press **ENTER**

The Computer's Table of Contents

The screen will show:



This is the Main Menu. The Main Menu is like a table of contents for the program. Don't worry about all the options now. We will go through them one at a time. The first is (C)REATE COST FILE.

Create Cost File

You will now create a list of material and labor costs for a project. You can change this list at any time.

Press **C** .

On page 29 of this manual there is a sample Cost File. Use the information there to create a practice Cost File of your own. The figures under Man-Hours and Waste Fraction are standard industry amounts. The other figures are only samples.

Program Options (continued)

First Series of Questions

```

                                     MATERIAL   WASTE
                                     UNIT COST   FRACTION
-----
2000# CONCRETE (CY) .....
2500# CONCRETE (CY) .....
3000# CONCRETE (CY) .....
3500# CONCRETE (CY) .....
4000# CONCRETE (CY) .....
REINFORCING BAR (LB) .....
```

This is the first of ten series of questions about different cost factors in Concrete. In this first series, there are six questions, each in two parts. Type the answers for each.

The first entry is Cost Per Unit of Measure. Concrete is measured in cubic yards. Reinforcement is in pounds. Each question tells what measure to use:

(CY) — Cubic Yards

(SF) — Square Feet

(LB) — Pounds of Reinforcement

The second entry is the Waste Fraction. This is how much is wasted (in decimal form) per unit of measure (i.e., How much of a cubic yard of concrete is wasted during construction?)

The first question concerns Class 2000 Concrete. Look at the sample Cost File (Appendix D). In this example, the cost is \$32.30 per cubic yard. The cost is listed in the column under Material. The Waste Fraction is 0.5%.

2000# CONCRETE_ _ _

Material Cost

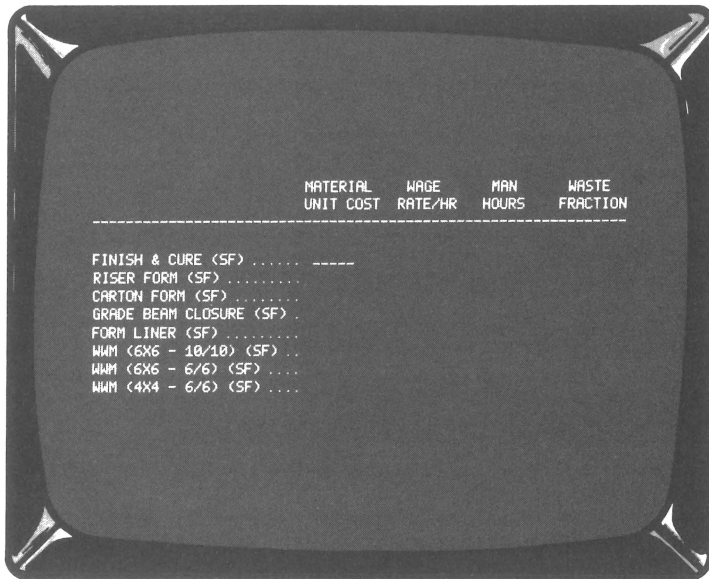
type **32.30** , and press **ENTER**

Waste Fraction

type **0.5** , and press **ENTER**

Now finish the other questions in the series in the same manner, using the sample Cost File. When you have finished, the program will automatically move to the Second Series of Questions.

Second Series of Questions



	MATERIAL UNIT COST	WAGE RATE/HR	MAN HOURS	WASTE FRACTION
FINISH & CURE (SF)	0.04	10.07	.01	
RISER FORM (SF)				
CARTON FORM (SF)				
GRADE BEAM CLOSURE (SF) ..				
FORM LINER (SF)				
WMH (6X6 - 10/10) (SF) ..				
WMH (6X6 - 6/6) (SF)				
WMH (4X4 - 6/6) (SF)				

Questions 7-10 require three entries. The first is the Material Cost per Unit of Measure. The second entry is the Wage Rate (per hour) for the worker who installs the material. The third entry is the number of Man-Hours required to complete one unit of measure of the task involved.

Look at the sample Cost File. Number 7 is Finish and Cure (measured in square feet). Looking under Material, you can see that the cost is 0.04 per square foot.

Now look at the column under Wage Rate. Notice that the Wage Rate for this operation is 10.07 per hour.

Now look at the column under Man-Hours. You can see that it takes .01 hours to complete one square foot.

Enter the information for Finish and Cure.

Questions 8-10 require the same three entries. Complete these questions.

Questions 11-14 require four entries, including the Waste Fraction. Finish questions 11-14.

Program Options (continued)

Third Series of Questions

	WAGE RATE/HR	MAN HOURS
LINE & GRADE (SF)	-----	
HAND EXCAVATION (CY)		
BACK FILL (CY)		
RUB FINISH (SF)		

Questions 15-18 require entries for Wage Rate and Man-Hours. Complete these questions.

Fourth Series of Questions

	WAGE RATE/HR	MAN HOURS
GRADE BEAM	-----	
FOOTING, REAT EX		
FOOTING, FORMED		
SPOT FOOTING		
RECTANGULAR PIER		
DRILLED PIER		
PIER BELL ONLY		
FOUNDATION WALL		

** ENTER VALUES FOR PLACING CONCRETE (PER CUBIC YARD) **

Questions 19-26 require entries for Wage Rate and Man-Hours. Complete these questions.

Fifth Series of Questions

	WAGE RATE/HR	MAN HOURS
GRADE BEAM	-----	
FOOTING, NEAT EX		
FOOTING, FORMED		
SPOT FOOTING		
RECTANGULAR PIER		
DRILLED PIER		
FOUNDATION WALL		

** ENTER VALUES FOR PLACING REINFORCING BAR (PER LB) **

Questions 27-33 also require entries for Wage Rate and Man-Hours. Complete these questions.

Sixth Series of Questions

	WAGE RATE/HR	MAN HOURS
STRUCTURAL BEAM	-----	
SQUARE COLUMN		
ROUND COLUMN		
SLAB ON GRADE		
STRUCTURAL SLAB		

** ENTER VALUES FOR PLACING REINFORCING BAR (PER LB) **

Questions 34-39 also require entries for Wage Rate and Man-Hours. Complete these questions.

Program Options (continued)

Seventh Series of Questions

	WAGE RATE/HR	MAN HOURS
STRUCTURAL BEAM	-----	
SQUARE COLUMN		
ROUND COLUMN		
SLAB ON GRADE		
TOPPING		
STRUCTURAL SLAB		

** ENTER VALUES FOR PLACING CONCRETE (PER CUBIC YARD) **

Questions 40-44 also require entries for Wage Rate and Man-Hours. Complete these questions.

Eighth Series of Questions

	MATERIAL UNIT COST	MAN HOURS	WAGE RATE/HR	WASTE FRACTION
SANDBLASTING (SF) ..	-----			
CUSHION (CY)				
VP-BAR (SF)				

Questions 45-47 require all four entries: Material Cost, Man-Hours, Wage Rate, and Waste Fraction. Complete these questions.

Ninth Series of Questions

	MATERIAL UNIT COST	MAN HOURS	WAGE RATE/HR
SB BOTTOM FORM (SF)	-----		
SS BOTTOM FORM (SF)			
WS BOTTOM FORM (SF)			
PS BOTTOM FORM (SF)			
ST BOTTOM FORM (SF)			

Questions 48-52 need three entries: Material Cost, Man-Hours, and Wage Rate. Complete these questions.

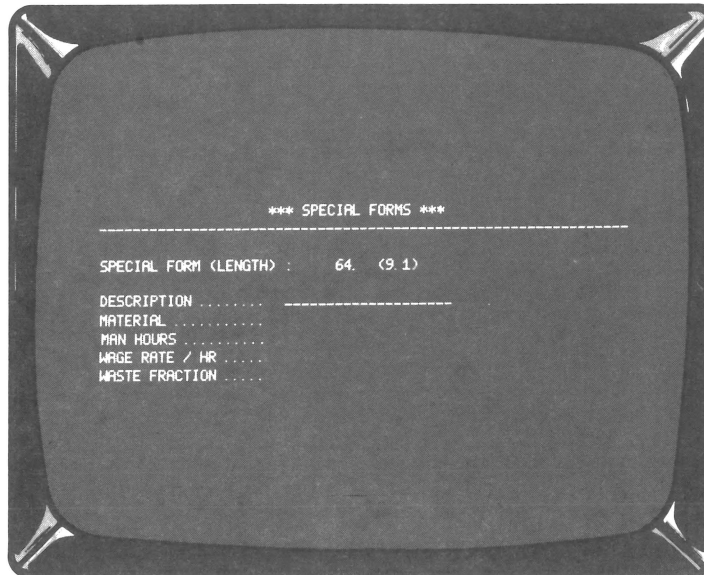
Tenth Series of Questions

	MATERIAL UNIT COST	MAN HOURS	WAGE RATE/HR
GB SIDE FORM (SF)	-----		
FF SIDE FORM (SF)			
SF SIDE FORM (SF)			
RP SIDE FORM (SF)			
FW SIDE FORM (SF)			
SB SIDE FORM (SF)			
SG SIDE FORM (SF)			
SC SIDE FORM (SF)			
RC SIDE FORM (SF)			
SS SIDE FORM (SF)			
ST SIDE FORM (SF)			

Questions 50-63 also require entries for Material Cost, Man-Hours, and Wage Rate. Complete these questions.

Special Forms

After the Tenth Series of Questions is completed, the first of Special Forms options will appear:



```
*** SPECIAL FORMS ***
-----
SPECIAL FORM (LENGTH) : 64. (9.1)
DESCRIPTION .....
MATERIAL .....
MAN HOURS .....
WAGE RATE / HR .....
WASTE FRACTION .....
```

In a particular project, you may have special forming requirements. For example, you may need to include the cost of installing Key Way forming in a foundation wall. When you calculate the total cost of the foundation wall you include the cost of this special forming technique as an option. The cost of special forming options are calculated based on either linear feet (length), width, or height of the element.

Options 9.1 through 9.3 use the total calculated linear footage of the special forming technique. Enter a description of the task (20 letters maximum, including spaces) and press **[ENTER]**. The program then requests information for the task. To include Key Way forming in a foundation wall, you would use 9.1 as a Special Form. This would add the cost of the forming to the foundation wall, based on the length of the wall.

Options 9.4 through 9.6 use the total calculated width of the form type when calculating the cost of the form.

Options 9.7 through 9.9 use the total calculated height of the form type.

If you have no Special Forms, simply press **[ENTER]** to skip over each one. We are not including any on our sample Cost File, so go ahead and complete them by pressing **[ENTER]** for each question.

After the last Special Form, the Main Menu will return to the screen.

(L)ist Cost File

This option allows you to print the Cost File you have just created.

Press **[L]**.

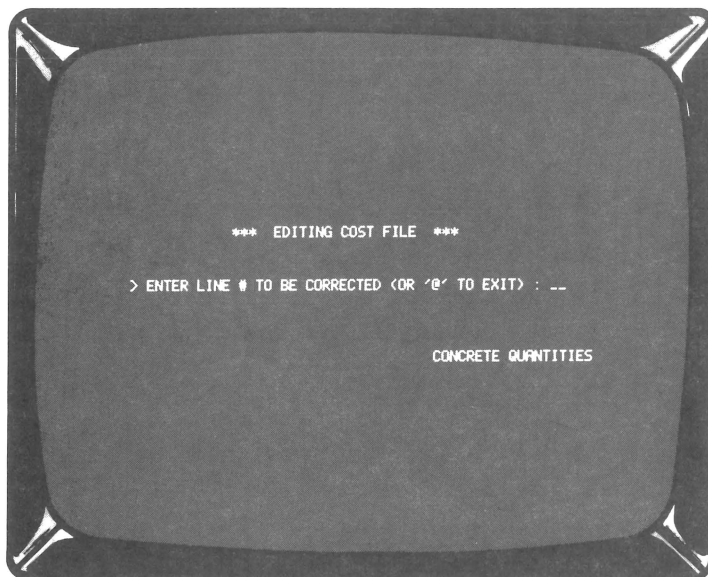
When the printing has finished, the program will return to the Main Menu. Compare the report to your sample Cost File. If there are any errors, you can correct them with (E)dit Cost File.

(E)dit Cost File

This allows you to change any of the entries you put in the Cost File.

Press **[E]**.

The screen will show:



Look at your Cost File printout. Each line is numbered. If you want to correct anything, simply type the line number. For example, if you wished to change the Wage Rate involved in installing the grade beam, you would find Grade Beam on the Cost File. Grade Beam is on line 19.

Type **[1][9]** and press **[ENTER]**.

Program Options (continued)

You must enter all four items on the display. If there is no need to change one of them, just press **ENTER**. If you wanted to change the Wage Rate, then you would type the correct amount and press **ENTER**. After the corrections have been made, you will be asked for a new line number.

If you have more editing, type the line number and follow the procedures described above.

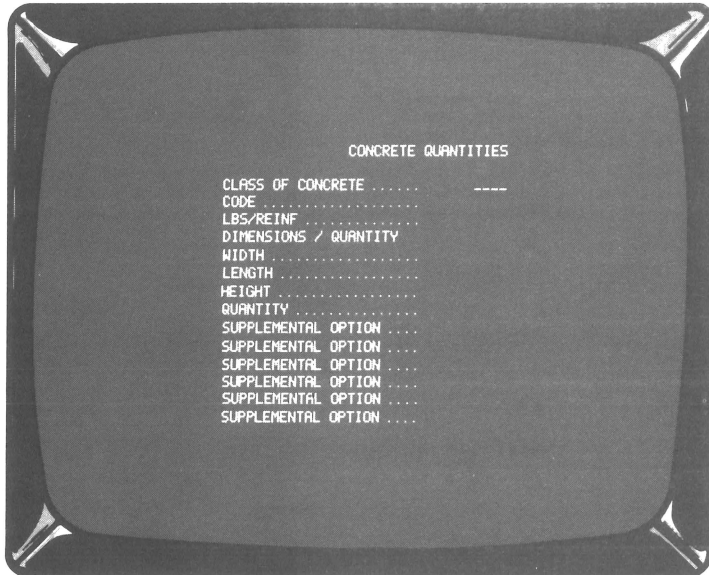
When you finish editing, type **@** and press **ENTER**. You will now return to the Main Menu.

(Q)uantities

You will now make a list of foundation Quantities. Make sure your printer is turned on.

Press **Q**.

The screen will show:



Concrete Elements are divided into classes and are designated by number codes. Enter all information for one class of elements before you go on to the next class.

On page 30 there is a sample Quantities Report. Use the sample printout as a guide, for practice.

The first Class of Concrete listed is Class 2000. 2000 is the lowest number of the classes. You must start with the lowest number and work up.

CLASS OF CONCRETE _ _ _ _ type **2000** and press **ENTER**.

The Concrete Elements are coded, so you will not have to type the full names. Page 34 has the list of Concrete Codes. Select the elements you want to include in the Quantities list and type the Code names. For example, the code for "Grade Beam" is "GB".

CODE _ _ _ _ type **GB** and press **ENTER**.

Enter the information for the Grade Beam requested by the program.

Program Options (continued)

The first question asks for Weight of Reinforcement. This is the weight of the reinforcing bar in pounds per cubic foot.

In our example, the Grade Beam has 2 pounds of reinforcing bar per cubic foot.

LBS/REINFORCEMENT _ _ _ _ type **2** and press **ENTER**

The next question asks for the element's dimensions. The first dimension is Width. Give the width of the element in feet.

In our example, for Grade Beam, the width is 1 foot.

WIDTH _ _ _ _ type **1** and press **ENTER**

The other two dimensions are Length and Height.

For our example, the length of the Grade Beam is 20 feet and the height is 1 foot.
.33 FEET.

LENGTH _ _ _ _ type **20** and press **ENTER**

HEIGHT _ _ _ _ type **1** and press **ENTER**

Note: Two exceptions to the above are the "drilled pier" and "pier bell". For each of these, the dimensions are:

Drilled Pier Width = Pier Diameter

Length = Height

Height = Zero

Pier Bell Width = Pier Diameter

Length = Bell Diameter

Height = Zero

For each of these, substitute the dimensions given here for the dimensions asked for by the program.

The next question asks for the quantity.

For our example, there are 10 Grade Beams to be used.

QUANTITY _ _ _ _ type **10** and press **ENTER**

Supplemental Options

At times, in foundation construction, there are special requirements for a particular element of Concrete (Sandblasting, Rub Finish, etc.). If there are, they can be included as Supplemental Options. Supplemental Options and their Codes.

Not all options will apply to every element. On page 36 you will find a list of elements and the options that may be used.

Notice that in our sample Quantities listing, Grade Beam has five options. The first is 1.1. On the list of the Supplemental Options you will see that 1.1 is the code for "RUB ONE SIDE".

SUPPLEMENTAL OPTION _ _ _ _ type **1.1** and press **ENTER**

Whenever you need to use these Supplemental Options, you may simply refer to the list.

Now enter the other four Supplemental Options for the example

SUPPLEMENTAL OPTION _ _ _ _ type **2** and press **ENTER**

SUPPLEMENTAL OPTION _ _ _ _ type **3** and press **ENTER**

SUPPLEMENTAL OPTION _ _ _ _ type **4.1** and press **ENTER**

SUPPLEMENTAL OPTION _ _ _ _ type **6** and press **ENTER**

When you have finished, type **@** in the space for the next Supplemental Option and press **ENTER**. This ends the series of questions for this particular element.

SUPPLEMENTAL OPTION _ _ _ _ type **@** and press **ENTER**

The screen will show:

OK? (Y/N)—

The program is asking if all your entries are correct. If they are, press **Y** for "Yes".

The computer will then store all the data and will print that information on the Quantities report. If you have a correction to make, press **N** for "No". The computer will then ignore all the data for that particular element, and start the questions for that element over.

Program Options (continued)

Check all of your entries. If they are correct, press ☒ .

You are ready to enter the information for the next Concrete element on the list of Quantities.

Notice that the next element code in our sample Quantities list is FN. FN is the code for “Footing, Neat”. Enter the information for FN the same way you did for GB.

Changing the Class of Concrete

CODE _ _ _ _ type @ and press **ENTER**

The program will print the total for class 2000.

The next Class of Concrete is Class 2500. The section of the Quantities list with Class 2500 is on page 31.

CLASS OF CONCRETE _ _ _ _ type **2500** and press **ENTER**

Enter the information for Class 2500 in the same manner as you did for Class 2000.

When you have finished, type @ for Class Code, and press **ENTER** .

The section of the Quantities list with Class 3000 is on page 33.

Enter the information for Class 3000.

Note: Three of the elements in our sample 3000 list have some additional questions:

PS (pan slab) — Joist Width

Pan Depth

Pan Width

WS (waffle slab) — Pan Depth

Pan Width

Pan Length

of Domes

ST (stair slab) — Number of Treads

Riser Height

Tread Width

These questions will be shown on the screen off to the right of the other questions.

You will continue in this manner for Classes 3500 and 4000 if you need them in your own work. We will stop here, after 3000, for our example.

Ending the Quantities Section

Once you have finished entering all the information for Class 3000, you are ready to end this section.

CODE _ _ _ _ type **ENTER** and press **ENTER** .

The program will ask for Class of Concrete.

CLASS OF CONCRETE _ _ _ _ type **ENTER** and press **ENTER** .

You will now return to the Main Menu.

(P)ricing

(P)ricing will process the Cost File and the Quantities and produce a final Bill of Quantities. The report includes labor and material costs for each element, Class of Concrete, and a final grand total.

Press **[P]**. The report will begin automatically. When the report has completed, you will return to the Main Menu.

End Session

To end the Concrete Take-Off program, press **[@]**.

The Quantities file will remain intact and you can print as many Pricing reports as you wish.

When you create a new Quantities file, the old one will be replaced by the new one. If you want to keep the old one, make a "Backup" copy of the Data diskette and label it for future reference.

Note: In order to copy diskettes, you must have a diskette that contains the BACKUP command. You can use the TRSDOS 2.3 Diskette (supplied with Drive 0). Once you load the BACKUP function into the computer, the disk may be replaced with the disk you want to copy.

Use this procedure **EXACTLY**:

1. Turn on everything except the TRS-80 keyboard. If this is the first time you've ever used the Radio Shack Disk System, refer to the Disk Operating System Manual for detailed instructions.
2. Insert a new, blank diskette in Drive 1 (farthest from the Interface) with the diskette notch up, label to the right.
3. Close the Drive 1 door.
4. Insert the TRSDOS 2.3 diskette in Drive 0 with the notch up, label facing right, and close the door. (Drive 0 is the first Drive connected to the Interface.)
5. Turn on the TRS-80 keyboard. (The switch on the right rear apron.)

The screen will show:

DOS READY

You will type:

BACKUP and press **ENTER**

Wait until the red light on the Disk Drive goes off. Remove the TRSDOS 2.3 diskette from Drive 0, and place it in its protective sleeve. Insert the diskette you wish to copy in Drive 0 and close the door.

The screen will show:

SOURCE DRIVE?

DESTINATION DRIVE?_

BACKUP DATE (MM/DD/YY)

You will type:

0 and press **ENTER**

1 and press **ENTER**

Today's Date and press **ENTER**

The computer will format the disk and transfer the data to the blank diskette. When it's finished, the screen will show:

HIT 'ENTER' TO CONTINUE

Don't press the **ENTER** key just yet.

Remove the copy diskette from Drive 1 and place it in its protective sleeve. Remove the diskette from Drive 0. You can now replace the TRSDOS 2.3 diskette in Drive 0, close the door, and press **ENTER** to continue.

Appendix B-How To Format Your Data Diskettes

This process prepares blank diskettes for use on the disk system. All data diskettes must be formatted before being used. Here's how you do it:

1 — Insert a blank diskette in Drive #1

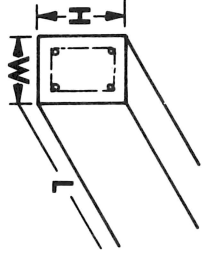
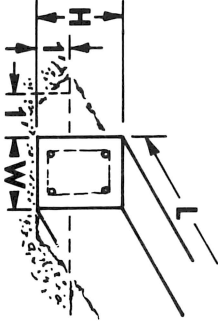
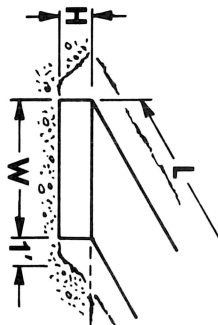
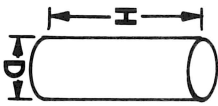
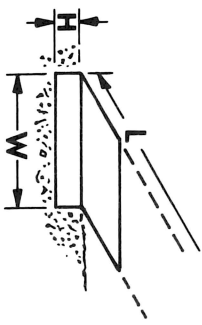
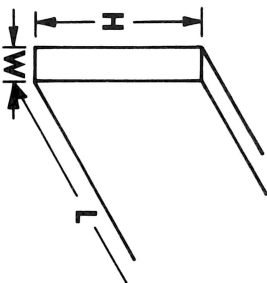
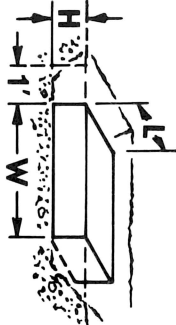
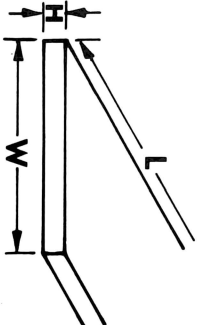
2 — Do the following exactly as shown:

Screen Shows:

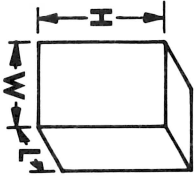
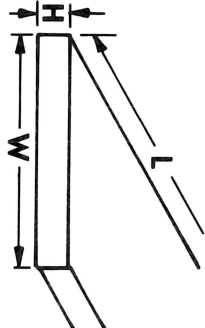
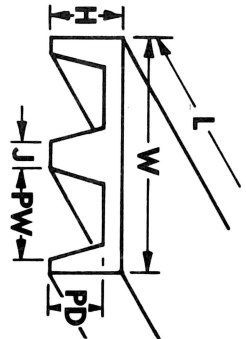
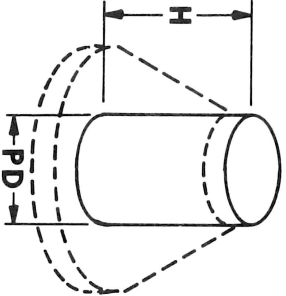
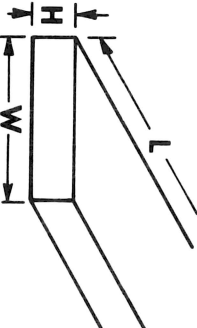
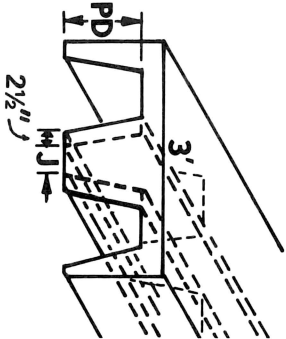
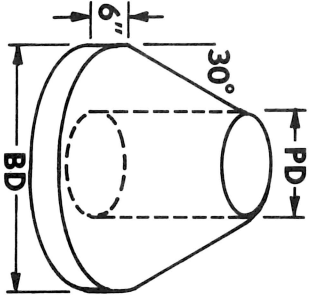
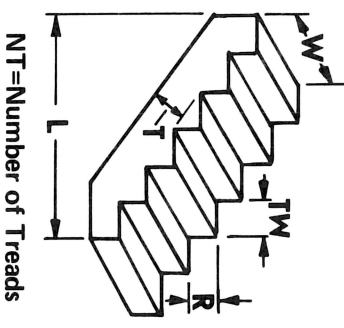
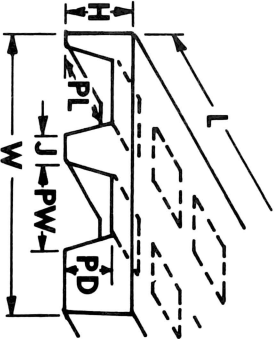
You Type:

DOS READY
WHICH DRIVE etc.
DISKETTE NAME?
CREATION DATE?
MASTER PASSWORD
LOCK OUT ANY TRACKS?
HIT "ENTER" TO CONTINUE

FORMAT	press	ENTER
1	press	ENTER
DATA79	press	ENTER
01/01/79	press	ENTER
PASSWORD	press	ENTER
NO	press	ENTER

Item	Description Code and Order of Input	Item	Description Code and Order of Input	Item	Description Code and Order of Input
	Structural Beam SB Input W, L, H		Grade Beam GB Input W, L, H		Footing, Form FF Input W, L, H
	Round Column RC Input D, H, zero		Footing, Neat FN Input W, L, H		Foundation Wall FW Input W, L, H
	Spot Footing SF Input W, L, H		Topping T Input W, L, H		

Appendix C-Concrete Take-Off Guide (continued)

Item	Description Code and Order of Input	Item	Description Code and Order of Input	Item	Description Code and Order of Input
	Rectangular Pier RP Input W, L, H		Structural Slab SS Input W, L, H		Pan Slab PS Input W, L, H, J, PD, PW
	Drilled Pier DP Input PD, H, zero		Slab on Grade SG Input W, L, H		Pan Tapers PT Input zero, N1, PD
	Pier Ball PB Input PD, BD, zero		Stair Slab ST Input W, L, T, NT, R, TW		Waffle Slab WS Input W, L, H PL, PD, PW, ND

Appendix D-Sample Cost File

*** CONCRETE COST FILE ***

NO.	DESCRIPTION	UNIT MEAS	LABOR COST	MATERIAL COST	MAN-HOURS	WAGE RATE PER HOUR	WASTE FRACTION
1.	2000# CONCRETE	(CY)	0.0000	32.300	0.0000	0.0000	0.0500
2.	2500# CONCRETE	(CY)	0.0000	34.400	0.0000	0.0000	0.0500
3.	3000# CONCRETE	(CY)	0.0000	36.500	0.0000	0.0000	0.0500
4.	3500# CONCRETE	(CY)	0.0000	37.500	0.0000	0.0000	0.0500
5.	4000# CONCRETE	(CY)	0.0000	38.600	0.0000	0.0000	0.0500
6.	REINFORCING BAR	(LB)	0.0000	0.160	0.0000	0.0000	0.0500
7.	FINISH & CURE	(SF)	0.1007	0.040	0.0100	10.0700	0.0000
8.	RISER FORM	(SF)	0.8964	0.550	0.0900	9.9600	0.0000
9.	CARTON FORM	(SF)	0.2490	0.450	0.0250	9.9600	0.0000
10.	GRADE BEAM CLOSURE	(SF)	0.8964	0.800	0.0900	9.9600	0.0000
11.	FORM LINER	(SF)	0.4980	0.450	0.0500	9.9600	0.0500
12.	WMM 6X6-10/10	(SF)	0.0210	0.060	0.0020	10.5000	0.0500
13.	WMM 6X6-6/6	(SF)	0.0315	0.090	0.0030	10.5000	0.0500
14.	WMM 4X4-6/6	(SF)	0.0315	0.120	0.0030	10.5000	0.0500
15.	LINE & GRADE	(SF)	0.0727	0.000	0.0100	7.2700	0.0000
16.	HAND EXCAVATION	(CY)	10.6869	0.000	1.4700	7.2700	0.0000
17.	BACK FILL	(CY)	7.6335	0.000	1.0500	7.2700	0.0000
18.	RUB FINISH	(SF)	0.3021	0.000	0.0300	10.0700	0.0000
19.	GRADE BEAM (PL CONC)	(CY)	7.2000	0.000	0.9000	8.0000	0.0000
20.	FOOTING, NEAT EX (PL CONC)	(CY)	4.0000	0.000	0.5000	8.0000	0.0000
21.	FOOTING, FORMED (PL CONC)	(CY)	5.6000	0.000	0.7000	8.0000	0.0000
22.	SPOT FOOTING (PL CONC)	(CY)	5.6000	0.000	0.7000	8.0000	0.0000
23.	RECTANGULAR PIER (PL CONC)	(CY)	11.2000	0.000	1.4000	8.0000	0.0000
24.	DRILLED PIER (PL CONC)	(CY)	4.0000	0.000	0.5000	8.0000	0.0000
25.	PIER BELL ONLY (PL CONC)	(CY)	4.0000	0.000	0.5000	8.0000	0.0000
26.	FOUNDATION WALL (PL CONC)	(CY)	8.0000	0.000	1.0000	8.0000	0.0000
27.	GRADE BEAM (PL REBAR)	(LB)	0.0860	0.000	0.0080	10.7500	0.0000
28.	FOOTING, NEAT EX (PL REBAR)	(LB)	0.0860	0.000	0.0080	10.7500	0.0000
29.	FOOTING, FORMED (PL REBAR)	(LB)	0.0860	0.000	0.0080	10.7500	0.0000
30.	SPOT FOOTING (PL REBAR)	(LB)	0.0860	0.000	0.0080	10.7500	0.0000
31.	RECTANGULAR PIER (PL REBAR)	(LB)	0.0860	0.000	0.0080	10.7500	0.0000
32.	DRILLED PIER (PL REBAR)	(LB)	0.0860	0.000	0.0080	10.7500	0.0000
33.	FOUNDATION WALL (PL REBAR)	(LB)	0.0860	0.000	0.0080	10.7500	0.0000
34.	STRUCTURAL BEAM (PL CONC)	(CY)	6.4000	0.000	0.8000	8.0000	0.0000
35.	SQUARE COLUMN (PL CONC)	(CY)	11.2000	0.000	1.4000	8.0000	0.0000
36.	ROUND COLUMN (PL CONC)	(CY)	11.2000	0.000	1.4000	8.0000	0.0000
37.	SLAB ON GRADE (PL CONC)	(CY)	6.0000	0.000	0.7500	8.0000	0.0000
38.	TOPPING (PL CONC)	(CY)	12.9600	0.000	1.6200	8.0000	0.0000
39.	STRUCTURAL SLAB (PL CONC)	(CY)	6.4000	0.000	0.8000	8.0000	0.0000
40.	STRUCTURAL BEAM (PL REBAR)	(LB)	0.1075	0.000	0.0100	10.7500	0.0000
41.	SQUARE COLUMN (PL REBAR)	(LB)	0.0968	0.000	0.0090	10.7500	0.0000
42.	ROUND COLUMN (PL REBAR)	(LB)	0.0968	0.000	0.0090	10.7500	0.0000
43.	SLAB ON GRADE (PL REBAR)	(LB)	0.0860	0.000	0.0080	10.7500	0.0000
44.	STRUCTURAL SLAB (PL REBAR)	(LB)	0.0860	0.000	0.0080	10.7500	0.0000
45.	SANDBLASTING	(SF)	0.3098	0.200	0.0350	8.8500	0.0000
46.	CUSHION	(CY)	5.8887	5.000	0.8100	7.2700	0.0000
47.	VP-BAR	(SF)	0.0080	0.020	0.0010	8.0000	0.0500

Appendix E-Quantities Report

***** CONCRETE CLASS : 2000

CLASS CODE	REINF.	LBS		DIMENSIONS		QTY	SUPPLEMENTAL OPTIONS					
		WIDTH	LENGTH	HEIGHT			1	2	3	4	5	6
2000	GB	2.00	1.00	20.00	1.00	10	1.1	2.0	3.0	4.1	6.0	0.0
2000	FN	0.83	2.33	125.00	0.83	1	0.0	0.0	0.0	0.0	0.0	0.0
2000	FF	15.00	3.00	100.00	1.25	1	0.0	0.0	0.0	0.0	0.0	0.0
2000	SF	1.80	2.50	2.50	133.00	12	0.0	0.0	0.0	0.0	0.0	0.0

=====

TOTALS FOR CLASS 2000 BY CODE :

CODES :	GB	FN	FF	SF
VOL (CY)	7.41	8.95	13.89	369.44
REINF (#)AV	400.00	200.64	5625.00	17955.00
FIN&CU (sf)	200.00	0.00	300.00	75.00
SID-FM (SF)	400.00	0.00	250.00	15960.00
LIN&GR (SF)	200.00	291.25	300.00	75.00
HND-EX (CY)	9.26	8.95	23.61	1197.00
BKFILL (CY)	1.85	0.00	9.72	827.56
RUB-FN (SF)	200.00	0.00	0.00	0.00
CTN-FM (SF)	200.00	0.00	0.00	0.00
GB-CLO (SF)	400.00	0.00	0.00	0.00
FM-LNR (SF)	200.00	0.00	0.00	0.00

** TOTALS FOR CLASS 2000 **

VOL (CY)	399.69
REINF (#)AV	24180.60
FIN&CU (sf)	575.00
SID-FM (SF)	16610.00
LIN&GR (SF)	866.25
HND-EX (CY)	1238.82
BKFILL (CY)	839.13
RUB-FN (SF)	200.00
CTN-FM (SF)	200.00
GB-CLO (SF)	400.00
FM-LNR (SF)	200.00

Appendix E-Quantities Report (continued)

***** CONCRETE CLASS : 2500

CLASS	CODE	LBS		DIMENSIONS			QTY	SUPPLEMENTAL OPTIONS					
		REINF.	WIDTH	LENGTH	HEIGHT			1	2	3	4	5	6
=====													
2500	RP	2.40	1.33	2.00	4.00		8	0.0	0.0	0.0	0.0	0.0	0.0
2500	DP	3.00	1.50	20.00	0.00		16	0.0	0.0	0.0	0.0	0.0	0.0
2500	PB	0.00	4.00	1.50	0.00		8	0.0	0.0	0.0	0.0	0.0	0.0
2500	FW	2.60	0.67	47.00	7.67		1	1.2	6.0	7.2	0.0	0.0	0.0
2500	SB	3.00	0.83	20.00	1.50		4	1.3	7.3	0.0	0.0	0.0	0.0
2500	SC	3.50	133.00	1.33	8.00		5	1.1	4.1	7.1	0.0	0.0	0.0
2500	RC	3.60	1.33	12.00	0.00		10	1.6	7.6	0.0	0.0	0.0	0.0
2500	SS	2.50	20.00	42.00	0.67		1	1.3	5.1	7.3	0.0	0.0	0.0
2500	SG	0.00	42.50	50.00	0.33		2	5.3	2.0	8.0	0.0	0.0	0.0

=====

TOTALS FOR CLASS 2500 BY CODE :

CODES :	RP	DP	PB	FW	SB	SC	RC	SS

VOL (CY)	3.15	24.09	2.39	8.95	3.69	262.06	6.17	20.84
REINF (#)AV	204.29	1950.93	0.00	627.97	298.80	24764.60	600.18	1407.00
FIN&CU (sf)	21.28	28.27	0.00	31.49	66.40	884.45	13.89	840.00
SID-FM (SF)	213.12	0.00	0.00	720.98	240.00	10746.40	0.00	83.08
BOT-FM (SF)	0.00	0.00	0.00	0.00	66.40	0.00	0.00	840.00
LIN&GR (SF)	0.00	0.00	0.00	31.49	0.00	0.00	0.00	0.00
HND-EX (CY)	0.00	0.00	0.00	86.85	0.00	0.00	0.00	0.00
BKFILL (CY)	0.00	0.00	0.00	77.91	0.00	0.00	0.00	0.00
VP-BAR (SF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RUB-FN (SF)	0.00	0.00	0.00	360.49	120.00	53.20	0.00	28.14
CTN-FM (SF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CUSH (CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SANDBL (SF)	0.00	0.00	0.00	391.98	66.40	53.20	501.40	840.00
FM-LNR (SF)	0.00	0.00	0.00	0.00	0.00	53.20	0.00	0.00
6X6-10/10WWM(SF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	924.00
4X4-6/6WWM(SF)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix E-Quantities Report (continued)

** TOTALS FOR CLASS 2500 **

VOL (CY)	383.28
REINF (#)AV	29853.80
FIN&CU (sf)	6135.79
SID-FM (SF)	12125.70
BOT-FM (SF)	906.40
LIN&GR (SF)	4281.49
HND-EX (CY)	86.85
BKFILL (CY)	77.91
VP-BAR (SF)	4250.00
RUB-FN (SF)	561.83
CTN-FM (SF)	4250.00
CUSH (CY)	2990.74
SANDBL (SF)	1852.98
FM-LNR (SF)	53.20
6X6-10/10WWM(SF)	924.00
4X4-6/6WWM(SF)	4675.00

CODES : SG

VOL (CY)	51.94
REINF (#)AV	0.00
FIN&CU (sf)	4250.00
SID-FM (SF)	122.10
BOT-FM (SF)	0.00
LIN&GR (SF)	4250.00
HND-EX (CY)	0.00
BKFILL (CY)	0.00
VP-BAR (SF)	4250.00
RUB-FN (SF)	0.00
CTN-FM (SF)	4250.00
CUSH (CY)	2990.74
SANDBL (SF)	0.00
FM-LNR (SF)	0.00
6X6-10/10WWM(SF)	0.00
4X4-6/6WWM(SF)	4675.00

Appendix E-Quantities Report (continued)

***** CONCRETE CLASS : 3000

CLASS CODE	REINF.	DIMENSIONS			QTY	SUPPLEMENTAL OPTIONS					
		LBS	WIDTH	LENGTH		1	2	3	4	5	6
3000	TP	0.00	0.83	4.00	0.17	14	5.1	0.0	0.0	0.0	0.0
3000	PS	2.80	50.00	50.00	1.33	1	1.4	5.2	7.4	0.0	0.0
		JOIST WIDTH = 1				PAN DEPTH = 1					
3000	WS	3.20	60.00	40.00	0.50	1	1.5	5.3	7.5	0.0	0.0
		PAN DEPTH = .25				PAN LENGTH = 1 # DOMES = 50					
3000	ST	2.00	4.00	6.00	8.00	1	1.3	5.1	7.3	0.0	0.0
		# TREADS = 16				RISER HEIGHT = .6 TREAD WIDTH = .6					
3000	PT	2.00	0.00	2.00	1.00	5	0.0	0.0	0.0	0.0	0.0

=====

TOTALS FOR CLASS 3000 BY CODE :

CODES :	TP	PS	WS	ST	PT
VOL (CY)	0.29	81.52	44.04	13.84	0.23
REINF (#)AV	0.00	6162.57	3804.66	747.57	12.50
FIN&CU (sf)	46.48	2500.00	2400.00	38.40	0.00
SID-FM (SF)	0.00	0.00	0.00	103.20	0.00
BOT-FM (SF)	0.00	2500.00	2400.00	24.00	0.00
RIS-FM (LF)	0.00	0.00	0.00	64.00	0.00
RUB-FN (SF)	0.00	66.50	20.00	48.00	0.00
SANDBL (SF)	0.00	5000.00	2450.00	24.00	0.00
6X6-10/10WWM(SF)	51.13	0.00	0.00	26.40	0.00
6X6-6/6WWM(SF)	0.00	2750.00	0.00	0.00	0.00
4X4-6/6WWM(SF)	0.00	0.00	2640.00	0.00	0.00

***** TOTALS FOR CLASS 3000 *****

VOL (CY)	139.92
REINF (#)AV	10727.30
FIN&CU (sf)	4984.88
SID-FM (SF)	103.20
BOT-FM (SF)	4924.00
RIS-FM (LF)	64.00
RUB-FN (SF)	134.50
SANDBL (SF)	7474.00
6X6-10/10WWM(SF)	77.53
6X6-6/6WWM(SF)	2750.00
4X4-6/6WWM(SF)	2640.00

Appendix F-Element Codes

Element Codes

Structural Beam	SB
Grade Beam	GB
Square Column	SC
Round Column	RC
Footing, Neat	FN
Footing, Form	FF
Spot Footing	SF
Foundation Wall	FW
Topping	T
Rectangular Pier	RP
Drilled Pier	DP
Pier Bell	PB
Structural Slab	SS
Slab on Grade	SG
Stair Slab	ST
Pan Slab	PS
Pan Tapers	PT
Waffle Slab	WS

Appendix G-Supplemental Options

1.1	Rub One Side	(SF)
1.2	Rub Two Adjacent Sides	(SF)
1.3	Rub Bottom	(SF)
1.4	Rub Bottom-Pan Slab	(SF)
1.5R	Rub Bottom-Waffle Slab	(SF)
1.6	Rub Round Column	(SF)
2	Carton Form	(SF)
3	Grade Beam Closure	(SF)
4.1	Form Liner, One Side	(SF)
5.1	6X6-1 \emptyset /1 \emptyset , Welded Wire Mesh	(SF)
5.2	6X6-6/6, Welded Wire Mesh	(SF)
5.3	4X4-6/6, Welded Wire Mesh	(SF)
6	Depth Excavation	(SF)
7.1	Sandblast, One Side	(SF)
7.2	Sandblast, Two Adjacent Sides	(SF)
7.3	Sandblast, Bottom	(SF)
7.4	Sandblast, Bottom-Pan Slab	(SF)
7.5	Sandblast, Bottom-Waffle Slab	(SF)
7.6	Sandblast, Round Column	(SF)
8	Cushion	(CY)
9.1	Unspecified Option —	(L)
9.2	Calculating the Total	(L)
9.3	LF of Any Special Forming	(L)
9.4	Unspecified Option —	(W)
9.5	Calculating the Total	(W)
9.6	Width of Any Special Forming	(W)
9.7	Unspecified Option —	(H)
9.8	Calculating the Total	(H)
9.9	Height of Any Special Forming	(H)

Appendix H-Supplemental Options Available For Elements

Grade Beam
1.1, 2, 3, 4.1, 6, 7.1

Footing, Neat Exc.
None

Footing, Formed
None

Spot Footing
None

Rectangular Pier
None

Drilled Pier
None

Pier Bell
None

Foundation Wall
1.1, 4.1, 6, 7.1

Structural Beam
1.1, 1.2, 1.3, 4.1
7.1, 7.2, 7.3

Slab On Grade
2, 5.1, 5.2, 5.3, 8

Square Column
1.1, 1.2, 4.1, 7.1, 7.2

Round Column
1.6, 7.6

Structural Slab
1.3, 5.1, 5.2, 5.3, 7.3

Pan Tapers
None

Pan Slab
1.4, 5.1, 5.2, 5.3, 7.4

Waffle Slab
1.5, 5.1, 5.2, 5.3, 7.5

Stair Slab
1.3, 5.1, 5.2, 5.3, 7.3

Topping
5.1, 5.2, 5.3

Program Listings

CONCRETE TAKE - OFF - CONCRETE

PAGE 1

1 ' CONCRETE TAKE-OFF - MAIN MENU - 05/07/79 - 'CONCRETE'
2 ' (C) 1979 TANDY CORPORATION

```
10 CLEAR500:POKE(16425),1:GOTO500
100 IN$="":W$=INKEY$:WD=0:WS=WD:WL%=WD:IFFL=WDTHENFL=1
105 PRINTSTRING$(ABS(FL),CHR$(136));STRING$(ABS(FL),CHR$(24));
110 PRINTCHR$(14);:FORW%=1TO25:W$=INKEY$:IFW$<>" "THEN115ELSENEXT:PRINTCHR$(15);:
    FORW%=1TO25:W$=INKEY$:IFW$<>" "THEN115ELSENEXT:GOTO110
115 IFW$<>CHR$(13)THEN120ELSEPRINTSTRING$(ABS(FL)-WL%," ");
117 PRINTCHR$(15);:W%=25:NEXT:RETURN
120 PRINTCHR$(14);:IFW$=CHR$(24)THENPRINTSTRING$(WL%,CHR$(24));:GOTO100
125 IFW$<>CHR$(8)THEN145ELSEIFWL%=0THEN110ELSEPRINTCHR$(24);:IFFL>0THEN135ELSEIF
    PEEK(16418)=44THEN140
130 IFPEEK(16418)=46THENWD=0:GOTO135ELSEIFPEEK(16418)=43ORPEEK(16418)=45THENWS=0
135 IN$=LEFT$(IN$,LEN(IN$)-1)
140 WL%=WL%-1:POKE16418,136:GOTO110
145 IFABS(FL)=WL%THEN110ELSEIFFL>0THENIFW$>=" "ANDW$<="Z"THEN170
150 IFW$="."ANDWD=0THENWD=1:GOTO170
155 IFW$=","THENPRINTW$;:WL%=WL%+1:GOTO175
160 IF(W$="-"ORW$="+")ANDWS=0ANDWL%=0THENWS=1:GOTO170
165 IFW$<"0"ORW$>"9"THEN110
170 PRINTW$;:IN$=IN$+W$:WL%=WL%+1
175 IFABS(FL)=1THEN117ELSE110
500 CLS:PRINTTAB(11);"*** CONCRETE TAKE-OFF ***"
510 PRINTSTRING$(63,140)
520 PRINT"
```

```
    <C> R E A T E   C O S T   F I L E
    <Q> U A N T I T I E S
    <P> P R I C I N G   R E P O R T
    <L> I S T   C O S T   F I L E
    <E> D I T   C O S T   F I L E
```

```
    <0> E N D   S E S S I O N
```

```
525 IFPEEK(14312)>127THENPRINT@840,"** TURN ON PRINTER **":GOTO525
530 PRINT@840,"> ENTER A SELECTION : ";:FL=1:GOSUB100
540 IFIN$="Q"THENRUN"QUANTITY"
550 IFIN$="C"THENRUN"COST"
560 IFIN$="L"THENGOSUB1000:GOTO500
570 IFIN$="E"THENGOSUB2000:GOTO500
580 IFIN$="P"THENRUN"PRICING"
590 IFIN$<>"0"THEN530ELSECLOSE:END
1000 CLS:PRINTTAB(12);"*** PRINTING COST FILE ***"
1010 OPEN"R",2,"COSTFILE"
1020 FIELD2,42ASJ$,8ASK$,9ASN$(1),9ASN$(2),9ASN$(3),9ASN$(4),9ASN$(5)
1030 LPRINTTAB(30);"*** CONCRETE COST FILE ***":LPRINTCHR$(138)
1035 GOSUB1100
1040 FORX=3TO74:GET2,X:FORY=1TO5:N(Y)=VAL(N$(Y)):NEXT
1045 IFX=50THENLPRINTCHR$(12):GOSUB1100
1050 LPRINTMID$(J$,6,32);MID$(K$,1,4);
```

Program Listings

CONCRETE TAKE - OFF - CONCRETE PAGE 2

```

1055 LPRINTUSING" #####.#### #####.### #####.#### #####.#### #####.####";N(1);
    N(2);N(3);N(4);N(5)
1060 NEXT:LPRINTCHR$(12):CLOSE2:RETURN
1100 LPRINTTAB(32)"UNIT      LABOR      MATERIAL      MAN-HOURS      WAGE RATE      WASTE
1110 LPRINT"NO.  DESCRIPTION";TAB(32);"MEAS      COST      COST      P
    ER HOUR      FRACTION
1120 LPRINTSTRING$(95,"="):LPRINTCHR$(138):RETURN
2000 CLS:PRINTTAB(14);"***  EDITING COST FILE  ***"
2010 PRINTSTRING$(63,140):OPEN"R",2,"COSTFILE"
2015 FIELD2,42ASJ$,8ASK$,9ASL$,9ASN$(0),9ASN$(1),9ASN$(2),9ASN$(3)
2020 PRINT@194,"> ENTER LINE # TO BE CORRECTED (OR 'a' TO EXIT) : ";:FL=2:GOSUB1
    00
2025 IFIN$="a"THENCLOSE2:RETURN
2030 A=VAL(IN$)+2:IFA>74ORA<3THEN2020
2040 GET2,A:PRINT@320,CHR$(31);J$
2045 IF A>65THENPRINT@384,"DESCRIPTION .....
2050 PRINT@448,"MATERIAL .....
    MAN HOURS .....
    WAGE RATE .....
    WASTE .....
2052 PRINT@975,"** PRESS <ENTER> FOR NO CHANGE **";
2054 FORX=0TO3:PRINT@468+X*64,N$(X);:NEXT
2055 IFA<66THEN2060ELSEPRINT@404,;:FL=20:GOSUB100:IFIN$=""THENIN$=J$:GOTO2059
2056 IN$="      "+RIGHT$(STR$(A-2),2)+" .      "+IN$
2059 LSETJ$=IN$
2060 FORX=0TO3:PRINT@484+X*64,;:FL=-6:GOSUB100
2070 IFIN$=""THENIN$=N$(X)
2080 RSETN$(X)=IN$:NEXT
2090 L1=VAL(N$(1))*VAL(N$(2)):RSETL$=STR$(L1)
2100 PUT2,A:GOTO2020

```

Program Listings

CONCRETE TAKE - OFF - QUANTITY

PAGE 1

2 ' "QUANTITY" - VER : 1.0

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```
5 CLEAR1000:CLS:PRINTTAB(15);"*** CONCRETE QUANTITIES ***"
10 DIM M(12),A(33),B(33),O(33,33),I$(33),G$(33),A$(33),B$(33),P(33),Q(33),F1(10)
    ,Z(10)
20 POKE(16425),1:GOTO 1000
100 IN$="":W$=INKEY$:WD=0:WS=WD:WL%=WD:IFFL=WDTHENFL=1
105 PRINTSTRING$(ABS(FL),CHR$(136));STRING$(ABS(FL),CHR$(24));
110 PRINTCHR$(14);:FORW%=1TO25:W$=INKEY$:IFW$<>" "THEN115ELSENEXT:PRINTCHR$(15);:
    FORW%=1TO25:W$=INKEY$:IFW$<>" "THEN115ELSENEXT:GOTO110
115 IFW$<>CHR$(13)THEN120ELSEPRINTSTRING$(ABS(FL)-WL%," ");
117 PRINTCHR$(15);:W%=25:NEXT:RETURN
120 PRINTCHR$(14);:IFW$=CHR$(24)THENPRINTSTRING$(WL%,CHR$(24));:GOTO100
125 IFW$<>CHR$(8)THEN145ELSEIFWL%=0THEN110ELSEPRINTCHR$(24);:IFFL>0THEN135ELSEIF
    PEEK(16418)=44THEN140
130 IFPEEK(16418)=46THENWD=0:GOTO135ELSEIFPEEK(16418)=43ORPEEK(16418)=45THENWS=0
135 IN$=LEFT$(IN$,LEN(IN$)-1)
140 WL%=WL%-1:POKE16418,136:GOTO110
145 IFABS(FL)=WL%THEN110ELSEIFFL>0THENIFW$>=" "ANDW$<="Z"THEN170
150 IFW$="."ANDWD=0THENWD=1:GOTO170
155 IFW$=","THENPRINTW$;:WL%=WL%+1:GOTO175
160 IF(W$="-"ORW$="+")ANDWS=0ANDWL%=0THENWS=1:GOTO170
165 IFW$<"0"ORW$>"9"THEN110
170 PRINTW$;:IN$=IN$+W$:WL%=WL%+1
175 IFABS(FL)=1THEN117ELSE110
1000 LPRINTTAB(38);"CONCRETE QUANTITIES":LPRINTCHR$(138)
1010 LPRINTSTRING$(95,"*"):LPRINTCHR$(138)
1020 CD$="GB FN FF SF RP DP PB FW SB SC RC SS SG PS PT WS ST TP"
1025 SO$="1.1 1.2 1.3 1.4 1.5 1.6 2.0 3.0 4.1 5.1 5.2 5.3 6.0 7.1 7.2 7.3 7.4 7.
    5 7.6 8.0 9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.9"
1030 CL$="2000 2500 3000 3500 4000"
1040 FOR I=1 TO 11: READ M(I): NEXT I
1070 DATA 0,0,.376,.668,1.043,1.502,2.044,2.670,3.40,4.303,5.313
1080 FOR I=1 TO 18: READ I$(I): NEXT I
1110 DATA "SB","SC","RC","SS","SG","PS","PT","WS","ST","TP"
1115 DATA "GB","FN","FF","SF","RP","DP","PB","FW"
1120 FOR I=1 TO 33: READ A$(I): NEXT I
1150 DATA " (CY) "," (#)AV"," (sf) "," (#)ACT"," (SF) "," (SF) "," (SF) "
1160 DATA " (CY) "," (CY) "," (SF) "," (SF) "," (TON) "," (LF) "," (SF) "
1170 DATA " (SF) "," (SF) "," (CY) "," (LF) "," (#) "," (SF) "," (SF) "
1180 DATA "WWM(SF)","WWM(SF)","WWM(SF)","SP-FM ","SP-FM ","SP-FM "
1190 DATA "SP-FM ","SP-FM ","SP-FM ","SP-FM ","SP-FM ","SP-FM "
1200 FOR I=1 TO 33: READ B$(I): NEXT I
1230 DATA " VOL ","REINF ","FIN&CU","REINF ","SID-FM","BOT-FM","LIN&GR"
1240 DATA "HND-EX","BKFILL","VP-BAR","SLB-AR","SLB-WT","RIS-FM","RUB-FN"
1250 DATA "CTN-FM","GB-CLO"," CUSH ","DRILL ","POST-T","SANDBL","FM-LNR"
1260 DATA "6X6-10/10","6X6-6/6","4X4-6/6"," #1(LF) "," #2(LF) "," #3(LF) "
1270 DATA " #4(LF) "," #5(LF) "," #6(LF) "," #7(LF) "," #8(LF) "," #9(LF) "
```

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1280 FOR I=1 TO 33: READ P(I): NEXT I
1310 DATA 1,3,3,3,2,2,3,2,2,3,3,3,3,2,3,2,3,3,3,3,4,5,5,3,3,3,3,3,3,3
1330 DEF FNA(W1,H1,L1)=(W1*H1*L1)/27
1340 DEF FNB(H1,L1)=(H1*L1)
1350 DEF FNC(W1,L1)=W1*L1
1360 DEF FND(W1)=3.1416*(W1/2)^2
1370 DEF FNF(W1,H1,L1,A1)=FNA(W1,H1,L1)*A1*27
1380 DEF FNG(W1,L1)=((W1+2)*L1)/27
1390 DEF FNH(L1)=2*L1/27
1400 DEF FNS(N4,W1)=N4*W1
1410 DEF FNW(W1,H1,L1)=FNA(W1,H1,L1)*2.025
1420 DEF FNI(W1,L1)=(3.1416*((W1/2)^2)*L1)/27
1430 DEF FNJ(W1,L1)=1.15*FNI(W1,L1)
1440 DEF FNK(L1,W1)=(.07217*(L1^3-W1^3)+.125*(L1^2-W1^2)-.2165*(W1^2)*(L1-W1))*3
    .1416/27
1450 DEF FNL(W1,L1,H1,P1,P2,J)=(W1*L1*(H1-P1)+((W1*L1*P1)/(P2+J))*(J+.0833*P1))*
    1.01/27
1460 DEF FNM(L1,H1)=L1*.02315*H1
1470 DEF FNN(H1,W1,L1,N3,P2,P3,P1)=((H1*W1*L1)-N3*.8836*P2*P3*P1)/27
1480 DEF FNO(N4,R,T2,W1,L1,H1)=((N4*R*T2*.5*W1)+((L1^2+(N4*R)^2)^(1/2))*W1*H1)/2
    7
1490 DEF FNP(H1,L1)=FNB(H1,L1)*2
1495 DEF FNR(W1,H1)=W1*H1
1500 DEF FNQ(H1,L1,W1)=2*(FNB(H1,L1)+FNR(W1,H1))
1520 DEF FNT(H1,R,L1)=(H1+R)*L1*2
1530 DEF FNU(N4,T2,W1)=N4*T2*W1
1540 DEF FNV(W1,L1,H1)=((W1+2)*(L1+2)*H1)/27
1550 DEF FNX(W1,L1,H1)=FNV(W1,L1,H1)-FNA(W1,H1,L1)
1560 OPEN"O",1,"CONCRINP:1
1630 N2=1
1650 IF Z1<>1 THEN 1700
1700 IF N2=1 THEN 2030
1710 K2=K2+1:IFK2>32THENG$(K2)="a":GOTO3940
1715 FORX=232TO1000STEP64:PRINT@X,CHR$(30);:NEXT
1720 FL=2:PRINT@222,;:GOSUB100:G$(K2)=IN$
1723 H$=LEFT$(G$(K2),2)
1725 IFIN$="a"THEN3940
1730 IFLEN(IN$)<>2THEN1720
1740 IFINSTR(CD$,IN$)=0THEN1720
1760 NO=NO+1
1770 J$=MID$(G$(K2),3,1)
1780 FL=-4:PRINT@286,;:GOSUB100:A1=VAL(IN$)
1820 J$=MID$(G$(K2),4,1)
1830 FL=-4:PRINT@414,;:GOSUB100:W1=VAL(IN$)
1840 PRINT@478,;:GOSUB100:L1=VAL(IN$)
1850 PRINT@542,;:GOSUB100:H1=VAL(IN$)
1855 IF G$(K2)="PS" THEN GOSUB6200
1856 IF G$(K2)="WS" GOSUB 7100
1857 IF G$(K2)="ST" GOSUB 7200
1860 FL=-4:PRINT@606,;:GOSUB100:N1=VAL(IN$)
```

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1890 I=0:FOR X=1 TO 18
1900 IF H$=I$(X) THEN I=X:X=18
1910 NEXT X
1940 ON I GOTO 2140,2230,2300,2380,2470,2530,2572,2580,2620,2672,6300,6400,6500,
      6600,6700,6800,6900,6950
1950 REM GET SUPPLIMENTAL COMPUTATIONS
1962 Z(1)=670:Z(2)=734:Z(3)=798:Z(4)=862:Z(5)=926:Z(6)=990
1964 A0=A0+1:IFA0>6THEN6000
1966 FL=3:PRINT@Z(A0),:GOSUB100:IFIN$="@"THEN6000
1970 F1=VAL(IN$):IFF1<1THEN1966
1980 IFINT(F1)=F1THENIN$=IN$+".0"
1990 IFINSTR(S0$,IN$)=0THEN1966
1995 IFVAL(IN$)<1THEN1966
2000 F(A0)=F1:F4=1
2009 F2=INT(F1)
2010 ON F2 GOTO 2680,2830,2860,2890,3000,3081,3090,3510,3550
2021 GOTO 1950
2030 NW=0:CLS:PRINT@15,"CONCRETE QUANTITIES"
2031 PRINT@128,"CLASS OF CONCRETE ..... ";
2032 PRINT@192,"CODE ..... ";
2033 PRINT@256,"LBS/REINF ..... ";
2034 PRINT@320,"DIMENSIONS / QUANTITY
2035 PRINT@384,"WIDTH ..... ";
2036 PRINT@448,"LENGTH ..... ";
2037 PRINT@512,"HEIGHT ..... ";
2038 PRINT@576,"QUANTITY ..... "
2040 FORX=640TO960STEP64:PRINT@X,"SUPPLEMENTAL OPTION .... " :NEXT
2050 FL=4:PRINT@158,:GOSUB100:E$=IN$
2060 IFE$="@"THEN4820
2070 IFLEN(E$)<>4THEN2050
2080 IFINSTR(CL$,E$)=0THEN2050
2090 E2=VAL(E$):GOSUB6170
2100 N2=2:K2=0:GOTO1710
2110 N2=2
2120 K2=0
2130 GOTO 1710
2140 REM *** STRUCTURAL BEAM - SB ***
2150 O(K2,1)=((W1*H1*L1)/27)*N1
2160 O(K2,2)=FNF(W1,H1,L1,A1)*N1
2170 O(K2,3)=FNC(W1,L1)*N1
2180 O(K2,5)=FNP(H1,L1)*N1
2190 O(K2,6)=FNC(W1,L1)*N1
2220 GOTO 1950
2230 REM *** SQUARE COLUMN - SC ***
2240 O(K2,1)=FNA(W1,H1,L1)*N1
2250 O(K2,2)=FNF(W1,H1,L1,A1)*N1
2270 O(K2,3)=W1*L1*N1
2280 O(K2,5)=FNQ(H1,L1,W1)*N1
2290 GOTO 1950
2300 REM *** ROUND COLUMN - RC ***
```

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2310 O(K2,1)=FNI(W1,L1)*N1
2320 O(K2,2)=O(K2,1)*27*A1
2330 O(K2,3)=FND(W1)*N1
2340 GOTO 1950
2380 REM *** STRUCTURAL SLAB - SS ***
2390 O(K2,1)=FNA(W1,H1,L1)*N1
2402 O(K2,2)=FNF(W1,H1,L1,A1)*N1
2410 O(K2,3)=FNC(W1,L1)*N1
2420 O(K2,5)=FNQ(H1,L1,W1)*N1
2430 O(K2,6)=FNC(W1,L1)*N1
2460 GOTO 1950
2470 REM *** SLAB ON GRADE - SG ***
2480 O(K2,1)=((W1*H1*L1)/27)*N1
2490 O(K2,2)=FNF(W1,H1,L1,A1)*N1
2500 O(K2,3)=FNC(W1,L1)*N1
2510 O(K2,5)=FNQ(H1,L1,W1)*N1
2512 O(K2,7)=FNC(W1,L1)*N1
2515 O(K2,10)=FNC(W1,L1)*N1
2520 GOTO 1950
2530 REM *** PAN SLAB - PS ***
2531 IFP2>0ANDP1>0THEN2540
2532 PRINT@995,"** BAD DIMENSIONS **";:FORQQ=1TO2000:NEXT
2533 IN$="N":GOTO6005
2540 O(K2,1)=FNL(W1,L1,H1,P1,P2,J)*N1
2550 O(K2,2)=O(K2,1)*27*A1
2560 O(K2,3)=FNC(W1,L1)*N1
2565 O(K2,6)=FNC(W1,L1)*N1
2570 GOTO 1950
2572 REM *** PAN TAPERS - PT ***
2574 O(K2,1)=FNM(L1,H1)*N1
2576 O(K2,2)=O(K2,1)*27*A1
2578 GOTO 1950
2580 REM *** WAFFLE SLAB - WS ***
2590 O(K2,1)=FNN(H1,W1,L1,N3,P2,P3,P1)*N1
2600 O(K2,2)=O(K2,1)*27*A1
2602 O(K2,3)=FNC(W1,L1)*N1
2604 O(K2,6)=FNC(W1,L1)*N1
2610 GOTO 1950
2620 REM *** STAIR SLAB - ST ***
2630 O(K2,1)=FNO(N4,R,T2,W1,L1,H1)*N1
2640 O(K2,2)=O(K2,1)*27*A1
2650 O(K2,3)=FNU(N4,T2,W1)*N1
2660 O(K2,5)=FNT(H1,R,L1)*N1
2662 O(K2,6)=FNC(W1,L1)*N1
2664 O(K2,13)=FNS(N4,W1)*N1
2670 GOTO 1950
2672 REM *** TOPPING - TP ***
2674 O(K2,1)=FNA(W1,H1,L1)*N1
2678 O(K2,3)=FNC(W1,L1)*N1
2679 GOTO 1950
```

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2680 REM RUB FINISH - F2=1 - *****
2690 F1=INT((F1-F2)*10+.1)
2700 ON F1 GOTO 2710,2730,2750,2770,2790,2810
2710 O(K2,14)=O(K2,14)+FNB(H1,L1)*N1
2720 GOTO 1950
2730 O(K2,14)=O(K2,14)+FNB(H1,L1)*N1*2
2740 GOTO 1950
2750 O(K2,14)=O(K2,14)+FNC(W1,L1)*N1
2760 GOTO 1950
2770 O(K2,14)=O(K2,14)+FNC(W1,L1)*N1+N1*2*P1*L1*(W1/(P1+J))
2780 GOTO 1950
2790 O(K2,14)=O(K2,14)+N1*(FNC(W1,L1)+2*P1*(P2+P3)*N3)
2800 GOTO 1950
2810 O(K2,14)=O(K2,14)+N1*3.1416*W1*L1
2820 GOTO 1950
2830 REM CARTON FORM (SF) - F2=2 - *****
2840 O(K2,15)=FNC(W1,L1)*N1
2850 GOTO 1950
2860 REM GRADE BEAM CLOSURE - F2=3 - *****
2870 O(K2,16)=N1*2*L1
2880 GOTO 1950
2890 REM FORM LINER - F2=4 - *****
2900 F1=(F1-F2)*10
2910 ON F1 GOTO 2920,2940,2960,2980
2920 O(K2,21)=O(K2,21)+FNB(H1,L1)*N1
2930 GOTO 1950
2940 O(K2,21)=O(K2,21)+(FNB(H1,L1)+FNC(W1,L1))*N1
2950 GOTO 1950
2960 O(K2,21)=O(K2,21)+FNC(W1,L1)*N1
2970 GOTO 1950
2980 O(K2,21)=O(K2,21)+N1*3.1416*W1*L1
2990 GOTO 1950
3000 REM WWM BY SIZE (SF) - F2=5 - *****
3010 F1=INT((F1-F2)*10+.1)
3020 ON F1 GOTO 3030,3050,3070
3030 O(K2,22)=FNC(W1,L1)*N1*1.1
3040 GOTO 1950
3050 O(K2,23)=FNC(W1,L1)*N1*1.1
3060 GOTO 1950
3070 O(K2,24)=FNC(W1,L1)*N1*1.1
3080 GOTO 1950
3081 REM *** DEPTH EXCAVATION ***
3082 O(K2,7)=FNC(W1,L1)*N1
3084 O(K2,8)=((.25*(H1^2))+H1)/27*L1*2+FNA(W1,H1,L1)*N1
3086 O(K2,9)=((.25*(H1^2))+H1)/27*L1*2
3088 GOTO 1950
3090 REM *** SANDBLAST (SF) - F2=7 ***
3100 F1=INT((F1-F2)*10+.1)
3110 ON F1 GOTO 3120,3140,3160,3180,3200,3220
3120 O(K2,20)=O(K2,20)+FNB(H1,L1)*N1
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3130 GOTO 1950
3140 O(K2,20)=(W1+H1)*L1*N1
3150 GOTO 1950
3160 O(K2,20)=O(K2,20)+FNC(W1,L1)*N1
3170 GOTO 1950
3180 O(K2,20)=O(K2,20)+N1*(FNC(W1,L1)+2*P1*L1*(W1/(P1+J)))
3190 GOTO 1950
3200 O(K2,20)=O(K2,20)+N1*(FNC(W1,L1)+2*P1*(P2+P3)*N3)
3210 GOTO 1950
3220 O(K2,20)=O(K2,20)+N1*3.1416*W1*L1
3230 GOTO 1950
3510 REM CUSHION (CY) - F2=8 -"*****
3530 O(K2,17)=FNC(W1,L1)*X*N1/27
3540 GOTO 1950
3550 REM SPECIAL FORMS (LF) - F2=9 - *****
3570 F1=INT((F1-F2)*10+.1)
3590 F4=-1
3620 ON F1 GOTO 3630,3650,3670,3690,3710,3730,3750,3770,3790
3630 O(K2,F1+24)=N1*L1
3640 GOTO 1950
3650 O(K2,F1+24)=N1*L1
3660 GOTO 1950
3670 O(K2,F1+24)=N1*L1
3680 GOTO 1950
3690 O(K2,F1+24)=N1*W1
3700 GOTO 1950
3710 O(K2,F1+24)=N1*W1
3720 GOTO 1950
3730 O(K2,F1+24)=N1*W1
3740 GOTO 1950
3750 O(K2,F1+24)=N1*H1
3760 GOTO 1950
3770 O(K2,F1+24)=N1*H1
3780 GOTO 1950
3790 O(K2,F1+24)=N1*H1
3800 GOTO 1950
3930 REM ARRIVE HERE ON END OF CLASS
3940 FOR JZ=1 TO 33
3945 FOR IZ=1 TO K2-1
3950 A(JZ)=A(JZ)+O(IZ,JZ)
3960 NEXT IZ
3970 NEXT JZ
3990 P5=1
4000 FOR I=1 TO 33
4010 IF A(I)=0 THEN 4030
4020 Q(P5)=I
4030 P5=P5+1
4040 NEXT I
4050 P5=P5-1
4090 IF PEEK(16425)>45 THEN LPRINT CHR$(12)
```


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```
4100 LPRINTCHR$(138):LPRINTSTRING$(95,"="):LPRINT"TOTALS FOR CLASS ";E$;" BY COD
E : "
4105 FORAA=1TOK2-1STEP8:BB=AA+7:IFBB>K2-1THENBB=K2-1
4110 IFPEEK(16425)>45THENLPRINTCHR$(12)
4115 LPRINTCHR$(138):LPRINT"CODES : ";TAB(19);
4120 FORI=AATOB:BB=LPRINTG$(I);" "":NEXT:LPRINT"
4135 LPRINTSTRING$(95,"-")
4140 FORI=1TOP5:IFA(I)=0THEN4170
4141 LPRINTB$(Q(I));A$(Q(I));TAB(16);
4150 FORJ=AATOB:BB=LPRINTUSING"#####.## " :O(J,Q(I));
4160 NEXTJ:LPRINT"
4170 NEXTI:LPRINTSTRING$(95,"-"):NEXTAA
4180 LPRINTCHR$(12)
4200 LPRINTTAB(15);"** TOTALS FOR CLASS ";E$;" **":LPRINTTAB(10);STRING$(35,"-")
4210 FORI=1TOP5:IFA(I)=0THEN4240
4220 LPRINTTAB(10);B$(Q(I));A$(Q(I));TAB(36);USING"#####.##";A(Q(I))
4240 NEXT:LPRINTCHR$(12)
4731 FORI=1TO33:PRINT#1,E$;" " :G$(I);" " :IFG$(I)="a"THENI=33:NEXTI:GOTO4740
4733 FORJ=1TO32:PRINT#1,O(I,Q(J));" " :O(I,Q(J))=0:NEXTJ
4735 PRINT#1,O(I,33):O(I,33)=0:G$(I)=" " :NEXTI
4740 FOR I=1 TO 33
4750 B(I)=B(I)+A(I): A(I)=0: NEXT I: Z1=1: P6=0
4800 GOTO 1630
4810 REM ARRIVE HERE ON END OF CONCRINP
4820 REM GRAND TOTALS
4900 LPRINTTAB(24);"GRAND TOTALS
4910 LPRINTSTRING$(62,"-"):LPRINTCHR$(138)
4920 FORI=1TO33:IFB(I)=0THEN5000
4930 LPRINTTAB(10);B$(I);" " :A$(I);
4940 LPRINTSTRING$(30-(LEN(A$(I))+LEN(B$(I))+1),".");
4950 LPRINTUSING" #,#####.##";B(I)
5000 NEXT
5020 LPRINTCHR$(12)
5360 CLS
5365 CLOSE
5370 RUN"CONCRETE
6000 PRINT@1000,"> OK ? (Y/N) : " :FL=1:GOSUB100
6005 IFIN$="N"THENFORI=1TO33:O(K2,I)=0:NEXT:NW=1:K2=K2-1:GOTO6100
6007 IFIN$<>"Y"THEN6000
6008 IFPEEK(16425)>55THENLPRINTCHR$(12):GOSUB6170
6050 LPRINTUSING"% % % #####.## ###.## ###.## ###.## ### " :E$;G$(K2)
: A1;W1;L1;H1;N1;
6060 FORX=1TO6:IFF(X)=99THENX=6:GOTO6080
6070 LPRINTUSING"#.## " :F(X);
6080 NEXT:LPRINT:IFG$(K2)="WS"THENLPRINTTAB(10);"PAN DEPTH =";P1;" PAN WIDTH =
";P2;" PAN LENGTH =";P3;" # DOMES =";N3
6085 IFG$(K2)="PS"THENLPRINTTAB(10);"JOIST WIDTH =";J;" PAN DEPTH =";P1;" PA
N WIDTH =";P2
6090 IFG$(K2)="ST"THENLPRINTTAB(10);"# TREADS =";N4;" RISER HEIGHT =";R;" TR
EAD WIDTH =";T2
```

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```
6095 LPRINTCHR$(138)
6100 NW=1:FORX=221TO1023STEP64:PRINT@X,CHR$(30);:NEXT
6140 F(1)=0:F(2)=0:F(3)=0:F(4)=0:F(5)=0:F(6)=0
6150 A0=0
6160 GOTO1710
6170 LPRINT"***** CONCRETE CLASS : ";E$
6175 LPRINTTAB(13);"LBS";TAB(27)"DIMENSIONS";TAB(56)"SUPPLEMENTAL OPTIONS
6180 LPRINT"CLASS CODE REINF. WIDTH LENGTH HEIGHT QTY 1 2 3
      4 5 6
6190 LPRINTSTRING$(95,"="):LPRINTCHR$(138):RETURN
6200 PRINT@232,"SUPPLEMENTAL";
6205 PRINT@296,"DIMENSIONS";
6210 PRINT@424,"JOIST WIDTH..... ";
6215 PRINT@488,"PAN DEPTH..... ";
6220 PRINT@552,"PAN WIDTH..... ";
6250 FL=-4:PRINT@441,,:GOSUB100:J$=IN$:J=VAL(J$)
6255 FL=-4:PRINT@505,,:GOSUB100:P$=IN$:P1=VAL(P$)
6260 FL=-4:PRINT@569,,:GOSUB100:P2$=IN$:P2=VAL(P2$)
6290 RETURN
6300 REM *** GRADE BEAM - GB ***
6310 O(K2,1)=((W1*H1*L1)/27)*N1
6320 O(K2,2)=FNF(W1,H1,L1,A1)*N1
6330 O(K2,3)=FNC(W1,L1)*N1
6340 O(K2,5)=FNP(H1,L1)*N1
6350 O(K2,7)=FNC(W1,L1)*N1
6360 O(K2,8)=FNG(W1,L1)*N1
6370 O(K2,9)=FNH(L1)*N1
6380 GOTO 1950
6400 REM *** FOOTING, NEAT - FN ***
6410 O(K2,1)=FNA(W1,H1,L1)*N1
6420 O(K2,2)=FNF(W1,H1,L1,A1)*N1
6430 O(K2,7)=FNC(W1,L1)*N1
6440 O(K2,8)=FNA(W1,H1,L1)*N1
6450 GOTO 1950
6500 REM *** FOOTING, FORMED - FF ***
6510 O(K2,1)=((W1*H1*L1)/27)*N1
6520 O(K2,2)=FNF(W1,H1,L1,A1)*N1
6530 O(K2,3)=FNC(W1,L1)*N1
6540 O(K2,5)=FNP(H1,L1)*N1
6550 O(K2,7)=FNC(W1,L1)*N1
6560 O(K2,8)=FNV(W1,L1,H1)*N1
6570 O(K2,9)=FNX(W1,L1,H1)*N1
6580 GOTO 1950
6600 REM *** SPOT FOOTING - SF ***
6610 O(K2,1)=FNA(W1,H1,L1)*N1
6620 O(K2,2)=FNF(W1,H1,L1,A1)*N1
6630 O(K2,3)=FNC(W1,L1)*N1
6640 O(K2,5)=FNQ(H1,L1,W1)*N1
6650 O(K2,7)=FNC(W1,L1)*N1
6660 O(K2,8)=FNV(W1,L1,H1)*N1
```

Program Listings

CONCRETE TAKE - OFF - QUANTITY

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```
=====
6670 O(K2,9)=FNX(W1,L1,H1)*N1
6680 GOTO 1950
6700 REM *** RECTANGULAR PIER - RP ***
6710 O(K2,1)=((W1*H1*L1)/27)*N1
6720 O(K2,2)=FNF(W1,H1,L1,A1)*N1
6730 O(K2,3)=W1*L1*N1
6740 O(K2,5)=FNQ(H1,L1,W1)*N1
6750 GOTO 1950
6800 REM *** DRILLED PIER - DP ***
6810 O(K2,1)=FNJ(W1,L1)*N1
6820 O(K2,2)=O(K2,1)*27*A1
6830 O(K2,3)=FND(W1)*N1
6840 GOTO 1950
6900 REM *** PIER BELL ONLY - PB ***
6910 O(K2,1)=FNK(L1,W1)*N1
6930 GOTO 1950
6950 REM *** FOUNDATION WALL - FW ***
6960 O(K2,1)=FNA(W1,H1,L1)*N1
6970 O(K2,2)=FNF(W1,H1,L1,A1)*N1
6980 O(K2,3)=FNC(W1,L1)*N1
6990 O(K2,5)=FNP(H1,L1)*N1
7000 GOTO 1950
7100 PRINT@232,"SUPPLEMENTAL";:PRINT@296,"DIMENSIONS";
7110 PRINT@424,"PAN DEPTH..... ";
7120 PRINT@488,"PAN WIDTH..... ";
7130 PRINT@552,"PAN LENGTH..... ";
7140 PRINT@616,"NO. OF DOMES.... ";
7150 FL=-4:PRINT@441,;:GOSUB100:P1$=IN$:P1=VAL(P1$)
7160 FL=-4:PRINT@505,;:GOSUB100:P2$=IN$:P2=VAL(P2$)
7170 FL=-4:PRINT@569,;:GOSUB100:P3$=IN$:P3=VAL(P3$)
7180 FL=-4:PRINT@633,;:GOSUB100:N3$=IN$:N3=VAL(N3$)
7190 RETURN
7200 PRINT@232,"SUPPLEMENTAL";:PRINT@296,"DIMENSIONS";
7210 PRINT@424,"NO. OF TREADS... ";
7220 PRINT@488,"RISER HEIGHT.... ";
7230 PRINT@552,"TREAD WIDTH..... ";
7240 FL=-4:PRINT@441,;:GOSUB100:N4$=IN$:N4=VAL(N4$)
7250 FL=-4:PRINT@505,;:GOSUB100:R$=IN$:R=VAL(R$)
7260 FL=-4:PRINT@569,;:GOSUB100:T2$=IN$:T2=VAL(T2$)
7270 RETURN
```

Program Listings

CONCRETE TAKE - OFF - COST

PAGE 1

```
1 ' "COST"
2 ' (C) 1979 BY TANDY CORP. - ALL RIGHTS RESERVED
3 CLS: CLEAR 1000: LN$=STRING$(63, "-")
4 DIM X1(48)
5 GOTO 200
99 REM *** BUILDING COSTFILE ***
100 IN$=" ": W$=INKEY$: WD=0: WS=WD: WL%=WD: IF FL=WD THEN FL=1
105 PRINT STRING$(ABS(FL), CHR$(136)); STRING$(ABS(FL), CHR$(24));
110 PRINT CHR$(14); : FOR W%=1 TO 25: W$=INKEY$: IF W$<>" " THEN 115 ELSE NEXT: PRINT CHR$(15); :
    FOR W%=1 TO 25: W$=INKEY$: IF W$<>" " THEN 115 ELSE NEXT: GOTO 110
115 IF W$<>CHR$(13) THEN 120 ELSE PRINT STRING$(ABS(FL)-WL%, " ");
117 PRINT CHR$(15); : W%=25: NEXT: RETURN
120 PRINT CHR$(14); : IF W$=CHR$(24) THEN PRINT STRING$(WL%, CHR$(24)); : GOTO 100
125 IF W$<>CHR$(8) THEN 145 ELSE IF WL%=0 THEN 110 ELSE PRINT CHR$(24); : IF FL>0 THEN 135 ELSE IF
    PEEK(16418)=45 THEN WS=0
130 IF PEEK(16418)=46 THEN WD=0: GOTO 135 ELSE IF PEEK(16418)=43 OR PEEK(16418)=45 THEN WS=0
135 IN$=LEFT$(IN$, LEN(IN$)-1)
140 WL%=WL%-1: POKE 16418, 136: GOTO 110
145 IF ABS(FL)=WL% THEN 110 ELSE IF FL>0 THEN IF W$>=" " AND W$<="Z" THEN 170
150 IF W$="." AND WD=0 THEN WD=1: GOTO 170
155 IF W$="," THEN PRINT W$; : WL%=WL%+1: GOTO 175
160 IF (W$="-" OR W$="+") AND WS=0 AND WL%=0 THEN WS=1: GOTO 170
165 IF W$<"0" OR W$>"9" THEN 110
170 PRINT W$; : IN$=IN$+W$: WL%=WL%+1
175 IF ABS(FL)=1 THEN 117 ELSE 110
200 OPEN "R", 2, "COSTFILE"
300 FIELD 2, 42 AS J$, 8 AS K$, 9 AS L$, 9 AS M$, 9 AS N$, 9 AS O$, 9 AS H$
400 J1$="          DESCRIPTION": K1$="MEAS": L1$="LABOR": M1$="MTL": N1$="M/HR$": O1$
    ="W/R": H1$="WASTE"
500 LSET J$=J1$: LSET K$=K1$: RSET L$=L1$: RSET M$=M1$: RSET N$=N1$: RSET O$=O1$: RSET H
    $=H1$
600 PUT 2, 1
700 J1$=" "
750 LSET J$=J1$
800 PUT 2, 2
900 GOSUB 14000
905 PRINT
    2000# CONCRETE (CY) .....
    2500# CONCRETE (CY) .....
    3000# CONCRETE (CY) .....
    3500# CONCRETE (CY) .....
    4000# CONCRETE (CY) .....
    REINFORCING BAR (LB) .....
1025 J1$="          1. 2000# CONCRETE": K1$="(CY)"
1035 GOSUB 2500
1040 PUT 2, 3
1120 J1$="          2. 2500# CONCRETE": K1$="(CY)"
1200 GOSUB 2500
```

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CONCRETE TAKE - OFF - COST

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```
=====
1300 PUT 2,4
1530 J1$="      3.  3000# CONCRETE":K1$="(CY)"
1550 GOSUB 2500
1600 PUT 2,5
1795 J1$="      4.  3500# CONCRETE":K1$="(CY)"
1800 GOSUB 2500
1900 PUT 2,6
2180 J1$="      5.  4000# CONCRETE":K1$="(CY)"
2190 GOSUB 2500
2200 PUT 2,7
2480 J1$="      6.  REINFORCING BAR":K1$="(LB)"
2490 GOSUB 2500
2492 PUT 2,8
2494 GOTO 2550
2500 Q1=Q1+64:Q2=Q2+64
2502 FL=-5:PRINT@Q1,;
2504 GOSUB 100:M1$=IN$
2506 FL=-5:PRINT@Q2,;
2508 GOSUB 100:H1$=IN$
2510 L1$="00.00":N1$="0.000":O1$="00.00"
2512 LSETJ$=J1$:LSETK$=K1$:RSETL$=L1$:RSETM$=M1$:RSETN$=N1$:RSETO$=O1$:RSETH$=H1
    $
2514 RETURN
2550 GOSUB 14100
2560 PRINT"
    FINISH & CURE (SF) .....
    RISER FORM (SF) .....
    CARTON FORM (SF) .....
    GRADE BEAM CLOSURE (SF) .
    FORM LINER (SF) .....
    WWM (6X6 - 10/10) (SF) ..
    WWM (6X6 - 6/6) (SF) ....
    WWM (4X4 - 6/6) (SF) ....
2787 J1$="      7.  FINISH & CURE":K1$="(SF)":H1$=".00"
2790 GOSUB 4395
2800 PUT 2,9
2987 J1$="      8.  RISER FORM":K1$="(SF)"
2990 GOSUB 4395
3000 PUT 2,10
3187 J1$="      9.  CARTON FORM":K1$="(SF)"
3190 GOSUB 4395
3200 PUT 2,11
3387 J1$="     10.  GRADE BEAM CLOSURE":K1$="(SF)"
3390 GOSUB 4395
3400 PUT 2,12
3590 J1$="     11.  FORM LINER":K1$="(SF)"
3595 GOSUB 4395
3600 PUT 2,13
3790 J1$="     12.  WWM 6X6-10/10":K1$="(SF)"
3795 GOSUB 4395
```

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=====
3800 PUT 2,14
4085 J1$="      13.  WWM 6X6-6/6":K1$="(SF)"
4090 GOSUB 4395
4100 PUT 2,15
4390 J1$="      14.  WWM 4X4-6/6":K1$="(SF)"
4391 GOSUB 4395
4392 PUT 2,16
4393 GOTO 4410
4395 Q1=Q1+64:Q2=Q2+64:Q3=Q3+64:Q4=Q4+64: SX= SX+1
4396 FL=-5:PRINT@Q1,;
4397 GOSUB100:M1$=IN$
4398 FL=-5:PRINT@Q2,;
4399 GOSUB100:O1$=IN$
4400 FL=-5:PRINT@Q3,;
4401 GOSUB100:N1$=IN$
4402 IF SX<5 PRINT@Q4,"-----":GOTO 4405
4403 FL=-5:PRINT@Q4,;
4404 GOSUB100:H1$=IN$
4405 L1=VAL(O1$)*VAL(N1$):L1$=STR$(L1)
4406 LSETJ$=J1$:LSETK$=K1$:RSETL$=L1$:RSETM$=M1$:RSETN$=N1$:RSETO$=O1$:RSETH$=H1$
4407 RETURN
4410 GOSUB14200
4420 PRINT"
      LINE & GRADE (SF) .....
      HAND EXCAVATION (CY) .....
      BACK FILL (CY) .....
      RUB FINISH (SF) .....
4690 J1$="      15.  LINE & GRADE":K1$="(SF)"
4695 GOSUB 5600
4700 PUT 2,17
4990 J1$="      16.  HAND EXCAVATION":K1$="(CY)"
4995 GOSUB 5600
5000 PUT 2,18
5290 J1$="      17.  BACK FILL":K1$="(CY)"
5295 GOSUB 5600
5300 PUT 2,19
5590 J1$="      18.  RUB FINISH":K1$="(SF)"
5592 GOSUB 5600
5595 PUT 2,20
5596 GOTO5640
5600 Q1=Q1+64:Q2=Q2+64
5602 FL=-5:PRINT@Q1,;
5604 GOSUB 100:O1$=IN$
5606 FL=-5:PRINT@Q2,;
5608 GOSUB100:N1$=IN$
5610 M1$="00.00":L1=VAL(O1$)*VAL(N1$):L1$=STR$(L1):H1$=".00"
5612 LSETJ$=J1$:LSETK$=K1$:RSETL$=L1$:RSETM$=M1$:RSETN$=N1$:RSETO$=O1$:RSETH$=H1$
5614 RETURN
```

Program Listings

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```
=====
5640 GOSUB14200:GOSUB14600
5650 GOSUB 10500
5890 J1$="      19.  GRADE BEAM (PL CONC)":K1$="(CY)"
5895 GOSUB 13050
5900 PUT 2,21
6190 J1$="      20.  FOOTING, NEAT EX (PL CONC)":K1$="(CY)"
6195 GOSUB 13050
6200 PUT 2,22
6490 J1$="      21.  FOOTING, FORMED (PL CONC)":K1$="(CY)"
6495 GOSUB 13050
6500 PUT 2,23
6790 J1$="      22.  SPOT FOOTING (PL CONC)":K1$="(CY)"
6795 GOSUB 13050
6800 PUT 2,24
7090 J1$="      23.  RECTANGULAR PIER (PL CONC)":K1$="(CY)"
7095 GOSUB 13050
7100 PUT 2,25
7390 J1$="      24.  DRILLED PIER (PL CONC)":K1$="(CY)"
7395 GOSUB 13050
7400 PUT 2,26
7690 J1$="      25.  PIER BELL ONLY (PL CONC)":K1$="(CY)"
7695 GOSUB 13050
7700 PUT 2,27
7990 J1$="      26.  FOUNDATION WALL (PL CONC)":K1$="(CY)"
7995 GOSUB 13050
7996 PUT 2,28
7998 GOTO 8110
8000 PUT 2,28
8110 GOSUB14200:GOSUB14700
8120 GOSUB 10500
8290 J1$="      27.  GRADE BEAM (PL REBAR)":K1$="(LB)"
8295 GOSUB 13050
8300 PUT 2,29
8590 J1$="      28.  FOOTING, NEAT EX (PL REBAR)":K1$="(LB)"
8595 GOSUB 13050
8600 PUT 2,30
8890 J1$="      29.  FOOTING, FORMED (PL REBAR)":K1$="(LB)"
8895 GOSUB 13050
8900 PUT 2,31
9190 J1$="      30.  SPOT FOOTING (PL REBAR)":K1$="(LB)"
9195 GOSUB 13050
9200 PUT 2,32
9490 J1$="      31.  RECTANGULAR PIER (PL REBAR)":K1$="(LB)"
9495 GOSUB 13050
9500 PUT 2,33
9790 J1$="      32.  DRILLED PIER (PL REBAR)":K1$="(LB)"
9795 GOSUB 13050
9800 PUT 2,34
10390 J1$="      33.  FOUNDATION WALL (PL REBAR)":K1$="(LB)"
10395 GOSUB 13050
```

Program Listings

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```
=====
10400 PUT 2,35
10410 GOTO 12000
10500 RK=RK+1:PRINT"
      GRADE BEAM .....
      FOOTING, NEAT EX .....
      FOOTING, FORMED .....
      SPOT FOOTING .....
      RECTANGULAR PIER .....
      DRILLED PIER .....
10555 IF RK<>2THENPRINT"PIER BELL ONLY .....
10570 PRINT"FOUNDATION WALL .....
10580 RETURN
10600 REM *** FIELD STATEMENT ***
10610 FIELD 2, 42 AS J$,8 AS K$,9 AS L$, 9 AS M$,9 AS N$,9 AS O$,9 AS H$
10620 RETURN
10650 REM ***** SPECIAL FORMS *****
10660 X1=45
10700 A$=" 64. (9.1) ":K1$="(L)":GOSUB10900
10710 PUT 2,66
10720 A$=" 65. (9.2) ":K1$="(L)":GOSUB 10900
10730 PUT 2,67
10740 A$=" 66. (9.3) ":K1$="(L)":GOSUB 10900
10750 PUT 2,68
10760 A$=" 67. (9.4) ":K1$="(W)":GOSUB 10900
10770 PUT 2,69
10780 A$=" 68. (9.5) ":K1$="(W)":GOSUB 10900
10790 PUT 2,70
10800 A$=" 69. (9.6) ":K1$="(W)":GOSUB 10900
10810 PUT 2,71
10820 A$=" 70. (9.7) ":K1$="(H)":GOSUB 10900
10830 PUT 2,72
10840 A$=" 71. (9.8) ":K1$="(H)":GOSUB 10900
10850 PUT 2,73
10860 A$=" 72. (9.9) ":K1$="(H)":GOSUB 10900
10870 PUT 2,74
10895 RUN"CONCRETE
10900 CLS:PRINT@20,"*** SPECIAL FORMS ***":PRINTLN$
10902 IFX1<48THEN@P$=" (LENGTH) "ELSEIFX1<51THEN@P$=" (WIDTH) "ELSE@P$=" (HEIGHT
) "
10905 PRINT@192,"SPECIAL FORM"@P$:"";A$
10910 PRINT"
      DESCRIPTION .....
      MATERIAL .....
      MAN HOURS .....
      WAGE RATE / HR .....
      WASTE FRACTION .....
10965 X1=X1+1
10970 FL=20:PRINT@342,,:GOSUB 100:B$=IN$
10980 FL=-5:PRINT@406,,:GOSUB100:M1$=IN$
10990 FL=-5:PRINT@470,,:GOSUB100:N1$=IN$
```


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```
11000 FL=-5:PRINT@534,,:GOSUB100:O1$=IN$
11010 FL=-5:PRINT@598,,:GOSUB100:H1$=IN$
11015 FIELD 2,42 AS J$,8 AS K$,9 AS L$,9 AS M$,9 AS N$,9 AS O$,9 AS H$
11020 L1=VAL(O1$)*VAL(N1$):L1$=STR$(L1):J1$=A$+B$
11030 LSETJ$=J1$:LSETK$=K1$:RSETL$=L1$:RSETM$=M1$:RSETN$=N1$:RSETO$=O1$:RSETH$=H
1$
11040 RETURN
12000 GOSUB14200:GOSUB14600
12010 PRINT"
    STRUCTURAL BEAM .....
    SQUARE COLUMN .....
    ROUND COLUMN .....
    SLAB ON GRADE .....
12045 KZ=KZ+1:IF KZ=2 GOTO 12202
12050 PRINT"TOPPING .....
    STRUCTURAL SLAB .....
12080 J1$="    34.  STRUCTURAL BEAM (PL CONC)":K1$="(CY)":GOSUB 12500
12090 PUT 2,36
12100 J1$="    35.  SQUARE COLUMN (PL CONC)":K1$="(CY)":GOSUB 12500
12105 PUT 2,37
12110 J1$="    36.  ROUND COLUMN (PL CONC)":K1$="(CY)":GOSUB 12500
12120 PUT 2,38
12130 J1$="    37.  SLAB ON GRADE (PL CONC)":K1$="(CY)":GOSUB12500
12140 PUT 2,39
12150 J1$="    38.  TOPPING (PL CONC)":K1$="(CY)":GOSUB12500
12160 PUT 2,40
12170 J1$="    39.  STRUCTURAL SLAB (PL CONC)":K1$="(CY)":GOSUB12500
12180 PUT 2,41
12190 GOSUB14200:GOSUB14700
12200 GOTO 12010
12202 PRINT"STRUCTURAL SLAB .....
12210 J1$="    40.  STRUCTURAL BEAM (PL REBAR)":K1$="(LB)":GOSUB 12500
12220 PUT 2,42
12230 J1$="    41.  SQUARE COLUMN (PL REBAR)":K1$="(LB)":GOSUB 12500
12240 PUT 2,43
12250 J1$="    42.  ROUND COLUMN (PL REBAR)":K1$="(LB)":GOSUB 12500
12260 PUT 2,44
12270 J1$="    43.  SLAB ON GRADE (PL REBAR)":K1$="(LB)":GOSUB12500
12280 PUT 2,45
12290 J1$="    44.  STRUCTURAL SLAB (PL REBAR)":K1$="(LB)":GOSUB12500
12300 PUT 2,46
12400 GOTO 12600
12500 Q1=Q1+64:Q2=Q2+64
12510 FL=-5:PRINT@Q1,;
12520 GOSUB 100:O1$=IN$
12530 FL=-5:PRINT@Q2,;
12540 GOSUB 100:N1$=IN$
12550 M1$="00.00":H1$=".00":L1=VAL(O1$)*VAL(N1$):L1$=STR$(L1)
12560 LSETJ$=J1$:LSETK$=K1$:RSETL$=L1$:RSETM$=M1$:RSETN$=N1$:RSETO$=O1$:RSETH$=H
1$
```

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```
12570 RETURN
12600 GOSUB14500
12610 PRINT"
        SANDBLASTING (SF) ..
        CUSHION (CY) .....
        VP-BAR (SF) .....
12710 J1$="      45.  SANDBLASTING":K1$="(SF)"
12711 GOSUB 12730
12712 PUT 2,47
12714 J1$="      46.  CUSHION":K1$="(CY)":GOSUB 12730
12715 PUT 2,48
12718 J1$="      47.  VP-BAR":K1$="(SF)"
12719 GOSUB 12730
12720 PUT 2,49
12722 GOTO 13200
12730 Q1=Q1+64:Q2=Q2+64:Q3=Q3+64:Q4=Q4+64
12735 FL=-5:PRINT@Q1,;
12740 GOSUB100:M1$=IN$
12750 FL=-5:PRINT@Q2,;
12760 GOSUB100:N1$=IN$
12770 FL=-5:PRINT@Q3,;
12780 GOSUB100:O1$=IN$
12790 FL=-5:PRINT@Q4,;
12800 GOSUB100:H1$=IN$
13000 L1=VAL(O1$)*VAL(N1$):L1$=STR$(L1)
13010 LSETJ$=J1$:LSETK$=K1$:RSETL$=L1$:RSETM$=M1$:RSETN$=N1$:RSETO$=O1$:RSETH$=H
13020 RETURN
13050 Q1=Q1+64:Q2=Q2+64
13060 FL=-5:PRINT@Q1,;
13070 GOSUB100:O1$=IN$
13080 FL=-5:PRINT@Q2,;
13090 GOSUB100:N1$=IN$
13100 L1=VAL(O1$)*VAL(N1$):L1$=STR$(L1):M1$="00.00":H1$=".00"
13110 LSETJ$=J1$:LSETK$=K1$:RSETL$=L1$:RSETM$=M1$:RSETN$=N1$:RSETO$=O1$:RSETH$=H
13120 RETURN
13200 GOSUB14400
13210 PRINT"
        SB BOTTOM FORM (SF) ....
        SS BOTTOM FORM (SF) ....
        WS BOTTOM FORM (SF) ....
        PS BOTTOM FORM (SF) ....
        ST BOTTOM FORM (SF) ....
13270 J1$="      48.  BOTTOM FORM (SB)":K1$="(SF)":GOSUB 13370
13280 PUT 2,50
13290 J1$="      49.  BOTTOM FORM (SS)":K1$="(SF)":GOSUB 13370
13300 PUT 2,51
13310 J1$="      50.  BOTTOM FORM (WS)":K1$="(SF)":GOSUB 13370
13320 PUT 2,52
```

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```
=====
13330 J1$="      51.  BOTTOM FORM (PS)":K1$="(SF)":GOSUB 13370
13340 PUT 2,53
13350 J1$="      52.  BOTTOM FORM (ST)":K1$="(SF)":GOSUB 13370
13360 PUT 2,54
13365 GOTO 13470
13370 Q1=Q1+64:Q2=Q2+64:Q3=Q3+64
13380 FL=-5:PRINT@Q1,;
13390 GOSUB 100:M1$=IN$
13400 FL=-5:PRINT@Q2,;
13410 GOSUB 100:N1$=IN$
13420 FL=-5:PRINT@Q3,;
13430 GOSUB 100:O1$=IN$
13440 L1=VAL(O1$)*VAL(N1$):L1$=STR$(L1):H1$=".00"
13450 LSETJ$=J1$:LSETK$=K1$:RSETL$=L1$:RSETM$=M1$:RSETN$=N1$:RSETO$=O1$:RSETH$=H
      1$
13460 RETURN
13470 GOSUB14400
13480 PRINT"
      GB SIDE FORM (SF) .....
      FF SIDE FORM (SF) .....
      SF SIDE FORM (SF) .....
      RP SIDE FORM (SF) .....
      FW SIDE FORM (SF) .....
      SB SIDE FORM (SF) .....
13490 PRINT"SG SIDE FORM (SF) .....
      SC SIDE FORM (SF) .....
      RC SIDE FORM (SF) .....
      SS SIDE FORM (SF) .....
      ST SIDE FORM (SF) .....
13600 J1$="      53.  SIDE FORM (GB)":K1$="(SF)":GOSUB 13370
13610 PUT 2,55
13620 J1$="      54.  SIDE FORM (FF)":K1$="(SF)":GOSUB 13370
13630 PUT 2,56
13640 J1$="      55.  SIDE FORM (SF)":K1$="(SF)":GOSUB 13370
13650 PUT 2,57
13660 J1$="      56.  SIDE FORM (RP)":K1$="(SF)":GOSUB 13370
13670 PUT 2,58
13680 J1$="      57.  SIDE FORM (FW)":K1$="(SF)":GOSUB 13370
13690 PUT 2,59
13700 J1$="      58.  SIDE FORM (SB)":K1$="(SF)":GOSUB 13370
13710 PUT 2,60
13720 J1$="      59.  SIDE FORM (SG)":K1$="(SF)":GOSUB 13370
13730 PUT 2,61
13740 J1$="      60.  SIDE FORM (SC)":K1$="(SF)":GOSUB 13370
13750 PUT 2,62
13760 J1$="      61.  SIDE FORM (RC)":K1$="(SF)":GOSUB 13370
13770 PUT 2,63
13780 J1$="      62.  SIDE FORM (SS)":K1$="(SF)":GOSUB 13370
13790 PUT 2,64
13800 J1$="      63.  SIDE FORM (ST)":K1$="(SF)":GOSUB 13370
```

Program Listings

CONCRETE TAKE - OFF - COST

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```
13810 PUT 2,65
13820 GOTO 10650
14000 CLS:PRINTTAB(30);"MATERIAL          WASTE
14010 PRINTTAB(30);"UNIT COST      FRACTION
14020 Q1=223:Q2=236:PRINTLN$:RETURN
14100 CLS:PRINTTAB(25);"MATERIAL      WAGE      MAN      WASTE
14110 PRINTTAB(25);"UNIT COST  RATE/HR  HOURS  FRACTION
14120 Q1=218:Q2=228:Q3=238:Q4=248:PRINTLN$:RETURN
14200 CLS:PRINTTAB(30);" WAGE      MAN
14210 PRINTTAB(30);"RATE/HR      HOURS
14220 Q1=222:Q2=236:PRINTLN$:RETURN
14300 CLS:PRINTTAB(30);"MATERIAL      WAGE      WASTE
14310 PRINTTAB(30);"UNIT COST  RATE/HR  FRACTION
14320 PRINTLN$:RETURN
14400 CLS:PRINTTAB(28);"MATERIAL      MAN      WAGE
14410 PRINTTAB(28);"UNIT COST      HOURS      RATE/HR
14420 Q1=221:Q2=235:Q3=246:PRINTLN$:RETURN
14500 CLS:PRINTTAB(22);"MATERIAL      MAN      WAGE      WASTE
14510 PRINTTAB(22);"UNIT COST  HOURS      RATE/HR  FRACTION
14520 Q1=215:Q2=227:Q3=237:Q4=247:PRINTLN$:RETURN
14600 PRINT@834,"** ENTER VALUES FOR PLACING CONCRETE (PER CUBIC YARD) **";:PRIN
T@192,,:RETURN
14700 PRINT@835,"** ENTER VALUES FOR PLACING REINFORCING BAR (PER LB) **";:PRINT
@192,,:RETURN
```

Program Listings

CONCRETE TAKE - OFF - PRICING

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5 ' "PRICING"

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```

10 CLEAR500:POKE(16425),1
20 DIM C$(5),D$(18),A(83),W(83),M(83),L(83),H(83),G$(83),M$(83),O(83)
30 LPRINTTAB(40);"**** CONCRETE PRICING ****":LPRINTCHR$(138)
50 GOSUB 7000
100 FOR I=1 TO 5
200 READ C$(I)
300 NEXT I
400 DATA "2000","2500","3000","3500","4000"
500 FOR I=1 TO 18
600 READ D$(I)
700 NEXT I
800 DATA "GB","FN","FF","SF","RP","DP","PB","FW"
805 DATA "SB","SC","RC","SS","SG","PS","PT","WS","ST","TP"
810 FOR I=1 TO 83
820 READ G$(I)
825 NEXT I
830 DATA "CONCRETE",,"REINFORCING BAR",,"FINISH &
      CURE",,""
831 DATA "RISER FORM",,"LINE & GRADE",,"HAND
      EXCAVATION",,""
832 DATA "BACK FILL",,"RUB FINISH",,""
      ",","CARTON FORM",,""
833 DATA "GRADE BEAM CLOSURE",,"FORM LINER",,""
      ",","WWM 6X6-10/10",,""
836 DATA "WWM 6X6-6/6",,"WWM 4X4-6/6",,"",,"",,""
      ",","",,""
837 DATA "PL CONC (GB)",,"PL CONC (FN)",,"PL CONC
      (FF)",,""
838 DATA "PL CONC (SF)",,"PL CONC (RP)",,"PL CONC
      (DP)",,""
839 DATA "PL CONC (PB)",,"PL CONC (FW)",,"PL REBAR
      (GB)",,""
840 DATA "PL REBAR (FN)",,"PL REBAR (FF)",,"PL REBAR
      (SF)",,""
841 DATA "PL REBAR (RP)",,"PL REBAR (DP)",,"PL REBAR
      (FW)",,""
842 DATA "PL CONC (SB)",,"PL CONC (SC)",,"PL CONC
      (RC)",,""
843 DATA "PL CONC (SG)",,"PL CONC (TP)",,"PL CONC
      (SS)",,""
844 DATA "PL REBAR (SB)",,"PL REBAR (SC)",,"PL REBAR
      (RC)",,""
845 DATA "PL REBAR (SG)",,"PL REBAR (SS)",,"SANDBLAS
      TING",,""
846 DATA "CUSHION",,"VP-BAP",,"BOTTOM F
      ORM (SB)",,"BOTTOM FORM (SS)"

```

Program Listings

CONCRETE TAKE - OFF - PRICING

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```

847 DATA "BOTTOM FORM (WS)      ", "BOTTOM FORM (PS)      ", "BOTTOM F
    ORM (ST)      "
848 DATA "SIDE FORM (GB)      ", "SIDE FORM (FF)      ", "SIDE FOR
    M (SF)      "
849 DATA "SIDE FORM (RP)      ", "SIDE FORM (FW)      ", "SIDE FOR
    M (SB)      "
850 DATA "SIDE FORM (SG)      ", "SIDE FORM (SC)      ", "SIDE FOR
    M (RC)      "
851 DATA "SIDE FORM (SS)      ", "SIDE FORM (ST)      ", "#1 SP-FM
    "
852 DATA "#2 SP-FM      ", "#3 SP-FM      ", "#4 SP-FM
    "
853 DATA "#5 SP-FM      ", "#6 SP-FM      ", "#7 SP-FM
    "
854 DATA "#8 SP-FM      ", "#9 SP-FM      "
865 FOR I=1 TO 83:READ M$(I):NEXT I
870 DATA "(CY)      ", "(LB)      ", "(SF)      ", "      ", "(LF)      ", "      ", "(SF)      ", "(C
    Y)      ", "(CY)      "
871 DATA "      ", "      ", "      ", "      ", "(SF)      ", "      ", "(SF)      ", "      ", "(SF)      ", "      ", "      ", "      ", "      "
872 DATA "(SF)      ", "(SF)      ", "(SF)      ", "(SF)      ", "(SF)      ", "      ", "      ", "      ", "      ", "      ", "      "
873 DATA "(CY)      ", "(CY)      ", "(CY)      ", "(CY)      ", "(CY)      ", "(CY)      ", "(CY)      ", "(CY)      "
    ", "(CY)      ", "(CY)      "
874 DATA "(LB)      ", "(LB)      ", "(LB)      ", "(LB)      ", "(LB)      ", "(LB)      ", "(LB)      "
    ", "(LB)      "
    ", "(LB)      "
875 DATA "(CY)      ", "(CY)      ", "(CY)      ", "(CY)      ", "(CY)      ", "(CY)      ", "(CY)      "
    ", "(CY)      "
876 DATA "(LB)      ", "(LB)      ", "(LB)      ", "(LB)      ", "(LB)      ", "(LB)      ", "(LB)      "
    ", "(SF)      "
877 DATA "(CY)      ", "(SF)      ", "(SF)      ", "(SF)      ", "(SF)      ", "(SF)      ", "(SF)      "
    ", "(SF)      "
    ", "(SF)      "
878 DATA "(SF)      ", "(SF)      ", "(SF)      ", "(SF)      ", "(SF)      ", "(SF)      ", "(SF)      "
    ", "(SF)      "
    ", "(SF)      ", "(SF)      "
879 DATA "(LF)      ", "(SF)      ", "(SF)      ", "(SF)      ", "(LF)      ", "(LF)      ", "(LF)      "
    ", "(LF)      "
    ", "(LF)      "
    ", "(LF)      "
880 DATA "(LF)      ", "(LF)      ", "(LF)      ", "(LF)      "
900 OPEN "I", 1, "CONCRINP":ED=1:GOSUB10010
950 IF EOF(1)<>-1 THEN INPUT#1, C$, D$:GOSUB10000:ELSE GOT06422
955 IF MID$(D$, 1, 2)="FN" THEN D$="FOOTING, NEAT EX"
960 IF MID$(D$, 1, 2)="FF" THEN D$="FOOTING, FORMED"
965 IF MID$(D$, 1, 2)="SF" THEN D$="SPOT FOOTING"
970 IF MID$(D$, 1, 2)="RP" THEN D$="RECTANGULAR PIER"
975 IF MID$(D$, 1, 2)="DP" THEN D$="DRILLED PIER"
980 IF MID$(D$, 1, 2)="PB" THEN D$="PIER BELL ONLY"
985 IF MID$(D$, 1, 2)="FW" THEN D$="FOUNDATION WALL"
986 IF D$="SB" THEN D$="STRUCTURAL BEAM"
987 IF D$="SC" THEN D$="SQUARE COLUMN"
988 IF D$="RC" THEN D$="ROUND COLUMN"
999 IF D$="SS" THEN D$="STRUCTURAL SLAB"
1000 IF D$="SG" THEN D$="SLAB ON GRADE"
1001 IF D$="PS" THEN D$="PAN SLAB"
1002 IF D$="PT" THEN D$="PAN TAPERS"
1003 IF D$="WS" THEN D$="WAFFLE SLAB"

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Program Listings

CONCRETE TAKE - OFF - PRICING

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```
1004 IFD$="ST"THEND$="STAIR SLAB
1005 IF MID$(D$,1,2)="GB" THEN D$="GRADE BEAM"
1006 IFD$="TP"THEND$="TOPPING
1007 IF MID$(D$,1,3)="a" THEN 6390
1200 IFED=0THEN1800
1400 ED=0:LPRINT"CLASS OF CONCRETE ";C$
1600 B$=C$
1700 B1=10
1800 CI=0:FOR I=1 TO 5
1900 IF C$=C$(I) THEN CI=I+24:I=5
2000 NEXT I
2100 REM IFC1=0THEN GOTO :!ERROR NO SUCH CLASS
2300 I=0:FOR X=1 TO 18
2400 IF D$=D$(X) THENI=X:X=18
2500 NEXT X
2600 REM IFI=0THEN GOTO : ERROR ????
2700 IF BZ=0 THEN 2900
2800 IF D$=A$ THEN 3300
2900 LPRINTCHR$(138)
3000 LPRINT USING "% %";D$;:LPRINTTAB(24);STRING$(70,".")
3100 A$=D$
3200 B2=10
3300 C2=I
3400 FOR I=1 TO 33
4400 INPUT#1,A(I)
4500 NEXT I
4800 FOR I=1 TO 33
4850 I2=I:QU=A(I)
4900 IF A(I)=0 THEN 6370
5000 IF I<>1 THEN 5600
5100 A(I)=A(I)*(1+W(C1))
5200 M3=A(I)*M(C1)
5500 GOTO 6310
5600 IF I<>2 THEN 5900
5700 A(I)=A(I)*(1+W(I))
5800 M3=A(I)*M(I)
5850 GOTO 6310
5900 IFI>24THENI=I+50:GOTO6200
5910 IFI=5THEN11000
6000 IF I=6 GOTO 11000
6100 IF I=13THENI=5
6120 IF I=20THENI=56
6130 IFI=10THENI=58
6140 IFI=17THENI=57
6200 QU=QU*(1+W(I))
6300 M3=QU*M(I):L3=QU*L(I):H3=QU*H(I)
6310 L4=L4+L3: M4=M4+M3: H4=H4+H3
6320 GOSUB10000:LPRINT USING"% %";G$(I);
6330 LPRINT USING"#####.## ";QU;
6340 LPRINT USING"% %";M$(I);
```

Program Listings

CONCRETE TAKE - OFF - PRICING

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```
6350 LPRINT " ";
6360 LPRINT USING"#####.## " ;L3;M3;L3+M3;H3
6370 L3=0: M3=0: H3=0
6372 IFI=1GOTO11000
6374 IFI=2GOTO11000
6379 I=I2
6380 NEXT I:GOTO950
6390 ED=1:LPRINTCHR$(138):LPRINTSTRING$(95,"="):LPRINT "SUBTOTAL CLASS - ";C$;TAB
      B(47);
6400 LPRINT USING"#####.## " ;L4;M4;L4+M4;H4
6410 LPRINTSTRING$(95,"-"):LPRINT " ":GOSUB10000
6415 L5=L5+L4: M5=M5+M4: H5=H5+H4
6417 L4=0: M4=0: H4=0
6418 Z$=C$
6420 IFEOF(1)=-1THEN6422
6421 INPUT#1,C$,D$:IFC$<>Z$THEN955ELSEGOTO6420
6422 LPRINTSTRING$(95,"="):LPRINT "GRAND TOTAL";TAB(47);
6424 LPRINT USING"#####.## " ;L5;M5;L5+M5;H5
6426 LPRINTCHR$(12):CLOSE
6428 RUN"CONCRETE
7000 REM *** READ COSTFILE ***
7010 OPEN"R",2,"COSTFILE":FIELD2,42ASJ$,8ASK$,9ASL$,9ASM$,9ASN$,9ASO$,9ASH$
7020 FORX=3TO7:GET2,X:Y=X+22:GOSUB8000:NEXT
7070 GET2,8:Y=2:GOSUB8000
7080 GET2,9:Y=3:GOSUB8000
7090 GET2,10:Y=5:GOSUB8000
7100 GET2,11:Y=15:GOSUB8000
7110 GET2,12:Y=16:GOSUB8000
7120 FORX=13TO16:GET2,X:Y=X+8:GOSUB8000:NEXT
7160 FORX=17TO19:GET2,X:Y=X-10:GOSUB8010:NEXT
7190 GET2,20:Y=14:GOSUB8010
7200 FORX=21TO74:GET2,X:Y=X+9:GOSUB8010:NEXT
7210 RETURN
8000 L(Y)=VAL(L$):M(Y)=VAL(M$):H(Y)=VAL(N$):W(Y)=VAL(H$):RETURN
8010 L(Y)=VAL(L$):M(Y)=VAL(M$):H(Y)=VAL(N$):RETURN
8050 RETURN
10000 IFPEEK(16425)<60THENRETURNELSELPRINTCHR$(12)
10010 LPRINTTAB(40);"UNIT LABOR MATERIAL TOTAL
10020 LPRINT"DESCRIPTION";TAB(28);"QUANTITY";TAB(40);"MEAS COST CO
      ST COST MAN-HRS
10030 LPRINTSTRING$(95,"="):LPRINTCHR$(138):RETURN
11000 IF D$<>"GRADE BEAM" GOTO 11050
11010 IF I=1THEN I=30:GOTO12000
11020 IF I=2THENI=38:GOTO12000
11030 IF I=5THENI=64:GOTO12050
11050 IF D$<>"FOOTING, NEAT EX" GOTO 11090
11060 IF I=1THENI=31:GOTO12000
11070 IF I=2THENI=39:GOTO12000
11090 IF D$<>"FOOTING, FORMED" GOTO 11130
11100 IF I=1THENI=32:GOTO12000
```


Program Listings

CONCRETE TAKE - OFF - PRICING

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=====
11110 IF I=2THENI=40:GOTO12000
11120 IF I=5THENI=65:GOTO12050
11130 IF D$<>"SPOT FOOTING" GOTO11170
11140 IF I=1THENI=33:GOTO12000
11150 IF I=2THENI=41:GOTO12000
11160 IF I=5THENI=66:GOTO12050
11170 IF D$<>"RECTANGULAR PIER" GOTO11210
11180 IF I=1THENI=34:GOTO12000
11190 IF I=2THENI=42:GOTO12000
11200 IF I=5THENI=67:GOTO12050
11210 IF D$<>"DRILLED PIER" GOTO11240
11220 IF I=1THENI=35:GOTO12000
11230 IF I=2THENI=43:GOTO12000
11240 IF D$<>"PIER BELL ONLY" GOTO11260
11250 IF I=1THENI=36:GOTO12000
11255 IF I=2THEN6379
11260 IF D$<>"FOUNDATION WALL" GOTO11300
11270 IF I=1THENI=37:GOTO12000
11280 IF I=2THENI=44:GOTO12000
11290 IF I=5THENI=68:GOTO12050
11300 IF D$<>"STRUCTURAL BEAM" GOTO11350
11310 IF I=1THENI=45:GOTO12000
11320 IF I=2THENI=51:GOTO12000
11330 IF I=5THENI=69:GOTO12050
11340 IF I=6THENI=59:GOTO12050
11350 IF D$<>"SQUARE COLUMN" GOTO11390
11360 IF I=1THENI=46:GOTO12000
11370 IF I=2THENI=52:GOTO12000
11380 IF I=5THENI=71:GOTO12050
11390 IF D$<>"ROUND COLUMN" GOTO11430
11400 IF I=1THENI=47:GOTO12000
11410 IF I=2THENI=53:GOTO12000
11420 IF I=5THENI=72:GOTO12050
11430 IF D$<>"STRUCTURAL SLAB" GOTO11480
11440 IF I=1THENI=50:GOTO12000
11450 IF I=2THENI=55:GOTO12000
11460 IF I=5THENI=73:GOTO12050
11470 IF I=6THENI=60:GOTO12050
11480 IF D$<>"SLAB ON GRADE" GOTO11520
11490 IF I=1THENI=48:GOTO12000
11500 IF I=2THENI=54:GOTO12000
11510 IF I=5THENI=70:GOTO12050
11520 IF D$<>"PAN SLAB" GOTO11560
11530 IF I=1THENI=50:GOTO12000
11540 IF I=2THENI=55:GOTO12000
11550 IF I=6THENI=62:GOTO12050
11560 IF D$<>"PAN TAPPERS" GOTO11590
11570 IF I=1THENI=50:GOTO12000
11580 IF I=2THENI=55:GOTO12000
11590 IF D$<>"WAFFLE SLAB" GOTO11630
```

Program Listings

CONCRETE TAKE - OFF - PRICING

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=====

```
11600 IF I=1THENI=50:GOTO12000
11610 IF I=2THENI=55:GOTO12000
11620 IF I=6THENI=61:GOTO12050
11630 IF D$<>"STAIR SLAB" GOTO11680
11640 IF I=1THENI=50:GOTO12000
11650 IF I=2THENI=55:GOTO12000
11660 IF I=5THENI=74:GOTO12050
11670 IF I=6THENI=63:GOTO12050
11680 IF D$<>"TOPPING" GOTO6379
11690 IF I=1THENI=50:GOTO12000
11700 IF I=2THEN6379
11710 GOTO 6379
12000 L3=QU*L(I):H3=QU*H(I):GOTO6310
12050 L3=QU*L(I):M3=QU*M(I):H3=QU*H(I):GOTO6310
```


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