

Ceaser 3.0 Road Design Input



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Ceaser Road Design Input

- How to Input Your Road Design
- Extracting info off a Road Plan
- How to Check your Road Design

How to Input your Road Design:

All Design Input Data happens in the *Design Menu*



Design

After Clicking the Design Icon you will be taken to the *Design Menu*



Job: GPSJOB2
Site: GPSTEST

Geo Coords Code Gen Rpts

Before we start inputting design data we need to read our Road Plan and Extract the correct Data off the plan.

Extracting information off of Road Plan.

Information you need from the Road Plan:

- Horizontal Pi's and Radius
- Vertical Pi's Stake Value, VPI Level and Curve Length
- Crossfall / Camber
- Road Profile: Width, Edge, Shoulder.
- Start Stake Value

Horizontal Pi's are usually given in a separate file.

Example;

start	43572.96	3758277
pi1	43568.28	3758279
pi2	43553.54	3758282
pi3	43254.19	3758392
pi4	43228.74	3758405
pi5	43175.11	3758424
pi6	43151.63	3758432
end	43093.58	3758453

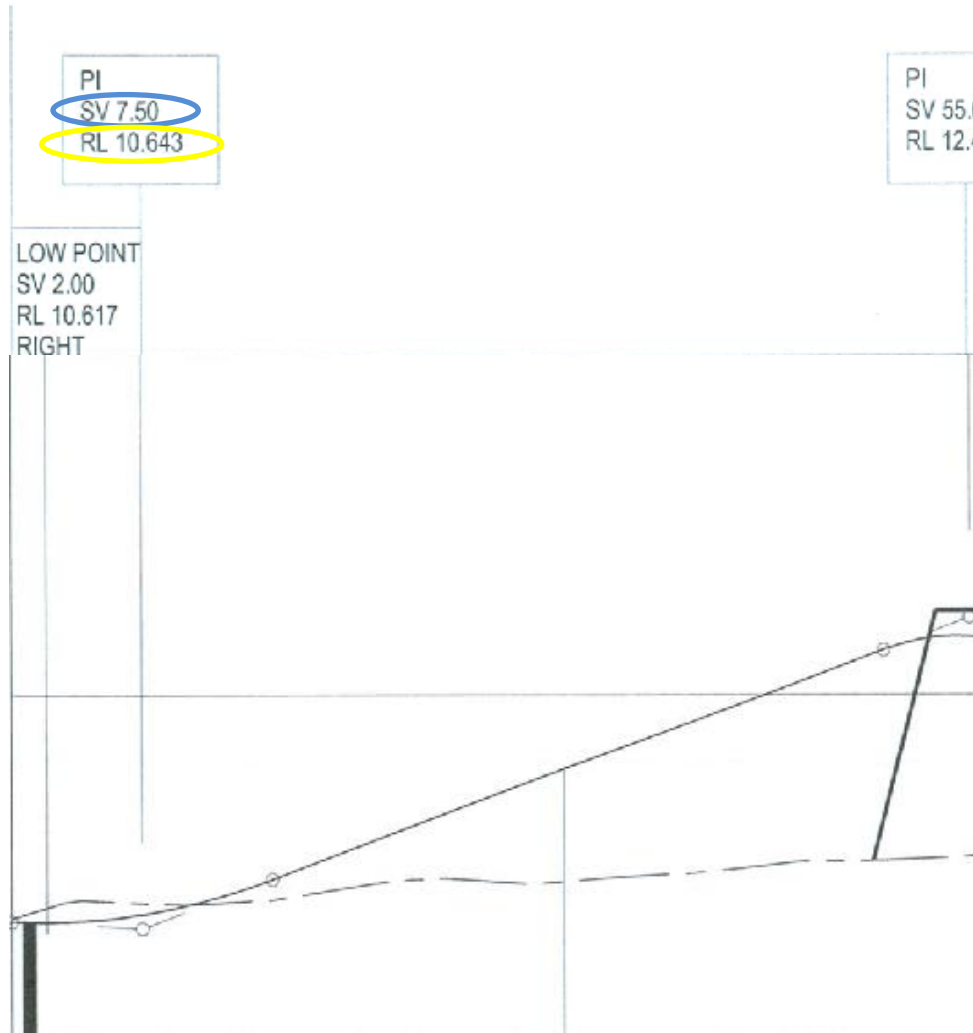
Radius will be given on the Road Design Plan in fields at bottom of the plan.

HORIZONTAL ALIGNMENT	ROAD 4-STA					
	0.00					
	ROAD 4-BC1		R=50.00			
	2.61	A=5°28'30"	TL=2.387			
		CL=4.778				
	ROAD 4-EC1					
	7.39					
	ROAD 4-BC2		R=50.00			
	17.84	A=-5°28'30"	TL=2.394			
		CL=4.778				
	ROAD 4-EC2					
	22.61					

Vertical Pi's Stake Value are usually found in these Blocks at the top of the Road Design Plan.

Vertical Curve Lengths will be given on the Road Design Plan in fields at bottom of the plan.

VPI Level will be given on the Road Design Plan in fields the top of the Road Plan



VERTICAL ALIGNMENT

V.C.L. = 15m

K = -3.437

LEFT EDGE (2.5m FROM ϵ)

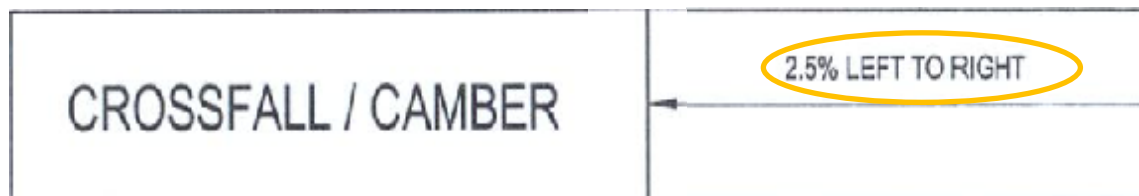
CENTRE LINE

RIGHT EDGE (2.5m FROM ϵ)

10.748	10.756	10.787	10.837	10.991	11.181
10.685	10.693	10.725	10.774	10.928	11.119
10.623	10.631	10.662	10.712	10.866	11.056

FINISHED
ROAD
LEVELS

Cross Fall will be given on the Road Design Plan in fields at bottom of the plan.



Road Profile will be given on the Road Design Plan in fields at bottom of the plan.

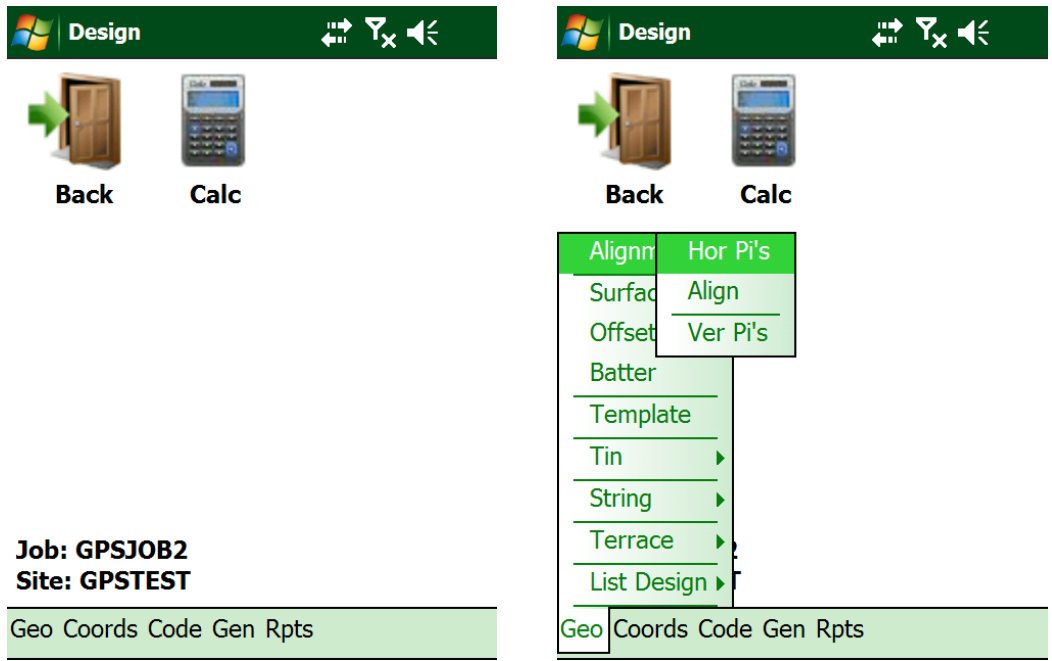
FINISHED ROAD LEVELS	LEFT EDGE (2.5m FROM ϵ)
	CENTRE LINE
	RIGHT EDGE (2.5m FROM ϵ)

Start Stake Value will be given on the Road Design Plan in fields at bottom of the plan.

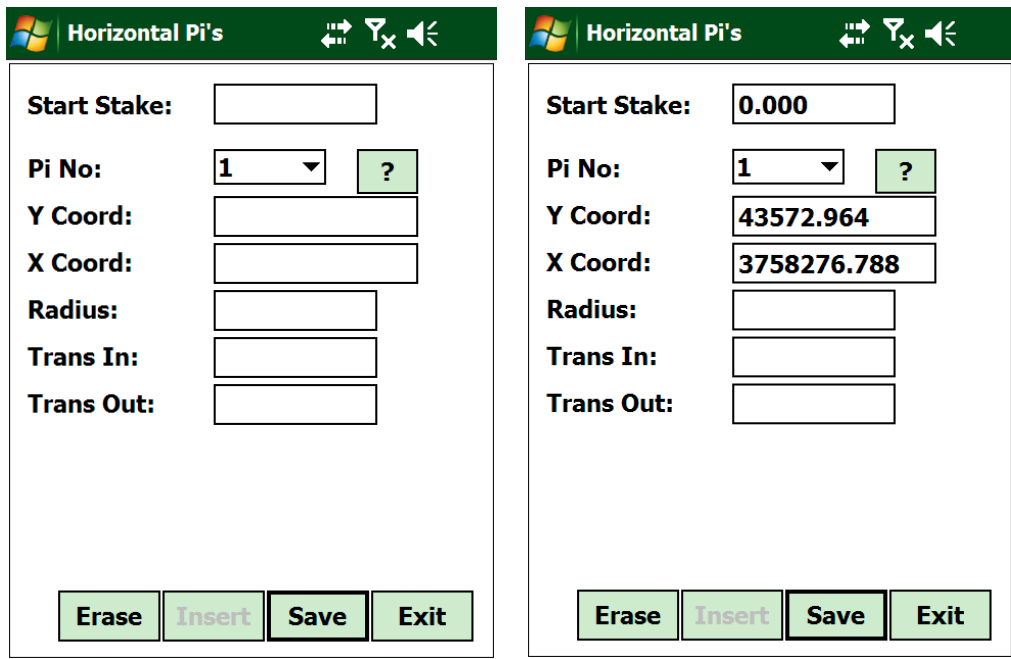
STAKE VALUE	0.00	5.00	7.50
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Now that we have found all the correct data in the Road Plan, It's time to enter the Data into Ceaser.

- From the **Design Menu** Click **Geo > Alignment > Hor Pi's**



- Type in your **HPI Data** : *Y-Coord,X-Coord,Radius* .
- Click **Save** to enter next value and **Exit** to Save Design



- Type in your next **HPI** (Y,X) and add a **Radius** if present and Click **Save**

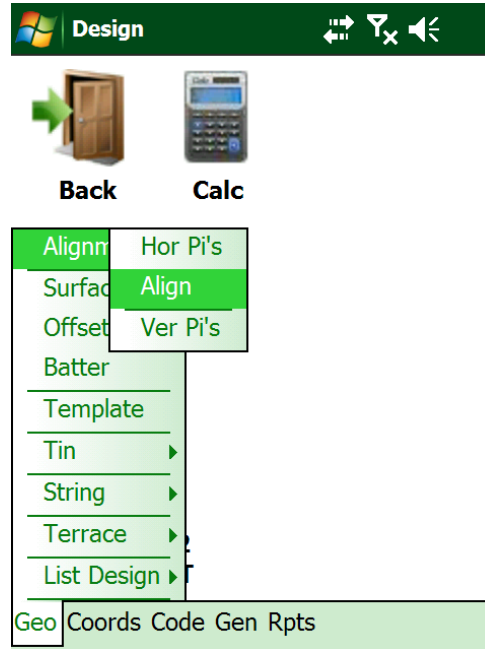
The image shows two side-by-side screenshots of a software window titled "Horizontal Pi's". Each window contains a form with the following fields: Start Stake (text box with "0.000"), Pi No (dropdown menu with "2" and a "?" button), Y Coord (text box), X Coord (text box), Radius (text box), Trans In (text box), and Trans Out (text box). At the bottom of each window are four buttons: Erase, Insert, Save, and Exit. The right-hand screenshot shows the Y Coord field filled with "43568.279", the X Coord field filled with "3759278.510", and the Radius field filled with "50.000".

- Keep repeating until all the HPI data has been entered and *Remember, your Start and End of your HPI data cannot have a radius.*
- Click **Exit** and Click **Yes** to process the alignment points

The image shows a screenshot of the "Horizontal Pi's" software window. A dialog box titled "Process Alignment" is overlaid on the main form. The dialog box contains a question mark icon and the text "Do You Want To Process The Alignment Pnts". Below the text are two buttons: "Yes" and "No". The background form shows the Start Stake field with "0.000" and the Trans Out field which is empty. The other fields (Pi No, Y Coord, X Coord, Radius, Trans In) are partially obscured by the dialog box.

Now is a good time to check your Inputted data.

- From the **Design** Menu Click **Geo>Alignment>Align**



In this screen you can view/check your Alignment points (BCC's, ECC's)

- Check your Input/Calculated data matches your design data.
- Check Stake Values Match BCC and ECC

Alignment Points

Start Stake:

Pi No: ?

Y Coord:

X Coord:

Radius:

Length:

Code:

Stake:

Erase Insert Save Exit

Alignment Points

Start Stake:

Pi No: ?

Y Coord:

X Coord:

Radius:

Length:

Code:

Stake (BC):

Erase Insert Save Exit

Alignment Points

Start Stake:

Pi No: ?

Y Coord:

X Coord:

Radius:

Length:

Code:

Stake (EC):

Erase Insert Save Exit

HORIZONTAL ALIGNMENT

CENTRELINE CO-ORD. TABLE

POINT LABEL	WGS84 LO 19 CO-ORD. SYSTEM	
	Y Constant 0.000	X Constant +3700000.000
ROAD 4-STA	43572.964	58276.788
ROAD 4-BC1	43570.515	58277.688
ROAD 4-EC1	43565.958	58279.118

ROAD 4-STA
0.00

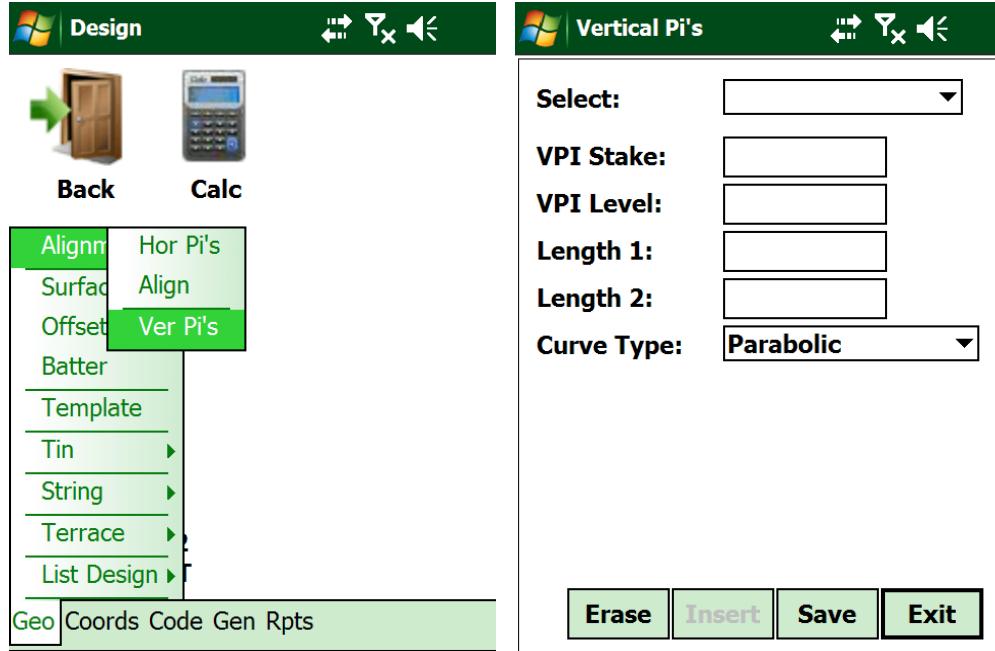
ROAD 4-BC1
2.61

R=50.00
A=5°28'30"
TL=2.387
CL=4.778

ROAD 4-EC1
7.39

Now it's time to Input your Vertical Data

- From the **Design Menu** Click **Geo > Alignment > Ver Pi's**



- Type in your VPI Data : **VPI Stake Value**, **VPI Level(RL)**, **Curve Length** Click **Save** to enter next Value and **Exit** to Save Design

Vertical Pi's

Select: 0.000

VPI Stake: 0.000

VPI Level: 10.685

Length 1: 0.000

Length 2: 0.000

Curve Type: Parabolic

Erase Insert Save Exit

Vertical Pi's

Select: 7.500

VPI Stake: 7.500

VPI Level: 10.643

Length 1: 15.000

Length 2: 0.000

Curve Type: Parabolic

Erase Insert Save Exit

Vertical Pi's

Select: 55.000

VPI Stake: 55.000

VPI Level: 12.450

Length 1: 10.000

Length 2: 0.000

Curve Type: Parabolic

Erase Insert Save Exit

Next Piece of Information is your Cross Fall

- From the **Design Menu** Click **Geo > Surface > Crossfall**
- Type in your Crossfall data: **Stake** , **Left Crossfall** , **Right Crossfall** and Click **Save** to enter next Value and **Exit** to Save Design

The image shows three sequential screenshots of the software interface. The first screenshot shows the 'Design' menu with 'Geo > Surface > Crossfall' selected. The second screenshot shows the 'Crossfalls' dialog box with the following values: Stake: 0.000, LC\Fall (%): 0.000, and RC\Fall (%): 0.000. The third screenshot shows the 'Crossfalls' dialog box with the following values: Stake: 0.000, LC\Fall (%): 2.500, and RC\Fall (%): -2.500. The 'Save' button is highlighted in the third screenshot.

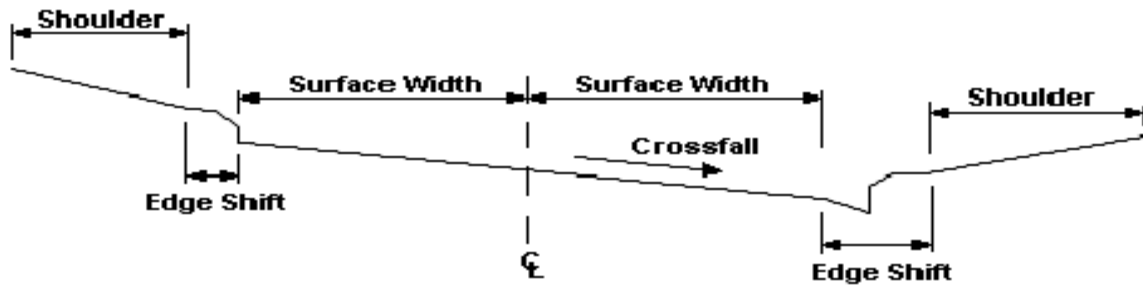
Next is to input the Road Profile Design

- From the **Design Menu** Click **Geo > Surface > Width**

The image shows a screenshot of the software interface. The 'Design' menu is open, and 'Geo > Surface > Width' is selected. The 'Width' option is highlighted in green. The 'Back' and 'Calc' buttons are visible above the menu. The 'Geo' menu item is also visible at the bottom of the screen.

Ceaser will set out your Surface in this order.

Shoulder < Edge < Surface Width < **Centerline** > Surface Width > Edge > Shoulder



Surface Design Input Sequence

- Type in your Surface Width: *Stake, Left Width, Right Width* and Click **Save** to enter next Value and **Exit** to Save Design

Remember on our Road Plan “Edge” will be “Surface Width” in ceaser

Select:	<input type="text"/>
Stake:	<input type="text"/>
Left Width:	<input type="text"/>
Right Width:	<input type="text"/>
<input type="button" value="Erase"/> <input type="button" value="Insert"/> <input type="button" value="Save"/> <input type="button" value="Exit"/>	

Select:	<input type="text"/>
Stake:	<input type="text" value="0.000"/>
Left Width:	<input type="text" value="2.500"/>
Right Width:	<input type="text" value="2.500"/>
<input type="button" value="Erase"/> <input type="button" value="Insert"/> <input type="button" value="Save"/> <input type="button" value="Exit"/>	

You have now inputted a basic Road Design

Your Design is ready to be setout