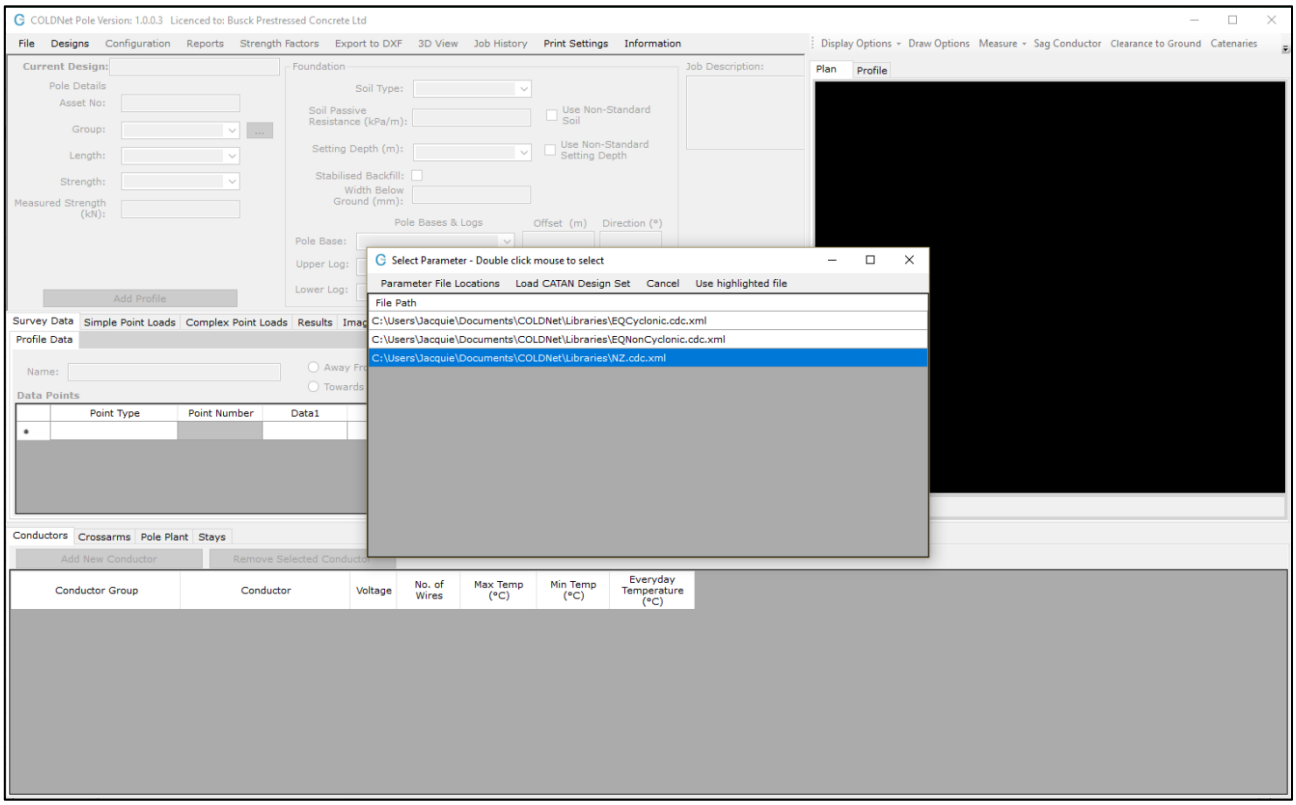
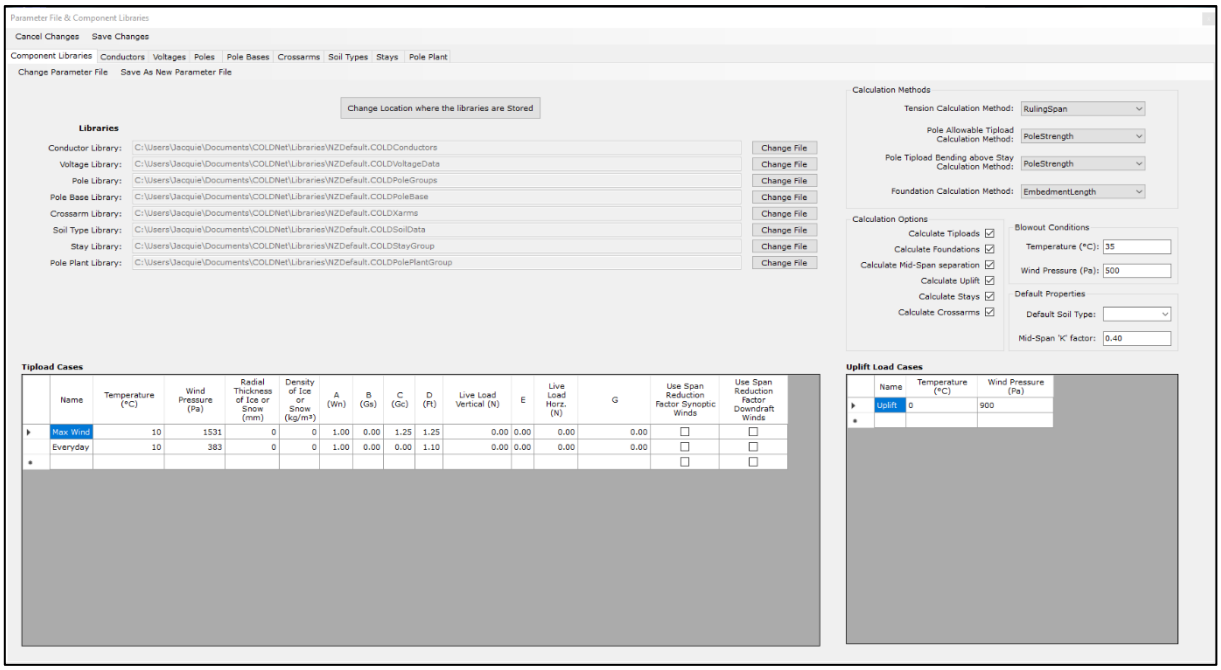
# COLDNet Pole – Profile Example

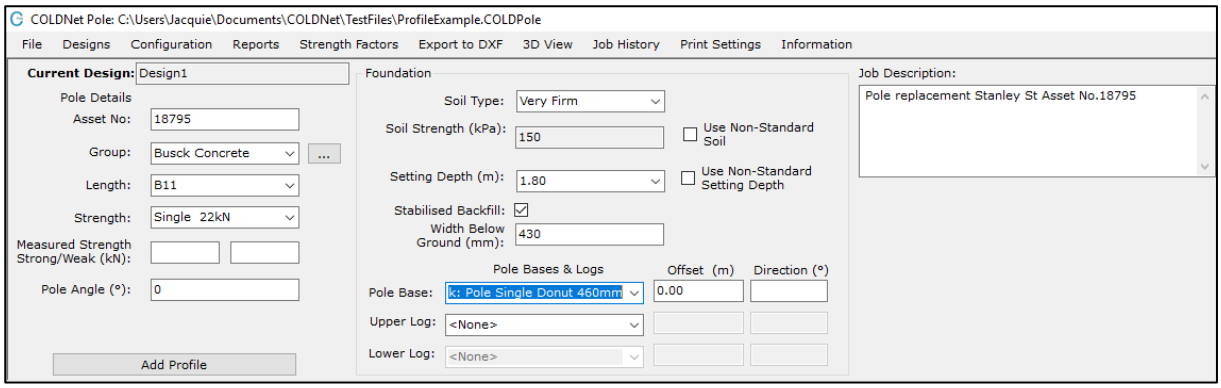
1. Install COLDNet Pole and open application
2. Select **File>New**
3. Give the file a name, e.g. **ProfileExample.**
4. The following screen below will appear. Select **Parameter File Locations>Add Directory** to navigate to the location where the Design Parameters/Libraries have been stored locally on the machine. Once selected **Close** Manage Directories window and double click on the desired parameter file from the list. For this example, select the Design Parameter file called **NZ**.



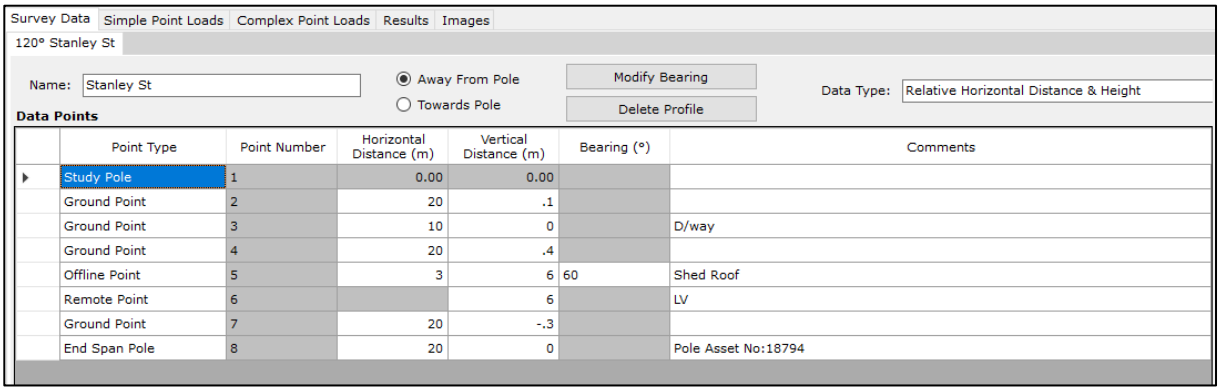

5. The design criteria and libraries can be viewed by selecting **Configuration** from the top menu on the main screen.
6. The **Blowout Conditions** will also need to be set. Use **Temperature** of 35°C and **Wind Pressure** of 500Pa for this example.



7. If applicable, record the pole **Asset No.**
8. Select the **Group**, **Length and Strength** of the pole from the dropdown menus on the main form
9. Select **Soil Type** and **Setting Depth** from the dropdown menus
10. If applicable select **Stabilised Backfill** and enter the **Width Below Ground**
11. If required, select a **Pole Base** or **Log** from the dropdown provided

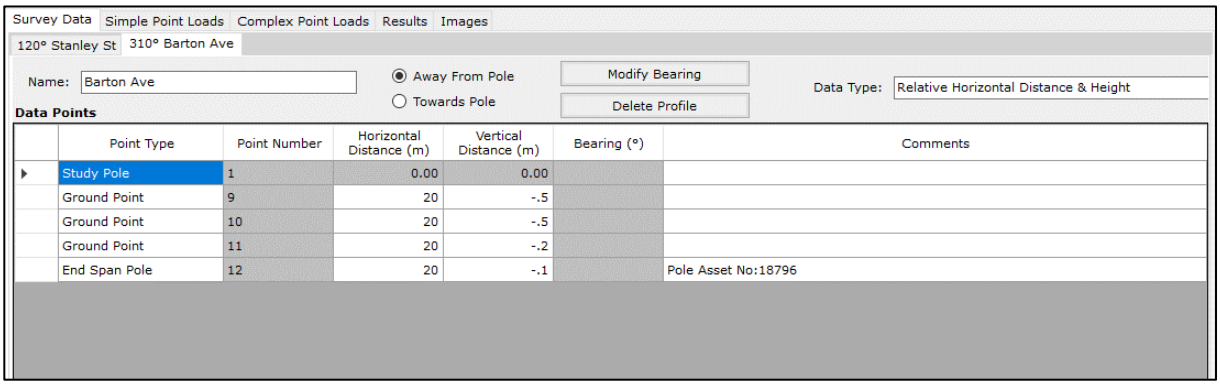



12. To add a new Profile select **Add Profile** and enter in the desired bearing
13. Select the desired **Data Type** and direction the survey data was collected (either **Away from Pole** or **Towards Pole**).
14. Enter in survey **Data Points** in the table provided. An example has been provided below.



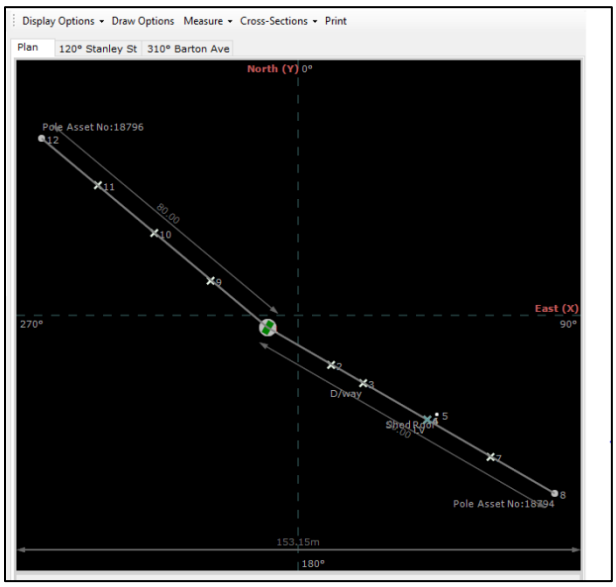

| Point Type | Point Number | Horizontal Distance (m) | Vertical Distance (m) | Bearing (°) | Comments |
|---|---|---|---|---|---|
| Study Pole | 1 | 0.00 | 0.00 | | |
| Ground Point | 2 | 20 | .1 | | |
| Ground Point | 3 | 10 | 0 | | D/way |
| Ground Point | 4 | 20 | .4 | | |
| Offline Point | 5 | 3 | 6 | 60 | Shed Roof |
| Remote Point | 6 | | 6 | | LV |
| Ground Point | 7 | 20 | -.3 | | |
| End Span Pole | 8 | 20 | 0 | | Pole Asset No:18794 |

15. Add in another profile if required. An example of the second profile has been provided below.




| Point Type | Point Number | Horizontal Distance (m) | Vertical Distance (m) | Bearing (°) | Comments |
|---|---|---|---|---|---|
| Study Pole | 1 | 0.00 | 0.00 | | |
| Ground Point | 9 | 20 | -.5 | | |
| Ground Point | 10 | 20 | -.5 | | |
| Ground Point | 11 | 20 | -.2 | | |
| End Span Pole | 12 | 20 | -.1 | | Pole Asset No:18796 |

16. The survey data can be visually seen in the **Plan** view tab and respective **Profile** tabs. This will update automatically as data is entered.
17. Once all the profiles have been added the **Pole Angle** can be changed if required (this can be changed at any time). For this example, select **Edge Towards 120° Stanley St** from the dropdown menu provided. **Display Options** for **Point Numbers, Span Lengths** and **Comments** will need to be selected to replicate the picture below.




18. Next, add the required conductors for the job be selecting the **Conductors** tab, followed by **Add New Conductor**. An example of this has been provided below.

Conductors | Crossarms | Pole Plant | Stays

Add New Conductor | Remove Selected Conductor

| Conductor Group | Conductor | Voltage | No. of Wires | Max Temp (°C) | Min Temp (°C) | Everyday Temperature (°C) |
|---|---|---|---|---|---|---|
| Standard | Iodine | 11kV | 3 | 65 | -5 | 10 |
| Standard | Kutu | LV3 | 4 | 65 | -5 | 10 |

19. Next, select the **Crossarms** tab and begin adding Circuits to each of the profiles by selecting **Add New Circuit** and then filling out the required circuit details. An example for each profile has been provided below. NOTE: A **Common Crossarm** will not be able to be selected until a circuit has been added for each of the two profiles.

Conductors | Crossarms | Pole Plant | Stays

120° Stanley St | 310° Barton Ave

**Pole Crossarms** | Add New Circuit | Remove Selected Circuit | Show Kingbolt Height | Show

| Circuit | Common Crossarm | Attachment Type | Conductor | Everyday Load (%CBL) | Crossarm Group | Crossarm | Locked POA | POA (m) | Crossarm Angle (°) | Span Length (m) | Ruling Span (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | <None> | Strain | 11kV Iodine x 3 | 12.00 | Busck Concrete | 2M D. Arm S. Term LH 3W | ☐ | 9.120 | 215 | 90.00 | 90.00 |
| 2 | <None> | Strain | LV3 Kutu x 4 | 11.00 | Busck Concrete | 3M LV D TERM D | ☐ | 8.000 | 30 | 90.00 | 90.00 |

**End Crossarms**

| Circuit | | Attachment Type | | | Crossarm Group | Crossarm | | POA (m) | Crossarm Angle (°) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | Strain | | | Busck Concrete | 2M D. Arm S. Term LH 3W | | 9.120 | 210 | | |
| 2 | | Strain | | | Busck Concrete | 3M LV D TERM D | | 8.000 | 30 | | |

Conductors | Crossarms | Pole Plant | Stays

120° Stanley St | 310° Barton Ave

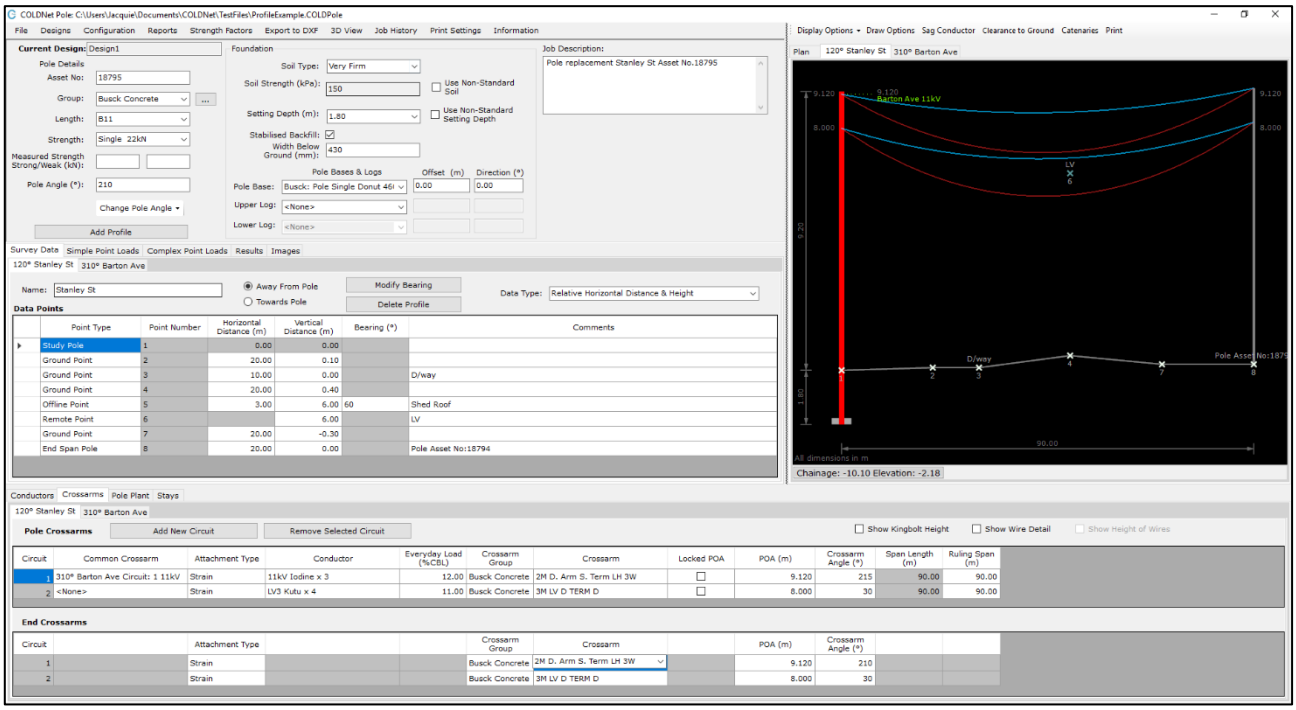
**Pole Crossarms** | Add New Circuit | Remove Selected Circuit | Show Kingbolt Height | Sho

| Circuit | Common Crossarm | Attachment Type | Conductor | Everyday Load (%CBL) | Crossarm Group | Crossarm | Locked POA | POA (m) | Crossarm Angle (°) | Span Length (m) | Ruling Span (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 120° Stanley St Circuit: 1 11kV | Strain | 11kV Iodine x 3 | 12.00 | Busck Concrete | 2M D. Arm S. Term LH 3W | ☐ | 9.120 | 215 | 80.00 | 80.00 |

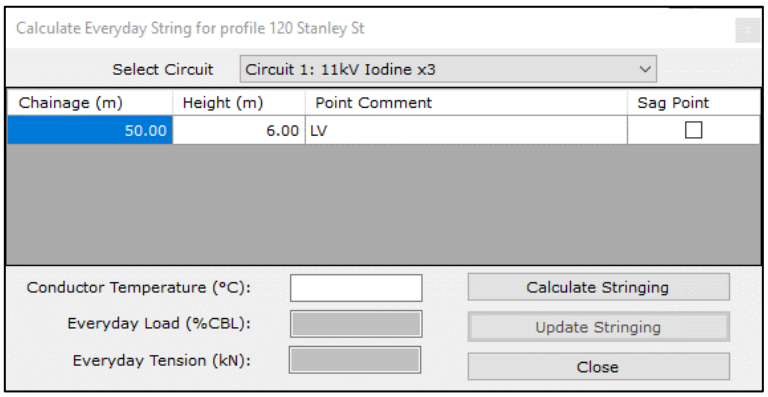
**End Crossarms**

| Circuit | | Attachment Type | | | Crossarm Group | Crossarm | | POA (m) | Crossarm Angle (°) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | Strain | | | Busck Concrete | 2M D. Arm S. Term LH 3W | | 9.0 | 30 | | |

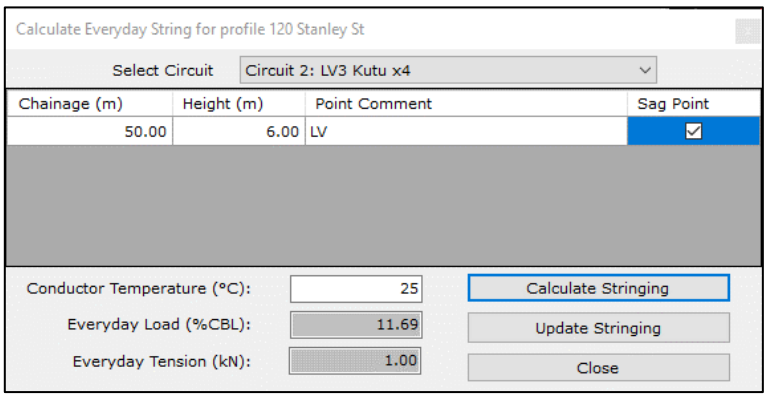
20. The circuits can now be visually seen through the **Profile View** drawings.



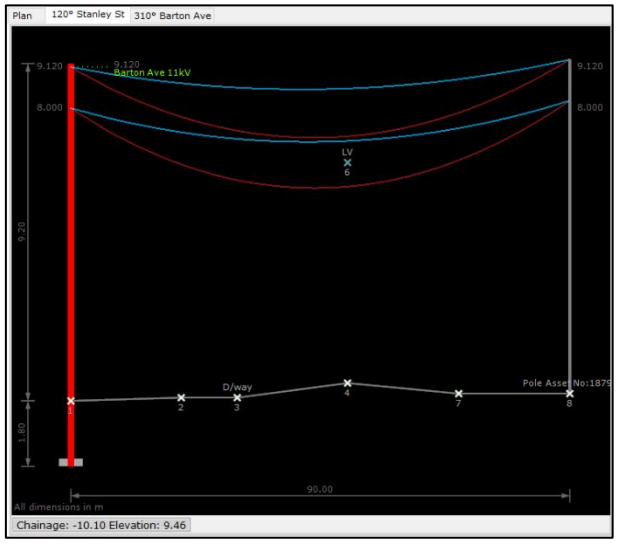
21. The conductor on the second circuit of the **Stanley St Profile** can now be sagged through our wire survey point (Point No. 5 "Reference Point"). Select **Sag Conductor** from the top tool strip menu to open the following window shown below.



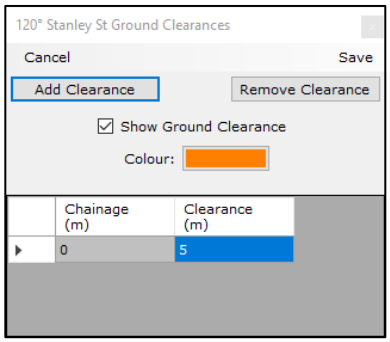

22. All the reference points that were entered in the survey data for this profile will be displayed in the grid. Select the **Circuit** of interest and the **Sag Points** that are relevant to that circuit. Enter the **Conductor Temperature** at the time of survey followed by **Calculate Stringing**, as shown below.



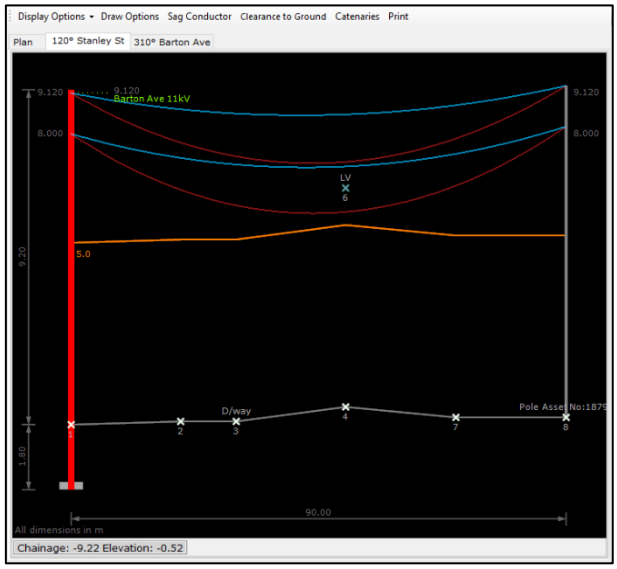
23. Select **Update Stringing** to commit the changes and string conductor. This will then be updated in the Profile Drawing.



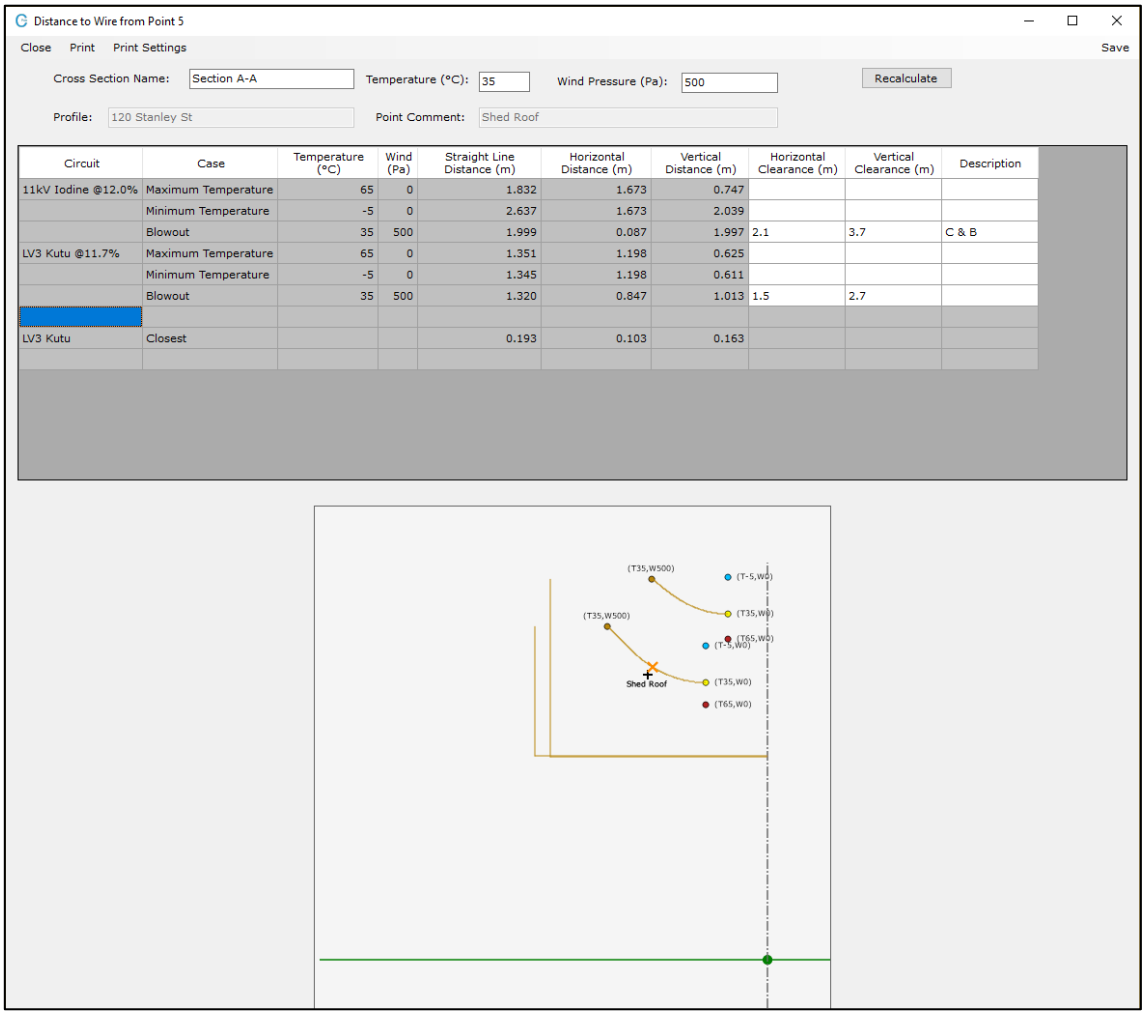

24. A ground clearance line can be added by selecting **Clearance to Ground**. Select **Add Clearance** and enter in the desired clearances. An example is given below.




25. Select **Save** to commit changes. This will now be displayed on the Profile Drawing.

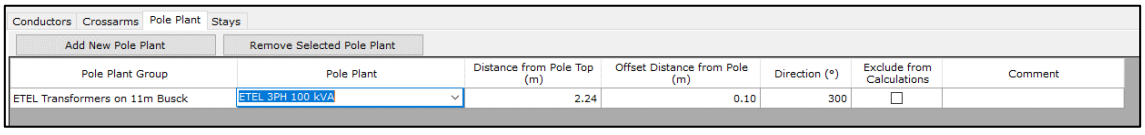


26. Navigate to the **Plan** tab and select the **Display Options>Show Blowout**. The blowout curve will now be displayed on the plan view screen. To measure the clearance distance between the conductor and the Shed Roof (Point No. 5 “Offline Point”) select **Cross-Sections>Create Cross-Section**. Select Points 5 & 6 from the plan view screen. The following widow below will appear which displays the clearance distances between the Shed Roof and the circuits at their different loadcases.



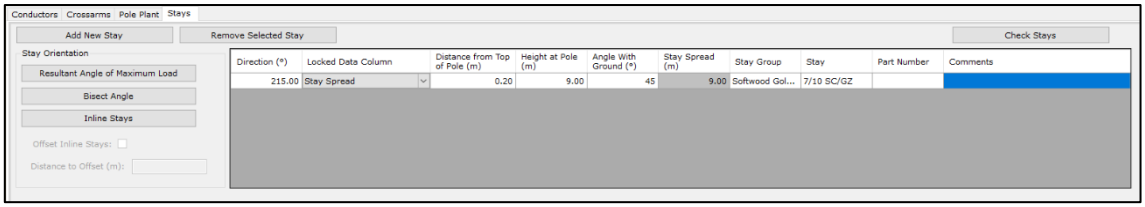

| Circuit | Case | Temperature (°C) | Wind (Pa) | Straight Line Distance (m) | Horizontal Distance (m) | Vertical Distance (m) | Horizontal Clearance (m) | Vertical Clearance (m) | Description |
|---|---|---|---|---|---|---|---|---|---|
| 11kV Iodine @12.0% | Maximum Temperature | 65 | 0 | 1.832 | 1.673 | 0.747 | | | |
| | Minimum Temperature | -5 | 0 | 2.637 | 1.673 | 2.039 | | | |
| | Blowout | 35 | 500 | 1.999 | 0.087 | 1.997 | 2.1 | 3.7 | C & B |
| LV3 Kutu @11.7% | Maximum Temperature | 65 | 0 | 1.351 | 1.198 | 0.625 | | | |
| | Minimum Temperature | -5 | 0 | 1.345 | 1.198 | 0.611 | | | |
| | Blowout | 35 | 500 | 1.320 | 0.847 | 1.013 | 1.5 | 2.7 | |
| | | | | | | | | | |
| LV3 Kutu | Closest | | | 0.193 | 0.103 | 0.163 | | | |

27. To add a pole plant select the **Pole Plant** tab followed by **Add New Pole Plant**. An example has been provided below.




| Pole Plant Group | Pole Plant | Distance from Pole Top (m) | Offset Distance from Pole (m) | Direction (°) | Exclude from Calculations | Comment |
|---|---|---|---|---|---|---|
| ETEL Transformers on 11m Busck | ETEL 3PH 100 kVA | 2.24 | 0.10 | 300 | ☐ | |

28. To add a stay select the **Stays** tab followed by **Add New Stay**. An example has been provided below where the stay has been placed on the **Bisect Angle**. Select **Check Stays** once all of the stay information has been added to the grid.




| Direction (°) | Locked Data Column | Distance from Top of Pole (m) | Height at Pole (m) | Angle With Ground (°) | Stay Spread (m) | Stay Group | Stay | Part Number | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 215.00 | Stay Spread | 0.20 | 9.00 | 45 | 9.00 | Softwood Gol... | 7/10 SC/GZ | | |

29. The results for the various calculations can be viewed at any point during the design by selecting the **Results** tab followed by **Show All**, as show below. A more detailed report of the calculations, component information and terrain data can be found under the **Reports** section. These can be export to a CSV and Excel format if required.