

Pocket 3D Instruction Guide

MC-Mobile

SOFTWARE VERSION: 15



Advise | Enable | Support





Foreword

This course is designed to fulfil the needs of users from the surveying, mining and civil industry and has been produced by Aptella. Its contents are informed by many decades of experience in surveying, civil engineering, and related applications, coupled with technical expertise from manufacturer-trained employees. In addition, we acknowledge the input from our customers and former students by assisting us with feedback on the contents of this course.

Copyright © Aptella Pty Ltd, Melbourne, 2024. This training guide is available for personal use only. It is not to be reproduced in any form, redistributed, or sold without the express permission of Aptella. Any queries regarding the commercial availability of this training guide should be directed at Aptella.

Aptella Technical Support

QR Code for Online Resources (Quick Guides, Videos, Manuals)



Technical Support Contact Details

This number will connect you to the closest branch for Technical Support.

National Support Number 1800 898 422

If you are unable to reach our regional support teams, please leave a voicemail so a support ticket is generated in our system. Our support team will get back to you as soon as possible to help with your inquiry.



Page 2 of 36 SOFTWARE VERSION: 15



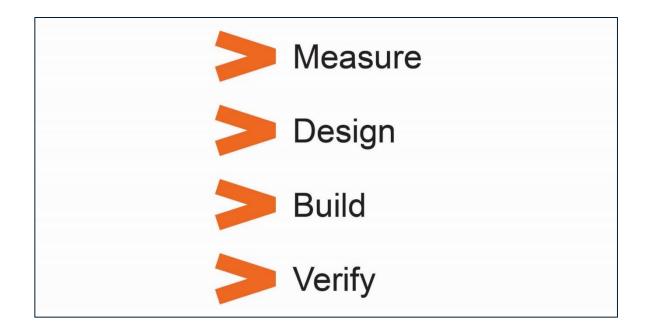
Contents

Foreword	2
Aptella Technical Support	2
QR Code for Online Resources (Quick Guides, Videos, Manuals)	2
Technical Support Contact Details	2
Equipment	5
General Care of Equipment	5
Layout Navigator LN-150	5
Overview of Display Interface	6
Display Interface	6
Status Indicator Button	6
Main Menus and Shortcuts	7
Main Menu Buttons	7
Shortcut Options & Customisation in Pocket 3D	8
View & Display Functions	9
Changing Screen Layout Display	9
Adding and Changing Display Text	10
Selection Tools	11
Drag Selection	11
Click Selection	11
Clear Selection	12
Information Button	12
Loading, Selecting & Creating a Site	13
Creating A Site	13
Creating Layers	14
Creating Quick Codes	15
Selecting a Site	16
Copying a Site	17
Instrument Setup	18
Total Station Setup	18
Total Station Setup : Unknown Point	18
Total Station Setup : Resection	19

Aptella Academy IG-P3D_V15 Page 3 of 36 SOFTWARE VERSION: 15



Measure Topo	22
Trench Tool (Apply Grade/Profile)	23
Tape Dimension	25
Offset Polyline	27
Swapping from Pocket 3D to MC Mobile	28
Swapping From Pocket 3D to Machine	28
Swapping From Machine to Pocket 3D	28
Stake Out	29
Cut/Fill to a surface	29
Point Stake Out	30
Volume Calculation (Compare Surfaces)	31
Create a New Surface	32
Create a TIN Surface from Points and Lines	33





Overview

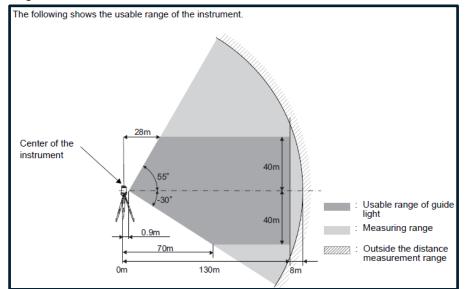
Equipment

General Care of Equipment

- Never place the instrument directly on the ground. Sand or dust may cause damage to the levelling mechanism, screw holes, optics, etc.
- > Protect the instrument from heavy shocks or vibration.
- > Protect Total Stations/Layout Navigators from wet weather.
- > Never carry an instrument on the tripod to another site.
- > Turn off power before removing the battery.
- Remove the battery before placing the instrument in the case.
- Make sure that the instrument and protective lining of the carrying case are dry before closing the case. The case is hermetically sealed and if moisture is trapped inside, this may lead to damage to the instrument.
- > Always transport the instrument in the carrying case.
- > Refer to your instrument manual for specific care instructions.

Layout Navigator LN-150

- It is recommended that the LN-150 is serviced & calibrated every 6 months. The next calibration date is shown on the calibration label affixed to the instrument.
- > Charging Time: Approximately 8 hours when 2 batteries are charged at the same time.
- Operational Time: Approximately 5 hours
- Measuring Range: 130 metres



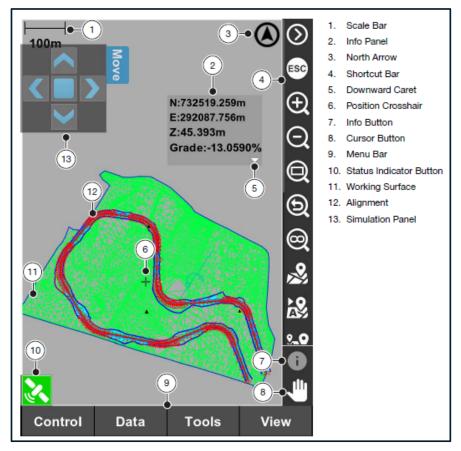
Aptella Academy IG-P3D_V15 Page 5 of 36 SOFTWARE VERSION: 15



Overview of Display Interface

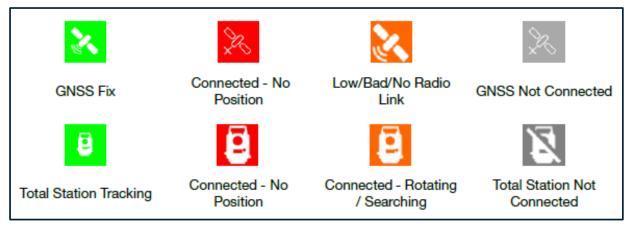
Display Interface

This section provides an overview of the Pocket 3D user Interface.



Status Indicator Button

The Status Indicator displays the status of the instrument.





Main Menus and Shortcuts

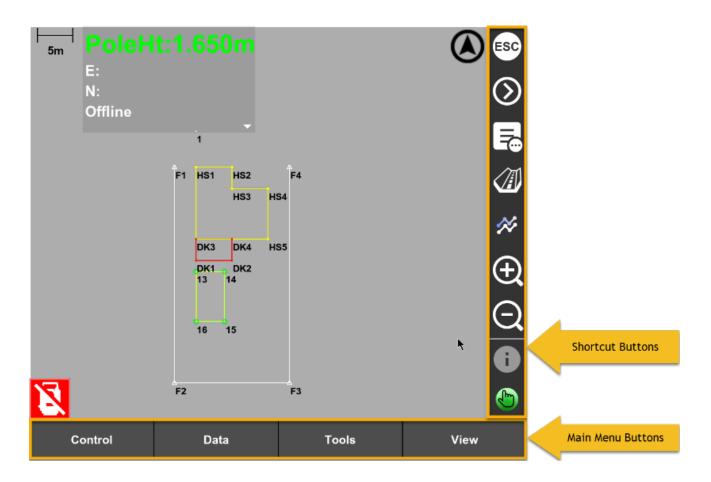
Main Menu Buttons

In the **Control** menu you can create, edit, copy, and delete machine setup files. Set up instruments, change pole height.

In the **Data** menu you can manage and create site data, create and edit layers, select or de-select active surfaces or alignments and use the Calc Wizard.

In the **Tools** menu you can create quick codes, perform pick-up or set-out and configure cut sheets.

In the **View** menu you can adjust your main screen view layout, select display options for surfaces and points, change how the machine image appears in the main screen, and add/remove shortcut buttons.





Shortcut Options & Customisation in Pocket 3D

Shortcuts occupy the right-hand side of the screen. Users now have the ability to toggle shortcuts on/off and order them as desired (the most commonly used shortcuts should be at the top).

Select View from the Main Menu, then tap on Display Options to access the Shortcuts button.

5m F: N: Offline	Image: Surface and Surf	
Control	DK3 DK4 HS5 .DK1 DK2 13 14 Background Color 16 15 Display Units F2 F3 Data	
Shortcuts Settings		
 Esc Next Layout 		
Context Menu		
Apply Grade/Profile		
 Øffset Polyline 		
🕀 Zoom In		
Q Zoom Out		
🥥 Zoom To Rect		
🧕 Zoom Previous		
🤕 Zoom To Extend		
🧏 Measure Topo-shot		
🔀 Start/Stop Auto-topo		
😂 Measure Topo-shot With	Offset	
🗳 Measure Control Point		
🟃 Measure Polyline		
Vertical Surface Offset		
All Measure Stake		
Cutsheets		
Secus Current Location		
Start/Stop Tracking		
Tape Dimension	Click to Hide or Show Shortcut	<u>त</u>
P [®] Reference Line		
Quicklock/GPSlock Go Home		
Goriolle		
	Move the selected shortcut Cancel	

Aptella Academy IG-P3D_V15 Page 8 of 36 SOFTWARE VERSION: 15

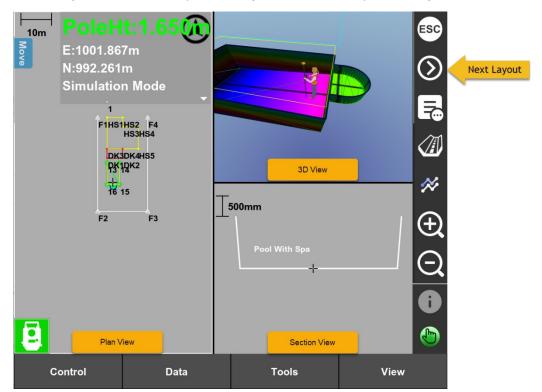


View & Display Functions

Changing Screen Layout Display

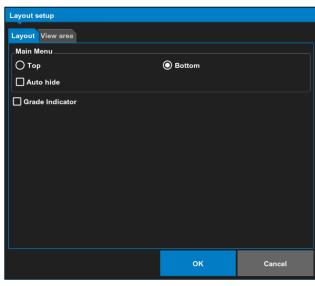
The main screen can be set to different layout configurations to suit the needs of the user.

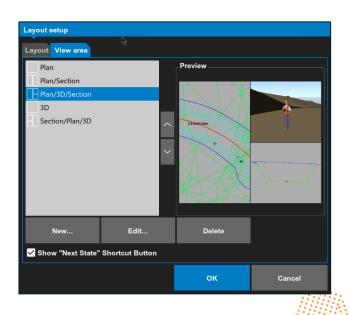
Use the **Next Layout** shortcut to cycle through the different layout configurations.



Configuring the Layout

- 1. Click View
- 2. Click Layout





Aptella Academy IG-P3D_V15

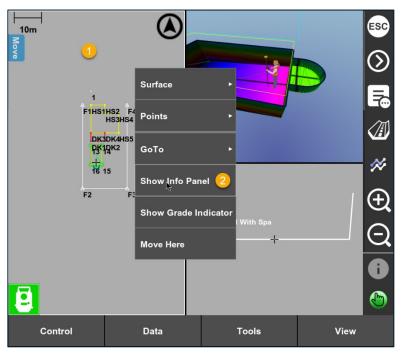
Page 9 of 36 SOFTWARE VERSION: 15

Adding and Changing Display Text

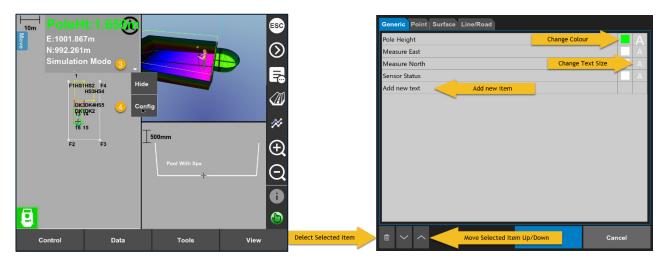
The **Display Text** feature can be used to indicate some additional information to the operator.

To add a new line of text to the display:

- 1. Select and hold anywhere on the main screen. The **Context Pop-up Menu** appears.
- 2. Select Show Info Panel.



- 3. Tap the down arrow.
- 4. Tap Config.



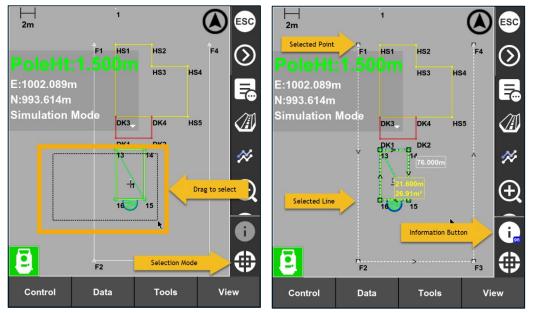


Selection Tools

Drag Selection

Press and hold the screen and drag a box around the area of data you want to select. Selected lines will display as a dashed line, Selected points will have a square box on them.

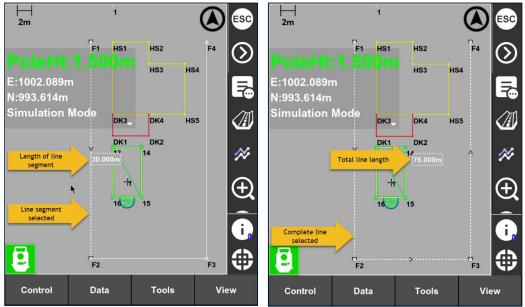
This will also show the length and area of lines selected. The information button will display the number of items selected.



Click Selection

Points: Tap once to select a point then tap once again to deselect.

Lines: Tap once to select the line segment. Tap once again to select the complete line then tap once again to deselect the line.



Aptella Academy IG-P3D_V15

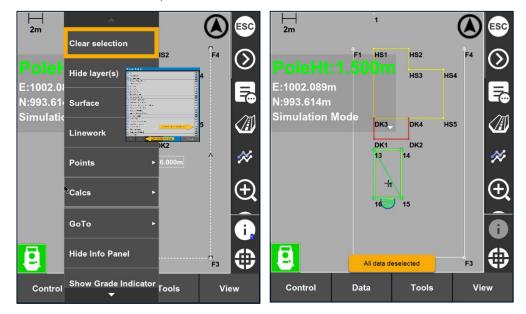
Page 11 of 36 SOFTWARE VERSION: 15



Clear Selection

The **Clear Selection** function allows you to deselect all the selected data at once.

Press and hold the screen then tap **Clear Selection**.

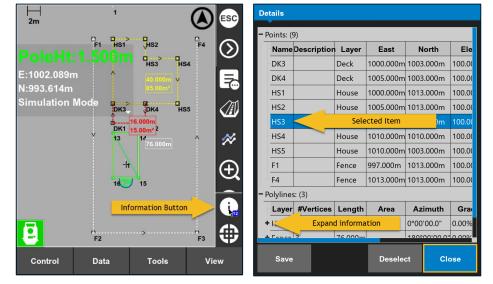


Information Button

The information button shows the number of items selected and allows you to view details on the data selected. The information button also allows you to deselect individual items of data. This is useful when data is very close together, For Example when there are two lines in the same location at different elevations.

Data items may have a "+" symbol next to them. Tap the + to expand and view more information on this item.

- > To view information on the selected data. Tap the Information Button.
- > To deselect an item of data. Select the item then tap Deselect.



MEASURE

Loading, Selecting & Creating a Site

Creating A Site

To create a new Site, go to the Data menu and tap Add. Select New Local Site then tap Next.

Sites: (Pool Demo)					Add Site
Name	▲ Moo	dified	Size	Surfaces	Add:
Central Training	02/0	8/24 08:57:42	2.54 KB	0	New Local Site
Demo 3	04/1	1/24 14:31:31	3.68 KB	0	O Existing Sitelink3D Site
fghghd	04/2	4/24 10:24:44	2.54 KB	0	New Sitelink3D Site
Golf Course Demo	02/1	3/24 08:43:45	12.88 KB	5	O New Sitelink3D Site
HilBal-f-Nrst	05/0	5/21 08:09:00	1.11 MB	2	
P3D Training	04/1	1/24 09:49:34	38.59 KB	6	
Pool Demo	05/1	5/24 09:39:17	17.29 KB	4	
QLD P3D	04/2	4/24 11:30:23	61.21 KB	8	
QLD Sales	02/2	2/24 11:10:07	29.74 KB	2	
SA Training	04/1	0/24 12:24:46	11.71 KB	2	
SA Training Pawan	04/1	1/24 10:16:34	4.52 KB	0	
Test Single	03/2	3/22 09:23:14	2.19 KB	0	
Training	11/0	3/23 10:44:04	2.54 KB	0	
Add	Details	Сору			
Rename		ок		Cancel	<u>N</u> ext > Cancel

Enter the site name. Starting the site name with the date will make it easier to find previous sites in the future (Year/Month/Day) when saved on USB Drives or Computers.

Add Site > New Local Site					
Local Site Name:					
240514 New Site					
Pre-load data from active local site:					
Control data (points, mmGPS, etc.)					
< <u>B</u> ack	<u>F</u> inish	Cancel			

MEASURE

Page 13 of 36 SOFTWARE VERSION: 15

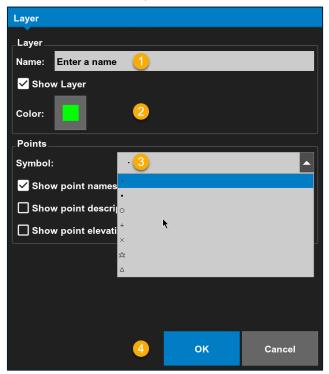
Creating Layers

Layers are used to organise data into different categories, For example : Existing surface, Sewer, Pad. This allows the user to show or hide data to make it easier to view or select specific data.

	Sites	HS3	HS4	ESC	Laye	rs		v			
E:1002.0		DK3 DK4	HS5		•	Layer	Points	Lines	Show	Color	Symbol
N:994.2	Control	DK1 DK2	нээ	\odot	\diamond	DEFAULT	1	0			
Simulat		13 14			\diamond	Deck	4	1	\checkmark		
Po	Layers 2			70		House	5	1	\checkmark		
	Points	16 15		⁄স্ব		Pool Points	4	0	\checkmark		0
						Pool Lines	0	1	\checkmark		
	Lineworks	2	F3			Spa Points	0	0			+
				*		Spa Lines	0	0			×
	Surface ►					Fence	4	1			Δ
				Ð		Pool with s	5	0			
	Active ►			\frown		Demo	0	0			0
				Q		SW	0	0			
	Import/Export ►			6		Pool with Spa	8	3			
	Calc Wizard										
						New <mark>3</mark>			Delete		
	Clear Selection										
Control		Tools	Viev	N		Avoidan	ce				Close

Tap Data > Layers > New

Enter a name for the layer, select a colour and symbol and tap OK

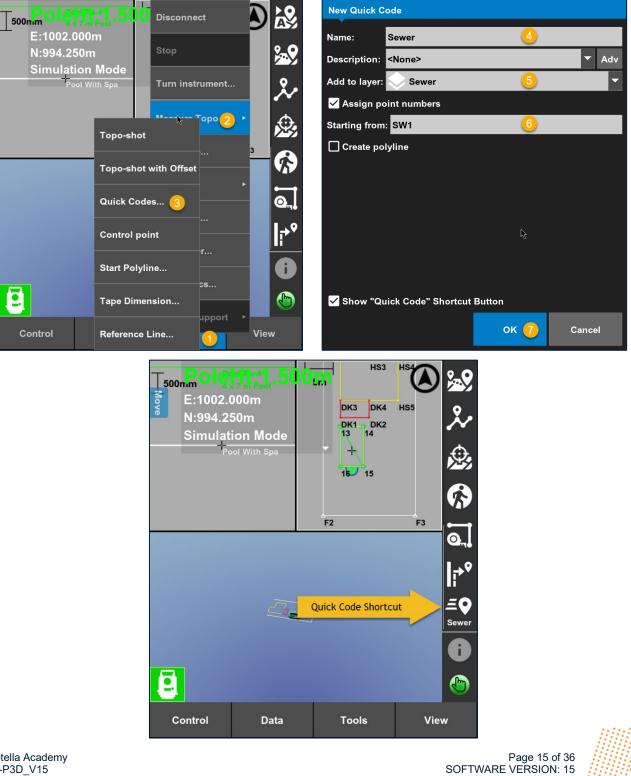


Aptella Academy IG-P3D_V15 Page 14 of 36 SOFTWARE VERSION: 15

Creating Quick Codes

The Quick Codes function allows you to create shortcuts to take topo-shots quickly with one click. Tap Tools > Measure Topo > Quick Codes. Tip : Use short names for the quick codes so they are easily identified in the short cuts.

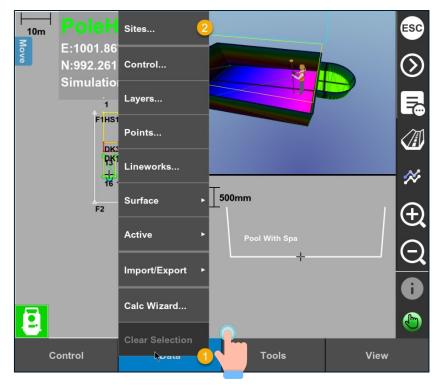
Enter the Name of the Quick Code > Select the Layer the points/lines will be added to > Optionally you can enter what the **Point Numbers** will start with > tap **OK**



MEASURE

Selecting a Site

Click Data then Sites.



This will open a list view of all the sites on the control box, tap on the required site and press **OK**. The project will load on the screen.

Sites: (Pool Demo)						
Name	~	Mod	dified	Size		Surfaces
Central Training		02/0	08/24 08:57:42	2.54	КВ	0
Demo 3		04/1	1/24 14:31:31	3.68	КВ	0
fghghd		04/2	4/24 10:24:44	2.54	КВ	0
Golf Course Demo		02/1	3/24 08:43:45	12.8	в КВ	5
HilBal-f-Nrst		05/0	05/21 08:09:00	1.11	MB	2
P3D Training	P3D Training		1/24 09:49:34	38.5	9 KB	6
Pool Demo		05/15/24 09:39:17 17.29		9 KB	4	
QLD P3D		04/24/24 11:30:23 61.2		1 KB	8	
QLD Sales		02/2	2/24 11:10:07	29.74	4 KB	2
SA Training		04/1	0/24 12:24:46	11.7	1 KB	2
SA Training Pawan		04/11/24 10:16:34 4.52		КВ	0	
Test Single		03/23/22 09:23:14		2.19	КВ	0
Training		11/0	3/23 10:44:04	2.54	KB	0
Add	Details		Сору		ſ	Delete
Rename			ок		c	Cancel

Aptella Academy IG-P3D_V15 Page 16 of 36 SOFTWARE VERSION: 15



Copying a Site

Name	^	Mod	dified	Size		Surfaces
Central Training		02/0	8/24 08:57:42	2.54	КВ	0
Demo 3		04/1	1/24 14:31:31	3.68	КВ	0
fghghd		04/2	4/24 10:24:44	2.54	KB	0
Golf Course Demo		02/1	3/24 08:43:45	12.8	8 KB	5
HilBal-f-Nrst		05/0	5/21 08:09:00	1.11	MB	2
P3D Training			04/11/24 09:49:34 38.59		9 KB	6
Pool Demo		05/1	5/24 09:39:17	17.2	9 KB	4
QLD P3D		04/2	4/24 11:30:23	61.2	1 KB	8
QLD Sales		02/2	2/24 11:10:07	29.7	4 KB	2
SA Training		04/1	0/24 12:24:46	11.7	1 KB	2
SA Training Pawan		04/1	04/11/24 10:16:34 4.52 KE		KB	0
Test Single		03/23/22 09:23:14 2		2.19	KB	0
Training		11/0	3/23 10:44:04	2.54	KB	0
Add	Details		Сору			Delete

To copy a site from a USB storage device, insert the USB into the USB port. Go to the **Site Files** and select **Copy**.

Select the pull-down option **From:** and set to **D:/ to 3DMC folder**. This will show a list of project files that are in the root directory of the USB (i.e. not hidden in a folder). Tap on the required site and press **Copy.**

Copy Project File				
From: Downloads	Click the arrow	to select the US	B Drive	•
To: Internal Storage				▼
Name: Des Rd South Rev1				
Name	^	Modified		Size
210419 - 11018505 CC DRAFTING BASE (1)		04/27/21 13:	24:36	4.33 MB
210419 - 11018505 CC DRAFTING BASE	04/27/21 13:	28:05	4.33 MB	
DESIGN RD STH 200622 Z6		03/05/21 10:	47:21	14.28 MB
Des Rd South Rev1 Select	the Site	02/10/21 13:	54:40	27.83 MB
N28756 - eastern end		07/30/21 09:	44:33	176.06 KB
nowra model 1		07/30/21 09:	42:08	21.26 KB
Click OK		ок	C	ancel

The file will be then listed in the Site Files list to be made active in the software.

Aptella Academy IG-P3D_V15



Instrument Setup

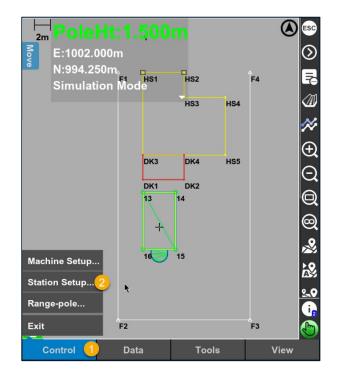
Total Station Setup

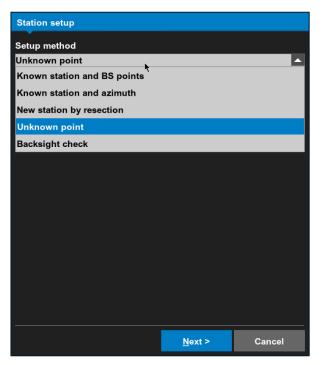
To use a total station for site measurement or stake-out, the position and orientation of the total station must first be set. The **Station Setup** menu allow you to set the position and orientation of a total station in several ways, the two main ways are:

- Unknown Point: This is used for the 1st set up on sites without control/designs to position the instrument.
- New station by resection: This is used on sites with survey control/designs and next day setups to position the instrument.

Total Station Setup : Unknown Point

Tap Control then Station Setup and select setup method Unknown Point, tap Next





Enter the Station Coordinates.

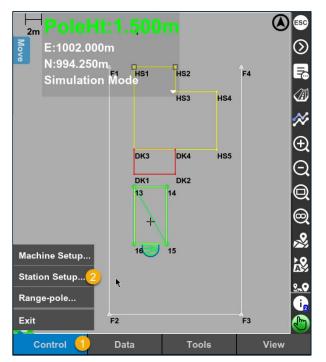
Tip: Using coordinates similar to East 1000, North 2000, Elevation 100, makes it easier to identify direction, errors and is visually easier. Turn the instrument to face along the job to set **North**, this will make it easier to visualize the direction during stake out.

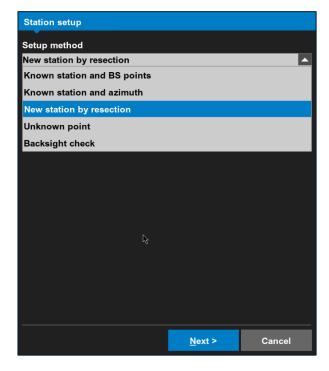
Page 18 of 36 SOFTWARE VERSION: 15

Station setup							
An "UNKNOWN	An "UNKNOWN" station will be created.						
Station Coordin		leated.					
East: 1000.000							
North: 2000.000							
Elev: 100.000r	n	_	_				
		Use Benchm	ark Elevation				
🗹 Set North Di	rection						
	which the instrum rth. Please adjus						
▲ Instrument does not have MC oaf and can only be used with Pocket3D.							
	< <u>B</u> ack	<u>F</u> inish	Cancel				

Total Station Setup : Resection

Tap Control then Station Setup and select setup method Unknown Point, tap Next

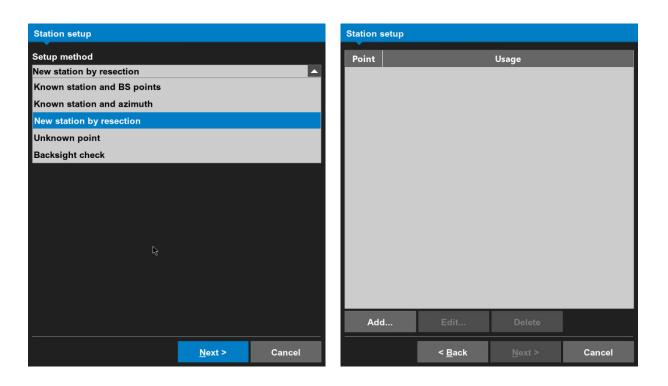




Tap Next then OK. Tap Add

Page 19 of 36 SOFTWARE VERSION: 15

Aptella Academy IG-P3D_V15



Select the 1st point for the resection. You can select the point from the Point List, Control Point's or through the Map view. If you know the layer or point name you can use the filters to search for the point. Then tap **OK**

Select point	Select point					
Points Con	Points Control Points Map					
Name 🔻	East	North		Elev		
UNKNOWN	5000.000m	5000.000m	100.000m			
UNKNOWN	1000.000m	2000.000m	100.000m			
UNKNOWN	5000.000m	5000.000m	100.000m			
CP1	5000.000m	5003.730m	98.641m			
CP10	4997.471m	4997.420m	98.151m			
CP11	4996.904m	5002.250m	98.168m			
			k			
			ок	Cancel		
			ок	Canc		

Enter the Target Height (Prism), Prism Constant and select the Prism Type, then tap **Observe**. Check that there is data in the **H Angle, V Angle & S Distance** fields and tap **OK**.

Repeat for all the points being used for the resection then tap Next.

Aptella Academy IG-P3D_V15 Page 20 of 36 SOFTWARE VERSION: 15

MEASURE

Resection point	Station setup
Point CP11 Usage: H., V.Angles & SD	Point Usage CP11 H, V, D
Target Height: 0.000m 1 Prism Constant: 0.0mm 2 Prism 3	CP10 H, V, D
Tracking Im Stop tracking 4 Observe	
	*
H Angle 305°59'36.18"	
V Angle 94°57'04.28" S Distance 3.849m	Add Edit Delete
OK Cancel	< <u>B</u> ack <u>N</u> ext > Cancel

Check that that is it an accurate resection and tap Next. Then tap Finish.

Station coordinates: East: 5000.005m North: 5000.001m	
North: 5000.001m	
Elev: 98.500m	
Standard deviations:	
East: 0.004m	
North: 0.007m	
Elev: 0.001m	
R	
< <u>B</u> ack <u>N</u> ext > Cancel	

Station setup			
Station Coordin	ates:		
East: 5000.005			
North: 5000.001	m		
Elev: 98.500m			
	control point lis	t	
Name:			
		ß	
	< <u>B</u> ack	<u>F</u> inish	Cancel

Page 21 of 36 SOFTWARE VERSION: 15





Measure Topo

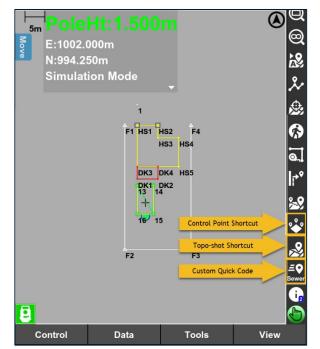
The easiest way to measure points is to use the shortcuts.

Quick Codes: Tap the Quick Code shortcut you have configured to measure a point.

Topo-Shot: Tap the **Topo-Shot** shortcut, select the layer and/or the description then tap **Measure**.

Control Point: Tap the **Control Point** shortcut, enter the name and a description if required. Tap **Measure** then tap **OK**.

Tip: Configure the shortcuts you frequently use together to save scrolling



Topo-shot detail	S				
Point					
Pt number:	2				
Description:	<none></none>			▼ /	Adv
Layer:	Sefault				
Pole Height:	1.500m				
Prism Constant:	-7.0mm		360° Pri	sm	
					1
		Meas	sure	Cance	

Control Point		
Control		
Name: Control Point Name Description: <a>	e	
Local		
East: North:		
Elev:		
Measure		P
	ок	Cancel

Page 22 of 36 SOFTWARE VERSION: 15

Aptella Academy IG-P3D_V15

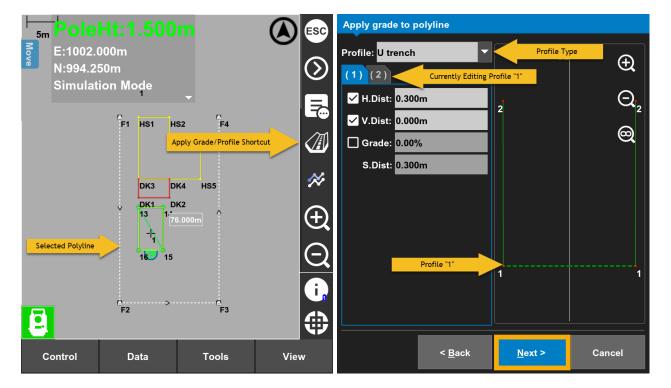
Design

Pocket 3D has an extensive list of tools use to easily create designs and perform calculations. This manual covers the most common tools. Refer to the Pock 3D Reference manual for a comprehensive guide on all the available tools.

Trench Tool (Apply Grade/Profile)

The **Apply Grade/Profile** tool is used to apply profiles to a polyline. It is commonly used to create trenches and basic road profiles.

Select a Polyline then tap the **Apply Grade/Profile** shortcut, Select the type of **Profile** then enter the desired parameters for each section of the profile. Then tap **Next.**



Tip : When creating a trench, the Horizontal Distance <u>cannot</u> be 0.000 as it cannot calculate a grade. Use 0.001 to create a vertical side of trench.

Select the **Type** of Surface to be created. **Road** creates an Alignment. **Tin Surface**, Creates a TIN Surface over the complete area. **Trimmed TIN Surface** used the profile as break lines to create the TIN Surface, This is the most common type used with this tool. Pocket 3D will display what will be created in the lower window.

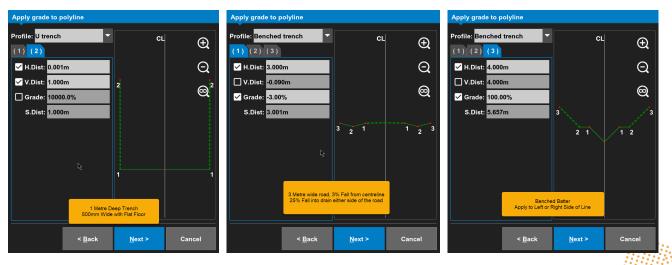
Apply the profile to the Left, Right or Both Sides of your polyline, then tap Next.

Apply grade to	polyline			Apply g	rade to p	olyline		
Type: Trimm	ed Tin Surface		î €	Туре:	Road			-
Apply to: Road				Apply to	: Right S	ide Only	k	^
Tin Su 5m Trimm	urface ned Tin Surface			5m	Left Sid Both Si	le Only ides		
			Q		Right S	ide Only		ପ
			\odot					Q
						TT 30.00m	тт 46	.00m
	< <u>B</u> ack	<u>N</u> ext >	Cancel			< <u>B</u> ack	<u>N</u> ext >	Cancel

Enter the **Name** of your new surface or alignment. Optionally you can make the surface active for immediate use by checking the **Set as active surface** box. Then tap **Finish.**

Apply grade to polyline		
Name for TIN surface:		
Trench		
Set as active surface		
	ß	
	< <u>B</u> ack	<u>F</u> inish

Examples of designs using the Apply Grade/Profile tool



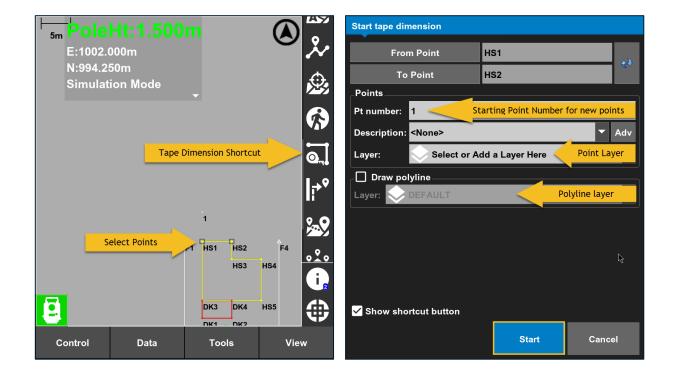
Aptella Academy IG-P3D_V15

Page 24 of 36 SOFTWARE VERSION: 15

Tape Dimension

The **Tape Dimension** tool can be used to create complex designs off two known points using distances and angles from the initial set of points. This tool can be used to create designs for house slabs, driveways, pools or services such as sewer trenches.

Select 2 points then tap the **Tape Dimension** shortcut. Optionally enter the 1st Point number and Description. Select the layer the new points will be added too. Select if you want to draw a new polyline and which layer the polyline will be added too. Then tap **Start**



Select the Type.

Perpendicular Distance	Select this option to enter a distance that makes the next point 90 degrees from the last point. Tap the Distance field to enter the
	distance. Tap the left/right arrow to toggle the entered tape dimension to the right or left of the last reference point.
Distance and Offset	Select this option to enter an offset either ahead or behind the last reference point. Tap the Distance field to enter the distance. Tap the Offset field to then the offset distance. Tap the up/down arrow button to toggle the entered distance either ahead or behind the last reference point.
Distance and Angle	Select this option to enter an angle and length for the nest point. Tap the Angle filed to enter an angle (Other than 90 degrees). Tap the Distance field to enter the length of the tape dimension to the next point. A negative distance will make the direct towards the left while a positive distance will make the angle direct towards the right. Select Absolute to apply and absolute distance.
Aptella Academy	Page 25 of 36

Aptella Academy IG-P3D_V15

SOFTWARE VERSION: 15

Tap **Next** to create the next point/line and repeat until completed then tap **Finish**. If the draw polyline option was selected, Pocket 3D will prompt to close the polyline, Select **No** to leave the polyline open.

Tape Dimension	Tape Dimension
Pt Number: 6, Layer: Selection tool to turn on/off Draw polyline: Yes, Layer: Select of Add a Layer of e	Pt Number: 6, Layer: New Layer, Desc: - Draw polyline: Yes, Layer: Select or Add a Layer Here
Type: Perpendicular Distance	Do you want to close the polyline? Type:
Distance: 2.000m	Distance: 2.000m
Vertical	Vertical
O Distance: 0.000m Absolute O Grade: 0.00%	O Distance: 0,000m O Grade: 0109
	2m $$
HS1 → HS2 Point created	
Solid line indicating polyline created 4 3	
Next Finish	Next Finish





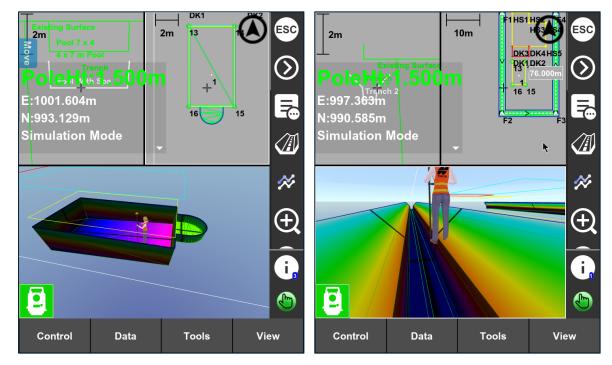
Offset Polyline

The Offset Polyline tool can be used to move or create polylines both horizontally and vertically.

Select a polyline then tap the **Offset Polyline** tool (Note the direction of the polyline). Enter the horizontal distance and the vertical distance.



Example of a designs created using the above tools



Aptella Academy IG-P3D_V15 Page 27 of 36 SOFTWARE VERSION: 15



BUILD

Swapping from Pocket 3D to MC Mobile

MC Mobile uses wireless connectivity to communicate with Total Stations, GNSS and the Machine System. Refer to the 3DMC Quick Guide or Reference Manual for operation instructions for MC Mobile.

Always disconnect from the Machine, GNSS or Total Station before turning off the equipment.

Tap Tools then tap Disconnect

Swapping From Pocket 3D to Machine

- 1. In Pocket 3D tap Tools.
- 2. Tap Disconnect.
- 3. Tap Control.
- 4. Tap Exit.
- 5. Start the machine or turn on accessories.
- 6. <u>Wait 3 minutes</u> for the system on the machine to boot.
- 7. On the tablet, swipe down and check that Hotspot, Bluetooth and Location is turned on.
- 8. Tap on the **3DMC** icon.
- 9. Answer Yes to load attachment.
- 10. The system will connect, and the lower info bars will turn green.

Swapping From Machine to Pocket 3D

- 1. In 3DMC tap Control.
- 2. Tap Disconnect.
- 3. Tap Data.
- 4. Tap Exit.
- 5. Turn off the machine.
- 6. Turn on the instrument (Total Station or GNSS)
- 7. Tap on the **Pocket 3D** icon.
- 8. Tap Tools.
- 9. Tap Connect.
- **10.** Select the instrument you want to connect too. Note : Pocket 3D remembers the last instrument it was connected too.

11. Tap Connect.

Aptella Academy IG-P3D_V15 Page 28 of 36 SOFTWARE VERSION: 15

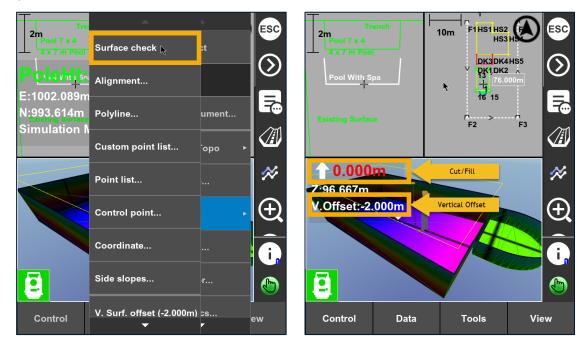


Verify

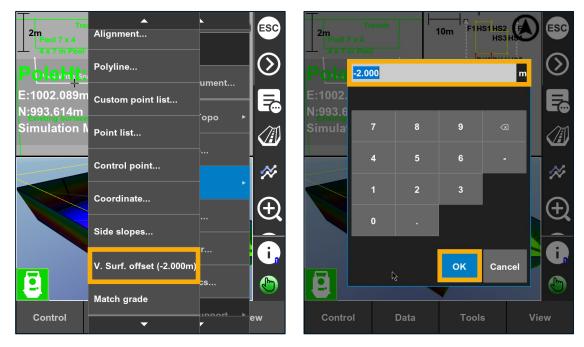
Stake Out

Cut/Fill to a surface

To verify cut/fill to a surface. Tap Tools then tap Stake-out, then tap Surface Check.



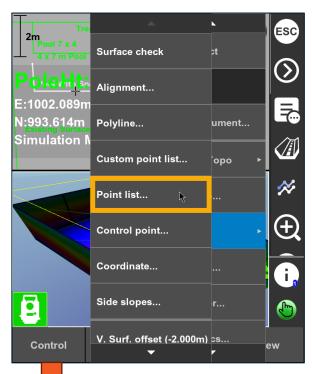
To change the Vertical offset. Tap **Tools** then tap **Stake-out**, then tap **V. Surface offset**. Enter the desired vertical offset then tap **OK**.



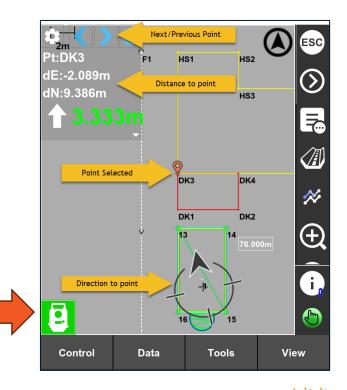
Aptella Academy IG-P3D_V15 Page 29 of 36 SOFTWARE VERSION: 15

Point Stake Out

Tap **Tools** then **Stake-out** and then **Point list**. Search or select the point then tap **OK**.



				·			
Points St	Points Stake-out						
Filter							
Layer: <a< th=""><th>II Layers</th><th>></th><th></th><th>•</th></a<>	II Layers	>		•			
Name 🔻	Desc.	Layer	Created	East			
1		DEFAULT	05/15/24 09:35:03	3 1000.000m			
DK1		Deck	04/15/24 10:54:13	3 1000.000m			
DK2		Deck	04/15/24 10:54:39	9 1005.000m			
DK3		Deck	04/15/24 10:58:49	0 1000.000m			
DK4		Deck	04/15/24 10:58:56	5 1005.000m			
HS1		House	04/15/24 11:00:02	2 1000.000m			
HS2		House	04/15/24 11:00:08	3 1005.000m			
HS3		House	04/15/24 11:00:13	3 1005.000m			
HS4		House	04/15/24 11:00:23	3 1010.000m			
HS5		House	04/15/24 11:00:3	l 1010.000m			
10		Dool Doint	DE 100 124 12.40.20	1000.000			
			ОК	Cancel			



Page 30 of 36 SOFTWARE VERSION: 15

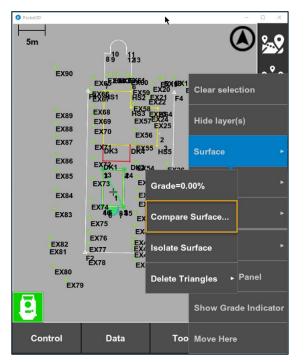
Aptella Academy IG-P3D_V15

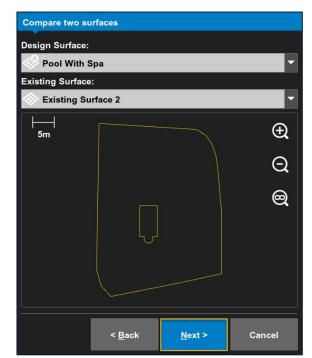


Volume Calculation (Compare Surfaces)

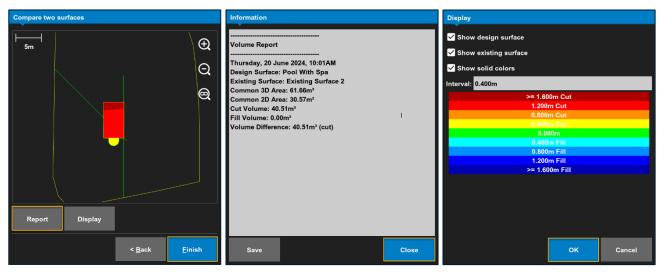
Volume calculations can be performed using the **Calc Wizard** or when you have an active surface from the context menu.

Press and hold the screen and tap **Surface**, then tap **Compare Surface**. Select the two surfaces you want to calculate the volume difference then tap **Next** (Pocket 3D will display the outline of the two surfaces selected).





Pocket 3D will display the Cut/Fill between the two surfaces. Tap **Display** to change the colour interval. Tap **Report** to view the Cut, Fill and Volume Difference. Tap **Finish** to exit.



VERIFY

Create a New Surface

Surface Type	Description
TIN Surface from Points and Lines	Irregular TIN surface created from selected points and linework.
Road (CL, profile, templates)	Road surface created from known horizontal, vertical, and template design information.
Sloping Plane Surface	Planar surface with a point of known elevation and known main-fall and cross-fall slopes.
Best-fit Plane Surface	Planar surface created using best-fit calculation through all selected points (requires at least three points to be selected on main screen).
Crown Road Surface	Simple, straight road surface with constant width, cross-fall, and main-fall.
Partial Road Surface	Partial road surface created by copying part of an existing road surface.
Subgrade of Existing Alignment	Road surface created from an existing road by changing its cross- sections.

Pocket 3D allows you to create several types of surfaces as shown in the table below.

The most common type of surface creation is creating a **TIN Surface from Points and Lines** of the existing to calculate volumes. Refer to the Pocket 3D user manual for additional details on surface creation.



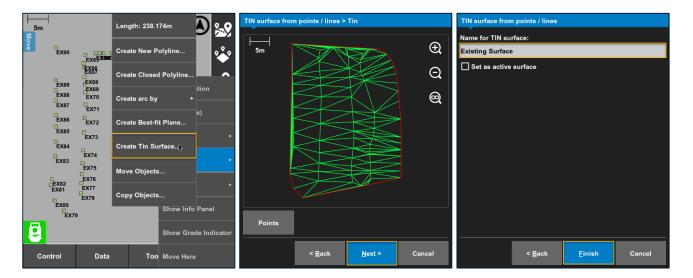
Create a TIN Surface from Points and Lines

Select the points and/or lines to be used in the new surface. TIP: Turn on/off layers to make it easier to select the data.

5m Move	89 ¹⁰ 11 1213		🐼 🔊		5m			🔕 🔊
EX90	EX65 EX59	EX20 EX16 EX21 F4 EX15	*	A C	EX90	EX65 EX59	EX20 EX16 EX22 EX16 EX22 EX15	*
EX89 EX88 EX87	EX68 HS3	EX22 EX14 EX24 EX25 EX12 EX12			EX89 EX88 EX87	EX58	EX23 EX24 EX25 EX14 EX14 EX14 EX14 EX14 EX14 EX14 EX14	
EX86 EX85	EX 6k3 DR45 EX 6k1 DR6x5 13 44 EX73 EXE	⁵ H ³ 5 EX10	Sewer		EX86 EX85	EX71 EX5 EX72 EX5 EX73 EX5	5 EX10 EX26 EX27 EX0	Sewer EQ
EX84 EX83	EX74 EX74 468 935 EX75	52 EX29 51 EX30 EX32 EX8	<i>=</i> 0		EX84	EX73 EX3 EX74 EX3 EX75 EX5	52 EX29 51 EX30 EX32 EX8 EX33 EX7	+ Existing <i>E</i> ♥ gum
EX82 EX81	EX76 EX76 EX77 EX47 EX47 EX47		≞ ♥ _{wattle}		EX82 EX81	EX76 EX77 EX77 EX42 EX42		≞ ♥ _{wattle}
EX80 EX		* ER#3 2	6		EX80 EX79	9		ð
Control	All Layer Data	rs Shown	View		Control	Example with Layers		View

Press and hold the screen, tap **Calcs** then tap **Create Tin Surface.** Pocket 3D will display the created surface, tap **Next**.

Enter a **Name for TIN surface** then tap **Finish**. Optionally you can set this as your active surface for stake out.





Initial Instruction Record

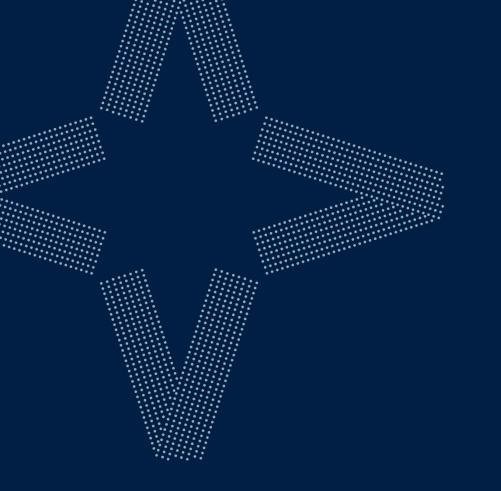
Please fill out the below details once the initial handover instruction has been completed by an Aptella Representative.

WO Number	
Operator Name	
Email Address	
Phone Number	
Operator Name	
Email Address	
Phone Number	
Operator Name	
Email Address	
Phone Number	
Operator Name	
Email Address	
Phone Number	

Page 34 of 36 SOFTWARE VERSION: 15



Aptella Academy IG-P3D_V15 Page 35 of 36 SOFTWARE VERSION: 15







aptella.com | 1300 867 266